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Assessment Report 2021

Confederation Belt Properties
Spatiotemporal Geochemical Hydrocarbon Sampling Program

Belanger, Bowerman, Fredart Lake Area, Gerry Lake Area, Knott, and Mitchell Townships
Red Lake Mining Division
NTS 052N and 052K

TRILLIUM GOLD™

Trillium Gold Mines Inc.

November 10, 2021

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SUMMARY

Trillium Gold Mines Inc. (TGM) executed a spatiotemporal geochemical hydrocarbon (SGH) survey on the Confederation belt properties during the spring-summer field season of 2021 from May 15th to August 14th, for a span 92 days, and comprised of 506 man-days spent in the field. Because of the elevated fire risk in 2021 the field work was interrupted a number of times by preventative evacuations.

This work was undertaken to test for and identify any existing gold anomalies which will be targeted for follow-up exploration in subsequent years. The program was carried out by geologists and field crews from Fladgate Exploration Consulting Corporation of Thunder Bay, Ontario under the direction of Trillium Gold Mines exploration geologists. Fistful-sized sampled of soil were taken at depths of approximately 20 cm at 50 m sample spacing with a 200 m line spacing for the majority of the grids; 3 small orientation surveys on the Joy property in the western portion of the properties had sample intervals of 25 m on 100 m spaced lines (see Appendix I – Map).

Results show that there are several gold anomalies which have been identified using this method and the proprietary technology at Actlabs (see Appendix II - Results). However, as the sampling grids span a distance of some 45 km, and exploration in the belt is generally greenfields-level, it is difficult to draw firm conclusions and recommendations on the data as it stands now. Further examination of property scale lithologies, and structural features and relationships on the ground, and incorporation of historical geochemical data will aid in linking predicted gold anomalies to possible controlling features, and therefore refining targets for further work.

Sample locations were logged using UTM coordinates in NAD83 Zone 15N using a handheld GPS receiver.

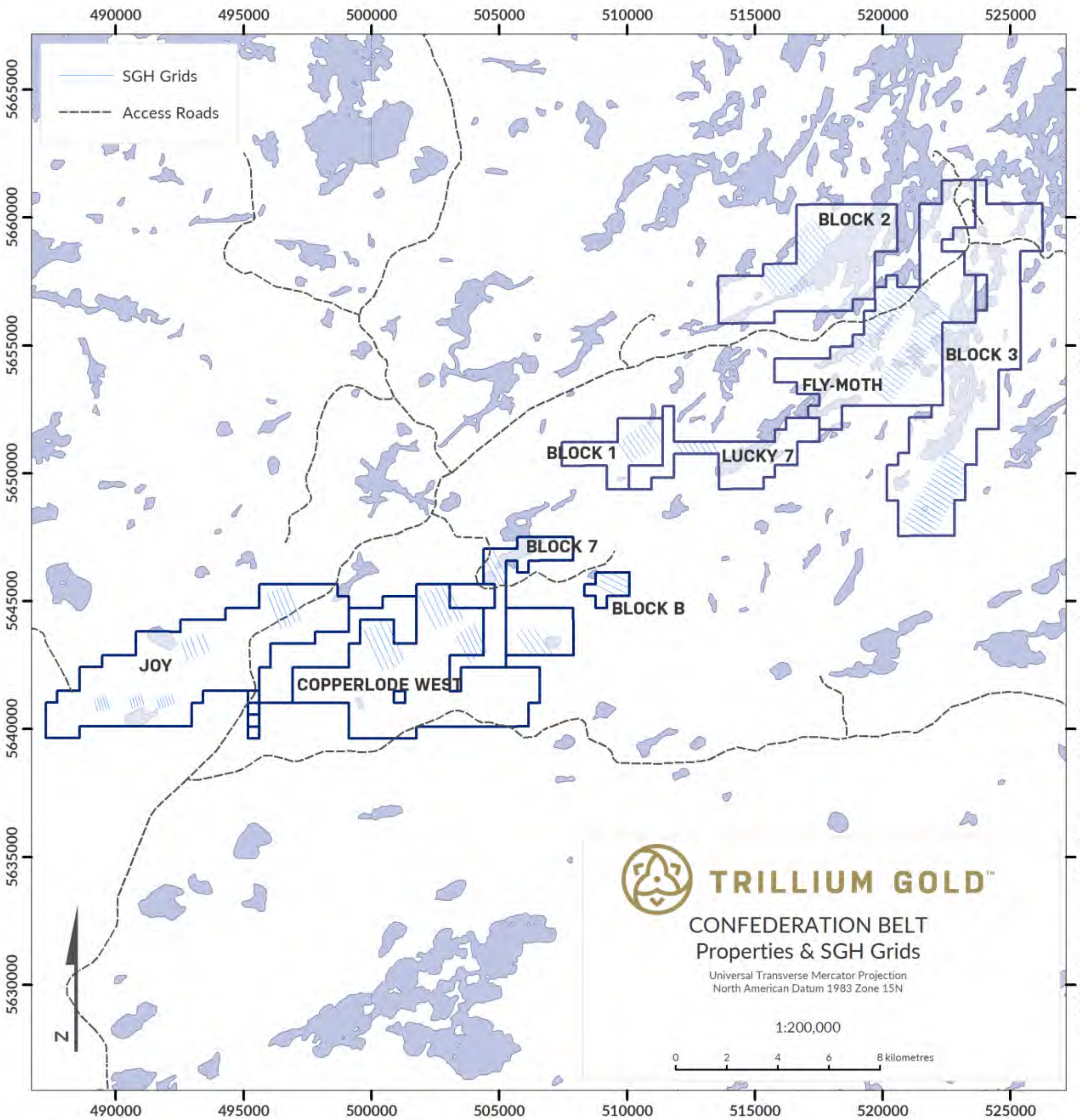


Figure 1. *Location map showing the Trillium Gold Mines Inc. properties on which SGH sampling was performed in the summer field season, 2021.*

CLAIMS STATUS

SGH soil sampling was conducted on 187 unpatented claims spanning Trillium Gold Mine's central Confederation belt properties and are grouped into west and east property groups: Joy, Copperlode West, Block B, and Block 7 in the west; and Block 1, Block 2, Block 3, Lucky 7, and Fly-Moth in the east, as outlined below in Table 1, and shown in Figure 1, and Appendix I.

PROPERTY GROUP	TENURE ID	TOWNSHIP/AREA	TENURE TYPE	HOLDER	NO OF CELLS
CB-West	100842	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	100843	GERRY LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	102129	GERRY LAKE AREA	Boundary Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	-1
CB-West	102534	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	102535	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	112763	FREDART LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	117864	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	125407	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	125408	BELANGER, FREDART LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	129635	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	142920	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	151110	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	151245	GERRY LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	153465	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	153467	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	154031	FREDART LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	154083	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	169031	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	181822	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	182112	BELANGER, FREDART LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	199229	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	199231	GERRY LAKE AREA	Boundary Cell Mining Claim	(1) TRILLIUM GOLD MINES INC, (99) EMX Properties (Canada) Inc.	-1
CB-West	217708	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	225686	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1

CB-West	226208	GERRY LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	226209	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	265930	FREDART LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	272667	FREDART LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	272806	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	272920	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	273222	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	273223	GERRY LAKE AREA	Boundary Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	-1
CB-West	280895	GERRY LAKE AREA	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-West	284096	GERRY LAKE AREA	Boundary Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	-1
CB-West	291810	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	291812	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	297644	GERRY LAKE AREA	Boundary Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	-1
CB-West	303088	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	303090	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	304884	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	314745	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	321024	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	321536	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	333203	GERRY LAKE AREA	Boundary Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	-1
CB-West	343931	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	343932	GERRY LAKE AREA	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-West	565477	GERRY LAKE AREA	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-West	565648	BELANGER, FREDART LAKE AREA	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	17

CB-West	566216	BELANGER	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	18
CB-West	566242	FREDART LAKE AREA	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	25
CB-West	566243	FREDART LAKE AREA	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	25
CB-West	566245	FREDART LAKE AREA, GERRY LAKE AREA	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	14
CB-West	566246	FREDART LAKE AREA, GERRY LAKE AREA	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	12
CB-West	598703	FREDART LAKE AREA, GERRY LAKE AREA	Multi-cell Mining Claim	(1) TRILLIUM GOLD MINES INC, (99) Solstice Gold Corp.	18
CB-East	100218	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	100219	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	101932	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	101933	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	101934	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	104216	BELANGER	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-East	104236	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	108279	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	114948	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	115276	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	115277	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	116106	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	116461	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	117256	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	117582	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	119456	BELANGER	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-East	121864	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	121865	BELANGER, BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	124189	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1

CB-East	126935	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	128914	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	129620	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	129871	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	134668	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	143849	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	145446	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	145447	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	152880	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	156219	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	156276	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	156788	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	156904	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	158291	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	158292	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	158293	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	162244	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	162245	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	162360	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	162696	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	164216	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1

CB-East	164405	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	164406	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	166411	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	166415	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	166456	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	168042	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	175181	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	179732	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	182147	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	185879	BELANGER	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-East	190192	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	198715	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	203510	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	204803	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	204804	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	210084	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	210086	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	210575	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	212106	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	212806	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	215154	BELANGER	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-East	218845	BELANGER, KNOTT	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1

CB-East	221134	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	221135	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	221651	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	224309	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	226129	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	229114	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	229601	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	229603	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	230899	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	233747	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	235497	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	235498	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	238849	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	239880	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	241258	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	241270	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	257626	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	257627	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	257628	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	258068	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	258069	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1

CB-East	258789	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	263336	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	264787	BELANGER, KNOTT	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	270812	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	272715	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	276046	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	276118	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	278123	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	279641	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	280325	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	281179	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	282344	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	283435	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	283436	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	284862	BELANGER, KNOTT	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	289261	BELANGER, BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	296937	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	296938	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	296939	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	297795	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	302002	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1

CB-East	304163	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	304164	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	312690	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	313145	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	313146	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	313395	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	313396	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	314728	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	319296	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	324778	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	324844	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	325367	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	325458	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	326217	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	326218	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	327435	BOWERMAN	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	330761	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	332894	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	333533	BELANGER	Single Cell Mining Claim	(99) PERRY VERN ENGLISH, (1) TRILLIUM GOLD MINES INC	1
CB-East	334773	MITCHELL	Single Cell Mining Claim	(10) TRILLIUM GOLD MINES INC, (90) EMX Properties (Canada) Inc.	1
CB-East	336780	MITCHELL	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-East	583654	MITCHELL	Multi-cell Mining Claim	(100) TRILLIUM GOLD MINES INC	24

CB-BlockB	123650	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-BlockB	134395	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-BlockB	199721	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-BlockB	254348	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1
CB-BlockB	254349	BELANGER	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-BlockB	265842	BELANGER	Boundary Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	-1
CB-BlockB	341194	BELANGER	Single Cell Mining Claim	(100) TRILLIUM GOLD MINES INC	1

Table 1. *Trillium Gold Mines claims data.*

LOCATION & ACCESS

Samples were taken across the Trillium Gold Mine's claims in the Confederation belt in the townships of Belanger, Bowerman, Fredart Lake Area, Gerry Lake Area, Knott, and Mitchell (see Figure 1, and Appendix I).

The various properties can be accessed from the town of Ear Falls, Ontario by taking Hwy 657 (Goldpines Road) northeast for approximately 0.5 km, and turning left onto South Bay Mine Road. From there is approximately 2 km to the southern boundary of the Joy property. Continuing along South Bay Mine Road to the other properties and traversing by foot to the grids is the most straightforward means of access.

HISTORY & PREVIOUS WORK

A large in-depth history of work performed on the claims included for assessment is not in the purview for the scope of the work performed and reported herein. Because of the large geographic extent of the properties, and 60-year history of work in the belt, a summary table of prior work performed is given in Table 2. Assessment reports which overlap (using the Ontario government shapefile) the TGM property boundaries were selected using GIS and are tabulated below.

AFRI	YEAR	COMPANY	TOWNSHIP	WORK DESCRIPTION
52N02NE9863	1971	Selco Mining Corp Ltd	Agnew	Diamond Drilling, Geological Survey / Mapping
52N02SE9882	1988	Orofino Resources Ltd	Agnew	Geochemical
52N02NE0004	1994	Noranda Exploration Co	Agnew	Electromagnetic, Geological Survey / Mapping, Open Cutting, Overburden Stripping, Prospecting By Licence Holder
52N02NE0004	1994	Noranda Exploration Co	Agnew	Electromagnetic, Geological Survey / Mapping, Open Cutting, Overburden Stripping, Prospecting by Licence Holder
52N02NE0001	1995	Noranda Mining & Expl Inc	Agnew	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02NE0001	1995	Noranda Mining & Expl Inc	Agnew	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting

52N02NE0001	1995	Noranda Mining & Expl Inc	Agnew	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02NE0001	1995	Noranda Mining & Expl Inc	Agnew	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02NE0001	1995	Noranda Mining & Expl Inc	Agnew	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
20000003047	2008	Skyharbour Resc Ltd	Agnew	Magnetic / Magnetometer Survey
20000006394	2011	Mainstream Minerals Corp	Agnew	Assaying and Analyses, Diamond Drilling
20000006394	2011	Mainstream Minerals Corp	Agnew	Assaying and Analyses, Diamond Drilling
52N02NE0022	1994 - 1995	Noranda Mining & Expl Inc	Agnew	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
20000006304	2010 - 2011	Mainstream Minerals Corporation	Agnew	Airborne Electromagnetic
52K15NW0015	1962	Falconbridge Nickel Mines	Belanger	Bedrock Trenching, Electromagnetic, Geological Survey / Mapping, Overburden Stripping
52K15NW0015	1962	Falconbridge Nickel Mines	Belanger	Bedrock Trenching, Electromagnetic, Geological Survey / Mapping, Overburden Stripping
52K15NW0016	1965	J Ayrhart	Belanger	Electromagnetic, Geochemical
52K15NW0016	1965	J Ayrhart	Belanger	Electromagnetic, Geochemical
20000004959	1968	Copper Lode Mines Ltd	Belanger	Airborne Electromagnetic, Airborne Magnetometer
52K15NW0011	1968	Copper-Lode Mines Ltd	Belanger	Airborne Electromagnetic, Airborne Magnetometer
52N02SW8908	1968	Copper-Lode Mines Ltd	Belanger	Airborne Electromagnetic, Airborne Magnetometer, Induced Polarization, Resistivity
52K15NW0042	1969	Muscocho Expl Ltd	Belanger	Airborne Electromagnetic, Airborne Magnetometer
52K15NW0223	1969	Phelps Dodge Corp Of Can	Belanger	Electromagnetic, Geological Survey / Mapping
52K15NW0223	1969	Phelps Dodge Corp Of Can	Belanger	Electromagnetic, Geological Survey / Mapping
52K15NW0018	1969	Roxmark Mines Ltd	Belanger	Diamond Drilling
52K15NW0014	1969	Satellite Metal Mines Ltd	Belanger	Electromagnetic, Magnetic / Magnetometer Survey
52N02SW8909	1970	Cochenour Expl Ltd	Belanger	Electromagnetic, Geological Survey / Mapping
52K15NW0210	1971	Muscocho Expl Ltd	Belanger	Electromagnetic, Magnetic / Magnetometer Survey
52K15NW0040	1971	Roxmark Mines Ltd	Belanger	Induced Polarization
52N02SW0020	1971	Selco Exploration Co Ltd	Belanger	Assaying and Analyses, Diamond Drilling
20000005449	1971	South Bay Mines Ltd	Belanger	Diamond Drilling
20000005456	1972	Roxmark Mines Ltd	Belanger	Airborne Electromagnetic, Airborne Magnetometer
52K15NW0017	1973	Copper-Lode Mines Ltd	Belanger	Diamond Drilling
52K15NW0006	1973	Copper-Lode Mines Ltd	Belanger	Airborne Electromagnetic, Airborne Magnetometer
52K15NW0017	1973	Copper-Lode Mines Ltd	Belanger	Diamond Drilling
20000006232	1984	Cominco Ltd	Belanger	Linecutting, Magnetic / Magnetometer Survey

52N02SE0026	1984	Getty Canadian Metals Ltd	Belanger	Assaying and Analyses, Miscellaneous Compilation and Interpretation
52N02SW8905	1991	Minnova Inc	Belanger	Geochemical, Geological Survey / Mapping, Miscellaneous Compilation and Interpretation, Other
52N02SE0022	1991	Minnova Inc	Belanger	Diamond Drilling
52N02SE0022	1991	Minnova Inc	Belanger	Diamond Drilling
52K15NW9991	1993	Noranda Exploration Co	Belanger	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey
52K15NW0012	1995	A Rosenthal	Belanger	Electromagnetic, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52K15NW0010	1995	Noranda Exploration Co	Belanger	Assaying and Analyses, Diamond Drilling
52N02SW0015	1995	Noranda Mining & Expl Inc	Belanger	Assaying and Analyses, Compilation and Interpretation - Geology, Downhole Geophysics, Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52K15NW0019	1995	Noranda Mining & Expl Inc	Belanger	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling
52N02SW0015	1995	Noranda Mining & Expl Inc	Belanger	Assaying and Analyses, Compilation and Interpretation - Geology, Downhole Geophysics, Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52K15NW0021	1996	Noranda Mining & Expl Inc	Belanger	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling
52N02SW0016	1997	Noranda Mining & Expl Inc	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52N02SW2002	1998	Cdn Mining Ltd	Belanger	Induced Polarization, Open Cutting
52N02SW2006	1999	J Williamson	Belanger	Assaying and Analyses, Bedrock Trenching, Mechanical, Overburden Stripping, Prospecting by Licence Holder
52K15NW2007	2003	Tribute Minerals Corp	Belanger	Induced Polarization, Linecutting, Other Geotechnical, Resistivity
20000001574	2006	Tribute Minerals Corp	Belanger	Gravity, Linecutting
20000001574	2006	Tribute Minerals Corp	Belanger	Gravity, Linecutting
20000001574	2006	Tribute Minerals Corp	Belanger	Gravity, Linecutting
20000001574	2006	Tribute Minerals Corp	Belanger	Gravity, Linecutting
20000001574	2006	Tribute Minerals Corp	Belanger	Gravity, Linecutting
20000002443	2006	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000002443	2006	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000002443	2006	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000003050	2006	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000003050	2006	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000002288	2007	Perry Vern English	Belanger	Geochemical, Linecutting
20000002288	2007	Perry Vern English	Belanger	Geochemical, Linecutting
20000002288	2007	Perry Vern English	Belanger	Geochemical, Linecutting

20000004391	2007	Tribute Minerals Inc	Belanger	Diamond Drilling
20000004391	2007	Tribute Minerals Inc	Belanger	Diamond Drilling
20000003544	2007	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000004391	2007	Tribute Minerals Inc	Belanger	Diamond Drilling
20000003544	2007	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000004391	2007	Tribute Minerals Inc	Belanger	Diamond Drilling
20000004391	2007	Tribute Minerals Inc	Belanger	Diamond Drilling
20000003544	2007	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000003395	2007	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000003395	2007	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000003395	2007	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000005696	2010	Perry Vern English, Tribute Minerals Inc	Belanger	Downhole Geophysics
20000017917	2017	Pistol Bay Mining Inc	Belanger	Airborne Electromagnetic, Airborne Magnetometer
52K15NW2002	1997 - 1998	Noranda Inc	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52K15NW2002	1997 - 1998	Noranda Inc	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52N02SW2005	1997 - 1998	Noranda Inc	Belanger	Assaying and Analyses, Diamond Drilling
52K15NW2002	1997 - 1998	Noranda Inc	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52K15NW2002	1997 - 1998	Noranda Inc	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000000998	2002 - 2003	Tribute Minerals Corp	Belanger	Diamond Drilling
20000000998	2002 - 2003	Tribute Minerals Corp	Belanger	Diamond Drilling
20000000845	2003 - 2004	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Electromagnetic Very Low Frequency
20000000845	2003 - 2004	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Electromagnetic Very Low Frequency
20000000845	2003 - 2004	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Electromagnetic Very Low Frequency
20000001515	2004 - 2005	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000001515	2004 - 2005	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000001515	2004 - 2005	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000001515	2004 - 2005	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000001515	2004 - 2005	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000001515	2004 - 2005	Tribute Minerals Corp	Belanger	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000005697	2006 - 2007	Tribute Minerals Inc	Belanger	Downhole Geophysics
20000005697	2006 - 2007	Tribute Minerals Inc	Belanger	Downhole Geophysics
20000004432	2007 - 2008	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling

20000004432	2007 - 2008	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000004432	2007 - 2008	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000004432	2007 - 2008	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000005659	2007 - 2008	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
20000005659	2007 - 2008	Tribute Minerals Inc	Belanger	Assaying and Analyses, Diamond Drilling
52K15NE0023	1969	Hollinger Mines Ltd	Bowerman	Airborne Electromagnetic, Airborne Magnetometer, Airborne Radiometric
52N02SE0127	1969	South Bay Mines Ltd	Bowerman	Diamond Drilling
52N02SE0127	1969	South Bay Mines Ltd	Bowerman	Diamond Drilling
52N02SE0129	1970	Dome Exploration Ltd	Bowerman	Diamond Drilling
52K15NE0202	1972	Biron Bay Gold Mines Ltd, T E Barton	Bowerman	Magnetic / Magnetometer Survey
52N02SE0128	1975	Kerr Addison Mines Ltd	Bowerman	Diamond Drilling
52N02SE0128	1975	Kerr Addison Mines Ltd	Bowerman	Diamond Drilling
52N02SE0128	1975	Kerr Addison Mines Ltd	Bowerman	Diamond Drilling
52N02SW0130	1976	Kerr Addison Mines Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey, Prospecting by Licence Holder
52N02SW0130	1976	Kerr Addison Mines Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey, Prospecting by Licence Holder
52N02SW0130	1976	Kerr Addison Mines Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey, Prospecting by Licence Holder
52N02SW0130	1976	Kerr Addison Mines Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey, Prospecting by Licence Holder
52N02SE0125	1980	Selco Mining Corp Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey
52N02SW8911	1980	Selco Mining Corp Ltd	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SW8911	1980	Selco Mining Corp Ltd	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SE0125	1980	Selco Mining Corp Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0125	1980	Selco Mining Corp Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey
52K15NE0020	1980	St Joseph Exploration Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0126	1981	Unknown	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SE0126	1981	Unknown	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SE0126	1981	Unknown	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SE0081	1984	Cominco Ltd	Bowerman	Compilation and Interpretation - Geology, Compilation and Interpretation - Ground Geophysics
52N02SE0081	1984	Cominco Ltd	Bowerman	Compilation and Interpretation - Geology, Compilation and Interpretation - Ground Geophysics

52K15NE0203	1984	Getty Canadian Metals Ltd	Bowerman	Airborne Magnetometer, Airborne Radiometric
52N02SE0017	1986	Dome Expl (Canada) Ltd	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey
52K15NE0002	1987	Dome Expl (Canada) Ltd	Bowerman	Diamond Drilling
20000005452	1987	Dome Expl (Canada) Ltd	Bowerman	Electromagnetic, Linecutting, Magnetic / Magnetometer Survey
52K15NE0201	1988	Placer Dome Ltd	Bowerman	Airborne Electromagnetic, Magnetic / Magnetometer Survey
52K15NE0001	1988	Placer Dome Ltd	Bowerman	Electromagnetic Very Low Frequency, Magnetic / Magnetometer Survey
52K15NE0220	1989	E Van Hees	Bowerman	Assaying and Analyses
52N02SW0001	1995	Noranda Mining & Expl Inc	Bowerman	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0013	1995	Rio Algom Exploration Inc	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SE0013	1995	Rio Algom Exploration Inc	Bowerman	Assaying and Analyses, Diamond Drilling
52N02SE2002	1998	Berland Resc Ltd	Bowerman	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling, Electromagnetic
52N02SE2002	1998	Berland Resc Ltd	Bowerman	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling, Electromagnetic
52N02SW2004	1998	Noranda Mining & Expl Inc	Bowerman	Geochemical, Geological Survey / Mapping
52N02SW2007	2000	Nuinsco Resources Ltd	Bowerman	Electromagnetic, Open Cutting
52N02SW2012	2003	Tribute Minerals Corp	Bowerman	Induced Polarization, Linecutting, Other Geotechnical, Resistivity
20000003646	2008	Confederation Minerals Ltd	Bowerman	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000004815	2010	Diamine Explo Inc	Bowerman	Induced Polarization, Linecutting, Magnetic / Magnetometer Survey
20000018003	2017	Pistol Bay Mining Inc	Bowerman	Airborne Electromagnetic, Airborne Gradiometer, Airborne Magnetometer
52N02SE8910	1992 - 1993	Minnova Inc	Bowerman	Electromagnetic
20000009042	2011 - 2013	Claus Martin Meyer	Bowerman	Diamond Drilling
20000008683	2012 - 2013	Goldcorp Canada Ltd, Goldcorp Inc	Bowerman	Assaying and Analyses, Geochemical
20000008222	2013 - 2014	Goldcorp Canada Inc, Goldcorp Inc	Bowerman	Assaying and Analyses, Geochemical, Geological Survey / Mapping
20000000691	2003 - 2004	Tribute Minerals Corp, Tribute Minerals Inc	Bruce Lake Area	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000000691	2003 - 2004	Tribute Minerals Corp, Tribute Minerals Inc	Bruce Lake Area	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
20000000691	2003 - 2004	Tribute Minerals Corp, Tribute Minerals Inc	Bruce Lake Area	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52N02SE0123	1970	Alexander Red Lake Mines Ltd	Dent	Compilation and Interpretation - Diamond Drilling, Compilation and Interpretation - Geology, Electromagnetic, Geochemical,

				Geological Survey / Mapping, Magnetic / Magnetometer Survey, Manual Labour
52N02SE0123	1970	Alexander Red Lake Mines Ltd	Dent	Compilation and Interpretation - Diamond Drilling, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Manual Labour
52N02SE0123	1970	Alexander Red Lake Mines Ltd	Dent	Compilation and Interpretation - Diamond Drilling, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Manual Labour
52N02SE0029	1993	A Maciejewski	Dent	Electromagnetic, Geochemical, Magnetic / Magnetometer Survey
52N02SE0009	1995	A J Maciejewski, M Bobinski	Dent	Electromagnetic, Magnetic / Magnetometer Survey
52N02NE0005	1995	Cumberland Resources Ltd	Dent	Electromagnetic
52N02SE2005	1998	Confederation Mining Corp	Dent	Geochemical, Prospecting by Licence Holder
52N02SE2006	1998	Confederation Mining Corp	Dent	Electromagnetic
52N02SE2003	1998	Donald Hawke, Gregory Campbell	Dent	Magnetic / Magnetometer Survey, Open Cutting
20000001812	2006	Sienna Minerals Inc	Dent	Geochemical, Linecutting
20000001812	2006	Sienna Minerals Inc	Dent	Geochemical, Linecutting
20000003245	2007	Quantec Geoscience Ltd	Dent	Induced Polarization
52N02SE0041	1995 - 1996	Inmet Mining Corp	Dent	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52N02SE0041	1995 - 1996	Inmet Mining Corp	Dent	Assaying and Analyses, Diamond Drilling, Downhole Geophysics
52N02SE9901	1970	J A Murphy	Earngey	Electromagnetic
52N02SE9911	1970	Red Lake Syndicate	Earngey	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE9903	1970	Red Lake Syndicate	Earngey	Electromagnetic
52N02SE9895	1978	Unknown	Earngey	Diamond Drilling
52N02SE9896	1979	Unknown	Earngey	Diamond Drilling
52N02SE9893	1980	St Joseph Exploration Ltd	Earngey	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE9892	1980	Unknown	Earngey	Diamond Drilling
52N02SE9910	1986	Orofino Resources Ltd	Earngey	Diamond Drilling
52N02SE0001	1993	Rio Algom Exploration Inc	Earngey	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0021	1994	Metall Mining Corp	Earngey	Assaying and Analyses, Diamond Drilling
52N02SE0021	1994	Metall Mining Corp	Earngey	Assaying and Analyses, Diamond Drilling
52N02SE0020	1995	Cumberland Resources Ltd	Earngey	Compilation and Interpretation - Diamond Drilling, Compilation and Interpretation - Geology, Compilation and Interpretation - Ground Geophysics, Geochemical, Geological Survey / Mapping
52N02SE0020	1995	Cumberland Resources Ltd	Earngey	Compilation and Interpretation - Diamond Drilling, Compilation and Interpretation -

				Geology, Compilation and Interpretation - Ground Geophysics, Geochemical, Geological Survey / Mapping
52N02SE0020	1995	Cumberland Resources Ltd	Earngey	Compilation and Interpretation - Diamond Drilling, Compilation and Interpretation - Geology, Compilation and Interpretation - Ground Geophysics, Geochemical, Geological Survey / Mapping
20000018400	2019	Argo Gold Inc	Earngey	Geobotanical and Biogeochemical Survey
52N02SE9972	1992 - 1993	Minnova Inc	Earngey	Electromagnetic
52N02SE9972	1992 - 1993	Minnova Inc	Earngey	Electromagnetic
52N02SE2007	1998 - 1999	Mines Et Expl Noranda Inc	Earngey	Assaying and Analyses, Diamond Drilling, Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
20000007642	2010 - 2011	1544230 Ontario Inc, Mainstream Minerals Corporation	Earngey	Diamond Drilling
52K15NW0035	1969	Erzgesellschaft Mbh	Fredart Lake Area	Airborne Electromagnetic, Airborne Magnetometer
52K15NW0032	1973	Roxmark Mines Ltd	Fredart Lake Area	Airborne Electromagnetic, Airborne Magnetometer
52K15NW0027	1985	Noranda Exploration Co	Fredart Lake Area	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Microscopic Studies
52K15NW8944	1992	W J Desmeules	Fredart Lake Area	Geochemical, Prospecting by Licence Holder
52K15NW0013	1996	Noranda Mining & Expl Inc	Fredart Lake Area	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52K15NW2003	1998	Noranda Mining & Expl Inc	Fredart Lake Area	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52K15NW2006	2003	Tribute Minerals Corp	Fredart Lake Area	Induced Polarization, Linecutting, Other Geotechnical, Resistivity
20000000746	2003	Tribute Minerals Corp	Fredart Lake Area	Assaying and Analyses, Diamond Drilling, Geological Survey / Mapping
20000000746	2003	Tribute Minerals Corp	Fredart Lake Area	Assaying and Analyses, Diamond Drilling, Geological Survey / Mapping
20000000746	2003	Tribute Minerals Corp	Fredart Lake Area	Assaying and Analyses, Diamond Drilling, Geological Survey / Mapping
20000000746	2003	Tribute Minerals Corp	Fredart Lake Area	Assaying and Analyses, Diamond Drilling, Geological Survey / Mapping
20000008490	2013	Goldcorp Canada Ltd, Goldcorp Inc	Fredart Lake Area	Magnetic / Magnetometer Survey
52K15NW0034	1968 - 1969	Copper-Lode Mines Ltd, Roxmark Mines Ltd	Fredart Lake Area	Airborne Electromagnetic, Airborne Magnetometer, Diamond Drilling, Magnetic / Magnetometer Survey
52K15NW2005	2001 - 2002	Tribute Minerals Corp	Fredart Lake Area	Geochemical, Linecutting, Magnetic / Magnetometer Survey
52K14NE0209	1969	Dome Expl (Canada) Ltd	Gerry Lake Area	Airborne Electromagnetic, Airborne Magnetometer, Airborne Radiometric
52K14NE0041	1969	Erzgesellschaft Mbh	Gerry Lake Area	Electromagnetic, Induced Polarization, Magnetic / Magnetometer Survey
52K14NE0032	1970	Caravelle Mines Ltd	Gerry Lake Area	Diamond Drilling

52K14NE0029	1970	Caravelle Mines Ltd	Gerry Lake Area	Diamond Drilling
52K14NE0208	1970	Caravelle Mines Ltd	Gerry Lake Area	Diamond Drilling
52K14NE0044	1970	Caravelle Mines Ltd	Gerry Lake Area	Airborne Electromagnetic, Airborne Magnetometer, Assaying and Analyses, Diamond Drilling, Electromagnetic, Geological Survey / Mapping, Magnetic / Magnetometer Survey
52K14NE0031	1970	Caravelle Mines Ltd	Gerry Lake Area	Diamond Drilling
52K14NE0042	1970	Erzgesellschaft Mbh	Gerry Lake Area	Geological Survey / Mapping, Magnetic / Magnetometer Survey
52K14NE8952	1970	Erzgesellschaft Mbh	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0027	1970	Yorbeau Mines Ltd	Gerry Lake Area	Diamond Drilling
52K14NE0027	1970	Yorbeau Mines Ltd	Gerry Lake Area	Diamond Drilling
52K14NE0036	1977	Noranda Exploration Co	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0035	1977	Selco Mining Corp Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0034	1977	Selco Mining Corp Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0052	1977	Selco Mining Corp Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0025	1977	Selco Mining Corp Ltd	Gerry Lake Area	Diamond Drilling
52K14NE0052	1977	Selco Mining Corp Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0021	1978	Selco Mining Corp Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K15NE0206	1978	Selco Mining Corp Ltd	Gerry Lake Area	Assaying and Analyses, Diamond Drilling
52K15NE0206	1978	Selco Mining Corp Ltd	Gerry Lake Area	Assaying and Analyses, Diamond Drilling
52K14NE0018	1979	Selco Mining Corp Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
20000005290	1984	Bp Resc Canada Ltd	Gerry Lake Area	Electromagnetic, Linecutting, Magnetic / Magnetometer Survey
20000005290	1984	Bp Resc Canada Ltd	Gerry Lake Area	Electromagnetic, Linecutting, Magnetic / Magnetometer Survey
52K14NE0013	1985	Bp Resources Canada	Gerry Lake Area	Electromagnetic Very Low Frequency, Magnetic / Magnetometer Survey
52K14NE0014	1985	Bp Resources Canada	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0005	1985	Bp Resources Canada	Gerry Lake Area	Electromagnetic
20000005293	1985	Noranda Expl Co Ltd	Gerry Lake Area	Assaying and Analyses, Electromagnetic, Geological Survey / Mapping, Linecutting, Magnetic / Magnetometer Survey
52K14NE0008	1986	Bp Resources Canada	Gerry Lake Area	Diamond Drilling
52K14NE0009	1986	Noranda Exploration Co	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0004	1987	Noranda Exploration Co	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey
52K14NE0003	1988	Noranda Exploration Co	Gerry Lake Area	Airborne Electromagnetic, Airborne Magnetometer

52K14NE8948	1992	Noranda Exploration Co	Gerry Lake Area	Diamond Drilling
52K14NE8947	1992	Noranda Exploration Co	Gerry Lake Area	Assaying and Analyses, Diamond Drilling, Microscopic Studies
52K15NW8943	1992	Noranda Exploration Co	Gerry Lake Area	Assaying and Analyses, Geochemical, Geological Survey / Mapping
52K14NE8947	1992	Noranda Exploration Co	Gerry Lake Area	Assaying and Analyses, Diamond Drilling, Microscopic Studies
52K14NE0028	1994	Cumberland Resources Ltd	Gerry Lake Area	Geochemical, Geological Survey / Mapping, Open Cutting
52K14NE0028	1994	Cumberland Resources Ltd	Gerry Lake Area	Geochemical, Geological Survey / Mapping, Open Cutting
52K14NE0040	1994	D R Hawke	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52K14NE2015	1994	Noranda Exploration Co	Gerry Lake Area	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Electromagnetic, Linecutting
52K14NE0030	1994	Noranda Exploration Co	Gerry Lake Area	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling, Downhole Geophysics, Electromagnetic, Recutting Claim Lines Once Every 5 Years
52K14NE0010	1995	Inco Ltd	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52K14NE0045	1995	Noranda Mining & Expl Inc	Gerry Lake Area	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Electromagnetic, Manual Labour
52K14NE0020	1995	P English	Gerry Lake Area	Electromagnetic
52K14NE0020	1995	P English	Gerry Lake Area	Electromagnetic
52K14NE0049	1996	Noranda Mining & Expl Inc	Gerry Lake Area	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52K14NE0047	1997	Donald Hawke, Gregory J Campbell	Gerry Lake Area	Open Cutting, Prospecting by Licence Holder
52K14NE2002	1998	Cross Lake Minerals Ltd	Gerry Lake Area	Assaying and Analyses, Diamond Drilling
52K14NE2002	1998	Cross Lake Minerals Ltd	Gerry Lake Area	Assaying and Analyses, Diamond Drilling
52K14NE2009	2002	G J Campbell	Gerry Lake Area	Electromagnetic Very Low Frequency, Linecutting, Magnetic / Magnetometer Survey
52K14NE2010	2002	Gregory J Campbell	Gerry Lake Area	Geochemical
20000003616	2008	Confederation Minerals Corp, Perry Vern English	Gerry Lake Area	Geochemical, Prospecting by Licence Holder
20000003616	2008	Confederation Minerals Corp, Perry Vern English	Gerry Lake Area	Geochemical, Prospecting by Licence Holder
20000018016	2017	Pistol Bay Mining Inc	Gerry Lake Area	Airborne Electromagnetic, Airborne Gradiometer, Airborne Magnetometer
52K14NE0048	1996 - 1997	Cross Lake Minerals Ltd	Gerry Lake Area	Induced Polarization, Open Cutting, Resistivity
52K14NE0048	1996 - 1997	Cross Lake Minerals Ltd	Gerry Lake Area	Induced Polarization, Open Cutting, Resistivity
52K14NE2001	1997 - 1998	Tri Origin Expl Ltd	Gerry Lake Area	Assaying and Analyses, Diamond Drilling, Electromagnetic, Geochemical, Magnetic / Magnetometer Survey, Open Cutting
20000002054	2006 - 2007	Gregory J Campbell	Gerry Lake Area	Assaying and Analyses, Geochemical, Prospecting by Licence Holder

20000003063	2007 - 2008	Gregory J Campbell	Gerry Lake Area	Geological Survey / Mapping
20000004683	2009 - 2010	Precambrian Ventures Ltd	Gerry Lake Area	Assaying and Analyses, Geochemical
20000004596	2009 - 2010	Precambrian Ventures Ltd	Gerry Lake Area	Database Data
52N01SW0002	1992	J Williamson	Jubilee Lake Area	Assaying and Analyses, Bedrock Trenching, Overburden Stripping
52N02SW0011	1996	Cdn Zeolite Ltd	Knott	Electromagnetic Very Low Frequency, Induced Polarization, Magnetic / Magnetometer Survey, Open Cutting
52N02SW2011	2002	Kings Bay Gold Corp	Knott	Assaying and Analyses, Diamond Drilling
20000007707	2010 - 2012	Perry Vern English	Knott	Assaying and Analyses, Prospecting by Licence Holder
20000005644	2007	Tribute Minerals Inc	Little Bear Lake Area	Assaying and Analyses, Diamond Drilling
20000005644	2007	Tribute Minerals Inc	Little Bear Lake Area	Assaying and Analyses, Diamond Drilling
20000005644	2007	Tribute Minerals Inc	Little Bear Lake Area	Assaying and Analyses, Diamond Drilling
20000005644	2007	Tribute Minerals Inc	Little Bear Lake Area	Assaying and Analyses, Diamond Drilling
52N02SW0008	1965	Norite Explorations Ltd	Mitchell	Diamond Drilling
52N02SE0113	1968	W C Arrowsmith	Mitchell	Diamond Drilling
52N02SW0007	1969	Dome Expl (Canada) Ltd	Mitchell	Airborne Electromagnetic
52N02SW0007	1969	Dome Expl (Canada) Ltd	Mitchell	Airborne Electromagnetic
52N02SE0118	1969	North Rock Expl Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE9989	1970	J A Murphy	Mitchell	Magnetic / Magnetometer Survey
52N02SW0460	1970	Red Lake Syndicate	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0111	1970	South Bay Mines Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0112	1970	South Bay Mines Ltd	Mitchell	Diamond Drilling
52N02SW9988	1971	South Bay Mines Ltd	Mitchell	Diamond Drilling
52N02SW9988	1971	South Bay Mines Ltd	Mitchell	Diamond Drilling
52N02SW9988	1971	South Bay Mines Ltd	Mitchell	Diamond Drilling
52N02SE0114	1973	South Bay Mines Ltd	Mitchell	Diamond Drilling
52N02SE0108	1974	South Bay Mines Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0106	1975	Kerr Addison Mines Ltd	Mitchell	Diamond Drilling
52N02SE0109	1975	Selco Mining Corp Ltd	Mitchell	Diamond Drilling
52N02SE0105	1976	Kerr Addison Mines Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0104	1976	Kerr Addison Mines Ltd	Mitchell	Assaying and Analyses, Diamond Drilling

52N02SE0104	1976	Kerr Addison Mines Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0105	1976	Kerr Addison Mines Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0098	1976	Selco Exploration Co Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0102	1976	Selco Exploration Co Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0101	1977	Kerr Addison Mines Ltd	Mitchell	Electromagnetic
52N02SE0100	1977	Selco Mining Corp Ltd	Mitchell	Diamond Drilling
52N02SE0099	1977	Selco Mining Corp Ltd	Mitchell	Diamond Drilling
52N02SE0044	1978	Kerr Addison Mines Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0044	1978	Kerr Addison Mines Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
20000005448	1978	Selco Mining Corp Ltd	Mitchell	Electromagnetic, Linecutting, Magnetic / Magnetometer Survey
52N02SE0088	1979	Selco Mining Corp Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0097	1979	Selco Mining Corp Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0088	1979	Selco Mining Corp Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0091	1979	St Joseph Exploration Ltd	Mitchell	Airborne Electromagnetic
52N02SE0092	1979	St Joseph Exploration Ltd	Mitchell	Diamond Drilling
52N02SE0091	1979	St Joseph Exploration Ltd	Mitchell	Airborne Electromagnetic
52N02SE9987	1979	St Joseph Exploration Ltd	Mitchell	Geological Survey / Mapping
52N02SE0290	1980	Selco Mining Corp Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0290	1980	Selco Mining Corp Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0031	1980	St Joseph Exploration Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0401	1980	St Joseph Exploration Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0085	1980	St Joseph Exploration Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0087	1980	St Joseph Exploration Ltd	Mitchell	Diamond Drilling
52N02SE0090	1980	St Joseph Exploration Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0085	1980	St Joseph Exploration Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0086	1980	St Joseph Exploration Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SE0085	1980	St Joseph Exploration Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0089	1981	Sulpetro Minerals Ltd	Mitchell	Diamond Drilling

52N02SE9890	1985	Orofino Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling, Geological Survey / Mapping
52N02SE0082	1989	Noranda Exploration Co	Mitchell	Assaying and Analyses, Geological Survey / Mapping
52N02SE0077	1989	Noranda Exploration Co	Mitchell	Electromagnetic, Electromagnetic Very Low Frequency, Gravity
52N02SE0075	1989	Noranda Exploration Co	Mitchell	Electromagnetic, Gravity
20000005447	1989	Placer Dome Inc	Mitchell	Electromagnetic Very Low Frequency, Linecutting, Magnetic / Magnetometer Survey
52N02SE0074	1989	Placer Dome Ltd	Mitchell	Diamond Drilling
52N02SE0074	1989	Placer Dome Ltd	Mitchell	Diamond Drilling
52N02SE9986	1990	Minnova Inc	Mitchell	Other
52N02SE0071	1990	Noramco Exploration Inc	Mitchell	Electromagnetic
52N02SE0076	1990	Noranda Exploration Co	Mitchell	Diamond Drilling
52N02SE0073	1990	Noranda Exploration Co	Mitchell	Electromagnetic Very Low Frequency, Geochemical, Open Cutting
52N02SE0073	1990	Noranda Exploration Co	Mitchell	Electromagnetic Very Low Frequency, Geochemical, Open Cutting
52N02SE0073	1990	Noranda Exploration Co	Mitchell	Electromagnetic Very Low Frequency, Geochemical, Open Cutting
52N02SE0073	1990	Noranda Exploration Co	Mitchell	Electromagnetic Very Low Frequency, Geochemical, Open Cutting
52N02SE0072	1990	Noranda Exploration Co	Mitchell	Geochemical
52N02SE0070	1991	Minnova Inc	Mitchell	Diamond Drilling, Geochemical
52N02SE0070	1991	Minnova Inc	Mitchell	Diamond Drilling, Geochemical
52N02SE0070	1991	Minnova Inc	Mitchell	Diamond Drilling, Geochemical
52N02SE0069	1992	Breakwater Resc Ltd	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey
52N02SW0014	1992	C M Meyer	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0014	1992	C M Meyer	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0600	1992	Rio Algom Exploration Inc	Mitchell	Electromagnetic, Geochemical, Geological Survey / Mapping
52N02SE0018	1993	Metal Mining Corp	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0018	1993	Metal Mining Corp	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0018	1993	Metal Mining Corp	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0011	1993	Rio Algom Exploration Inc	Mitchell	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52N02SW0012	1994	C Meyer	Mitchell	Gravity
52N02SE0004	1994	D R Hawke	Mitchell	Electromagnetic
52N02SE0028	1994	G Campbell	Mitchell	Electromagnetic
52N02SE0045	1994	Noranda Exploration Co	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0024	1994	Rio Algom Exploration Inc	Mitchell	Assaying and Analyses, Compilation and Interpretation - Geology, Diamond Drilling, Electromagnetic, Open Cutting
52N02SE0024	1994	Rio Algom Exploration Inc	Mitchell	Assaying and Analyses, Compilation and Interpretation - Geology, Diamond Drilling, Electromagnetic, Open Cutting

52N02SE0024	1994	Rio Algom Exploration Inc	Mitchell	Assaying and Analyses, Compilation and Interpretation - Geology, Diamond Drilling, Electromagnetic, Open Cutting
52N02SE0024	1994	Rio Algom Exploration Inc	Mitchell	Assaying and Analyses, Compilation and Interpretation - Geology, Diamond Drilling, Electromagnetic, Open Cutting
52N02SE0016	1995	Inco Ltd	Mitchell	Compilation and Interpretation - Diamond Drilling, Diamond Drilling, Geochemical, Microscopic Studies
52N02SW0013	1995	Noranda Exploration Co	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0025	1995	Noranda Mining & Expl Inc	Mitchell	Electromagnetic, Geochemical, Geological Survey / Mapping
52N02SE0030	1996	Cumberland Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE0030	1996	Cumberland Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling
52N02SE2001	1997	Cumberland Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Geochemical
52N02SE2001	1997	Cumberland Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Geochemical
52N02SE2001	1997	Cumberland Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Geochemical
52N02SE2001	1997	Cumberland Resources Ltd	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Geochemical
52N02SE2004	1998	Noranda Inc	Mitchell	Electromagnetic, Magnetic / Magnetometer Survey, Open Cutting
52N02SW2003	1998	Noranda Mining & Expl Inc	Mitchell	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling, Downhole Geophysics
52N02SE2008	1999	Nuinsco Resources Ltd	Mitchell	Assaying and Analyses, Compilation and Interpretation - Diamond Drilling, Diamond Drilling, Downhole Geophysics
52N02SE2009	2000	Perry English	Mitchell	Geochemical, Geological Survey / Mapping, Prospecting by Licence Holder
52N02SE2013	2002	Red Lake Resc Inc	Mitchell	Assaying and Analyses, Geochemical, Geological Survey / Mapping, Manual Labour
52N02SE2012	2002	Red Lake Resc Inc	Mitchell	Compilation and Interpretation - Ground Geophysics, Geological Survey / Mapping, Manual Labour
52N02SE2015	2003	Tribute Minerals Corp	Mitchell	Geochemical, Linecutting
20000007439	2010	Claus Martin Meyer, Gerhard Meyer	Mitchell	Airborne Electromagnetic, Airborne Magnetometer
52N02SW0009	1986 - 1994	C Meyer	Mitchell	Downhole Geophysics
52N02SE9207	1991 - 1992	Bhp Minerals Canada Ltd	Mitchell	Compilation and Interpretation - Geochemistry, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Gravity, Magnetic / Magnetometer Survey, Microscopic Studies, Open Cutting, Prospecting by Licence Holde*
52N02SE9207	1991 - 1992	Bhp Minerals Canada Ltd	Mitchell	Compilation and Interpretation - Geochemistry, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Gravity, Magnetic /

				Magnetometer Survey, Microscopic Studies, Open Cutting, Prospecting by Licence Holde*
52N02SE9207	1991 - 1992	Bhp Minerals Canada Ltd	Mitchell	Compilation and Interpretation - Geochemistry, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Gravity, Magnetic / Magnetometer Survey, Microscopic Studies, Open Cutting, Prospecting by Licence Holde*
52N02SE9207	1991 - 1992	Bhp Minerals Canada Ltd	Mitchell	Compilation and Interpretation - Geochemistry, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Gravity, Magnetic / Magnetometer Survey, Microscopic Studies, Open Cutting, Prospecting by Licence Holde*
52N02SE9207	1991 - 1992	Bhp Minerals Canada Ltd	Mitchell	Compilation and Interpretation - Geochemistry, Compilation and Interpretation - Geology, Electromagnetic, Geochemical, Geological Survey / Mapping, Gravity, Magnetic / Magnetometer Survey, Microscopic Studies, Open Cutting, Prospecting by Licence Holde*
52N02SE0027	1992 - 1993	D Hawke, G Campbell	Mitchell	Compilation and Interpretation - Geochemistry, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting, Prospecting by Licence Holder
52N02SW8945	1992 - 1993	D R Hawke, G Campbell	Mitchell	Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey
52N02SE0032	1995 - 1996	Noranda Mining & Expl Inc	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0032	1995 - 1996	Noranda Mining & Expl Inc	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0032	1995 - 1996	Noranda Mining & Expl Inc	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
52N02SE0032	1995 - 1996	Noranda Mining & Expl Inc	Mitchell	Assaying and Analyses, Diamond Drilling, Downhole Geophysics, Electromagnetic, Geochemical, Geological Survey / Mapping, Magnetic / Magnetometer Survey, Open Cutting
20000005848	2009 - 2010	Claus Martin Meyer, Gerhard Meyer	Mitchell	Assaying and Analyses, Geological Survey / Mapping
20000007507	2010 - 2012	Mainstream Minerals Corp	Mitchell	
20000007312	2011 - 2012	Open Gold Corp	Mitchell	Airborne Electromagnetic, Airborne Magnetometer, Database Data
52K16NE0401	1977	Hudson Bay Expl & Dev Co Ltd	Slate Lake Area	Electromagnetic
20000003525	2006 - 2007	1544230 Ontario Inc, King'S Bay Gold Corp, Mainstream Minerals Corp, Perry Vern English	Slate Lake Area	Assaying and Analyses, Diamond Drilling, Electromagnetic Very Low Frequency, Linecutting, Magnetic / Magnetometer Survey

20000001225	2004	Tribute Minerals Corp	South Of Otter Lake Area	Assaying and Analyses, Diamond Drilling
52N02SE0042	1969	South Bay Mines Ltd	Uchi Lake Area	Diamond Drilling
52N02SE0046	1969	South Bay Mines Ltd	Uchi Lake Area	Diamond Drilling
52N02SE0040	1969	South Bay Mines Ltd	Uchi Lake Area	Diamond Drilling
52N02SE0054	1970	Dome Expl (Canada) Ltd	Uchi Lake Area	Diamond Drilling
52N02SE0007	1992	Minnova Inc	Uchi Lake Area	Geochemical, Geological Survey / Mapping

Table 2. *Summary of previous work on Trillium Gold's claims in the Confederation belt. Previous assessment reports were selected where they intersected Trillium Gold's claims.*

SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON SOIL SURVEYS

During the months of May to August 2021 two teams from Fladgate Exploration Consulting Corp. based in Thunder Bay, Ontario were contracted to work on rotations of roughly 3 weeks on with 2 week breaks and 2 days of overlap to carry out the Spatiotemporal Geochemical Hydrocarbon (SGH) program on several of Trillium Gold Mine Inc.'s properties: Joy, Copperlode West, Block A, Block 7, Block B, Block 1, Lucky 7, Block 2, Fly-Moth and Block 3 (see Fig. 1, Appendix I).

Because of the intensity of fire risks in the region for the duration of the summer of 2021 the schedule was approximate due to interruptions and evacuations (see Table 3). Camp was set up on Confederation Lake near the northern boundary of the Fly-Moth property.

Name	Role	Dates	Total Days
Kyle Pedersen	Geologist (project management)	May – Aug 2021	47
Jordan Kowalchuk	Geologist (project management)	June – Aug 2021	46
Leah Clapp	Geologist (data management)	May – Aug 2021	37.8
Alen Wilson	Geotechnician	June – Aug 2021	52
Ashton Mandaric	Geotechnician	May – Aug 2021	48
Bhavin Patel	Geotechnician	June – Aug 2021	49
Harshul Kevadia	Geotechnician	May – Aug 2021	45
Jacob Schneider	Geotechnician	June – Aug 2021	48
Marcel Lacoste	Geotechnician	May 2021	4
Niklas Harkonen	Geotechnician	May – Aug 2021	58
Nirali Karnik	Geotechnician	May – Aug 2021	53
Tanice Mackenzie	Geotechnician	May – Aug 2021	56
12		**May – Aug 2021**	**506**

Table 3. *Field crews and dates provided by Fladgate Exploration Consulting Corp to conduct SGH sampling program for the summer of 2021.*

Sample locations were determined and provided by Trillium Gold geologists prior to the field season and were located in the field by the teams using GPSs. Actlab's SGH methodology does not require a consistent sampling horizon, however the decision to sample from the B horizon where possible was taken by Trillium Gold geologists. A fist-sized sample was taken at all planned locations where possible. Some planned sample locations were unable to be sampled due to the presence of marsh or lake not shown on available government shapefiles.

A total of 3183 samples, including duplicates, were taken from 17 grids ranging in size from 0.5 x 0.5 km to 4.5 x 1.5 km. The majority of samples were taken along gridlines spaced approximately 200 m apart at samples intervals of 50 m. Three small orientation grids (Gerry-Joy A, B, and C) had sample spacings of approximately 25 m on 100 m spaced lines. All lines were oriented approximately orthogonal to known regional geological and structural trends, and trend roughly northwest (see Appendix I).

Samples were taken using either a spade or hand auger which was wiped clean after each sample. The sampled material was then placed in a small Ziplock bag with the sample tag, and clearly labelled with a marker with the corresponding sample number. A photograph of the sample in the bag with tags clearly displayed, and the GPS coordinates was taken at each sample site. Sample characteristics and site observations were recorded in a data collection sheets (Appendix III – SGH Sample Locations & Observations).

QA/QC for SGH contrasts with conventional sampling protocols: field duplicates clearly labelled and identified for the lab as 'duplicate', making up 5% of the sampling (every 20 or so samples) were taken from the same pit or up to a meter away, as per laboratory instructions. Blanks and standards are not needed for this method.

Samples were shipped to Actlabs in Ancaster, Ontario for preparation and analysis using their proprietary methodology and technology. Sample submittal forms indicated a desire for analysis and reporting for gold targeting using analysis code SHG-1. SGH samples are processed to release undisclosed weakly bound heavy hydrocarbons which are then analyzed by gas chromatograph mass spectrometer, the results of which link the abundance of over 160 hydrocarbon species (reported in parts per trillion) to target mineralization types using pathfinder compounds (Actlabs SGH 2019 brochure, retrieved November 8, 2021). The results are provided in finalized report format with heatmaps showing probability of gold mineralization in anomalous zones.

Sample descriptions, location information, depths, notes, and other collection data can be found in Appendix III. Reports generated by Actlabs giving the results, interpretations and general recommendations based on the analyses can be found in Appendix II.

Interpretations

The SGH sampling highlighted several prospective areas for possible gold mineralization. For detailed interpretations refer to Appendix II containing in depth reports provided by Actlabs for each grid.

Because of the greenfields nature of exploration in the Confederation belt, and the geographic extent of the properties and the grids, drawing meaningful interpretations and conclusions is difficult at this time. The SGH grids were intended to serve as a first phase of exploration to aid in directing Trillium Gold's priority focus in subsequent phases.

Broadly speaking it appears that there might be some correlation of gold targets associated with regional structures. It is possible that lithology correlates with anomalies locally as well. In the westernmost grids on the Joy property (see Fig. 1, Appendix I) orientation grids yielded results and gold targets which seem to coincide with known mineralization in the area (Ontario government mineral showings (MDI) data, historical geochemical data). Therefore, SGH sampling is suggestive of a promising method in the region. More work is needed to determine and identify possible correlation with potential controlling factors such as lithology, alteration, regional structures.

RECOMMENDATIONS

Recommendations include carrying out ground-truthing and prospecting where possible to attempt to verify the signatures determined by the SGH sampling in the hopes of providing context and meaning to the anomalous areas, and therefore aid in future exploration work. Following up with ICP analysis near the anomalies could help to identify pathfinder elements and in turn mineralogy, and therefore direct focus on a macro scale.

Further work at this time could also include comprehensive study of historical structural, lithological, and geochemical data in the grid areas to enhance the reported interpretations locally, and then work to build a picture on a broader scale.

Certificate of Qualifications

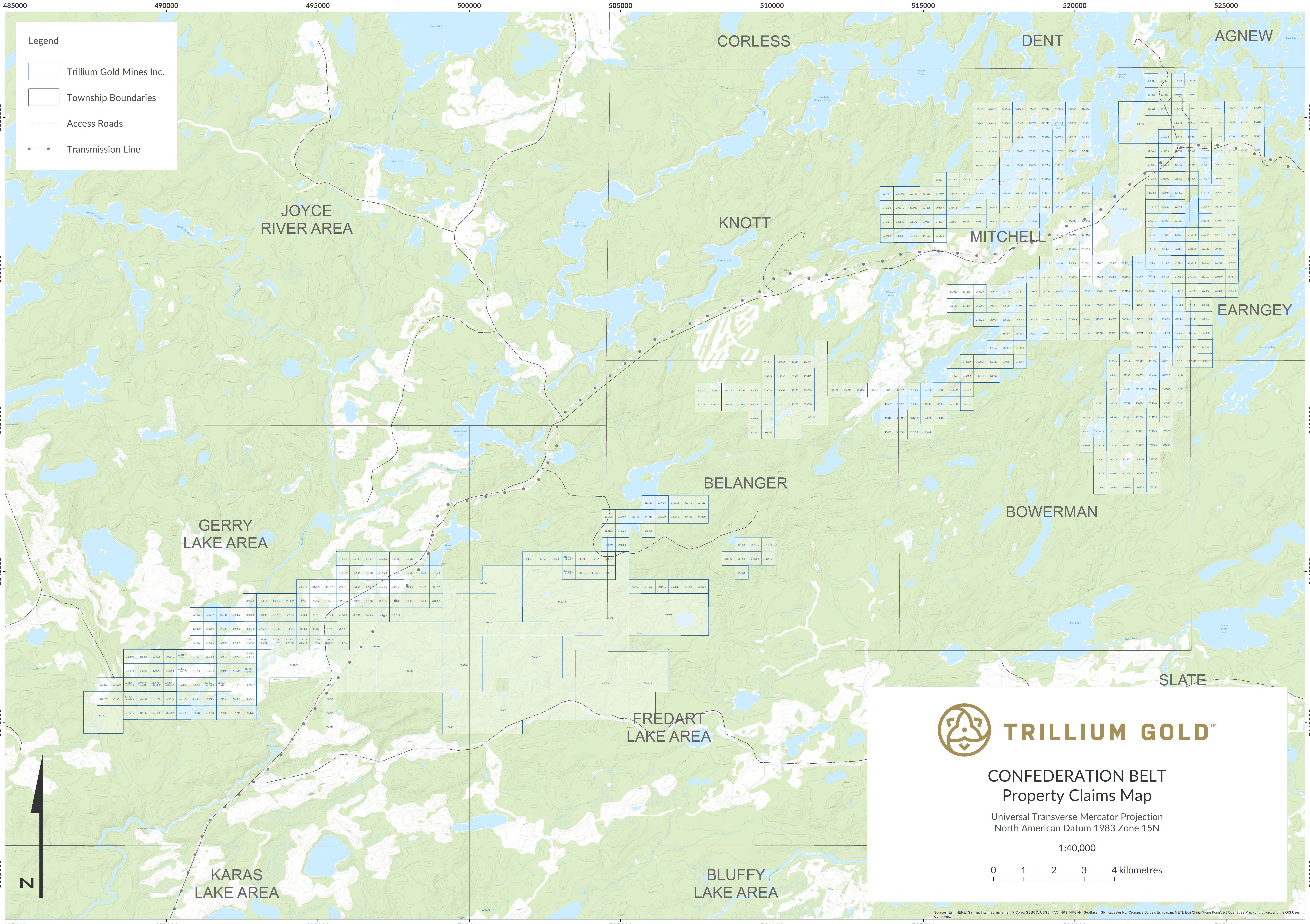
a) I am currently the Vice President of Exploration of Trillium Gold Mines Inc. and employed with the company since September 2020.
b) I am a graduate of Geological Sciences from Queen's University in Kingston, Ontario (H. BSc. 1989, MSc. 2001).
c) I have worked as a geologist worldwide since graduating in 1989 and in the Red Lake District since 2001.
d) I am a practicing member of the Professional Geoscientists of Ontario (Membership #2162 – 2012)
e) I was involved in the planning and supervision of the work outlined in this report and have reviewed the contents of this report.
f) I am not aware of any material fact or change with respect to the subject matter of this report, titled "*Confederation Belt Properties, Spatiotemporal Geochemical Hydrocarbon Sampling Program*" the omission of which may make this report misleading.
g) I currently reside at 20 Lassie Rd, Balmertown, Ontario.

Dated: November 10, 2021
Signed:

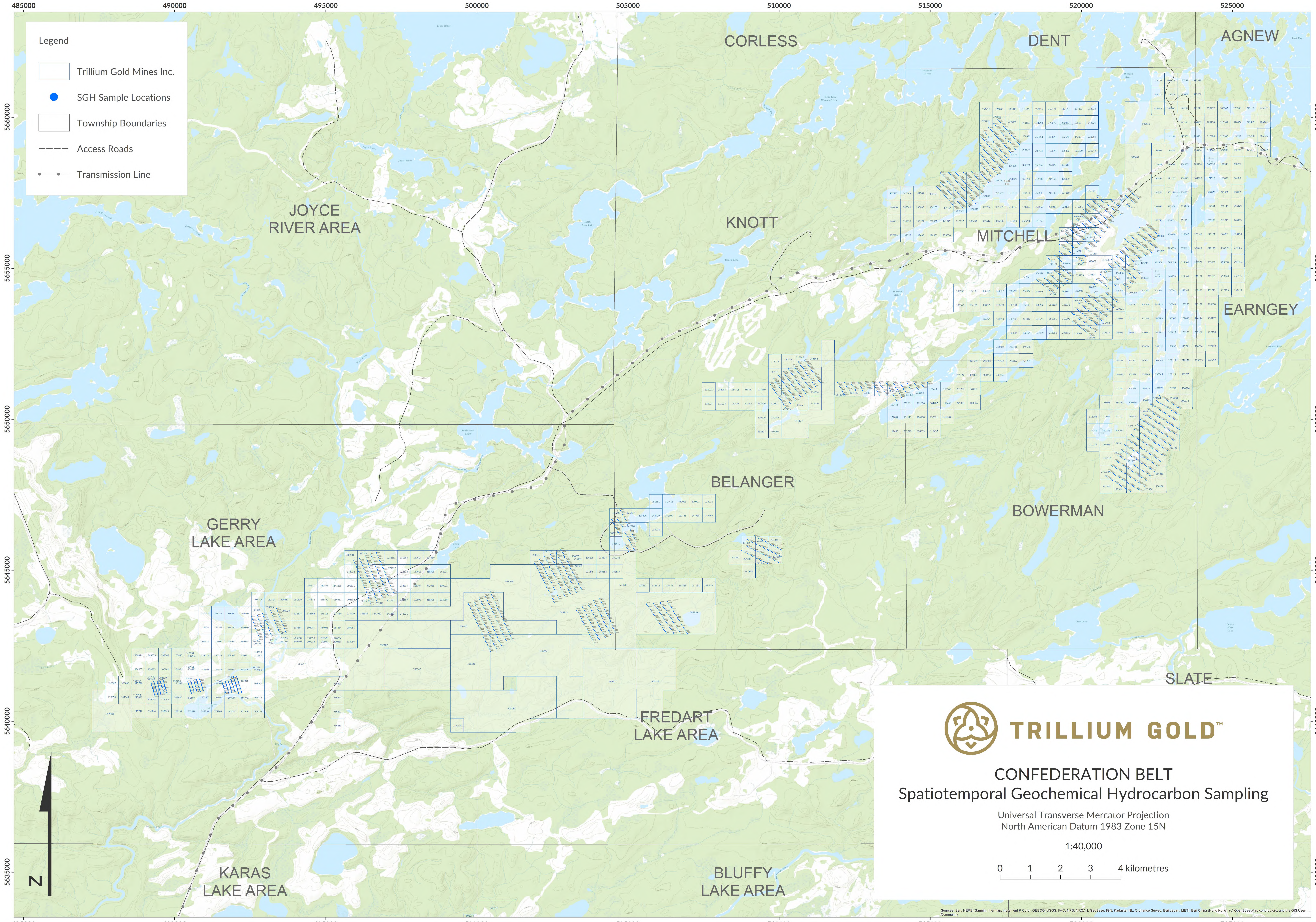
William Paterson

APPENDIX IA – MAP OF CLAIMS

APPENDIX IB– MAP OF SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON SAMPLING LOCATIONS



Legend
Trillium Gold Mines Inc.
Township Boundaries
Access Roads
Transmission Line
CORLESS
DENT
AGNEW
JOYCE RIVER AREA
KNOTT
MITCHELL
EARNGEY
BELANGER
BOWERMAN
GERRY LAKE AREA
FREDART LAKE AREA
SLATE
KARAS LAKE AREA
BLUFFY LAKE AREA
N
TRILLIUM GOLD™
CONFEDERATION BELT
Property Claims Map
Universal Transverse Mercator Projection
North American Datum 1983 Zone 15N
1:40,000
0 1 2 3 4 kilometres
485000
490000
495000
500000
505000
510000
515000
520000
525000
5660000
5655000
5650000
5645000
5640000
5635000



Legend
Trillium Gold Mines Inc.
SGH Sample Locations
Township Boundaries
Access Roads
Transmission Line
CORLESS
DENT
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JOYCE
RIVER AREA
MITCHELL
EARNGEY
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BOWERMAN
GERRY
LAKE AREA
FREDART
LAKE AREA
SLATE
KARAS
LAKE AREA
BLUFFY
LAKE AREA
N
485000
490000
495000
500000
505000
510000
515000
520000
525000
5660000
5655000
5650000
5645000
5640000
5635000
TRILLIUM GOLD™
CONFEDERATION BELT
Spatiotemporal Geochemical Hydrocarbon Sampling
Universal Transverse Mercator Projection
North American Datum 1983 Zone 15N
1:40,000
0 1 2 3 4 kilometres

APPENDIX II – SGH RESULTS & REPORTS

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
GERRY JOY A SGH SURVEY

41 Bittern St. ● Ancaster, ON ● L9G 4V5 ● CANADA ● Tel: (905) 648-9611 ● Fax: (905) 648-9613 ● Toll Free: 1-888-ACTLABS

E-mail: SGH@actlabs.com ● Web Site: www.actlabs.com

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41 Bittern St. ● Ancaster, ON ● L9G 4V5 ● CANADA ● Tel: (905) 648-9611 ● Fax: (905) 648-9613 ● Toll Free: 1-888-ACTLABS

E-mail: SGH@actlabs.com ● Web Site: www.actlabs.com

SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

GERRY JOY A SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-10759

41 Bittern St. ● Ancaster, ON ● L9G 4V5 ● CANADA ● Tel: (905) 648-9611 ● Fax: (905) 648-9613 ● Toll Free: 1-888-ACTLABS

E-mail: SGH@actlabs.com ● Web Site: www.actlabs.com

Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this GERRY JOY A Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey helped to identify the mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

41 Bittern St. ● Ancaster, ON ● L9G 4V5 ● CANADA ● Tel: (905) 648-9611 ● Fax: (905) 648-9613 ● Toll Free: 1-888-ACTLABS

E-mail: SGH@actlabs.com ● Web Site: www.actlabs.com

PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially “blind” to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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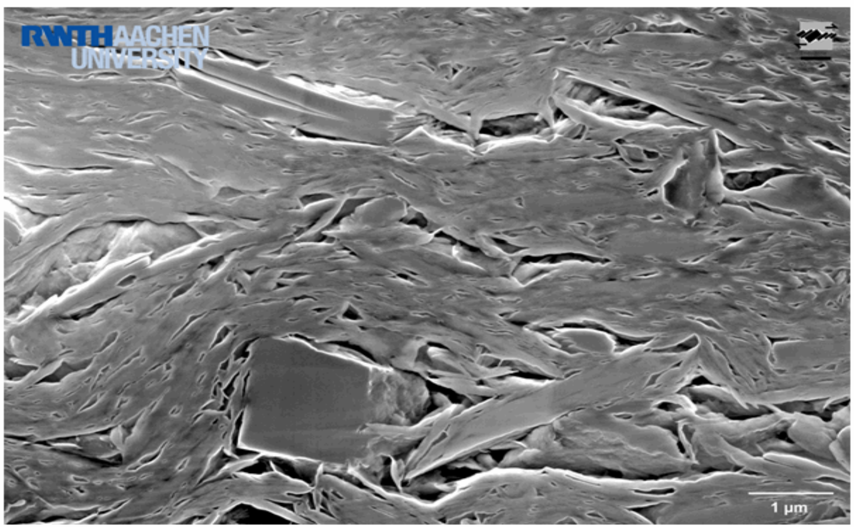
SGH INTERPRETATION – LATEST ENHANCEMENTS

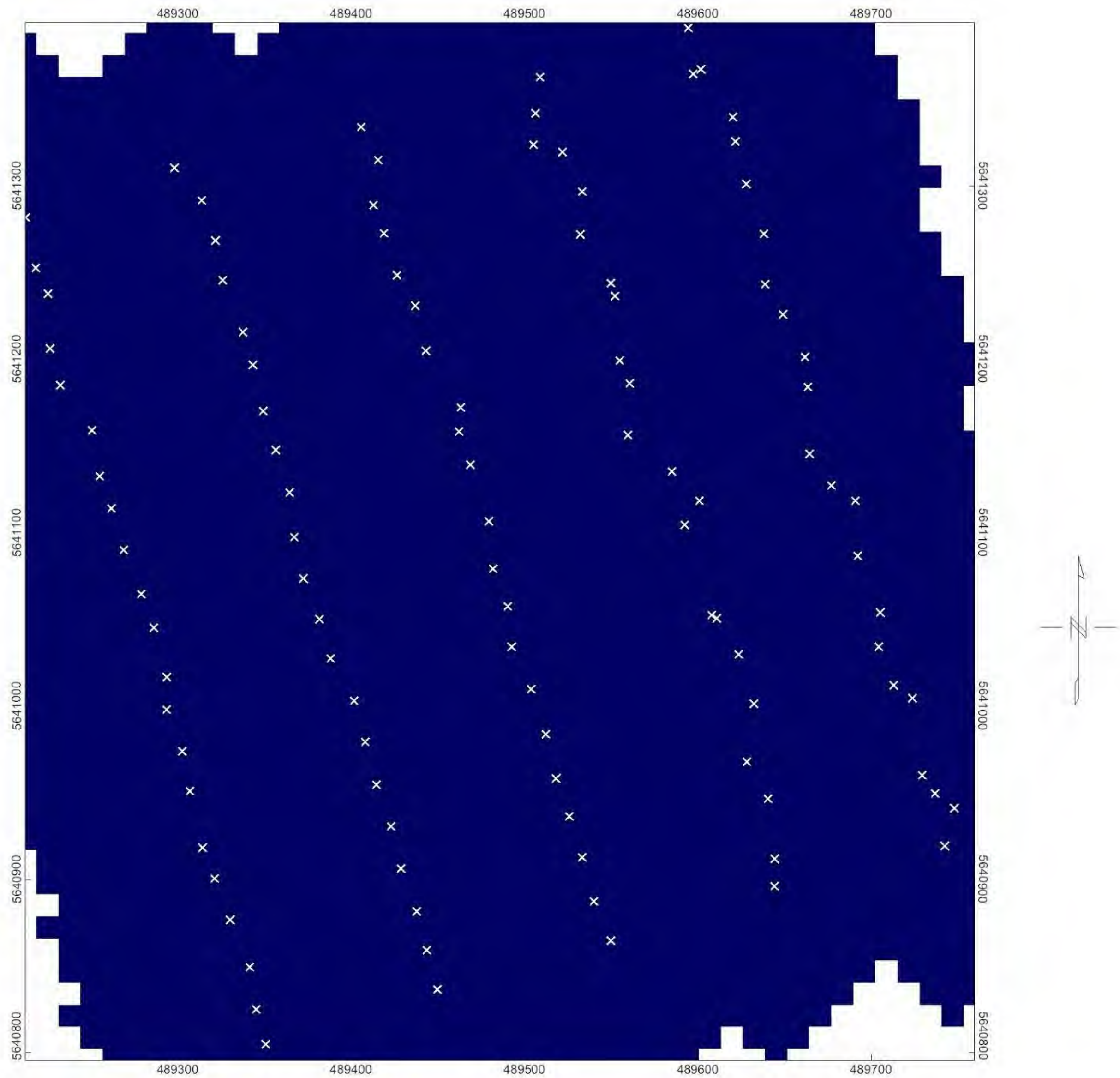
SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

INTERPRETATION OF SGH RESULTS - A21-10759
TRILLIUM GOLD MINES – GERRY JOY A SURVEY

This report is based on the SGH results from the analysis of a total of 113 soil samples from the GERRY JOY A survey. The survey can be described as a grid with sample spacing of approximately 25m and approximately 100m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – GERRY JOY A SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the GERRY JOY A Soil Survey was excellent as demonstrated by 8 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **8.1%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **5 Field Duplicate samples submitted from the GERRY JOY A Soil Survey** was considered very good at **14.7%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the GERRY JOY A survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the GERRY JOY A survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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A21-10759 – TRILLIUM GOLD MINES
GERRY JOY A SOIL SURVEY - SGH INTERPRETATION
SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-10759 – TRILLIUM GOLD MINES
GERRY JOY A SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-10759 – TRILLIUM GOLD MINES – GERRY JOY A
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the GERRY JOY A Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the GERRY JOY A survey also agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-10759 – TRILLIUM GOLD MINES – GERRY JOY A
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates what appears to be a symmetrical segmented nested-halo anomaly. The black lines on page 23 that connect opposing anomalies illustrates the excellent symmetry of the anomalies associated with this mineralization. Such symmetry provides a high level of confidence that these anomalies are not random occurrences. The intersection of the black lines as the center of the anomaly is expected to be the most reliable vertical projection of the gold mineralization. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Several other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support the interpretation of this anomaly at the GERRY JOY A Project.

Again, the prediction of this anomaly for Gold mineralization is based only on SGH.

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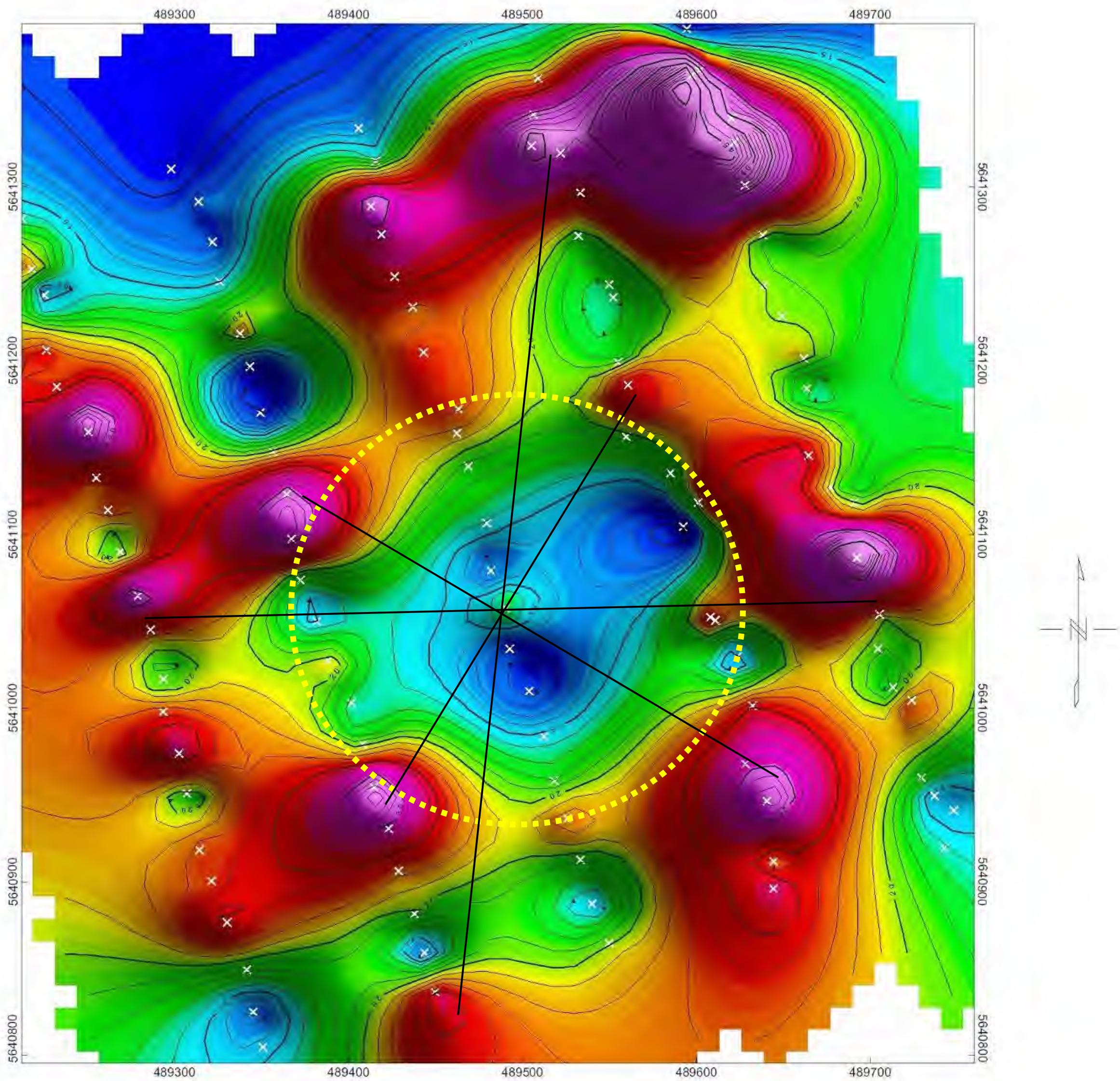
A21-10759 – TRILLIUM GOLD MINES – GERRY JOY A
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 5.0 OF 6.0</u>

GEOSOFT

Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

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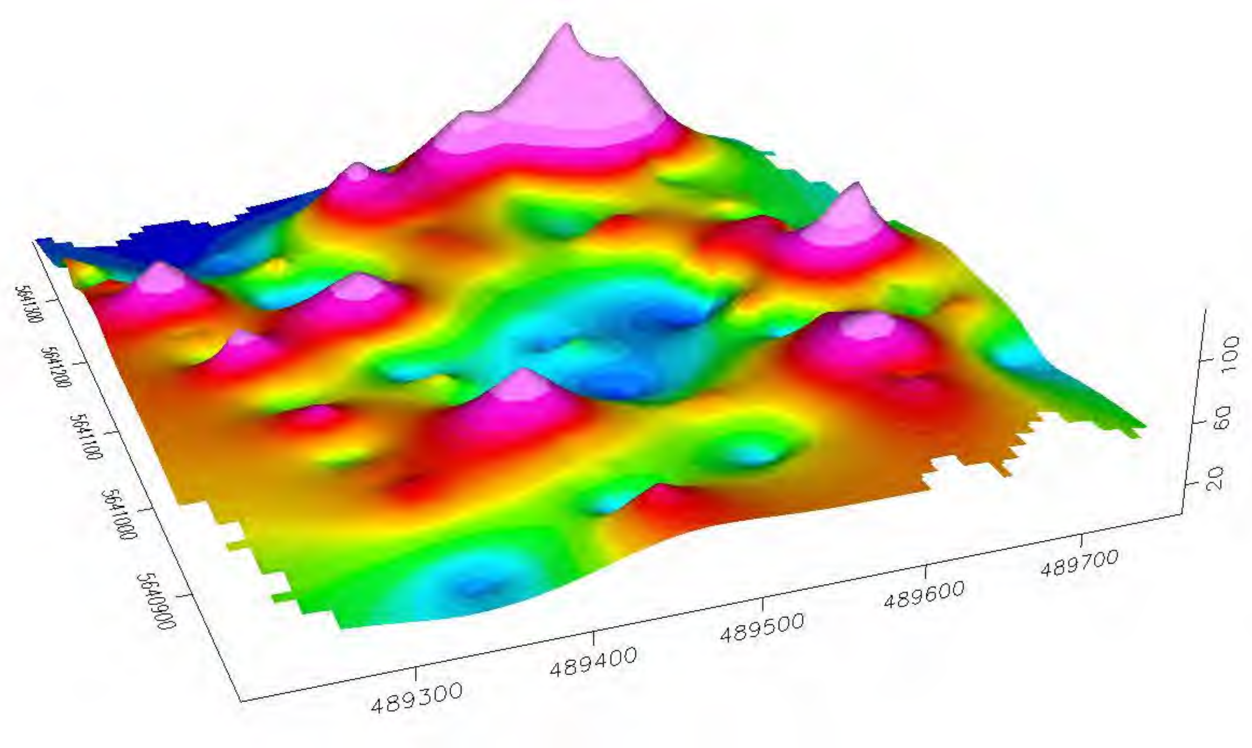
A21-10759 – TRILLIUM GOLD MINES – GERRY JOY A
SGH “GOLD” PATHFINDER CLASS MAP



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A21-10759 – TRILLIUM GOLD MINES
GERRY JOY A SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines GERRY JOY A survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the GERRY JOY A survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 5.0 on a scale of 6.0. The Rating for the GERRY JOY A survey means that, based only on SGH, that there is a high probability that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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GERRY JOY A SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the GERRY JOY A survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered “an approximation”, thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 11, 2021

Date Analysis Complete: June 29, 2021

Interpretation Report: July 16, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: GERRY JOY A Survey

Activation Laboratories Workorder: A21-10759

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

113 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-10759

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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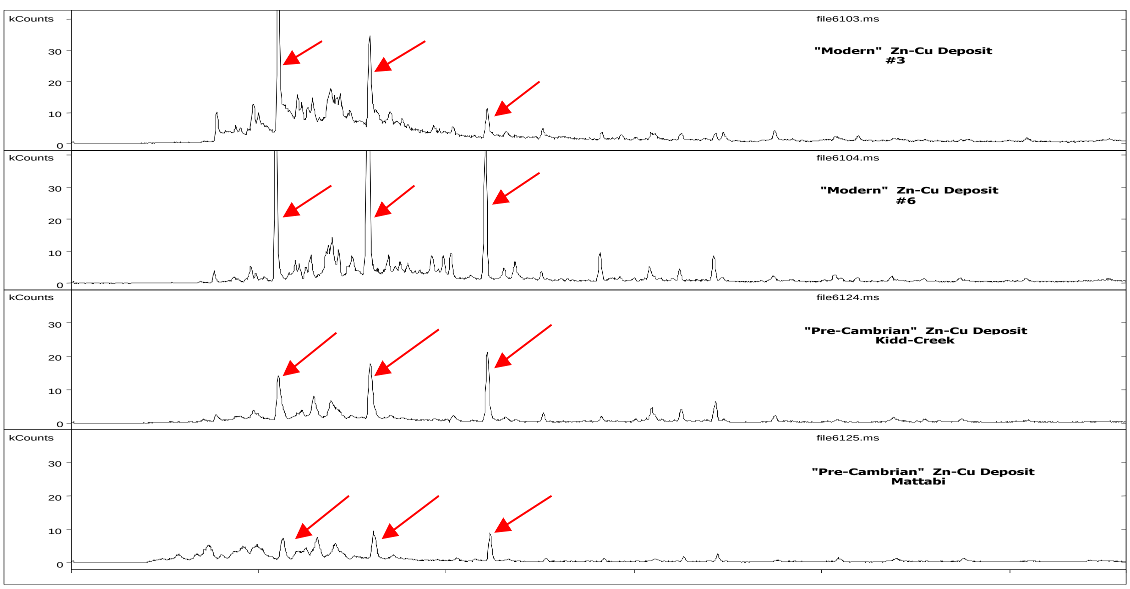
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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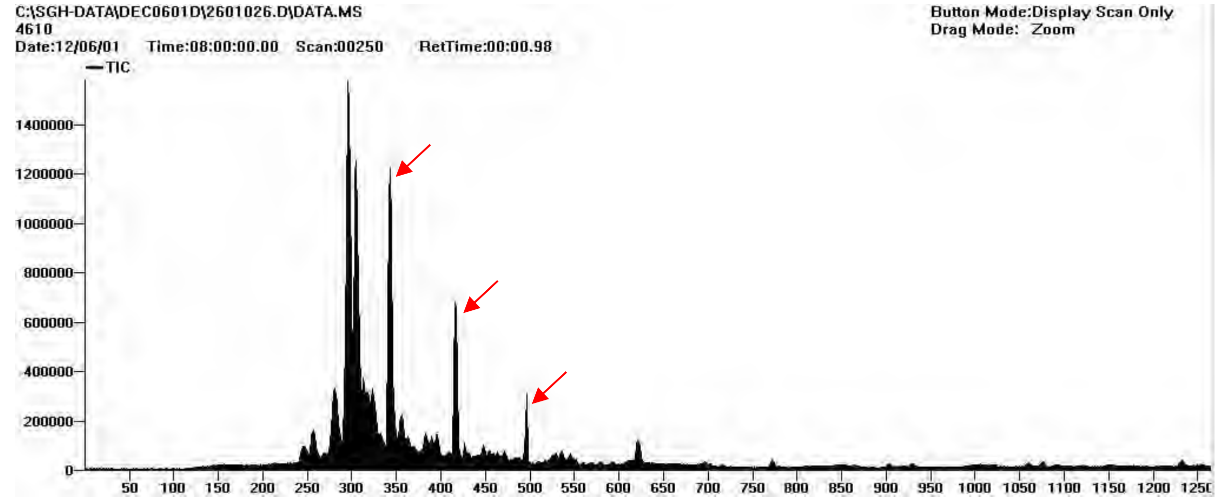
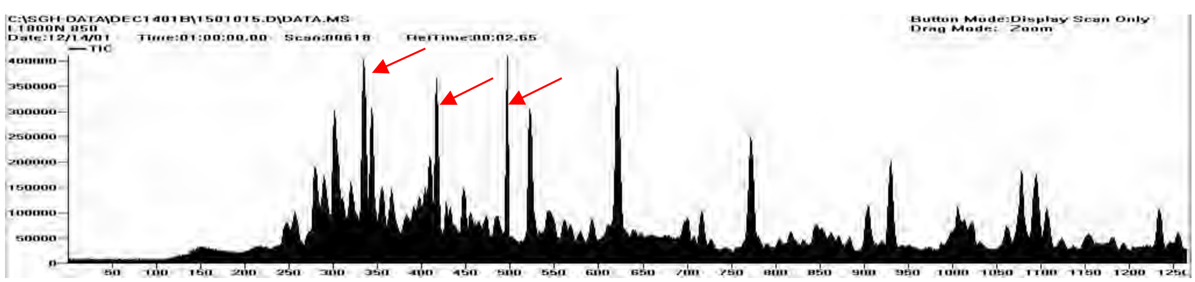
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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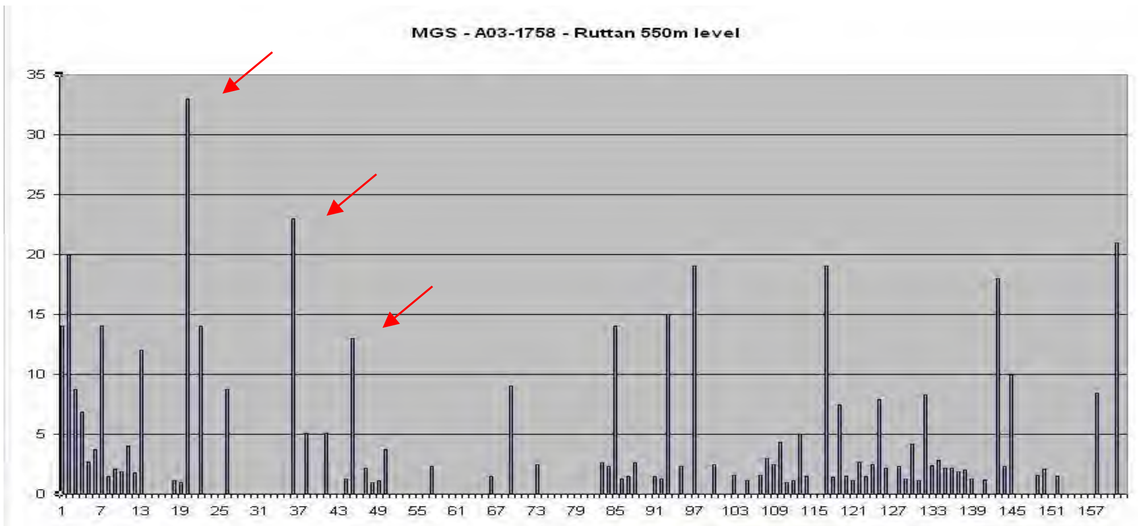
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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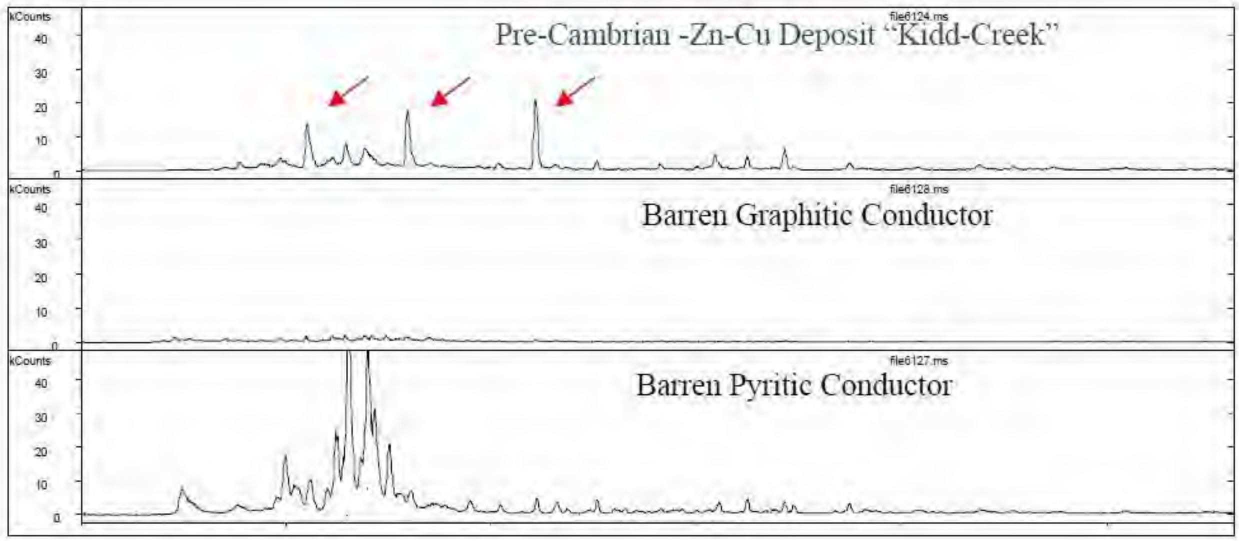

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX “D”

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils “may” poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as “semi-quantitative” concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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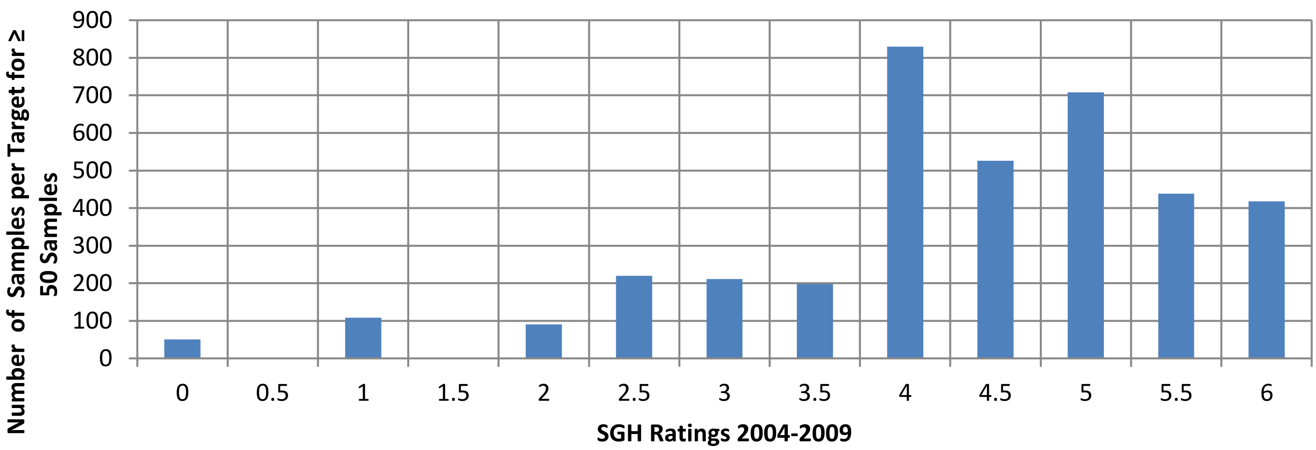
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.

SGH Ratings vs Number of Samples per Target for ≥ 50 Samples



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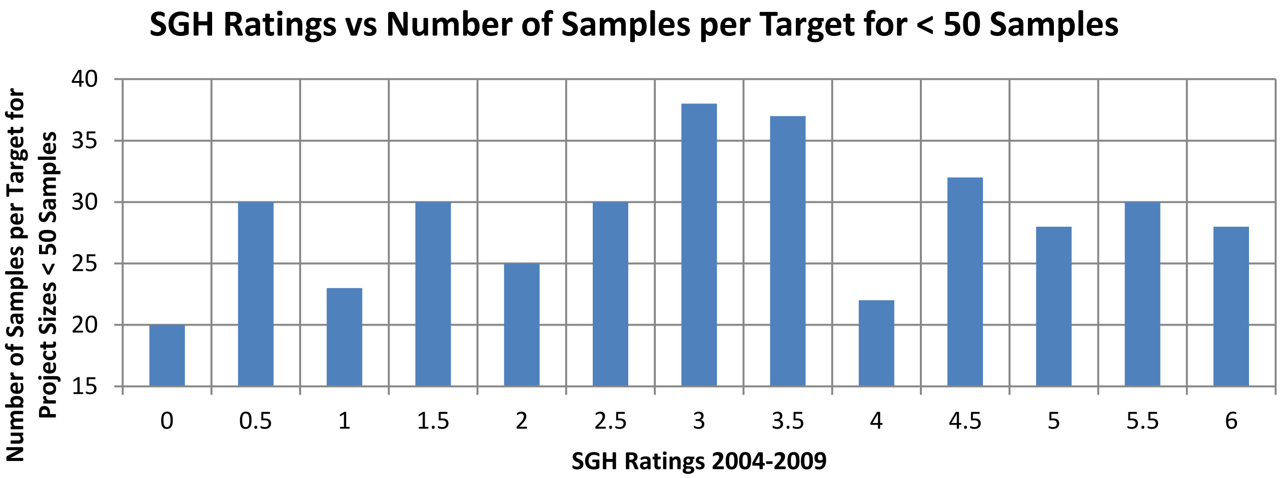
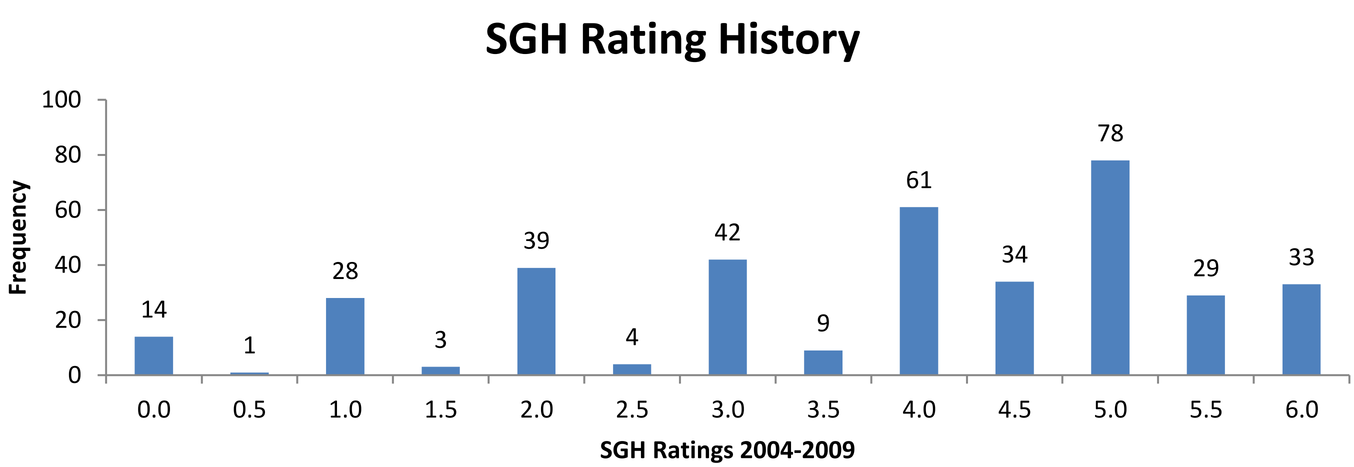
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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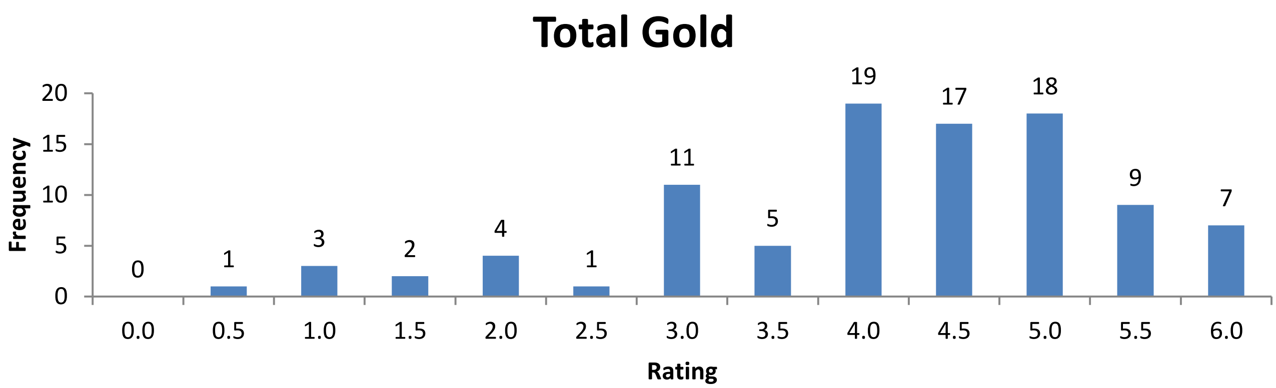
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Gerry Joy A Survey

	SGH-Gold
660060	13.3
660060DUP	15.7
660061	11.6
660062	18.4
660063	25.8
660063-R	26.7
660064	22.9
660065	23.9
660066	17.6
660067	28.2
660068	24.0
660069	17.3
660070	21.9
660071	34.4
660072	16.8
660073	23.0
660074	21.4
660075	36.8
660076	22.4
660077	25.2
660078	12.6
660078-R	12.8
660079	23.9
660080	15.6
660080DUP	16.7
660081	7.5
660082	12.7
660083	11.3
660084	14.5
660085	22.7
660086	10.0
660087	7.5
660088	20.7
660089	31.7
660090	33.9
660091	15.8
660092	11.2
660092-R	16.9
660093	21.9
660094	16.1
660095	17.4
660096	35.2
660097	30.1
660098	28.9
660099	20.6
660100	11.2
660100DUP	10.9

660101	27.0
660102	20.4
660103	13.7
660104	19.2
660105	23.7
660106	17.4
660106-R	18.0
660107	15.6
660108	9.9
660109	11.1
660110	19.2
660111	11.2
664738	16.3
664737	18.5
664736	21.6
664735	23.7
664734	24.3
664733	22.1
664732	26.9
664731	27.3
664730	34.9
664729	15.7
664729-R	15.7
664728	13.3
664727	20.8
664726	30.5
664725	34.1
664724	38.2
664723	24.6
664722	18.6
664721	17.9
664720	14.4
664719	17.2
664718	27.6
664717	19.1
664716	17.5
664715	24.6
664714	5.7
664714-R	7.9
664713	27.7
664712	21.7
664711	10.9
664710	25.2
664709	29.0
664708	34.4
664707	22.6
664706	26.9
664705	16.3
664704	14.0
664703	13.3
664702	18.3

664701	24.4
664700	16.7
664699	17.2
664699-R	21.4
664698	20.0
664697	44.0
664696	16.6
664695	19.9
664694	27.1
664693	14.4
664692	21.7
664691	19.5
664690	20.3
664689	17.6
664688	38.6
664687	48.1
664686	33.4
664685	57.4
664684	31.3
664684-R	30.1
664683	6.5
660078D	9.5
660098D	14.2

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
GERRY JOY B SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

GERRY JOY B SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-10763

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this GERRY JOY B Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response, however additional sampling may be warranted to the west of this survey to possibly better define the mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, <u>this interpretation is not exhaustive</u> and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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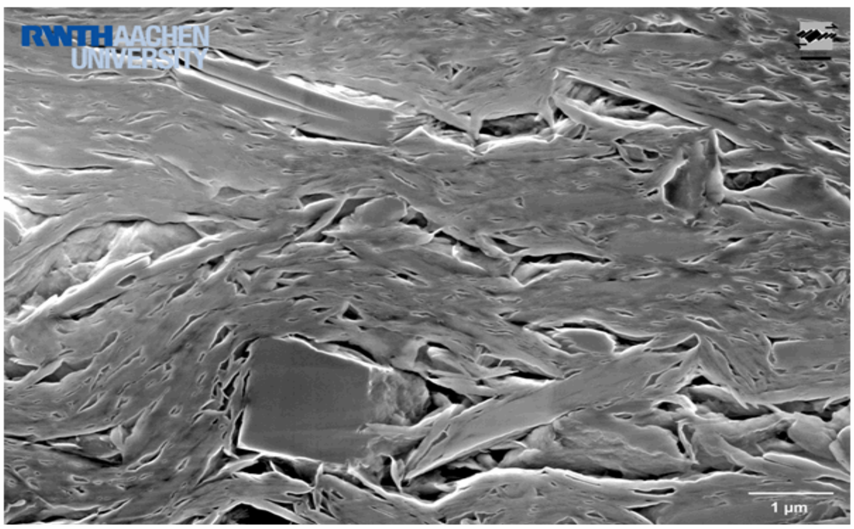
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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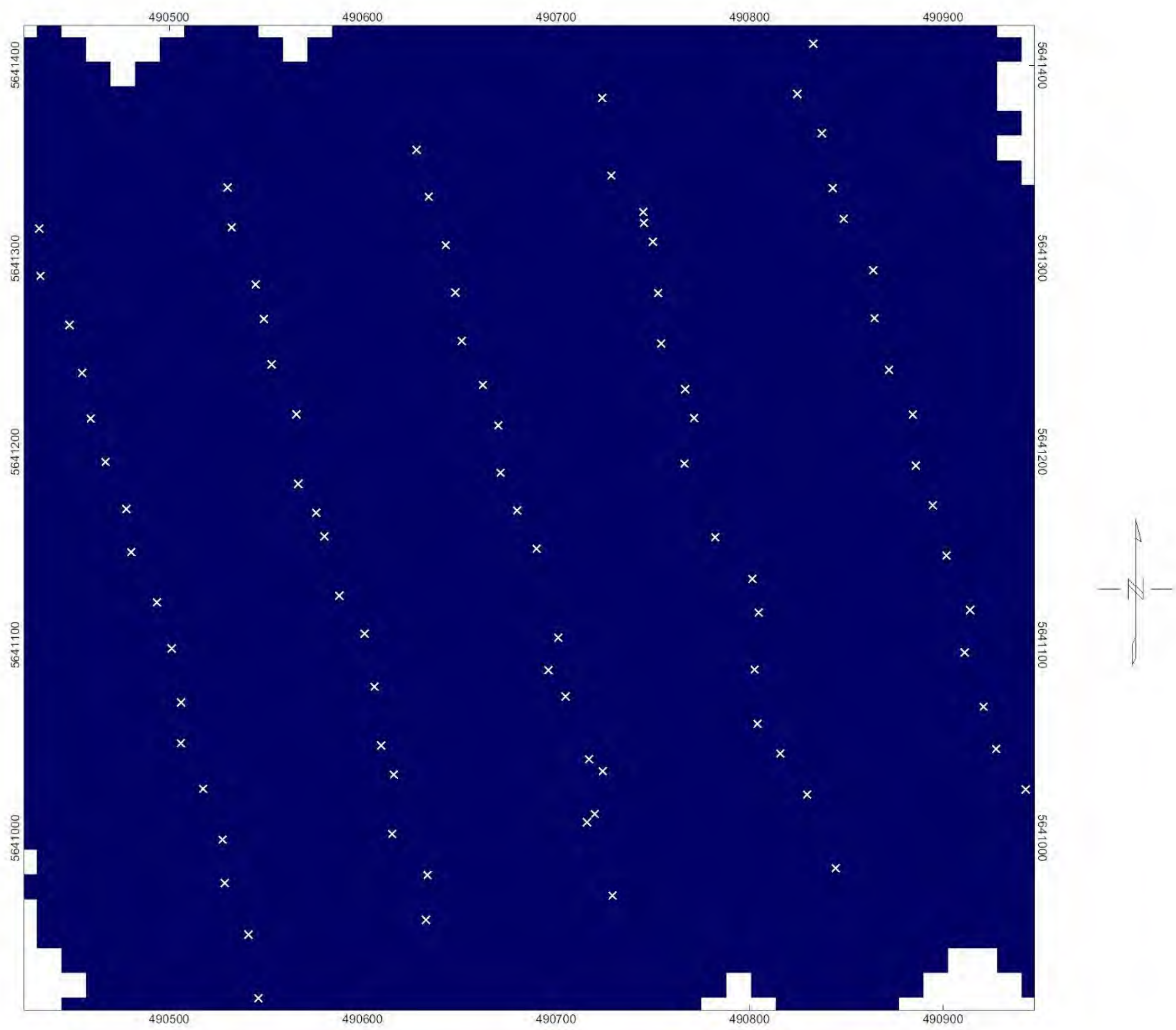
INTERPRETATION OF SGH RESULTS - A21-10763
TRILLIUM GOLD MINES – GERRY JOY B SURVEY

This report is based on the SGH results from the analysis of a total of 91 soil samples from the GERRY JOY B survey. The survey can be described as a grid with sample spacing of approximately 25m and approximately 100m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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QUALITY ASSURANCE – GERRY JOY B SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the GERRY JOY B Soil Survey was excellent as demonstrated by 6 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **5.9%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **5 Field Duplicate samples submitted from the GERRY JOY B Soil Survey** was considered very good at **14.8%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the GERRY JOY B survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the GERRY JOY B survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-10763 – TRILLIUM GOLD MINES
GERRY JOY B SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. <u>Example:</u> A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature <u>Rating</u> indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

<u>Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report.</u> It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **<u>MORE IMPORTANT</u>** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-10763 – TRILLIUM GOLD MINES – GERRY JOY B
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the GERRY JOY B Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the GERRY JOY B survey also agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-10763 – TRILLIUM GOLD MINES – GERRY JOY B
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates what appears to be a nested-halo anomaly on the western edge of the survey outlined in yellow. Additional sampling to the west of the survey could be warranted to potentially better define the anomaly. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support the interpretation of this anomaly at the GERRY JOY B Project.

Again, the prediction of this anomaly for gold mineralization is based only on SGH.

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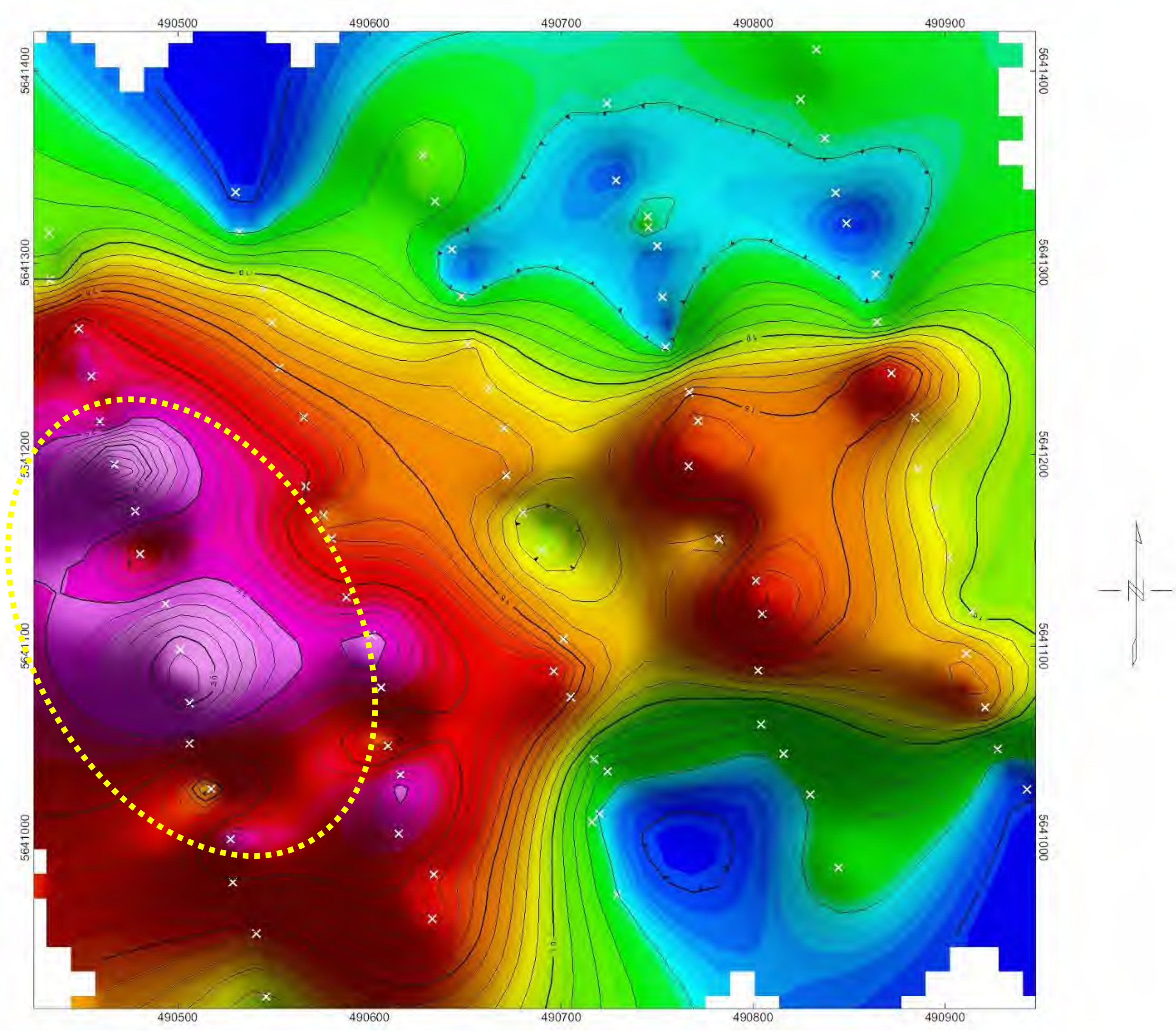
A21-10763 – TRILLIUM GOLD MINES – GERRY JOY B
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 3.5 OF 6.0

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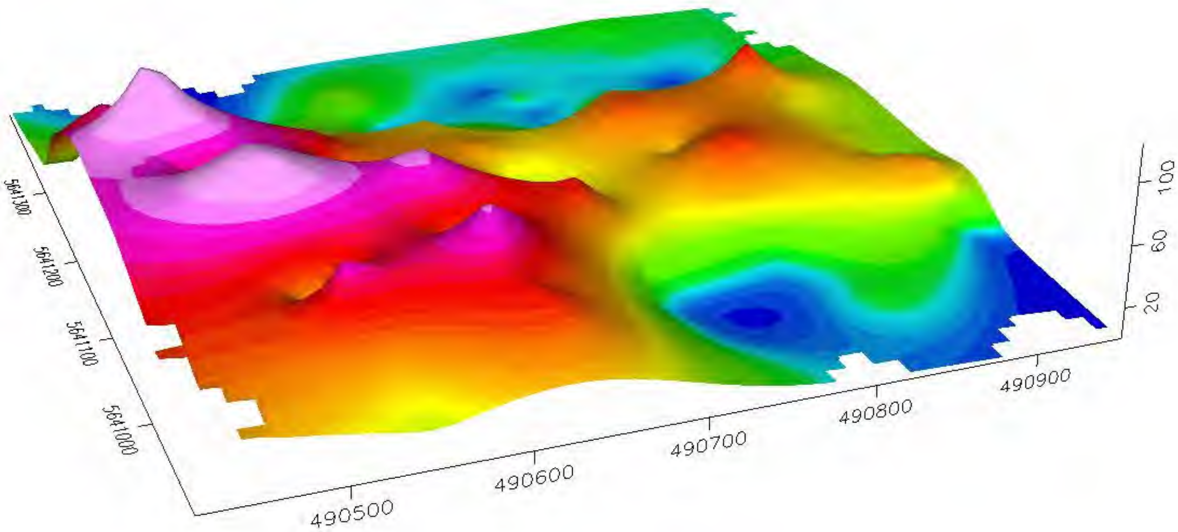
SGH "GOLD" PATHFINDER CLASS MAP



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A21-10763 – TRILLIUM GOLD MINES
GERRY JOY B SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines GERRY JOY B survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the GERRY JOY B survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 3.5 on a scale of 6.0. The Rating for the GERRY JOY B survey means that, based only on SGH, that there is hope that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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GERRY JOY B SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the GERRY JOY B survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. Additional sampling to the west of this survey could be warranted to possibly better define the mineralization. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 11, 2021

Date Analysis Complete: July 8, 2021

Interpretation Report: July 29, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: GERRY JOY B Survey

Activation Laboratories Workorder: A21-10763

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

91 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

REPORT/WORKORDER: A21-10763

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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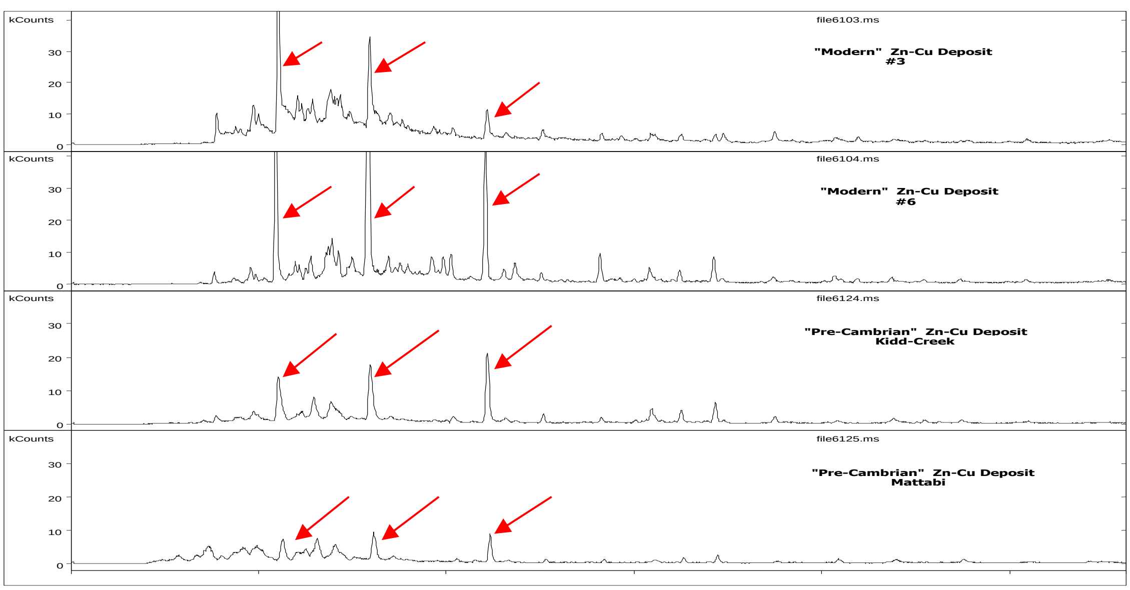
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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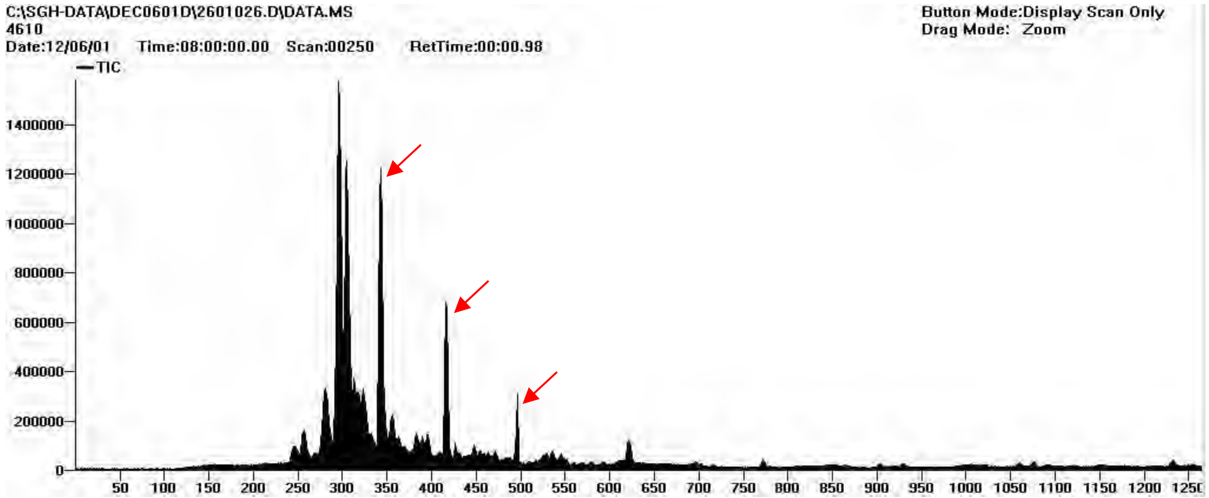
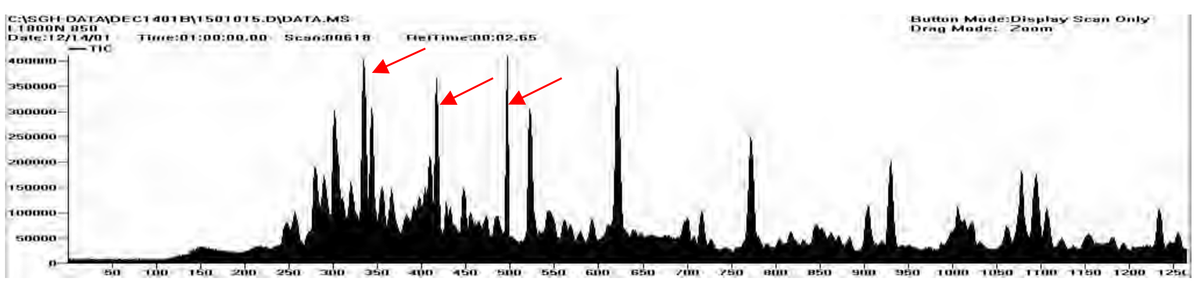
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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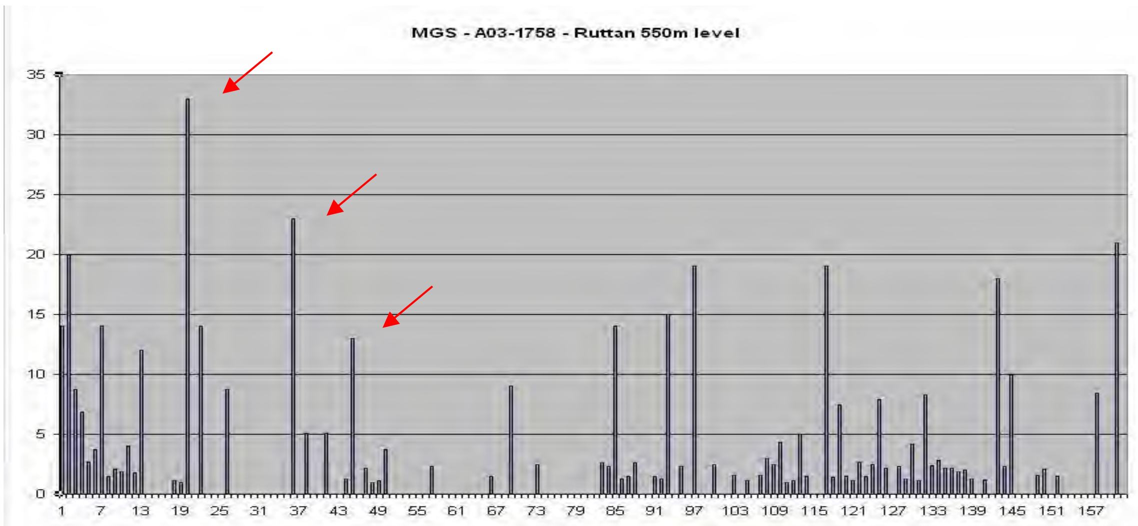
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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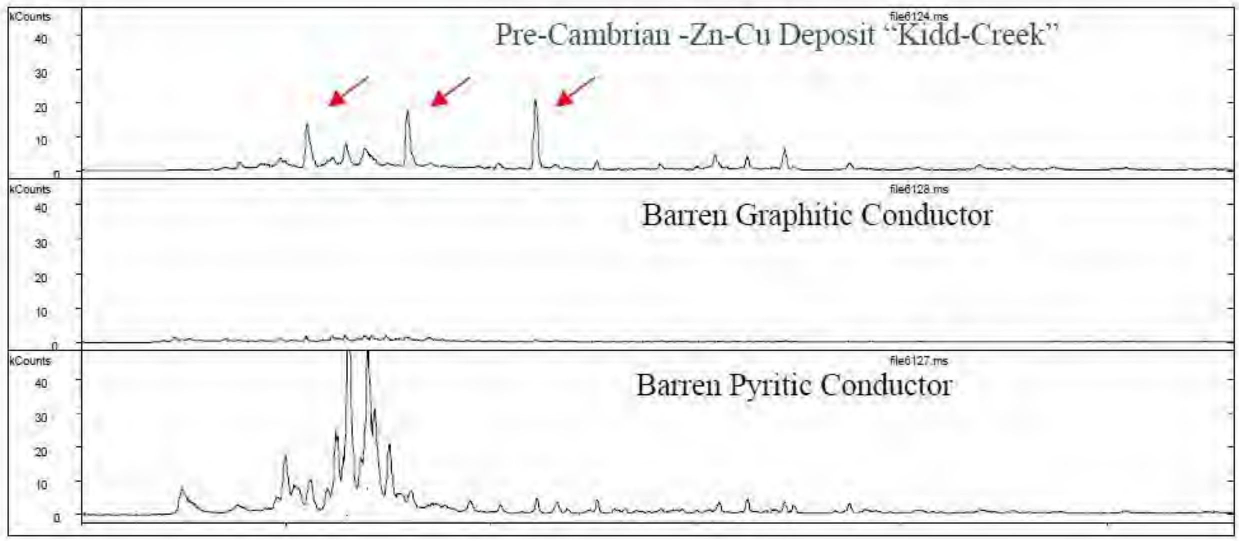

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX “D”
SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils “may” poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as “semi-quantitative” concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX “F”
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are “gaseous” at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of “inorganic” geochemical data one of the determinations to be made is to calculate a “Threshold” value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this “organic” geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as “noise” for the purposes of geochemical interpretation. As discussed, SGH uses a “Reporting Limit” instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as “-1” as “not-detected at a Reporting Limit of 1 ppt”) is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by “compound chemical class” which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the “high specificity” of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with well defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with fairly well defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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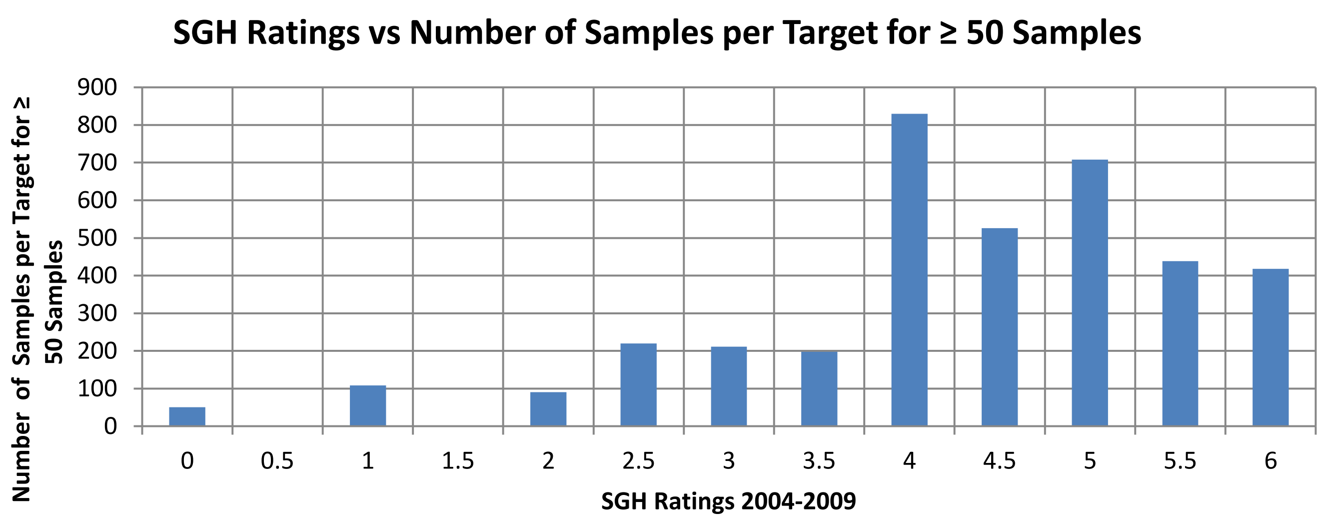
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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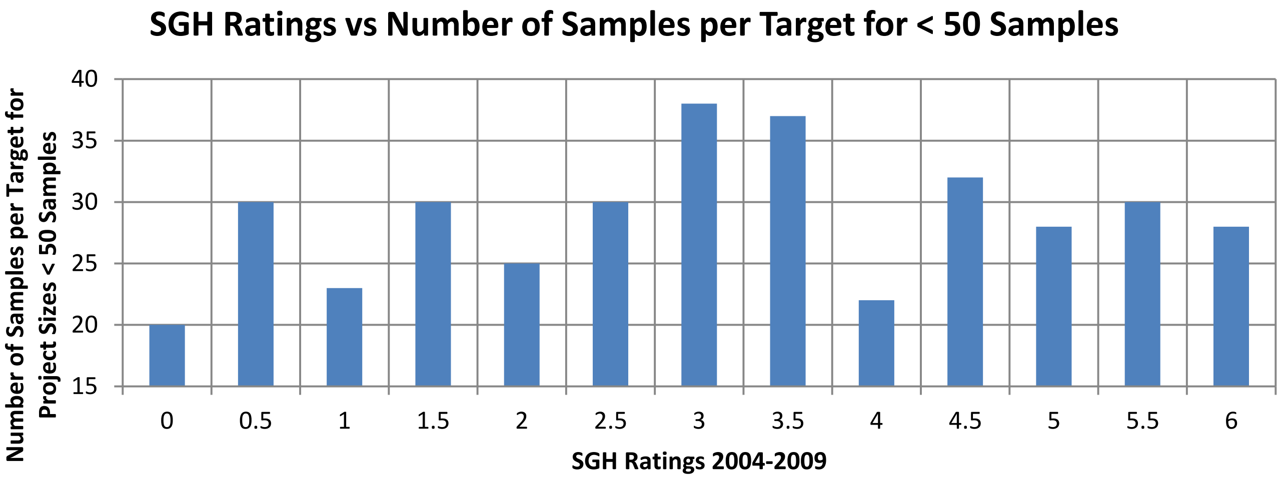
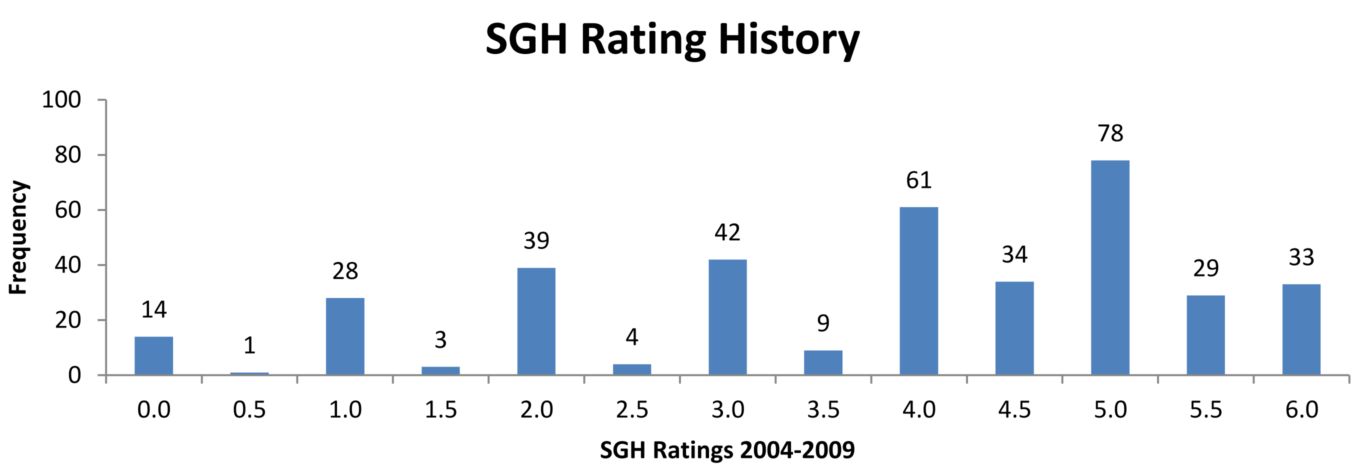
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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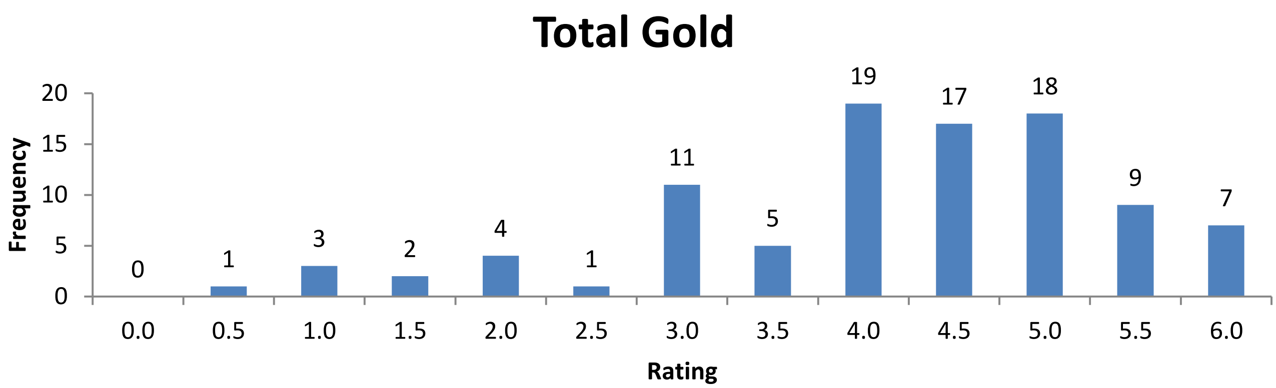
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Gerry Joy B Survey

SGH Units – ppt (Parts-per-trillion)

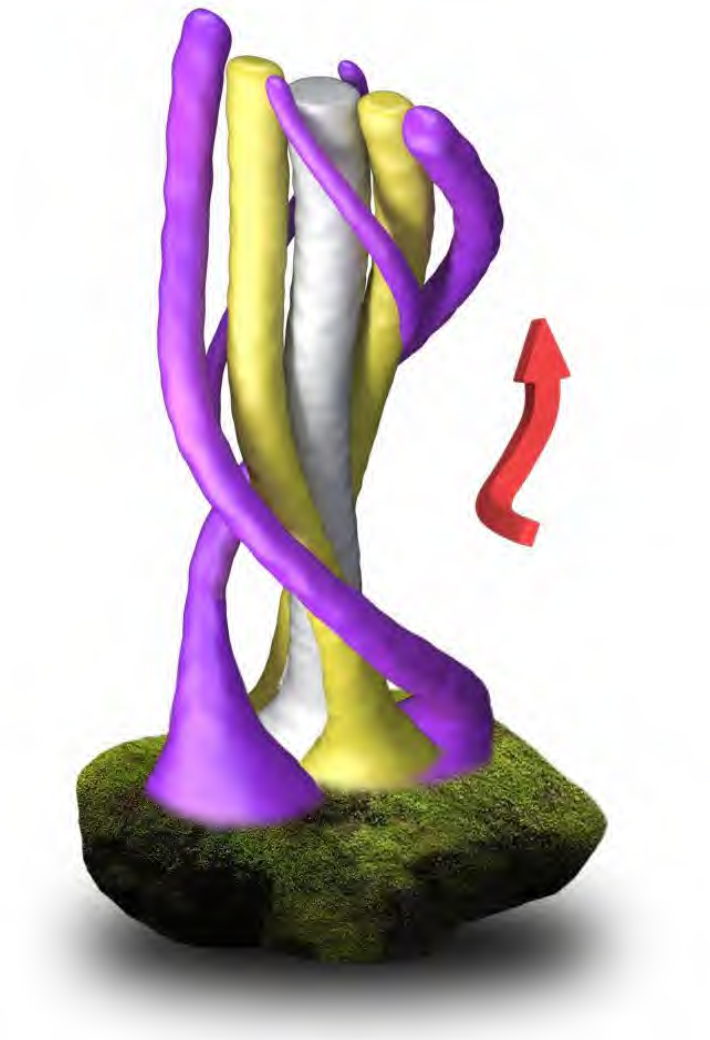
	SGH-Gold
660001	8.9
660002	8.7
660003	22.4
660004	22.8
660005	20.4
660005-R	21.2
660006	37.1
660007	27.0
660008	19.7
660009	26.7
660010	31.3
660011	32.0
660012	23.2
660013	11.7
660014	24.6
660015	19.7
660016	13.6
660017	10.5
660018	19.3
660019	20.6
660020	24.2
660020-R	24.3
660021	26.3
660022	13.6
660023	24.2
660024	26.2
660025	20.7
660026	17.0
660027	14.5
660028	21.3
660029	16.9
660030	14.9
660031	12.6
660032	11.7
660033	5.2
660034	4.9
660034-R	4.8
660035	7.7
660036	7.6
660037	5.6
660038	5.2
660039	12.4
660040	9.3
660040DUP	14.8
660041	13.2
660042	14.6
664665	10.4

664664	9.8
664663	13.5
664662	20.1
664661	15.1
664660	6.1
664660-R	7.1
664660DUP	7.8
664659	8.3
664658	5.2
664657	6.5
664656	5.9
664655	6.8
664654	6.1
664653	6.4
664652	6.6
664651	13.8
664650	18.5
664649	17.6
664648	12.1
664647	17.4
664646	15.5
664646-R	17.0
664645	15.4
664644	5.1
664643	5.6
664642	5.4
664641	7.1
664640DUP	6.0
664639	5.1
664638	6.1
664637	7.1
664636	6.2
664635	6.2
664634	5.7
664633	4.9
664632	6.1
664632-R	5.5
664631	5.8
664630	19.7
664629	12.7
664628	11.3
664627	10.8
664626	11.1
664625	8.9
664624	14.2
664600	13.2
664600DUP	15.8
664599	5.8
664598	5.0
660019D	14.9

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
GERRY JOY C SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

GERRY JOY C SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-10764

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this GERRY JOY C Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey was beneficial in identifying the predicted mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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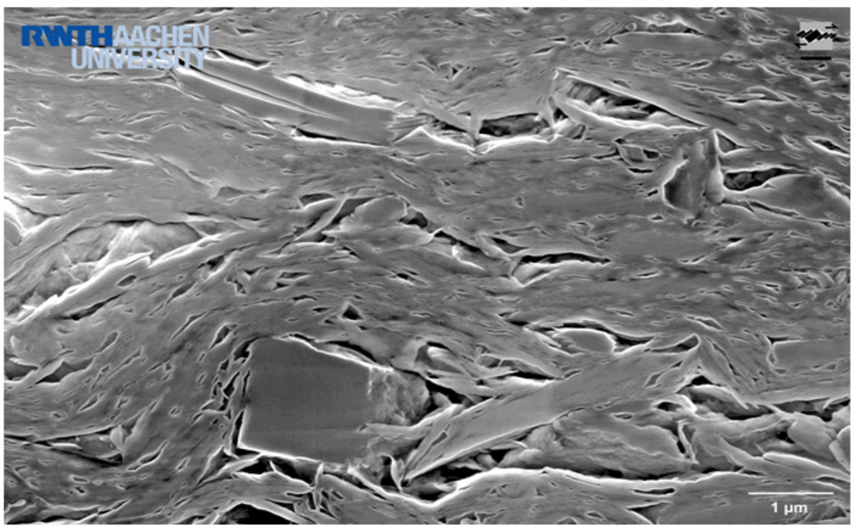
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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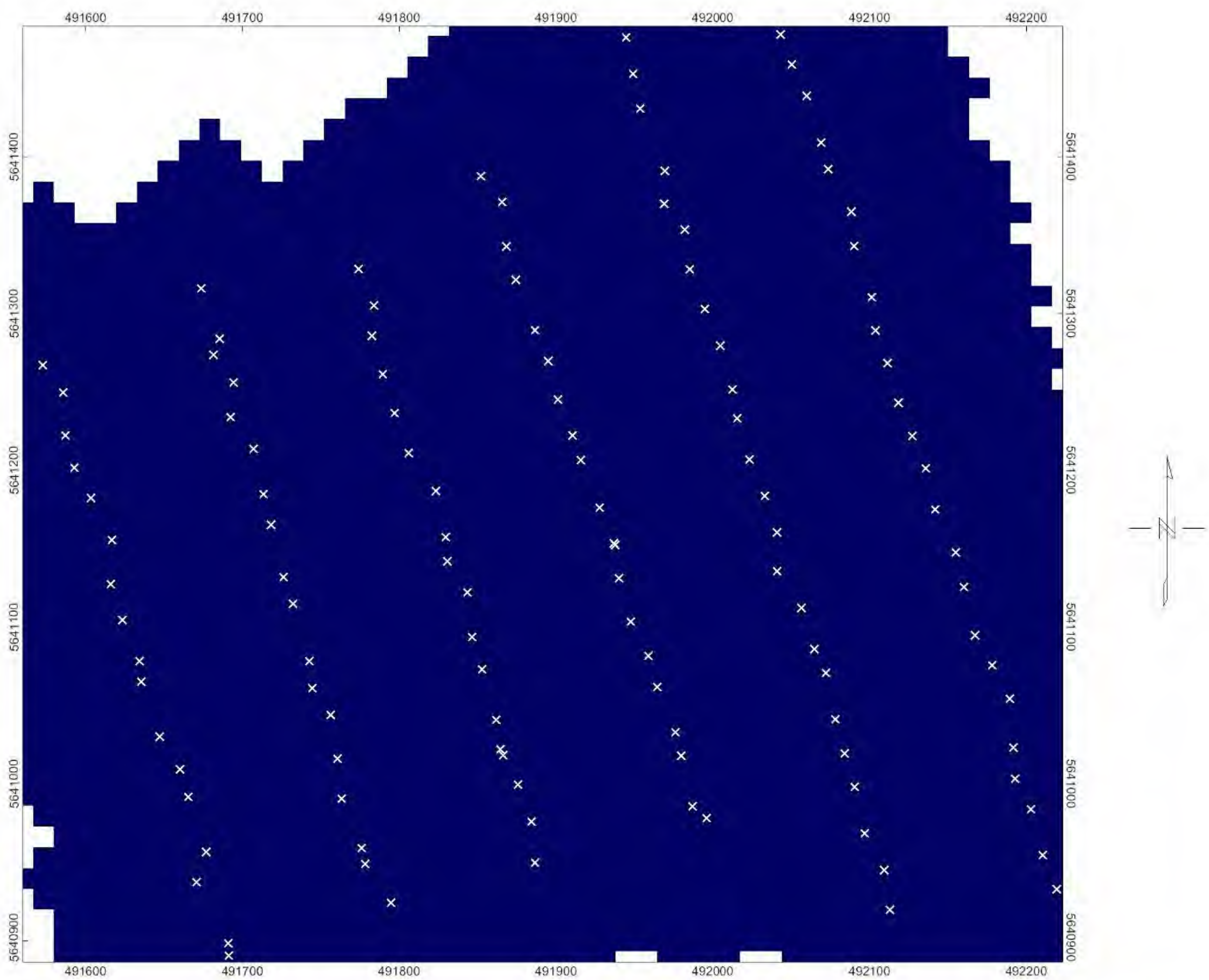
INTERPRETATION OF SGH RESULTS - A21-10764
TRILLIUM GOLD MINES – GERRY JOY C SURVEY

This report is based on the SGH results from the analysis of a total of 124 soil samples from the GERRY JOY C survey. The survey can be described as a grid with sample spacing of approximately 25m and approximately 100m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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QUALITY ASSURANCE – GERRY JOY C SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the GERRY JOY C Soil Survey was excellent as demonstrated by 9 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **7.5%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **8 Field Duplicate samples submitted from the GERRY JOY C Soil Survey** was considered very good at **11.4%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the GERRY JOY C survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the GERRY JOY C survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-10764 – TRILLIUM GOLD MINES
GERRY JOY C SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-10764 – TRILLIUM GOLD MINES – GERRY JOY C
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the GERRY JOY C Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the GERRY JOY C survey also agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-10764 – TRILLIUM GOLD MINES – GERRY JOY C
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates what appears to be a symmetrical segmented nested-halo anomaly. The black lines on page 23 that connect opposing anomalies illustrates the excellent symmetry of the anomalies associated with this mineralization. Such symmetry provides a high level of confidence that these anomalies are not random occurrences. The intersection of the black lines as the center of the anomaly is expected to be the most reliable vertical projection of the gold mineralization. Several other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support the interpretation of this anomaly at the GERRY JOY C Project.

Again, the prediction of this anomaly for Gold mineralization is based only on SGH.

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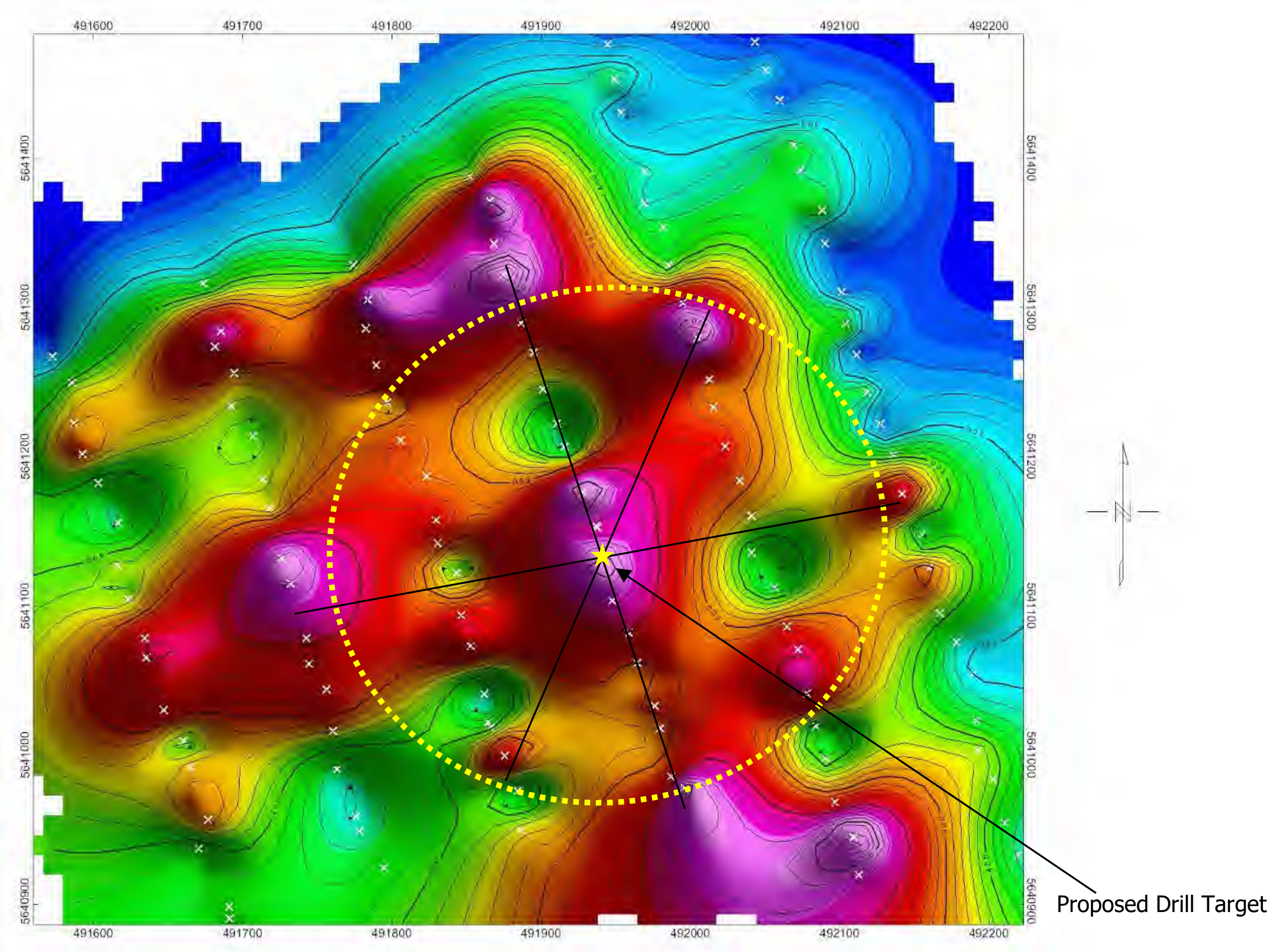
A21-10764 – TRILLIUM GOLD MINES – GERRY JOY C
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 5.5 OF 6.0</u>

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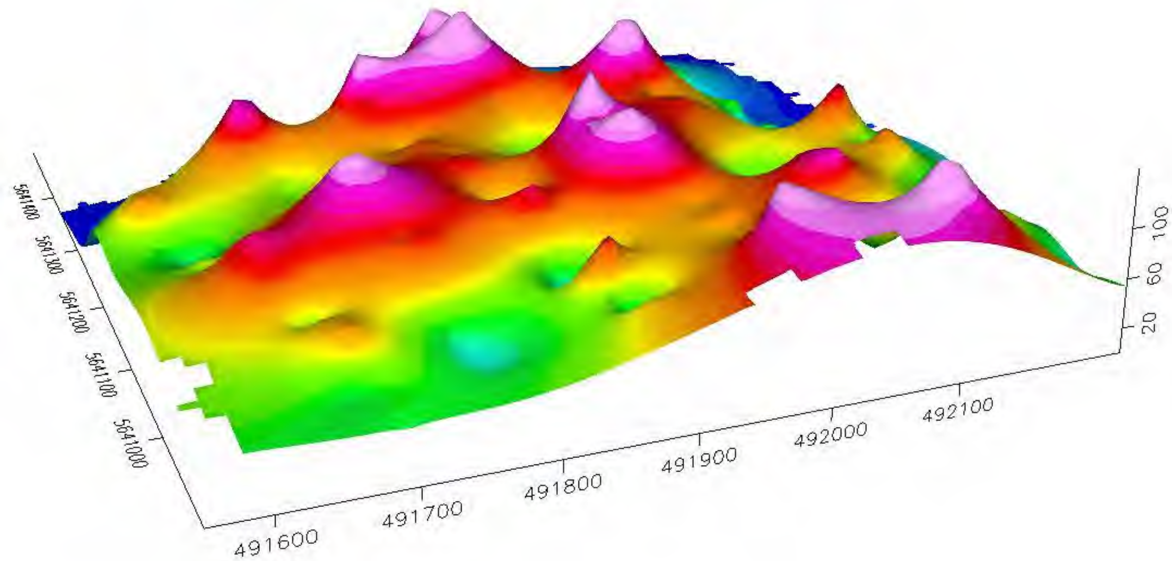
A21-10764 – TRILLIUM GOLD MINES – GERRY JOY C
SGH "GOLD" PATHFINDER CLASS MAP



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Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

A21-10764 – TRILLIUM GOLD MINES
GERRY JOY C SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines GERRY JOY C survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the GERRY JOY C survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 5.5 on a scale of 6.0. The Rating for the GERRY JOY C survey means that, based only on SGH, that there is a high probability that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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GERRY JOY C SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the GERRY JOY C survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered “an approximation”, thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 11, 2021

Date Analysis Complete: July 9, 2021

Interpretation Report: July 30, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: GERRY JOY C Survey

Activation Laboratories Workorder: A21-10764

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

124 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-10764

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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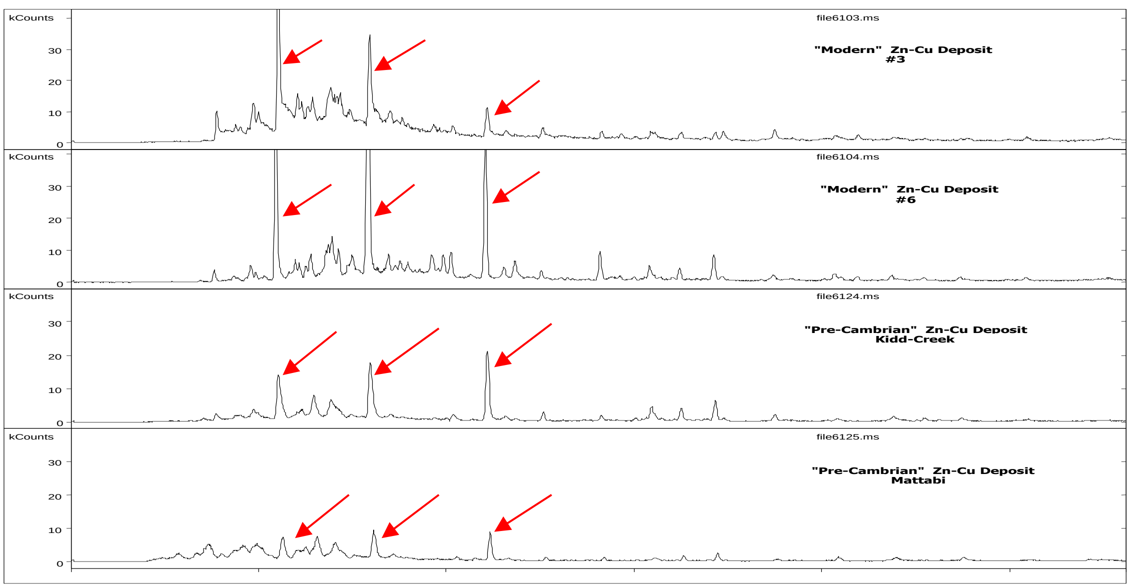
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.

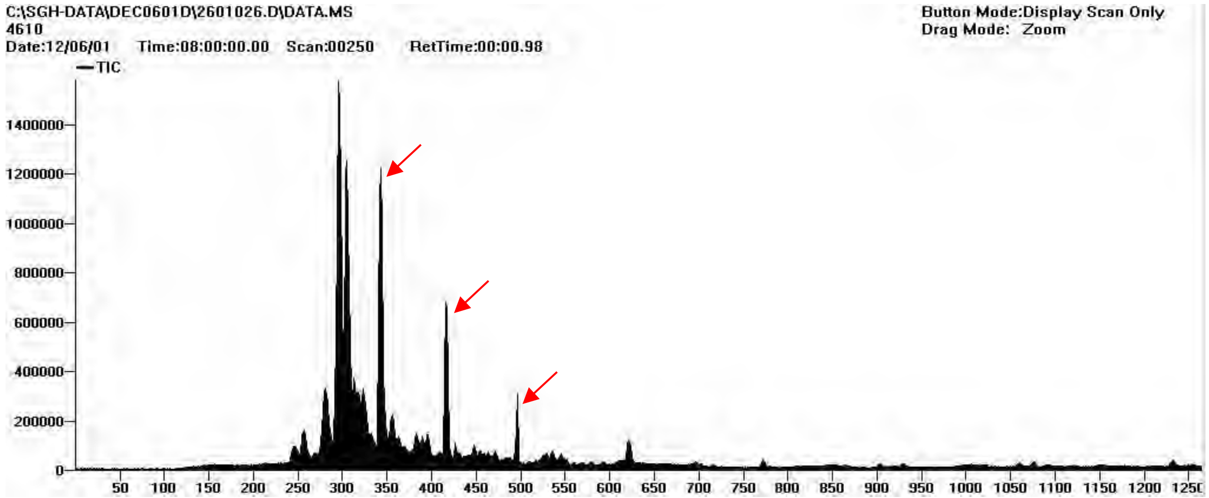


The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

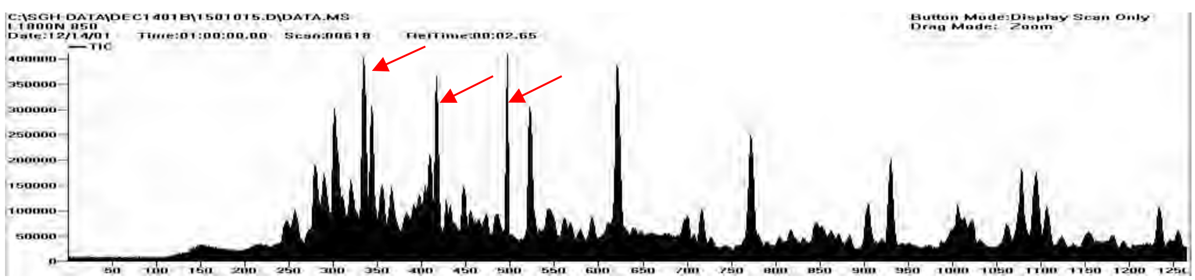
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

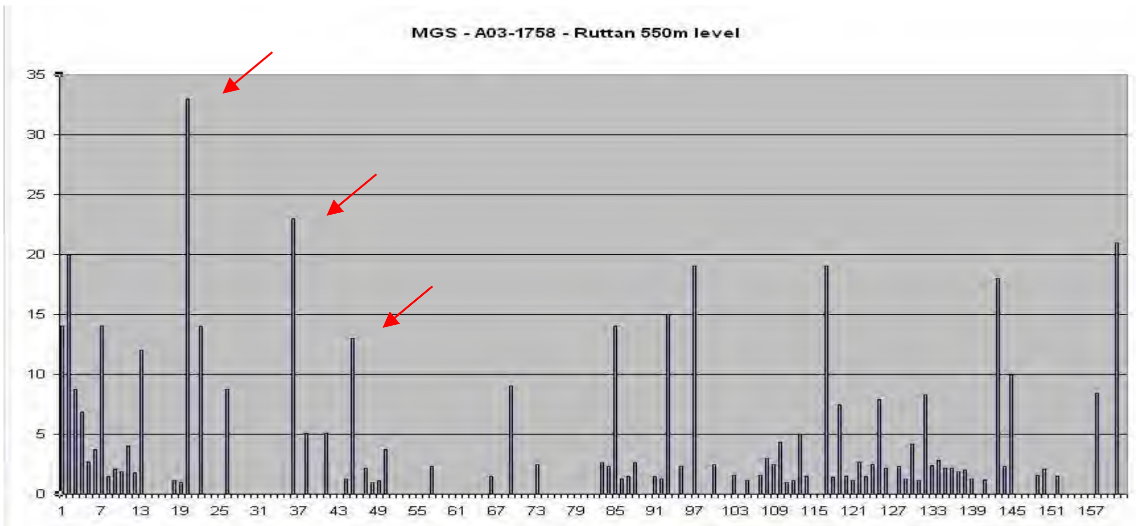
Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

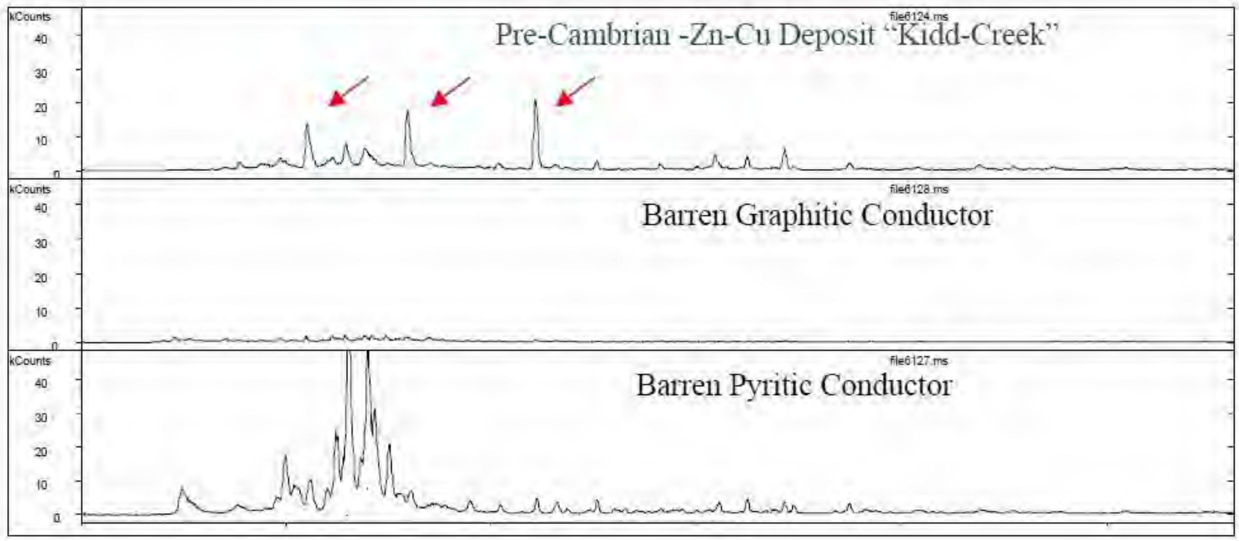
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.



SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX “D”
SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils “may” poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as “semi-quantitative” concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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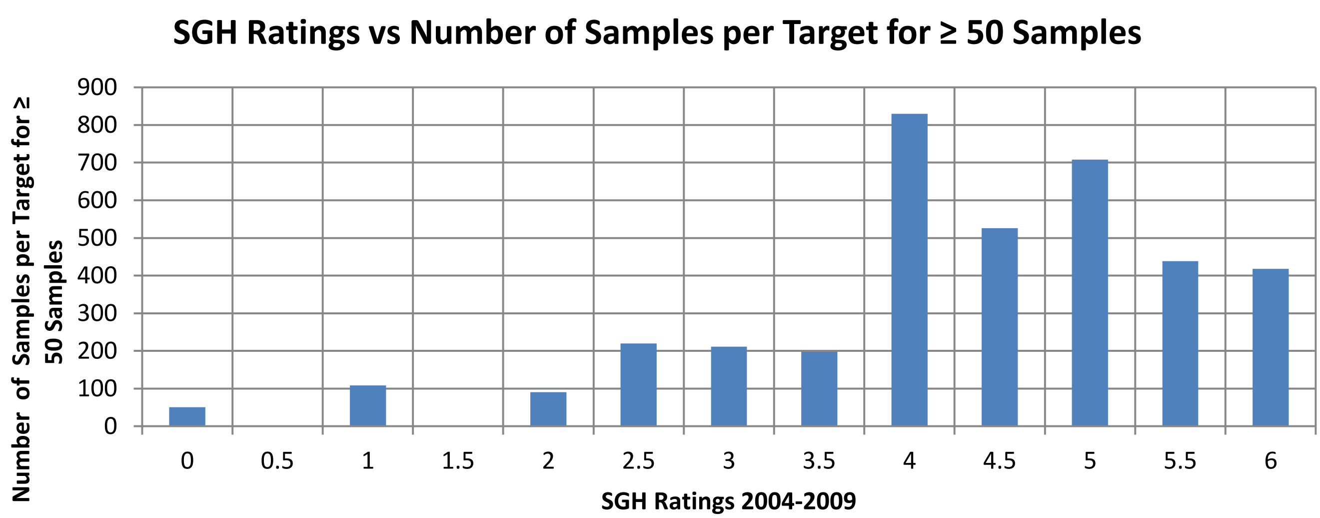
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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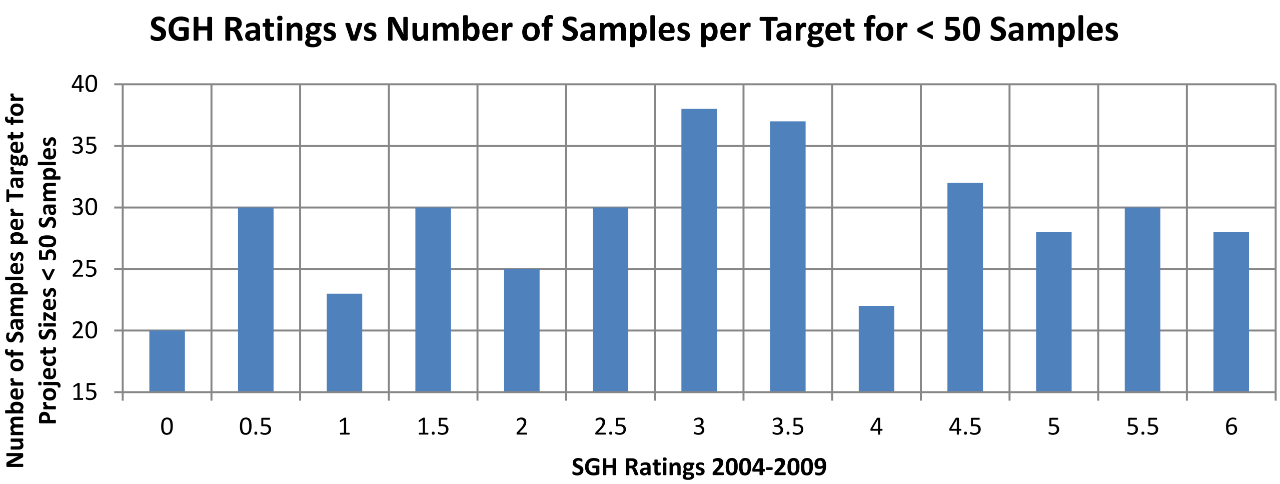
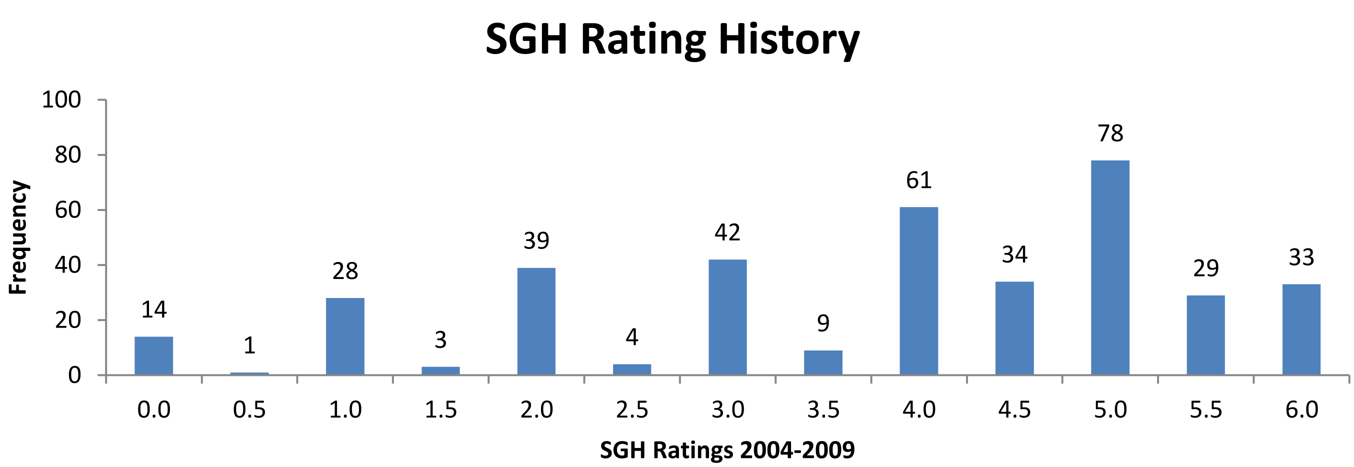
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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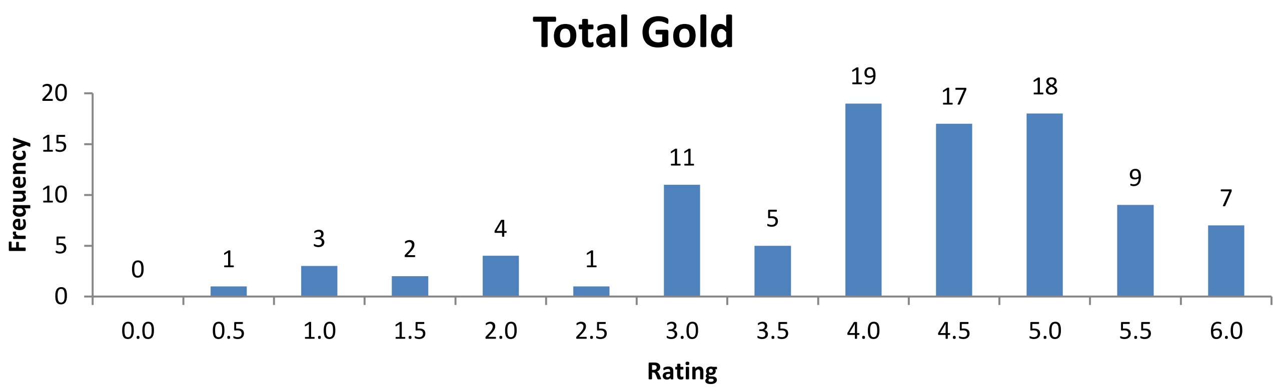
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Gerry Joy C Survey

	SGH-Gold
664501	362
664502	378
664503	357
664504	509
664505	504
664505-R	450
664506	377
664507	573
664508	598
664509	614
664510	401
664511	441
664512	321
664513	361
664514	516
664515	480
664516	428
664517	230
664518	323
664519	675
664520DUP	805
664520DUP-R	510
664521	462
664522	435
664523	402
664524	441
664525	436
664526	734
664527	674
664528	625
664529	541
664530	574
664531	468
664532	316
664533	313
664534	321
664535	359
664535-R	382
664536	466
664537	305
664538	626
664539	431
664540DUP	313
664541	271
664542	598
664543	584
664544	371

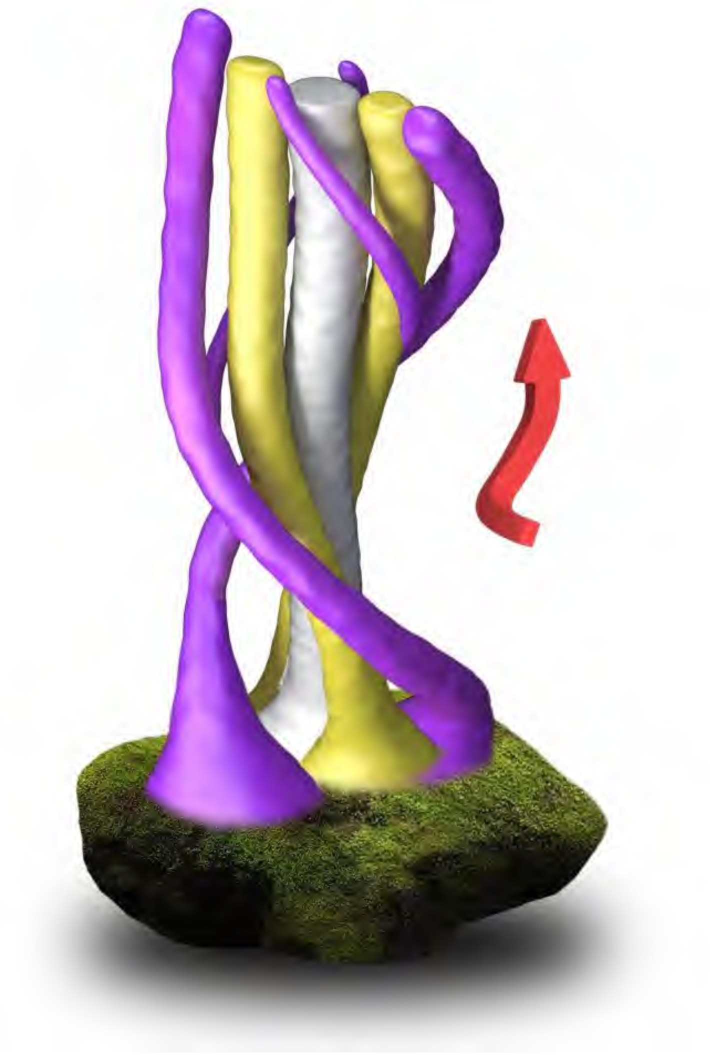
664545	527
664546	580
664547	512
664548	556
664549	450
664550	628
664550-R	542
664601	563
664602	769
664603	335
664604	414
664605	776
664606	599
664607	818
664608	578
664609	478
664610	435
664611	341
664612	281
664613	814
664614	596
664615DUP	594
664615DUP-R	548
664616	745
664617	654
664618	611
664619	476
664620	437
664620D	603
664621	473
664622	522
664623	724
664589	654
664590	827
664591	530
664592	366
664593	348
664594	762
664594-R	529
664595	598
664596	665
664597	327
664577	366
664576	461
664575	518
664574	565
664573	525
664572	473
664572DUP	506
664571	779
664570	645

664569	358
664568	357
664567	343
664567-R	265
665001	329
664566	242
664565	371
664564	237
664563	207
664562	285
664561	204
664560	369
664560DUP	386
664559	335
664558	361
664557	236
664556	229
664555	420
664554	202
664554-R	161
664553	368
664552	211
664551	373
664578	635
664579	289
664580	509
664580DUP	572
664581	424
664582	310
664583	291
664584	354
664585	441
664586	413
664587	354
664588	301
664588-R	353
664596D	449

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
GERRY JOY D SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

GERRY JOY D SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-11885

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this GERRY JOY D Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. Additional sampling to the north-east could be warranted to better define the anomalies and determine the extent of the mineralization that may be present.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A <u>minimum</u> of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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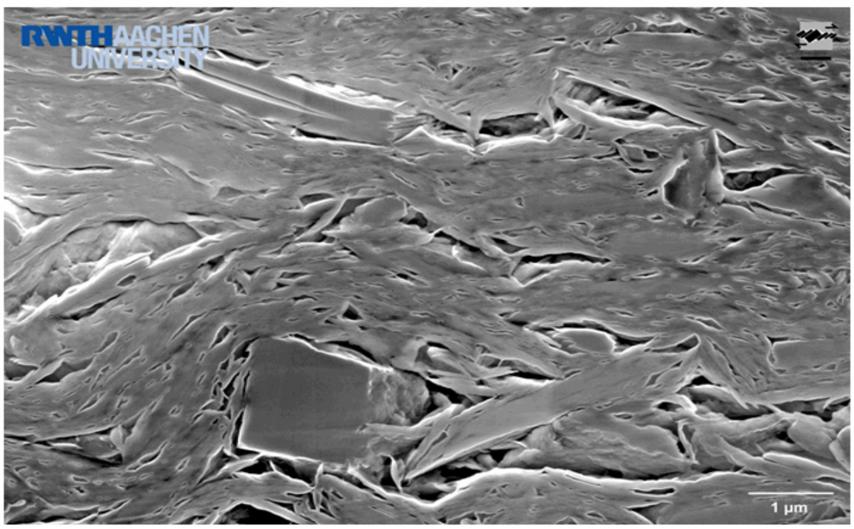
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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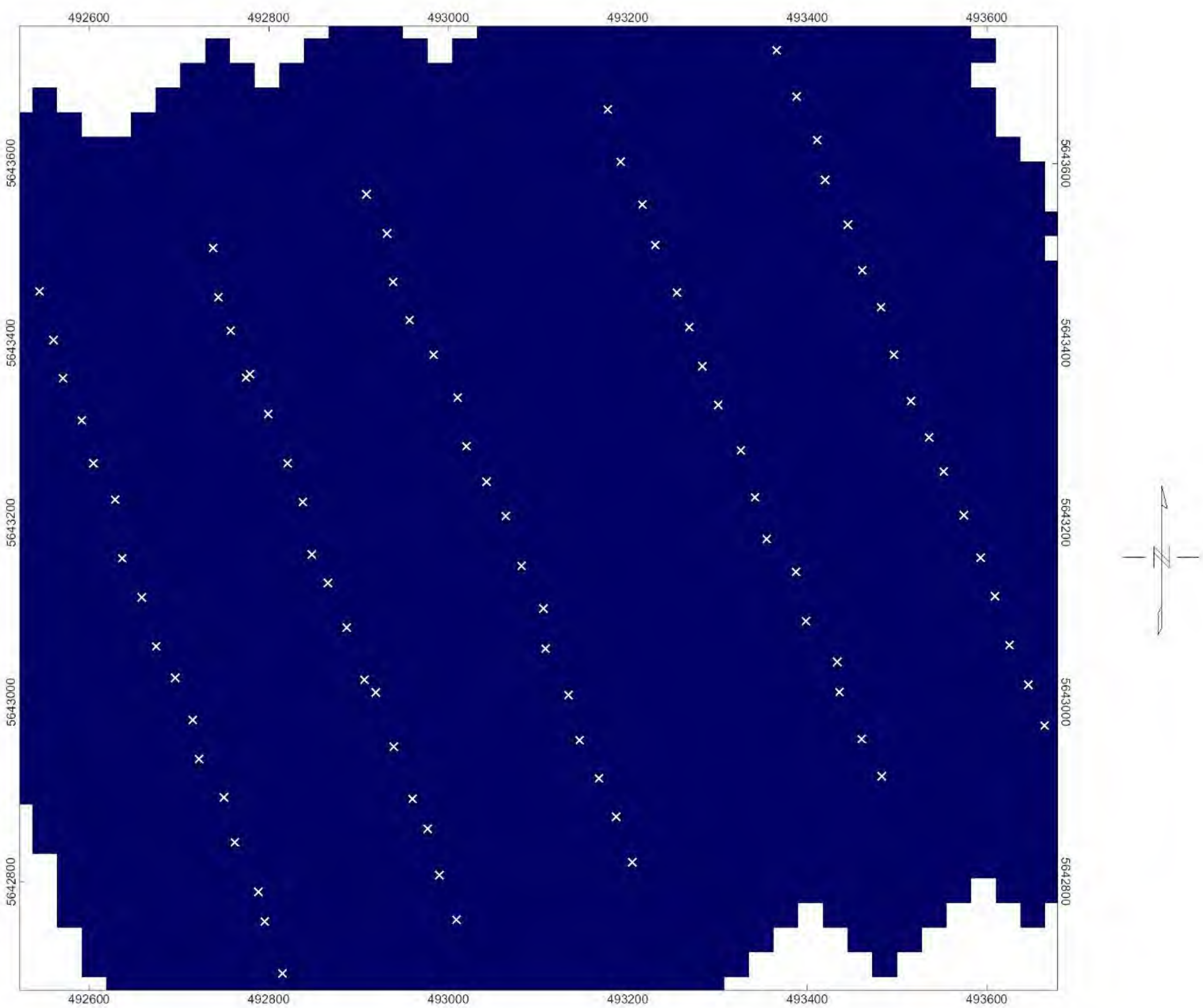
INTERPRETATION OF SGH RESULTS - A21-11885
TRILLIUM GOLD MINES – GERRY JOY D SURVEY

This report is based on the SGH results from the analysis of a total of 89 soil samples from the GERRY JOY D survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – GERRY JOY D SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the GERRY JOY D Soil Survey was very good as demonstrated by 6 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **10.4%** which represents a very good level of analytical performance especially at such low parts-per-trillion concentrations.

The **4 Field Duplicate samples submitted from the GERRY JOY D Soil Survey** was considered very good at **9.8%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the GERRY JOY D survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the GERRY JOY D survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-11885 – TRILLIUM GOLD MINES
GERRY JOY D SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-11885 – TRILLIUM GOLD MINES – GERRY JOY D
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the GERRY JOY D Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the GERRY JOY D survey had some agreement with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-11885 – TRILLIUM GOLD MINES – GERRY JOY D
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows a ridge of apical anomalies in the North-East portion of the survey outlined in yellow. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) provided some support to the interpretation of these anomalies at the GERRY JOY D Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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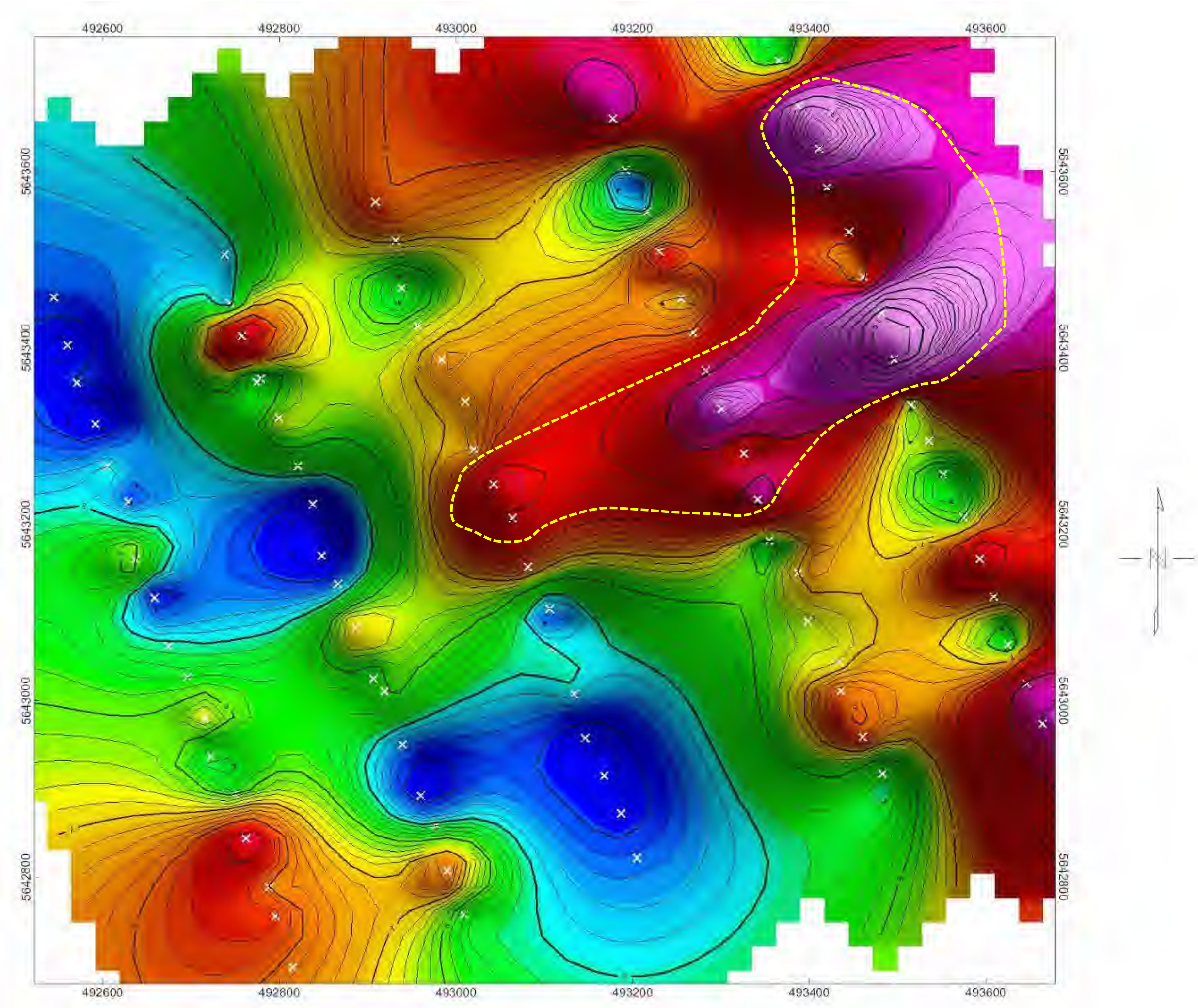
A21-11885 – TRILLIUM GOLD MINES – GERRY JOY D
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 3.0 OF 6.0</u>

Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

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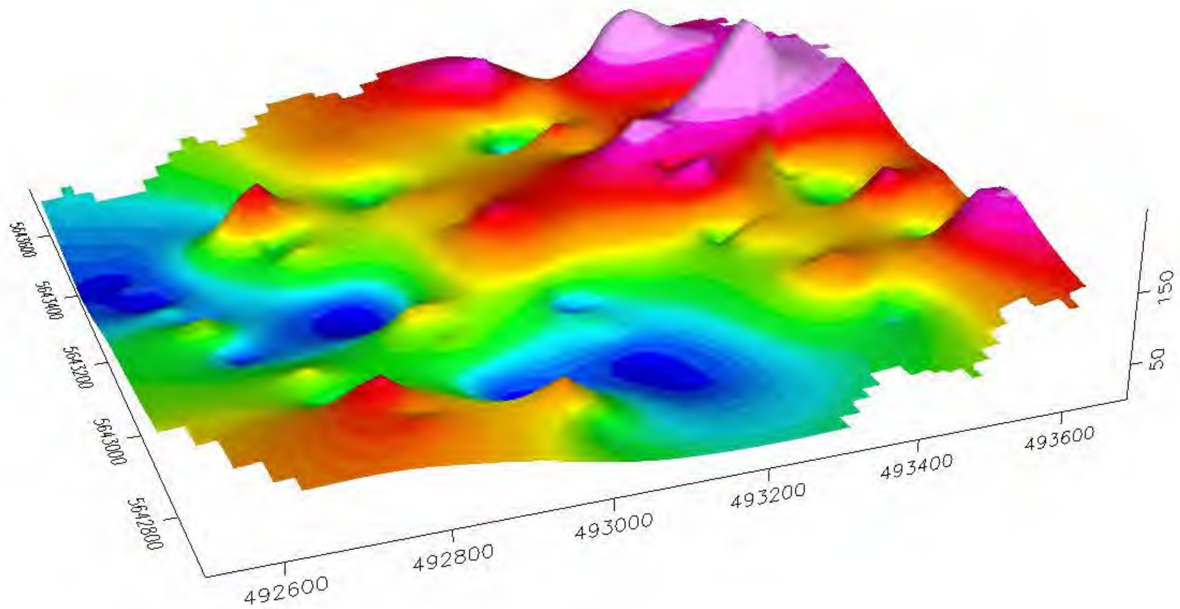
A21-11885 – TRILLIUM GOLD MINES – GERRY JOY D
SGH "GOLD" PATHFINDER CLASS MAP



GEOSOFT

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A21-11885 – TRILLIUM GOLD MINES
GERRY JOY D SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines GERRY JOY D survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the GERRY JOY D survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 3.0 on a scale of 6.0. The Rating for the GERRY JOY D survey means that, based only on SGH, that there is hope that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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In general, the number of samples was more than adequate to show what the author believes to be valuable information at the GERRY JOY D survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. Additional samples could be warranted to the north-east of this survey to better define and to determine the extent of the mineralization. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered “an approximation”, thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 25, 2021

Date Analysis Complete: July 9, 2021

Interpretation Report: August 17, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: GERRY JOY D Survey

Activation Laboratories Workorder: A21-11885

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

91 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-11885

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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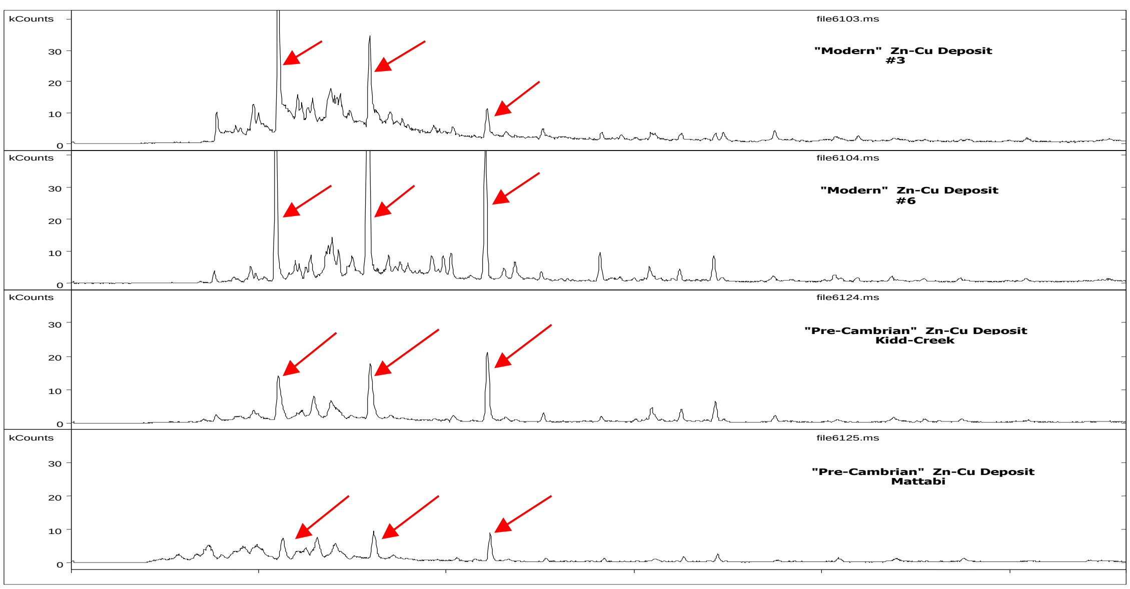
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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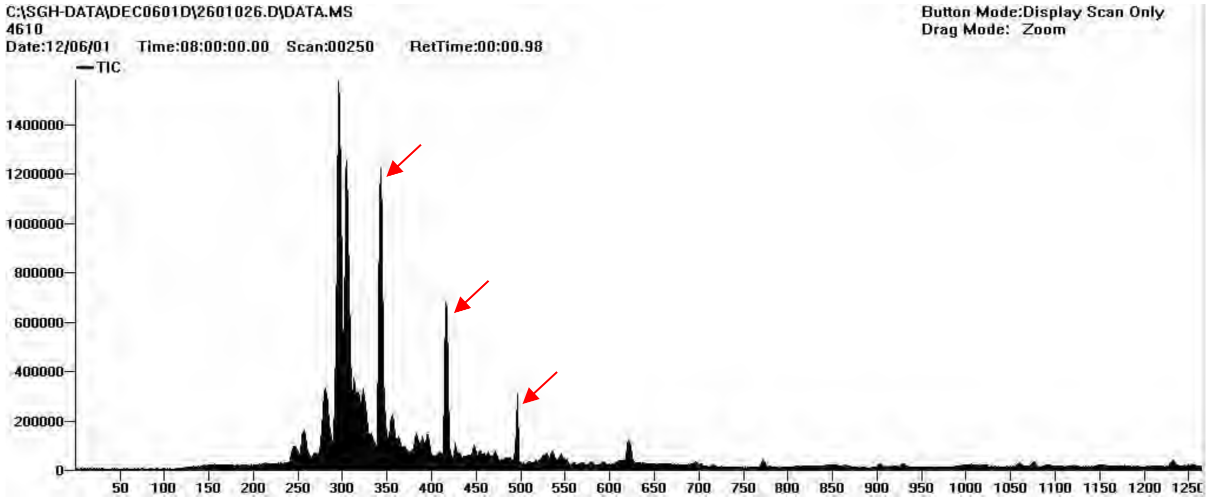
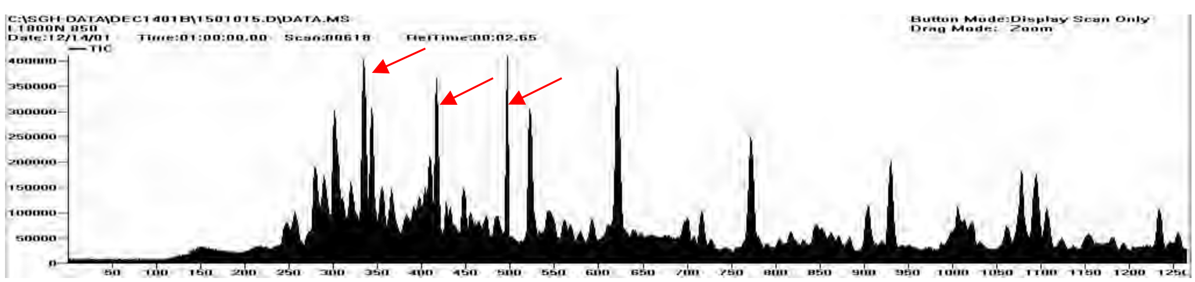
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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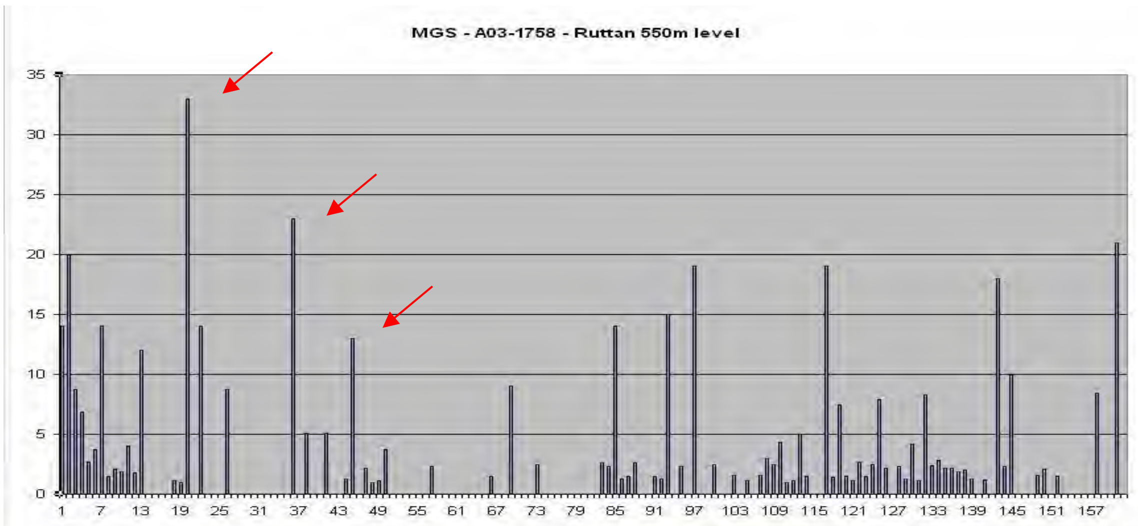
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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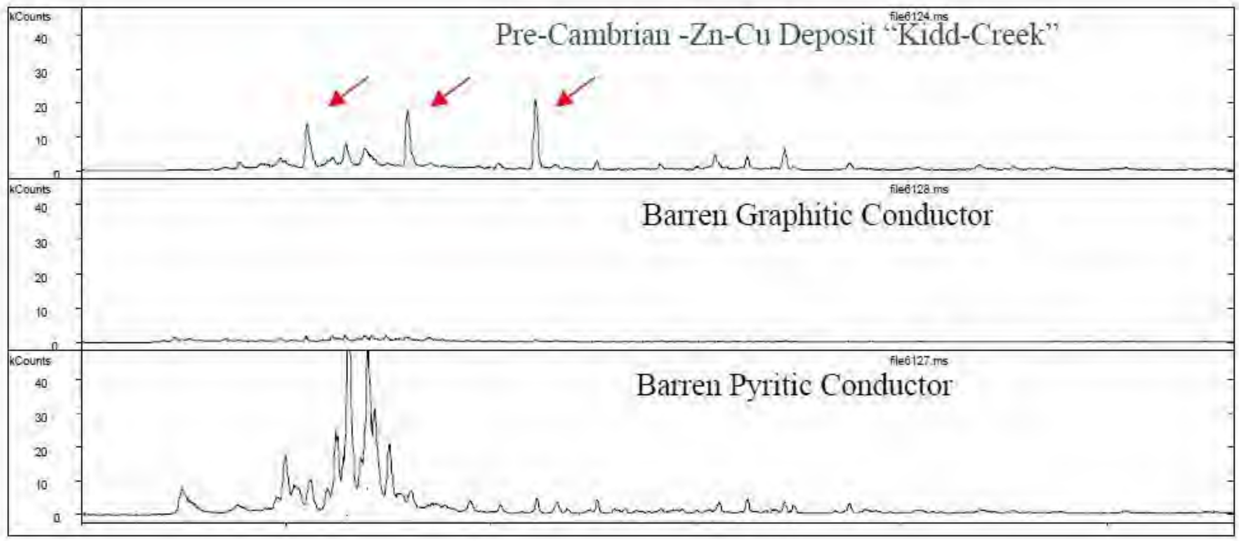

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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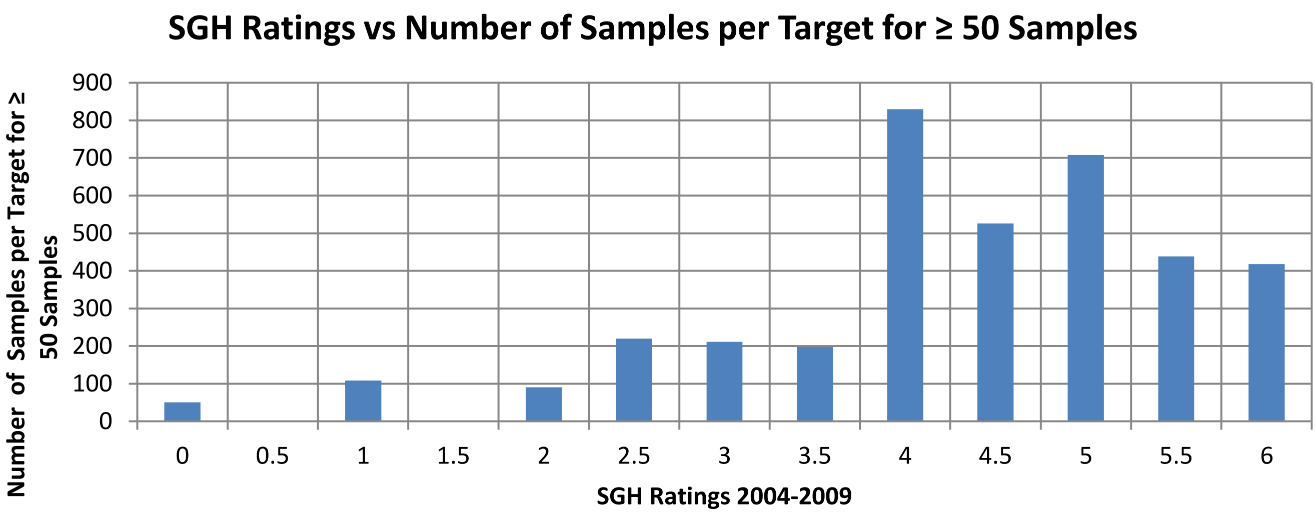
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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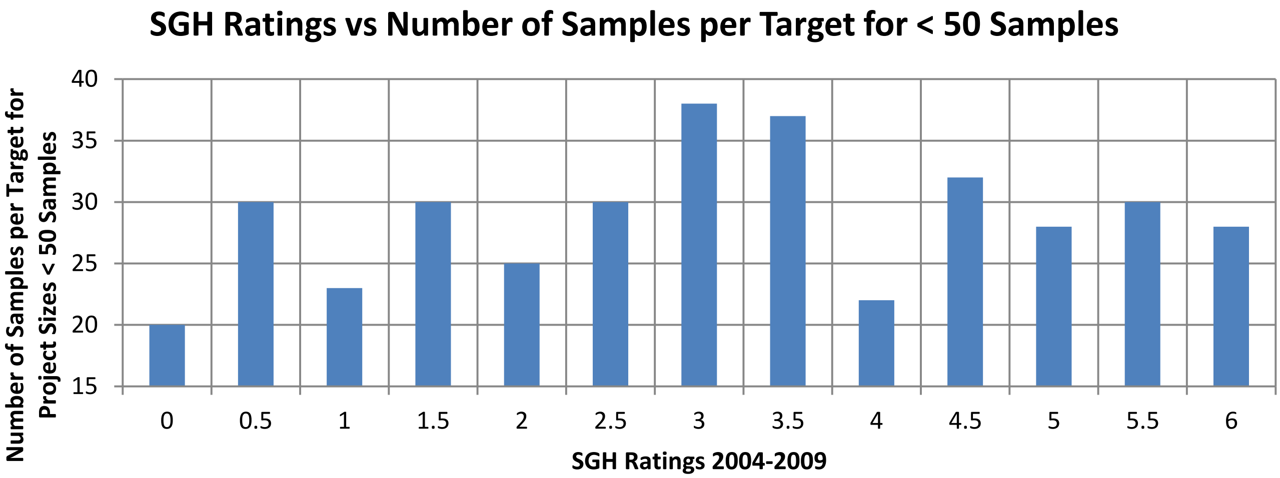
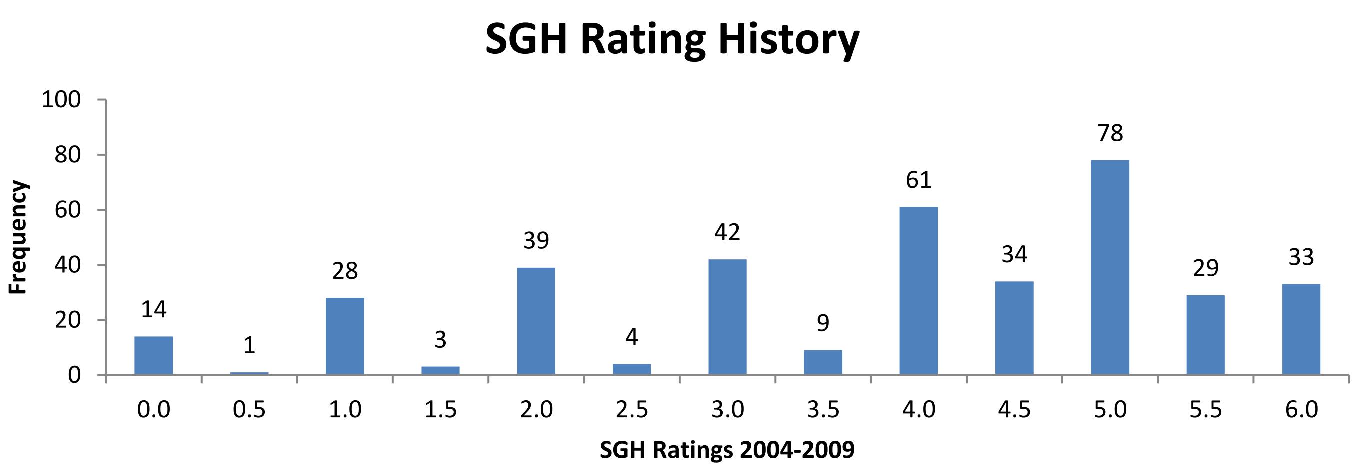
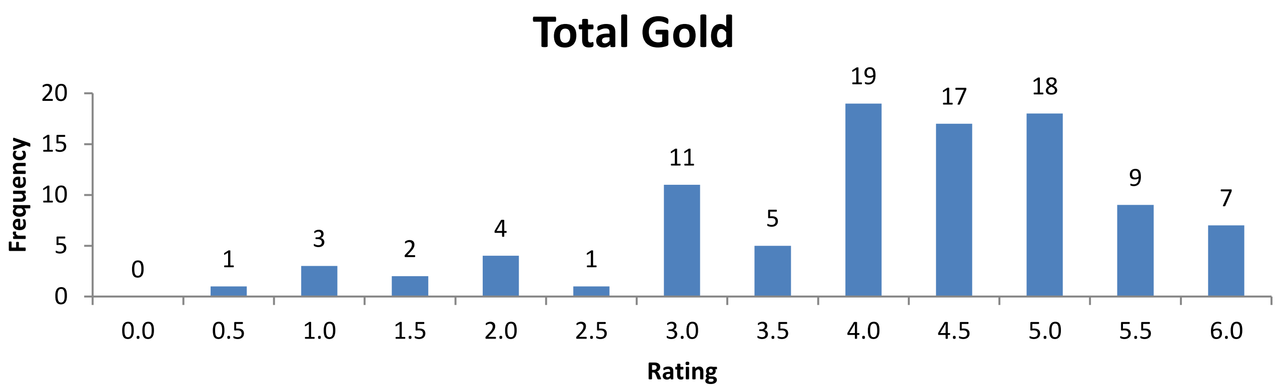
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Gerry Joy D Survey

	SGH-Gold
660043	4.6
660044	13.6
660045	14.4
660046	9.7
660047	8.0
660047-R	8.5
660048	6.9
660049	16.6
660050	17.6
660051	5.4
660052	6.9
660053	5.3
660054	5.5
660055	10.8
660056	7.2
660057	5.0
660058	10.9
660059	11.2
660112	8.0
660113	7.3
660114	5.8
660114-R	3.6
660115	6.5
660116	7.5
660117	7.3
660118	7.2
660119	9.8
660120	8.5
660120DUP	9.2
660121	7.8
660122	3.7
660123	5.2
660124	5.0
660125	3.4
660126	3.8
660127	3.7
660128	4.7
660128-R	3.9
660129	5.3
660130	8.6
660131	4.2
660131DUP	5.6
660132	3.4
664666	11.5
664667	3.8
664668	4.8
664669	9.1

664670	6.9
664671	8.1
664672	9.5
664673	12.8
664674	8.3
664675	11.7
664675-R	11.6
664676	4.9
664677	7.4
664678	6.5
664679	6.5
664680	8.2
664681	8.1
664682	4.8
664739	7.8
664740	9.1
664740DUP	8.1
664741	7.7
664742	10.0
664743	5.6
664744	6.8
664745	5.1
664745-R	5.1
664746	5.5
664747	5.2
664748	3.7
664749	6.8
664750	4.0
664751	5.1
664752	3.2
664753	4.1
664754	3.6
664755	4.3
664756	4.8
664757	4.7
664758	11.3
664759DUP	5.5
664760	3.2
664760-R	5.3
664762	5.5
664763	3.5
664764	3.3
664765	4.1
664766	7.5
664767	5.5
664768	6.4
664769	4.4
664761	6.8

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
GERRY JOY E SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

GERRY JOY E SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-11886

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this GERRY JOY E Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was able to identify an apical anomalous zone with a potential gold signature.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially “blind” to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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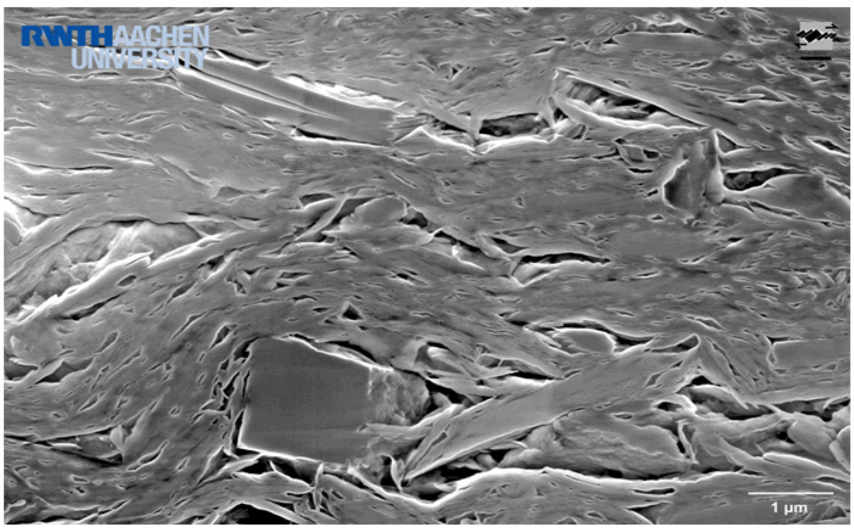
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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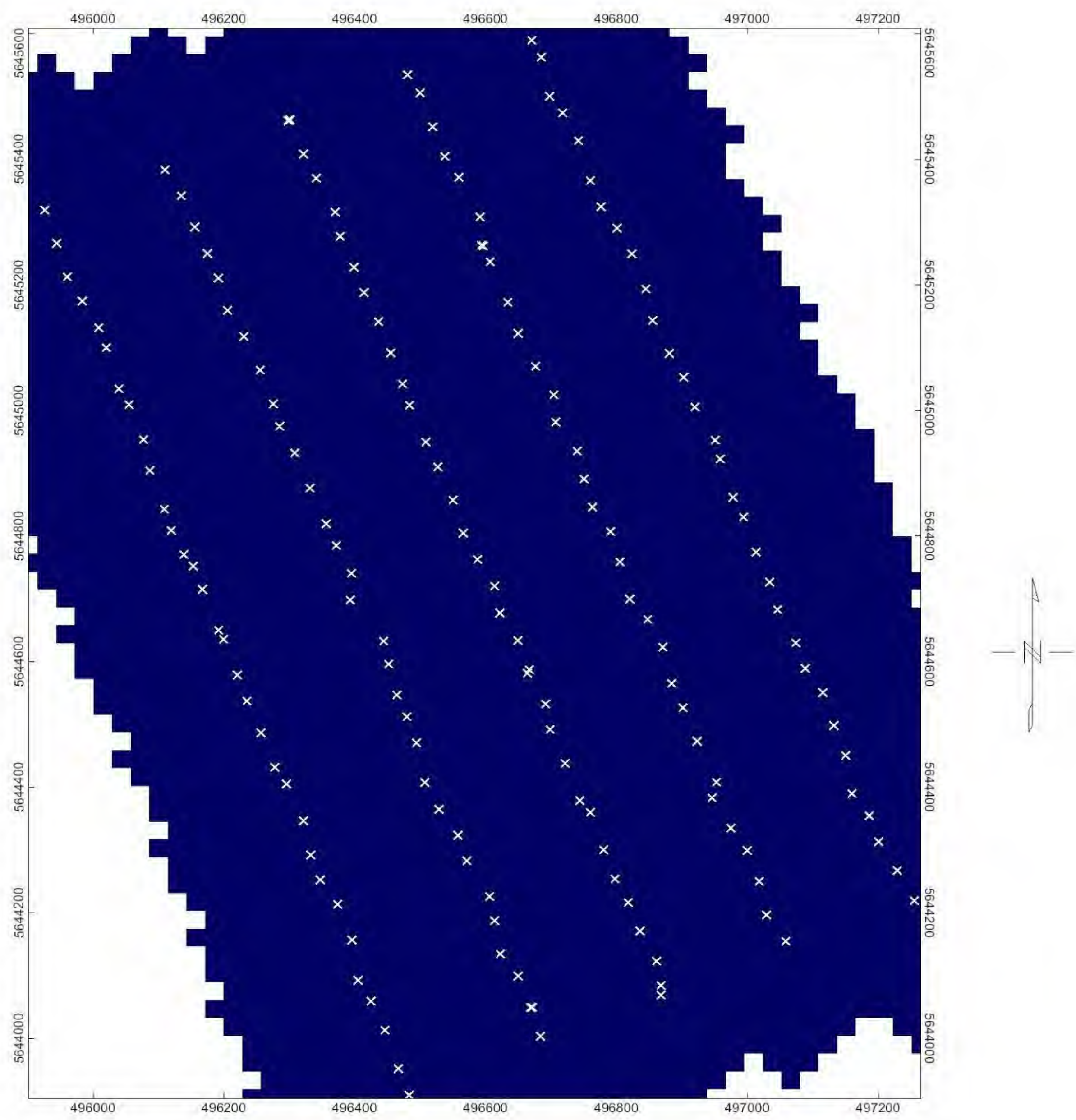
INTERPRETATION OF SGH RESULTS - A21-11886
TRILLIUM GOLD MINES – GERRY JOY E SURVEY

This report is based on the SGH results from the analysis of a total of 162 soil samples from the GERRY JOY E survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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QUALITY ASSURANCE – GERRY JOY E SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the GERRY JOY E Soil Survey was excellent as demonstrated by 11 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **5.7%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **7 Field Duplicate samples submitted from the GERRY JOY E Soil Survey** was considered very good at **10.8%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the GERRY JOY E survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the GERRY JOY E survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-11886 – TRILLIUM GOLD MINES
GERRY JOY E SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-11886 – TRILLIUM GOLD MINES – GERRY JOY E
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the GERRY JOY E Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the GERRY JOY E survey had some agreement with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-11886 – TRILLIUM GOLD MINES – GERRY JOY E
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows an apical anomaly near the center of the survey outlined in yellow. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) provided some support to the interpretation of this anomaly at the GERRY JOY E Project.

Again, the prediction of this anomaly for gold mineralization is based only on SGH.

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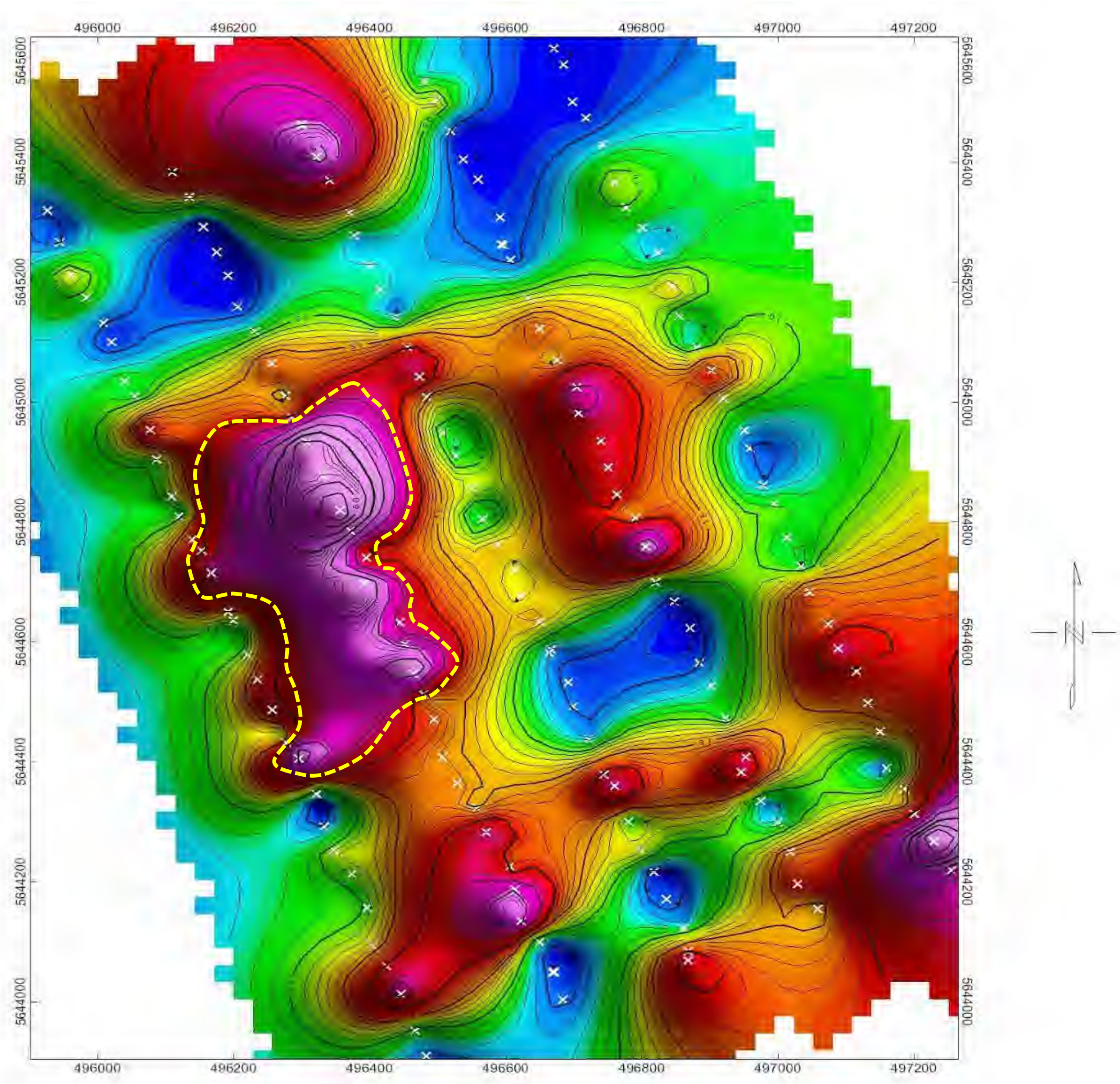
A21-11886 – TRILLIUM GOLD MINES – GERRY JOY E
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 3.0 OF 6.0</u>

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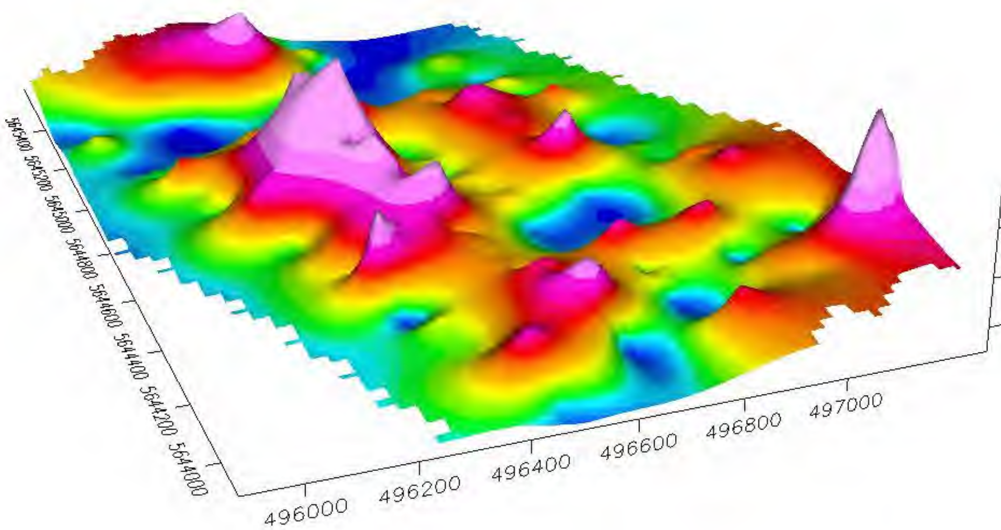
A21-11886 – TRILLIUM GOLD MINES – GERRY JOY E
SGH "GOLD" PATHFINDER CLASS MAP



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A21-11886 – TRILLIUM GOLD MINES
GERRY JOY E SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines GERRY JOY E survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the GERRY JOY E survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 3.0 on a scale of 6.0. The Rating for the GERRY JOY E survey means that, based only on SGH, that there is hope that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

GERRY JOY E SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the GERRY JOY E survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered “an approximation”, thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 25, 2021

Date Analysis Complete: July 13, 2021

Interpretation Report: August 24, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: GERRY JOY E Survey

Activation Laboratories Workorder: A21-11886

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

162 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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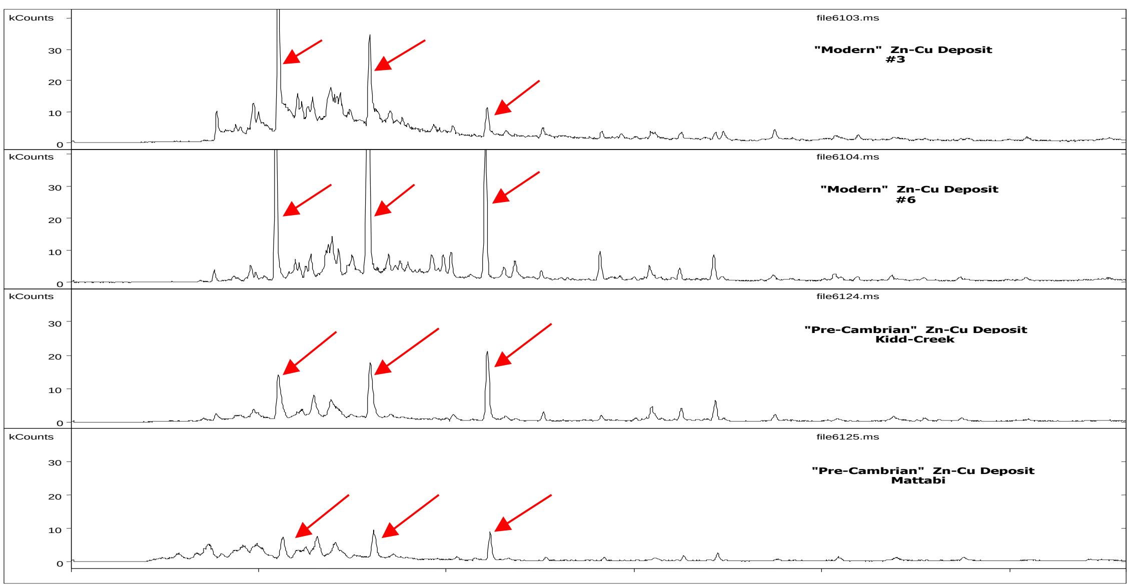
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.

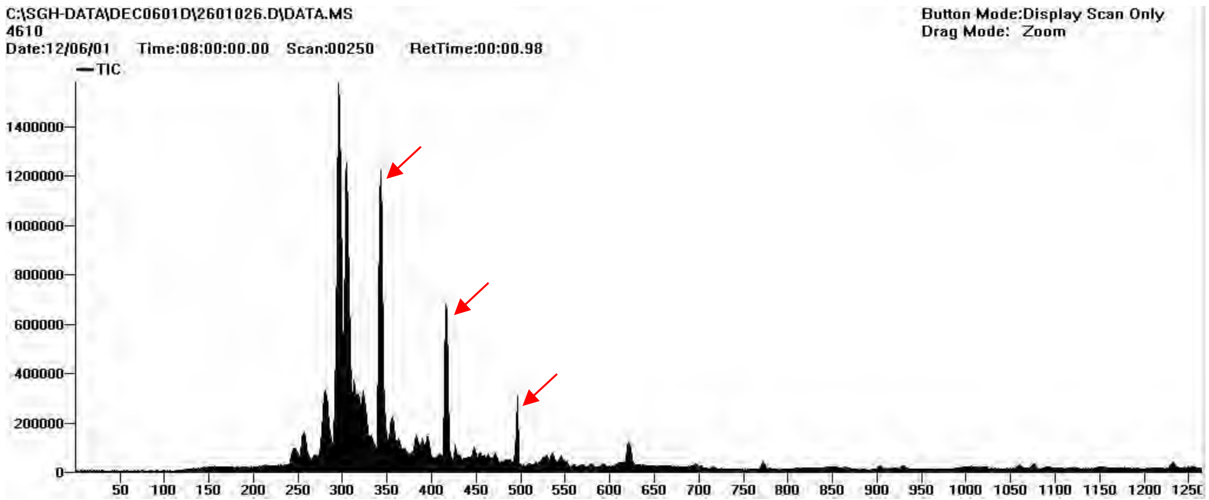


The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

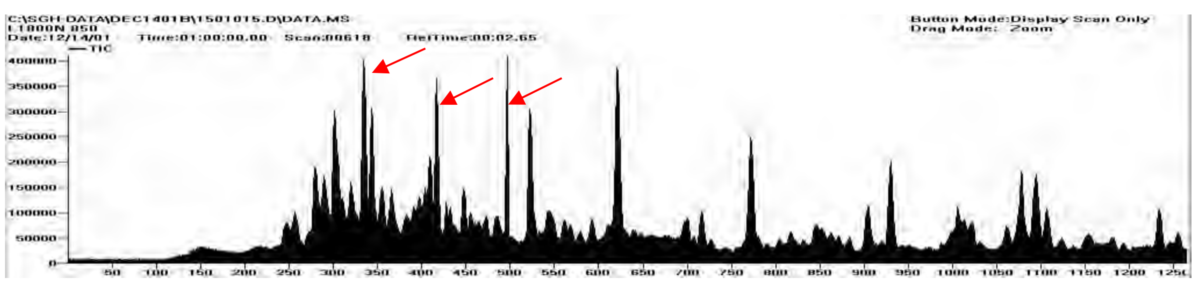
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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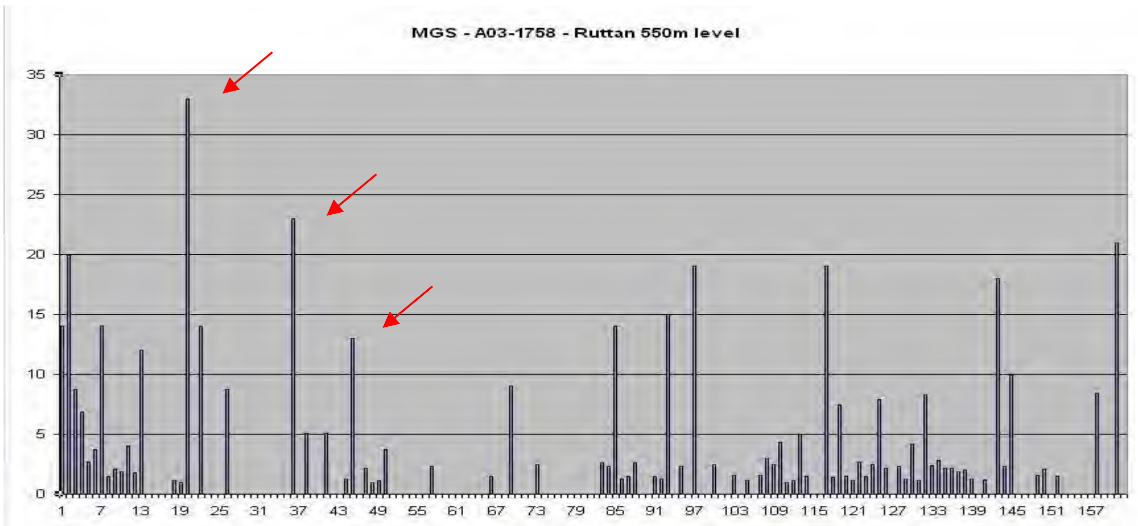
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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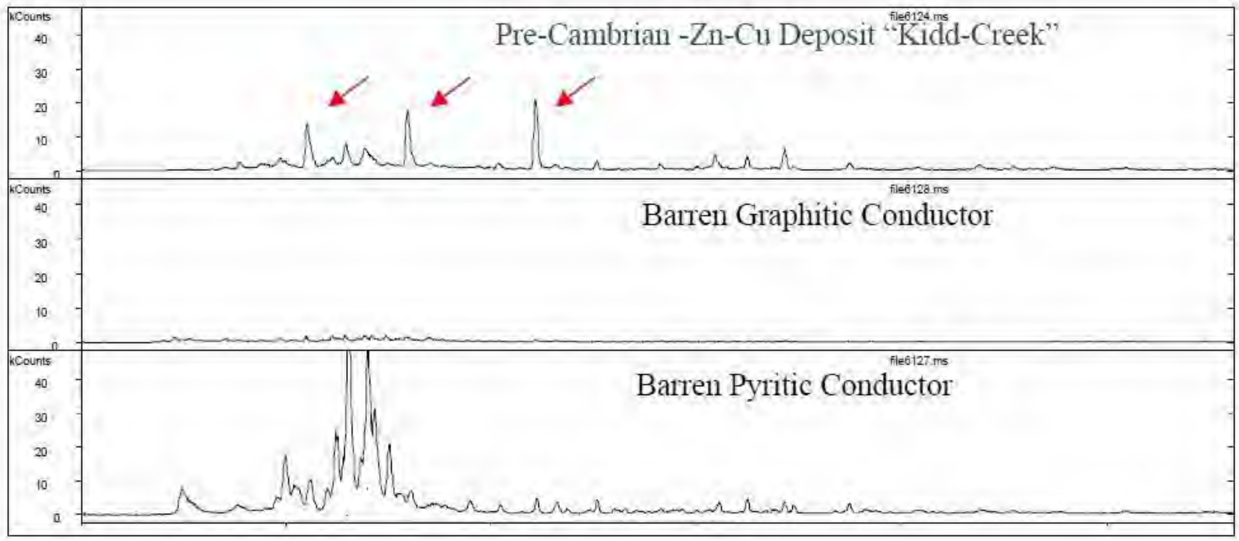

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"
SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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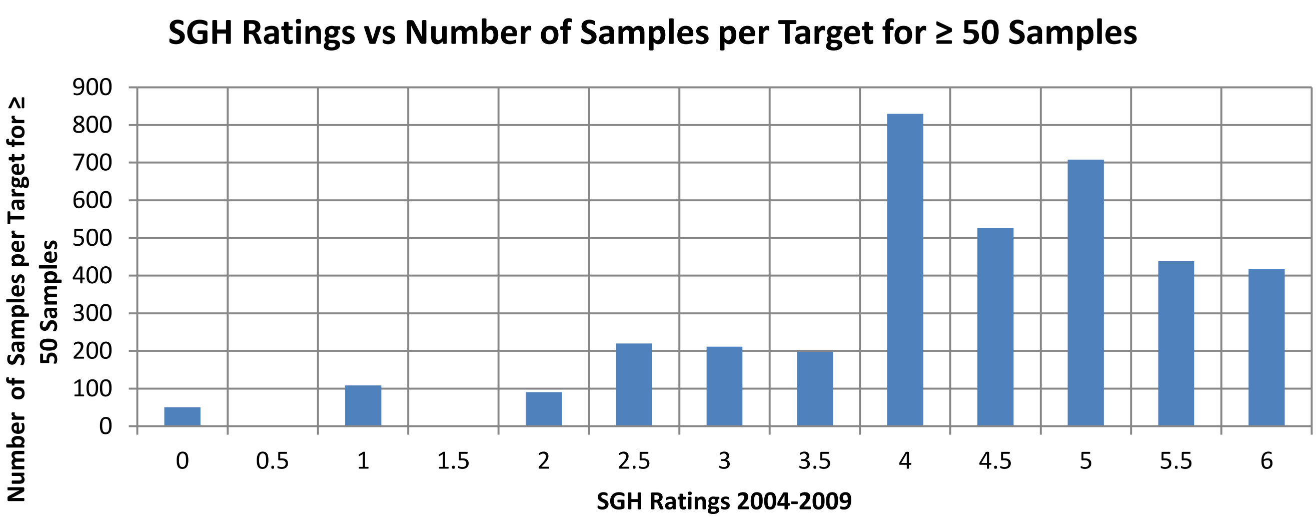
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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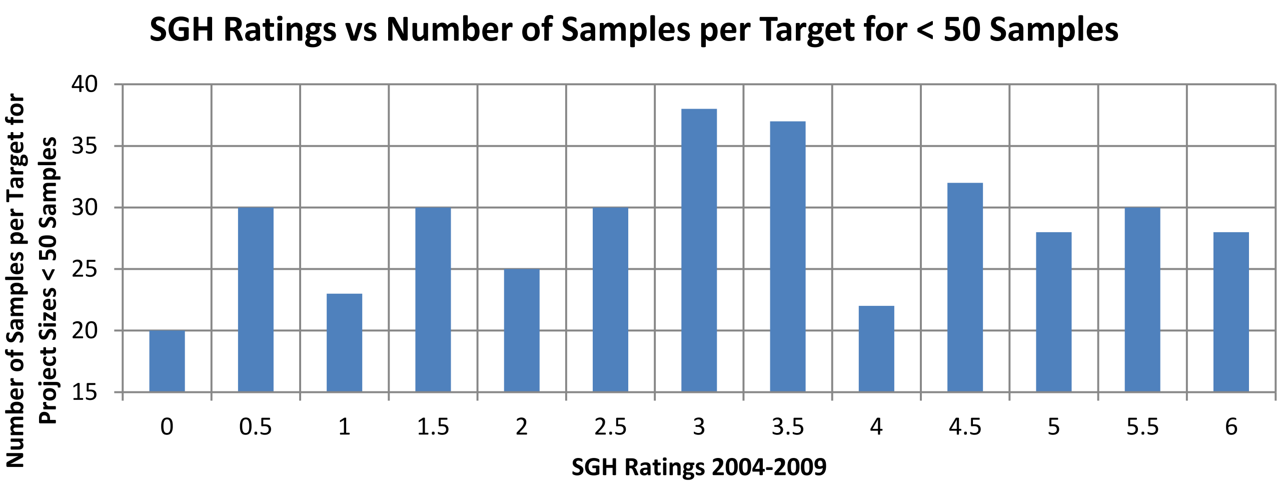
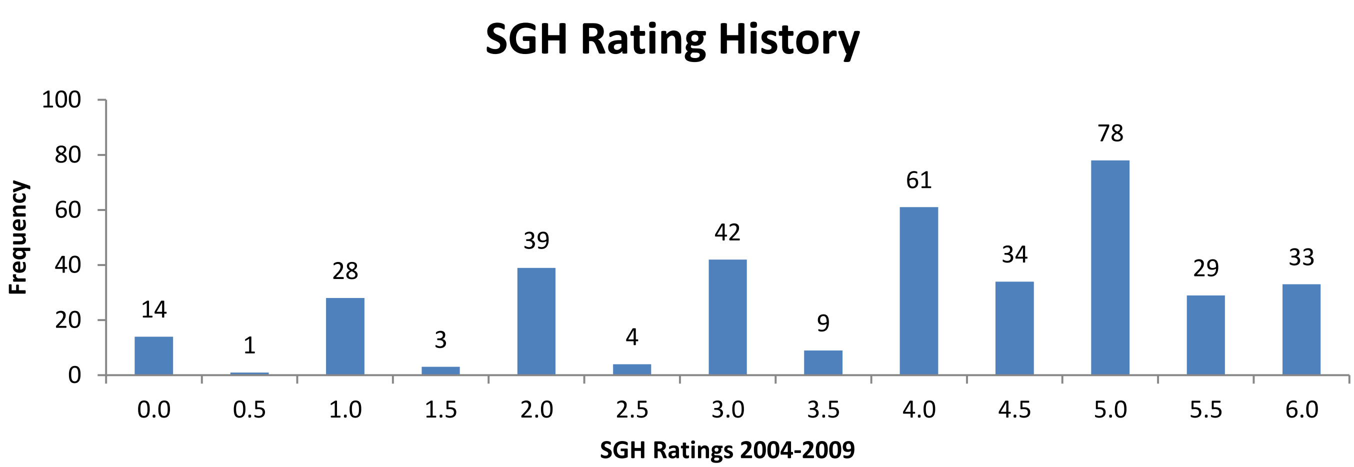
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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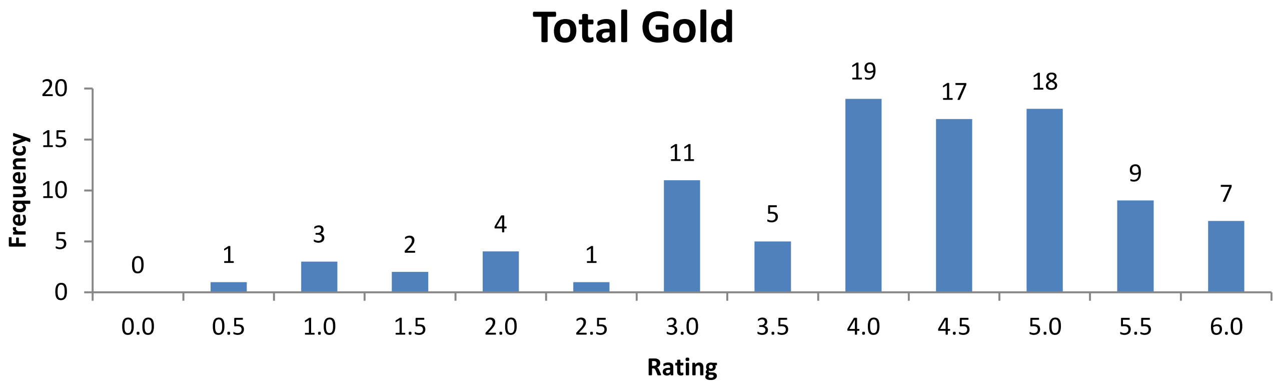
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Gerry Joy E Survey

	SGH-Gold
661501	15.9
661502	14.0
661503	18.9
661504	8.1
661505	3.3
661505-R	3.4
661506	3.3
661507	2.5
661508	2.4
661509	13.7
661510	20.9
661511	5.1
661512	3.9
661513	12.6
661514	9.6
661515	5.1
661516	3.3
661517	9.5
661518	6.6
661519	22.1
661520	10.1
661520-R	9.6
661521	12.2
661522	6.6
661523	17.7
661524DUP	21.4
661525	37.3
661526	8.1
661527	4.5
661528	3.8
661529	4.4
661530	7.5
661531	8.5
661532	22.3
661533	26.0
661534	5.5
661535	6.3
661535-R	6.1
661536	17.2
661537	18.7
661538	13.3
661539	21.3
661540DUP	25.7
661541	5.6
661542	4.3
666851	27.7
666852	66.6

666853	13.3
666854	15.7
666855	4.3
666856	14.2
666857	15.9
666858	20.2
666858-R	18.4
666859	25.3
666860	16.5
666861	20.0
666862	7.3
666863	8.0
666864	10.3
666865	4.9
666866	4.4
666867	6.6
666869	11.3
666870	23.0
666871	5.3
666872	8.0
666873	15.7
666873-R	13.4
666874	5.0
666875	7.4
666876	10.1
666877	11.8
666878	6.4
666879	3.5
666880	3.3
666881	3.0
666882	2.9
666883	5.8
666884	13.7
666885	3.5
666886	3.2
666887	3.4
666888	4.2
666888-R	3.8
666889	4.8
666890DUP	5.0
666891	3.9
666892	11.4
666893	19.3
666894	13.8
666895	28.2
666896	25.1
666897	21.5
666898	22.8
666899	21.0
666900	15.0
666901	52.0

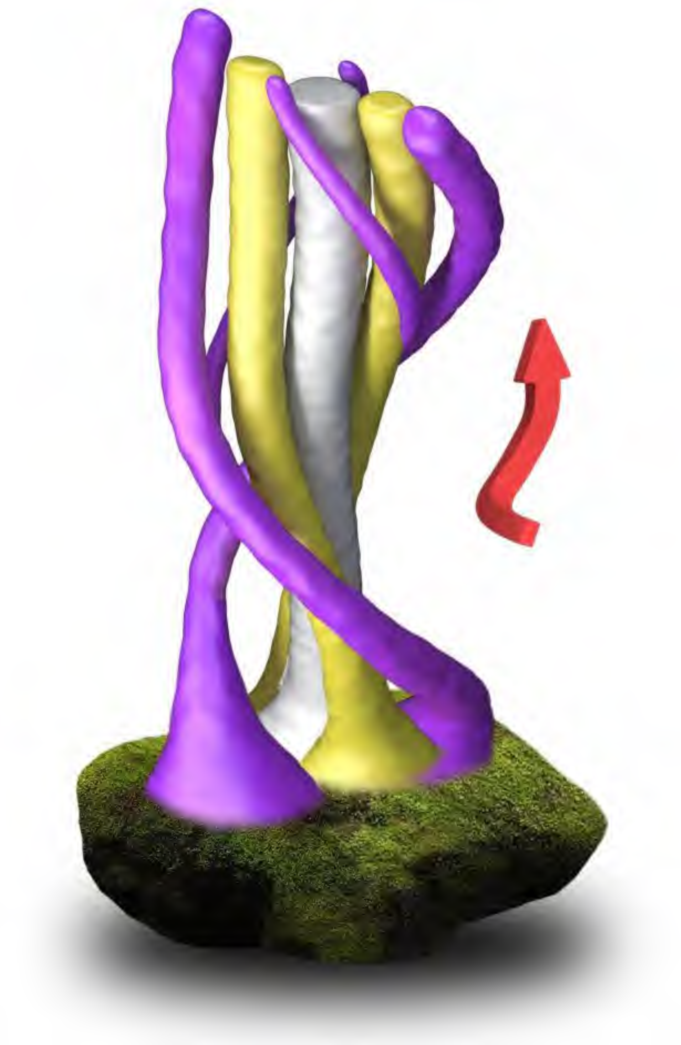
666902	46.2
666903	64.3
666903-R	65.0
666904	40.5
666905	11.2
666906	44.8
666907	21.9
666908	27.8
666910	13.0
666911	19.4
666912	15.3
666913	17.3
666914	13.6
666915	26.8
666916	16.4
666917	30.1
666918	35.1
666918-R	37.5
666919	3.1
666920	3.8
666921DUP	4.4
666922	4.3
666923	5.2
666924	7.6
666925	28.3
666926	20.6
666927	12.7
666928	9.8
666929	10.6
666930	12.6
666931	4.3
666932	2.9
666933	52.8
666933-R	42.1
666934	9.5
666935	18.7
666936	17.7
666937	10.9
666938	6.9
666939	15.9
666940	30.2
666941	38.1
666942DUP	21.5
666943	39.3
666944	23.6
666945	14.1
666946	5.7
666947	7.3
666948	8.2
666948-R	8.0
666949	3.9

666951	24.9
666952	13.4
666953	7.7
666954	7.5
666955	12.7
666956	5.6
666957	14.8
666958	12.1
666959	12.2
666960	15.2
666961	5.9
666962DUP	4.6
666963	4.5
666964	4.9
666964-R	5.0
666965	5.2
666966	21.3
666967	28.3
666968	8.2
666969	14.8
666970	3.0
666950	21.6
666871DUP	6.7
666909	44.1

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
MAGRUM EAST GRID 1 SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

MAGRUM EAST GRID 1 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-11722

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this MAGRUM EAST GRID 1 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey was beneficial in identifying the predicted mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially “blind” to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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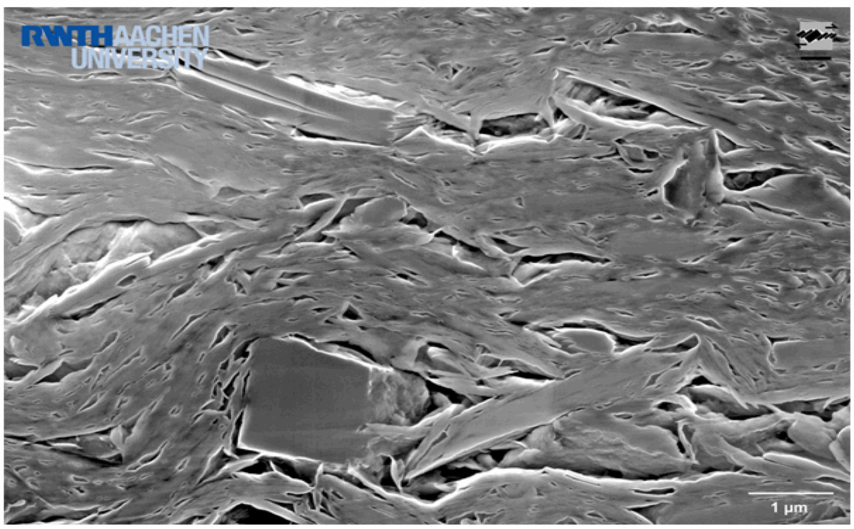
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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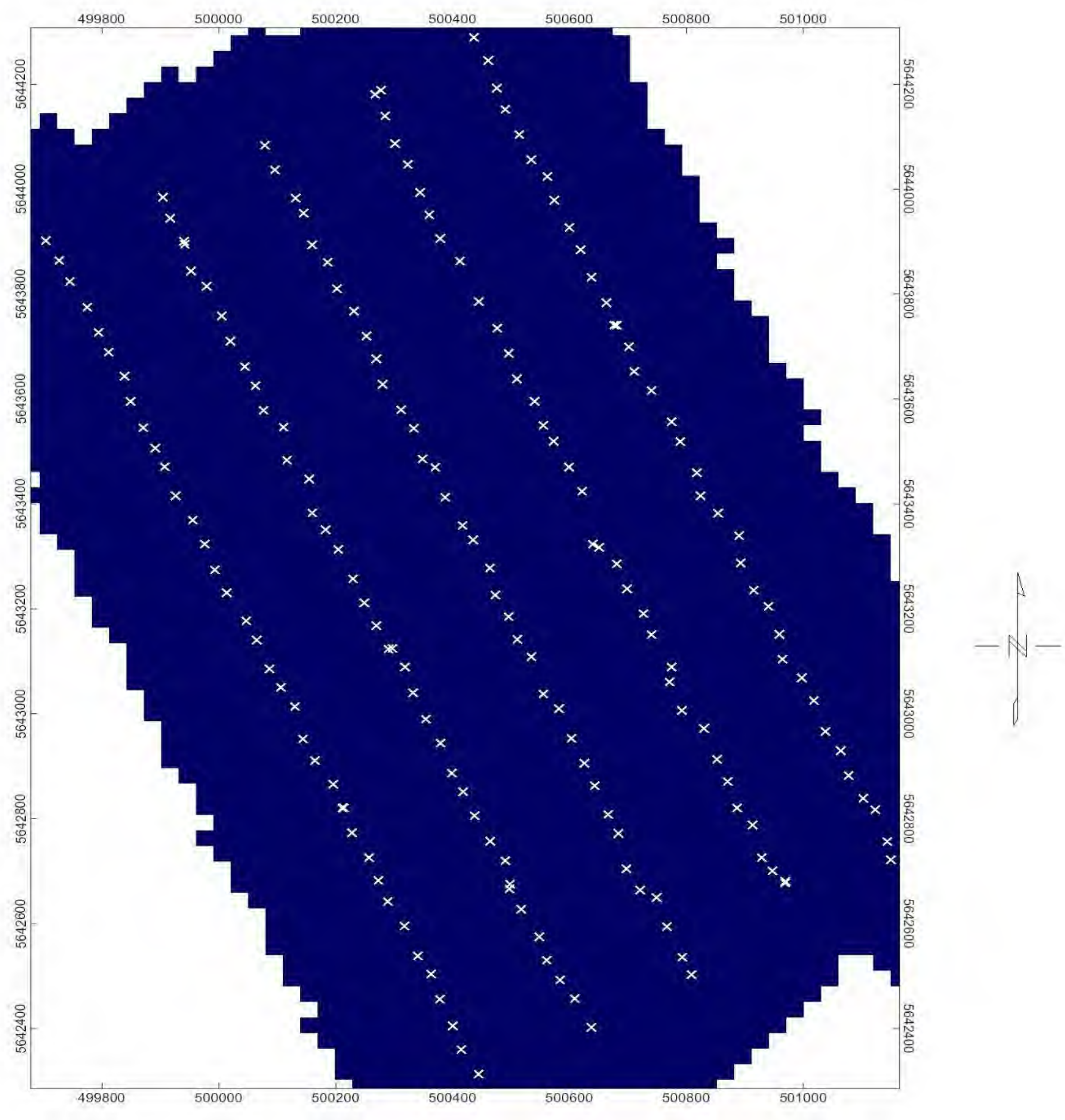
INTERPRETATION OF SGH RESULTS - A21-11722
TRILLIUM GOLD MINES – MAGRUM EAST GRID 1 SURVEY

This report is based on the SGH results from the analysis of a total of 190 soil samples from the MAGRUM EAST GRID 1 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – MAGRUM EAST GRID 1 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the MAGRUM EAST GRID 1 Soil Survey was excellent as demonstrated by 13 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **6.9%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **9 Field Duplicate samples submitted from the MAGRUM EAST GRID 1 Soil Survey** was considered very good at **11.6%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the MAGRUM EAST GRID 1 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the MAGRUM EAST GRID 1 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-11722 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 1 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-11722 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 1
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the MAGRUM EAST GRID 1 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the MAGRUM EAST GRID 1 survey also agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-11722 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 1
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates what appears to be a symmetrical segmented nested-halo anomaly. Symmetry provides a high level of confidence that these anomalies are not random occurrences. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support the interpretation of this anomaly at the MAGRUM EAST GRID 1 Project.

Again, the prediction of this anomaly for Gold mineralization is based only on SGH.

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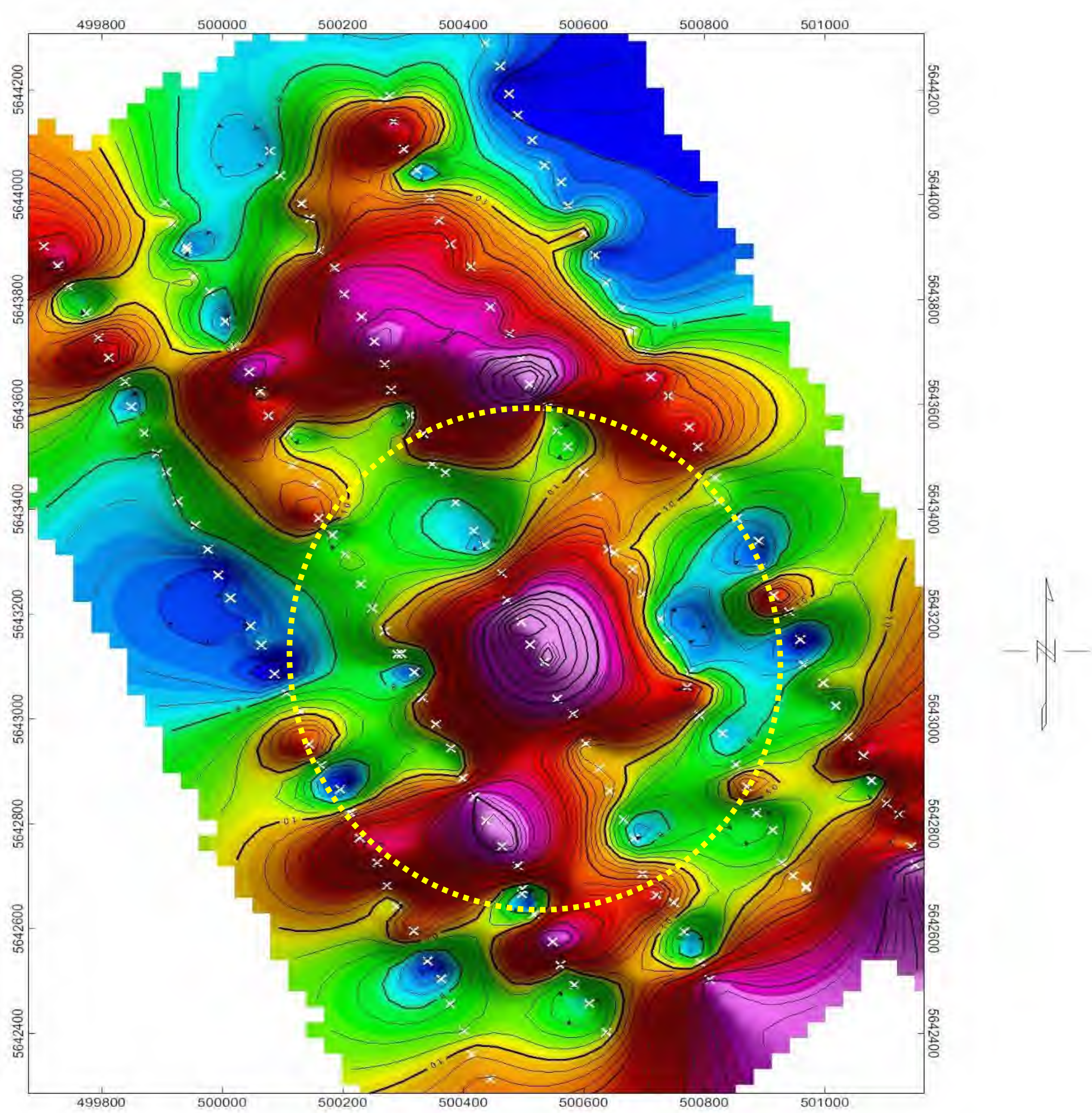
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.5 OF 6.0

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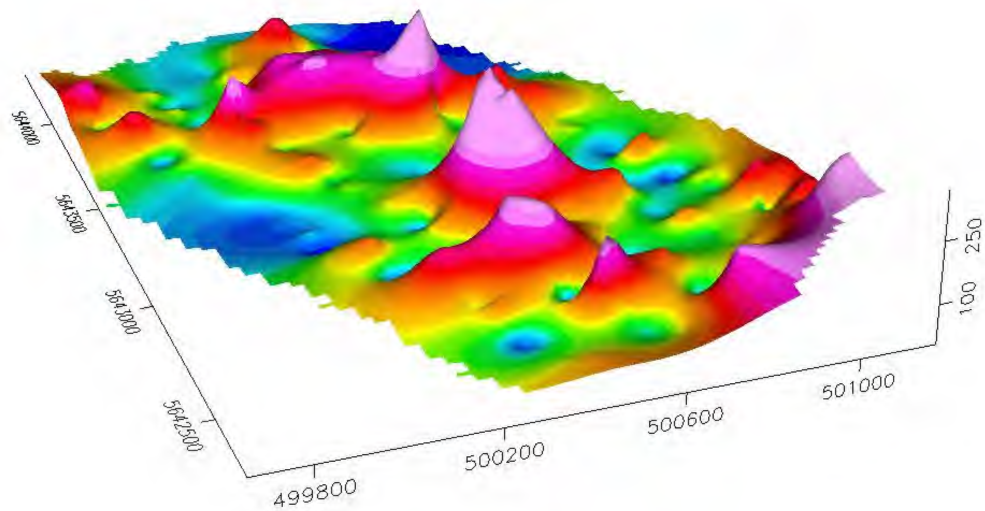
A21-11722 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 1
SGH "GOLD" PATHFINDER CLASS MAP



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A21-11722 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 1 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines MAGRUM EAST GRID 1 survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the MAGRUM EAST GRID 1 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.5 on a scale of 6.0. The Rating for the MAGRUM EAST GRID 1 survey means that, based only on SGH, that there is a good chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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A21-11722 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 1 SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the MAGRUM EAST GRID 1 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 24, 2021

Date Analysis Complete: July 27, 2021

Interpretation Report: August 19, 2021

TRILLIUM GOLD MINES INC.

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Attention: William Paterson

RE: Your Reference: MAGRUM EAST GRID 1 Survey

Activation Laboratories Workorder: A21-11722

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

190 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-11722

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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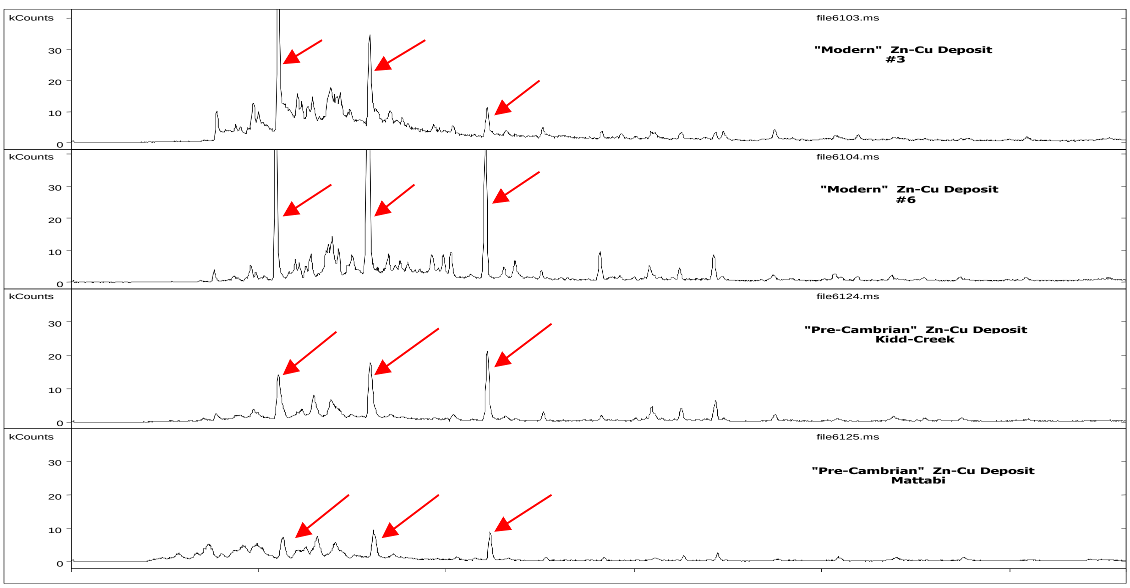
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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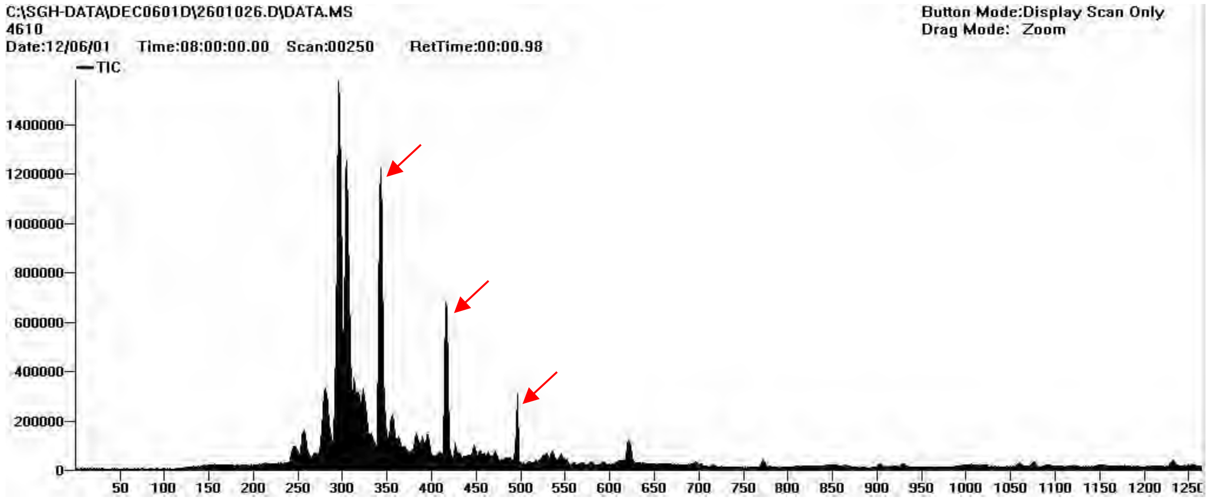
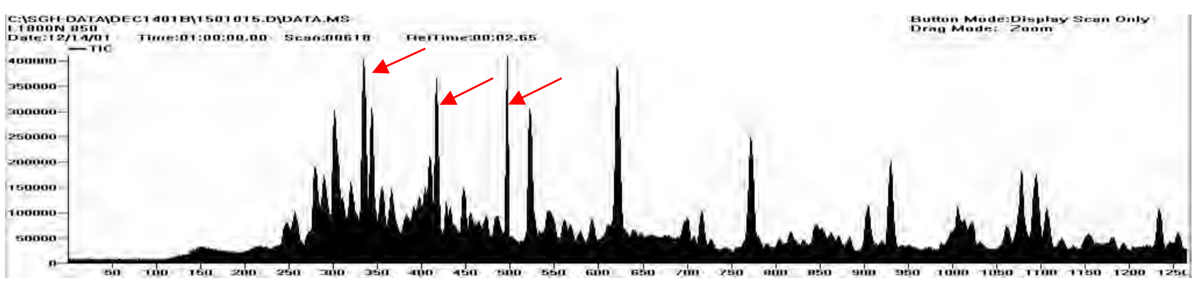
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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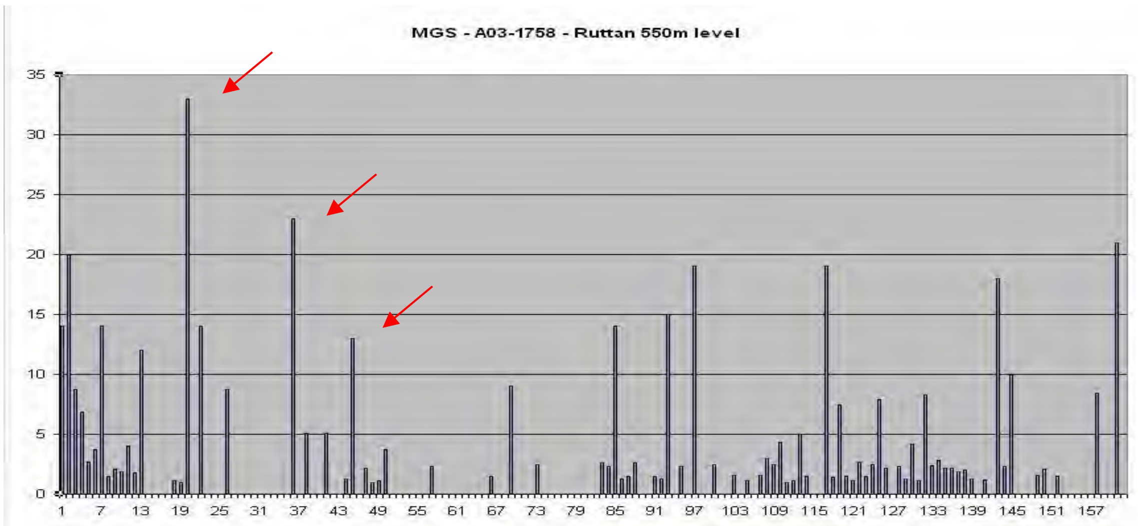
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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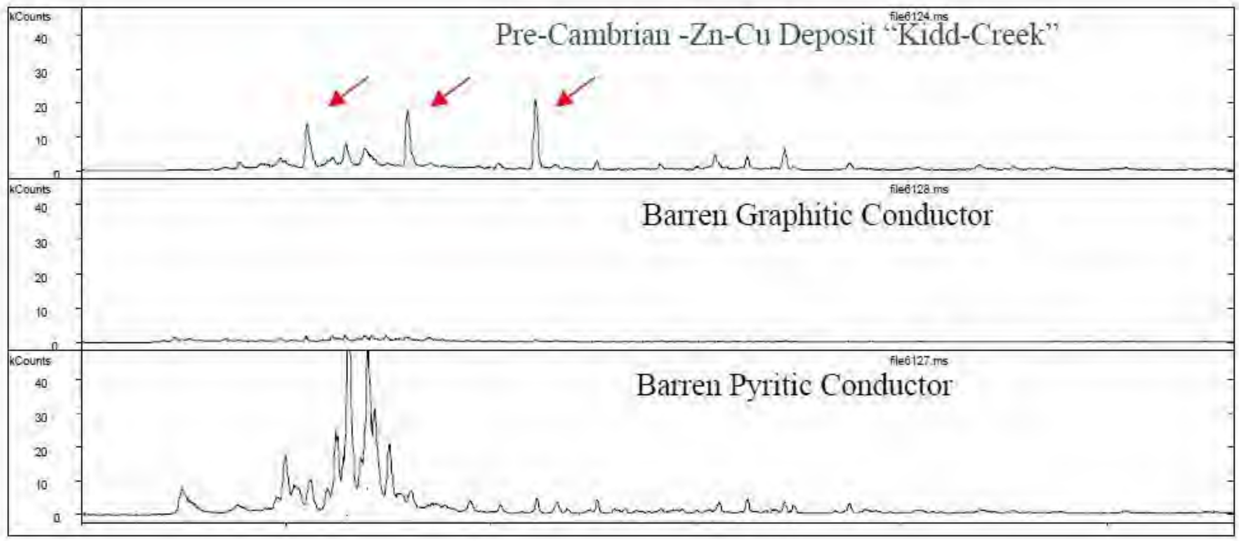

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

<u>SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING</u>

<u>Sample Type and Survey Design:</u> It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"
SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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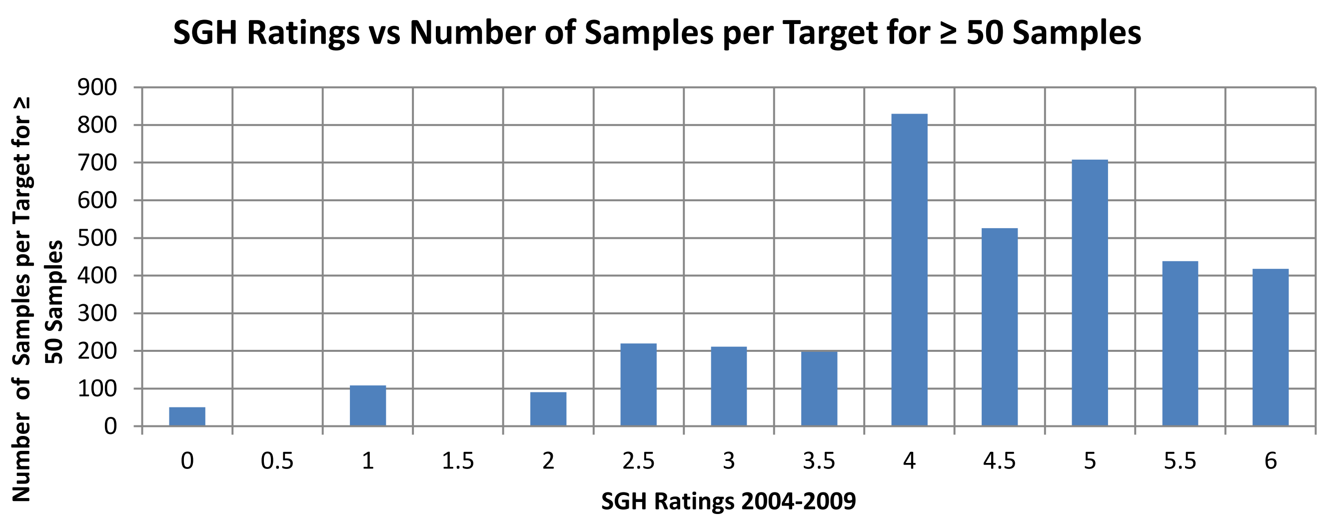
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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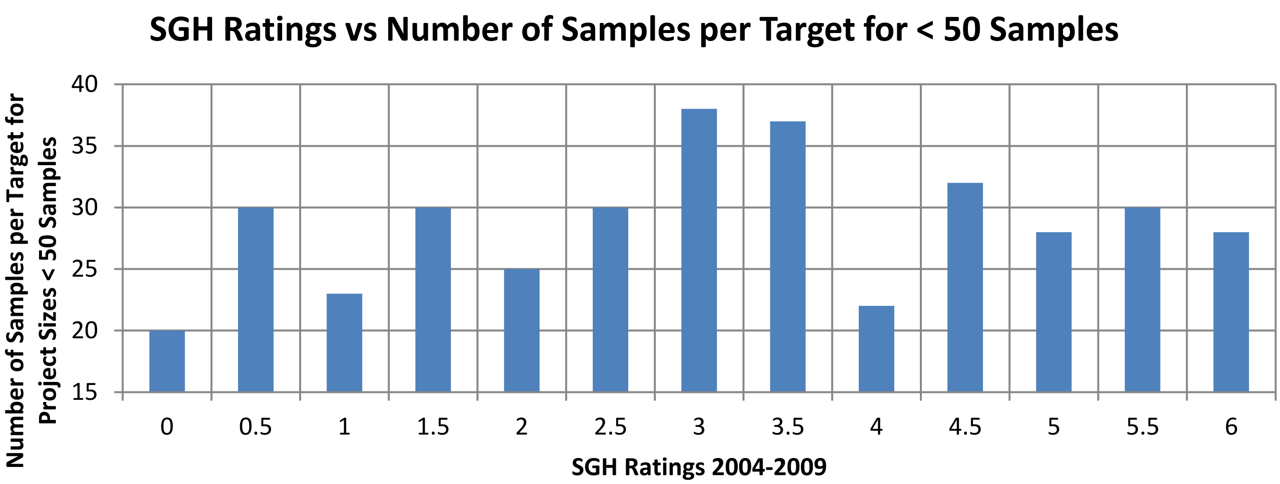
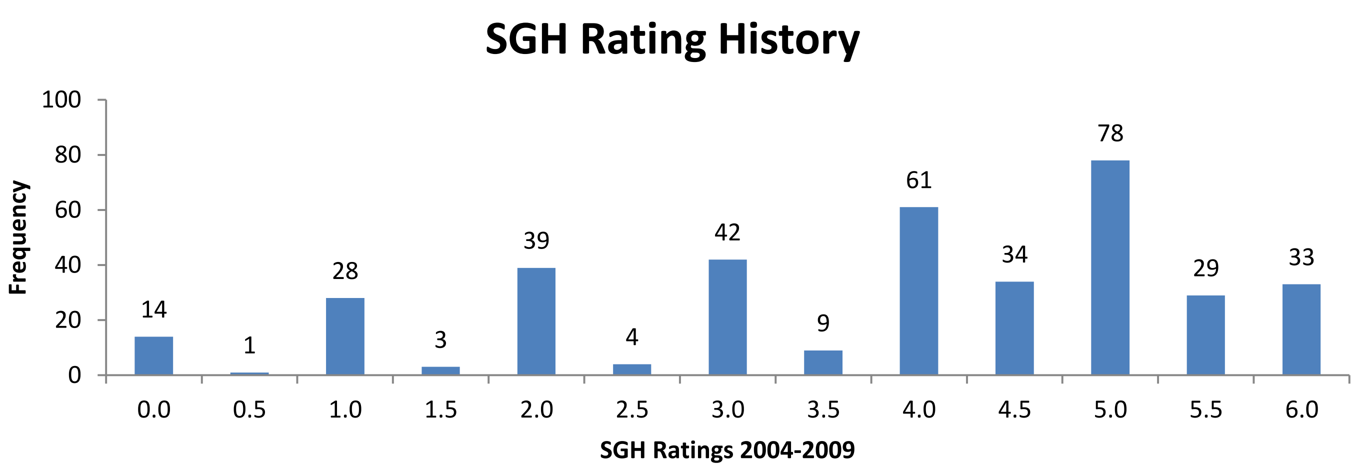
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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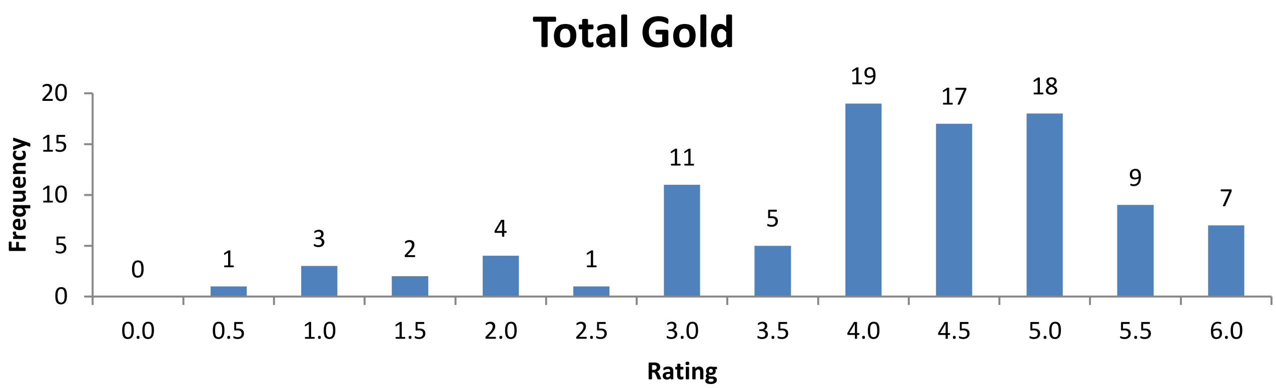
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Magrum East Grid 1 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Gold
660501	19.8
660502	6.7
660503	7.7
660504	11.4
660505	13.3
660505-R	14.5
660506	11.6
660507	6.8
660508	8.2
660509	11.1
660510	10.5
660511	9.5
660512	17.6
660513	20.4
660514	29.8
660515	25.2
660516	34.4
660517	14.4
660518	12.3
660519	7.4
660520DUP	9.4
660520DUP-R	8.7
660521	16.4
660522	14.6
660523	5.2
660524	11.9
660525	13.1
660526	14.6
660527	12.0
660528	17.8
660529DUP	11.7
660530	17.3
660531	20.3
660532	32.6
660533	9.0
660534	8.9
660535	8.2
660535-R	7.8
660536	10.6
660537	10.7
660538	11.3
660539	13.1
660540DUP	9.4
660541	11.5
660542	10.2
660543	6.8
660544	8.1

660545	7.3
660546	15.8
660547	9.2
660548	7.4
661543	9.7
661544	7.7
661544-R	7.8
661545	8.0
661546	8.0
661547	8.2
661548	7.3
661549	6.0
661550	6.8
661551	7.3
661552	8.1
661553	11.1
661554	9.8
661555	9.6
661556	15.8
661557	18.4
661558	16.6
661559	20.5
661559-R	20.2
661560	18.5
661560DUP	15.0
661561	12.1
661562	7.6
661563	12.6
661564	11.3
661565	7.1
661566	7.8
661567	7.7
661568	6.6
664770	5.4
664771	11.1
664772	10.7
664773	9.1
664774	9.5
664774-R	8.6
664775	20.3
664776	20.8
664777	21.5
664778	18.5
664779	6.6
664780DUP	5.2
664781	7.0
664782	24.2
664783	10.0
664784	8.5
664785	7.8
664786	9.3

664787	7.6
664788	7.2
664789	4.6
664789-R	4.4
664790	6.1
664791	6.1
664792	7.4
664793	6.6
664794	6.6
664795	11.4
664796	5.5
664797	7.7
664798	7.1
664799	10.7
664800DUP	9.5
664801	7.7
664802	16.9
664803	12.2
664804	14.2
664804-R	14.0
664805	13.1
664806	8.5
664807	9.9
664808	7.5
664809	7.0
664810	6.3
664811	14.4
664812	9.9
664813	5.1
664814	7.6
664815	10.6
664816	7.5
664817	10.0
664818	17.7
664819	6.5
664819-R	6.8
664820DUP	7.5
664821	11.8
664822	15.5
664823	9.9
664824	24.1
664825	12.0
664826	7.6
664827	11.5
664828	9.2
664829	8.8
664830	7.6
664831	12.5
664832	8.2
666351	6.3
666352	8.1

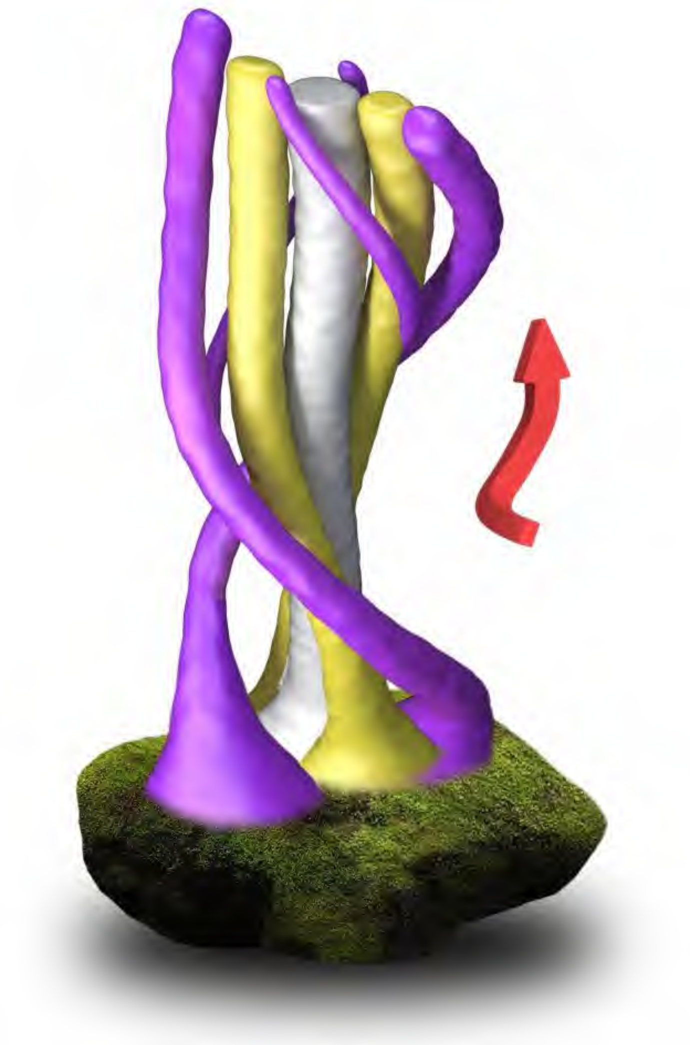
666352-R	7.3
666353	4.3
666354	8.7
666355	9.5
666356	13.5
666357	8.2
666358	4.8
666359	11.2
666360	10.8
666361	16.2
666362	16.2
666363	10.7
666364	9.2
666365	12.6
666366	5.6
666367	7.1
666367-R	6.9
666368	8.7
666369	8.9
666370	10.6
666371	11.1
666971	6.7
666972	7.7
666973	16.7
666974	13.6
666975	8.0
666976	7.6
666977	18.8
666978	14.2
666979	8.2
666980	10.2
666981	6.1
666981-R	6.2
666982DUP	6.0
666983	10.2
666984	7.8
666985	7.0
666986	7.5
666987	25.3
666988	9.5
666989	16.2
666990	8.0
666991	10.8
666992	10.8
666993	12.8
666994	7.3
666995	9.5
666996	8.7
666996-R	8.7
666997	8.9
666998	10.3

666999	8.0
667000DUP	11.1

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
MAGRUM EAST GRID 2 SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

MAGRUM EAST GRID 2 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR:
"GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS
USED FOR THIS REPORT

Workorder: A21-11733

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this MAGRUM EAST GRID 2 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was unable to locate a reliable or confident signature for gold.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially “blind” to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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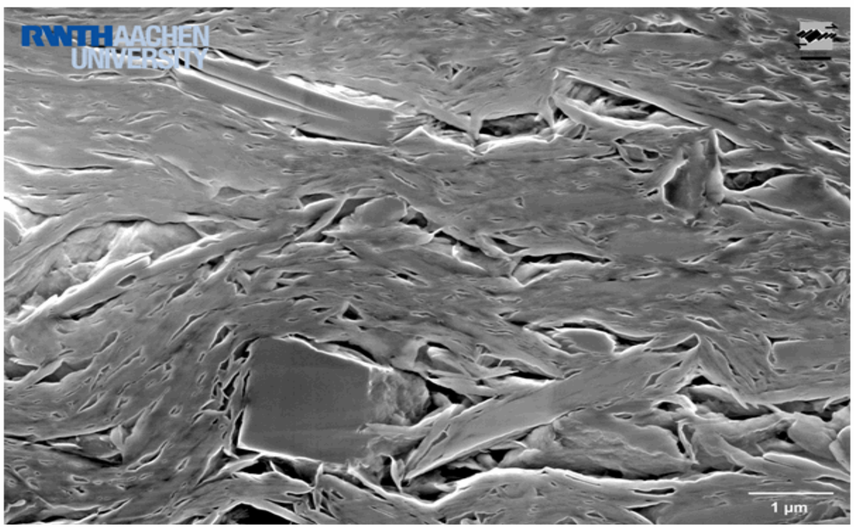
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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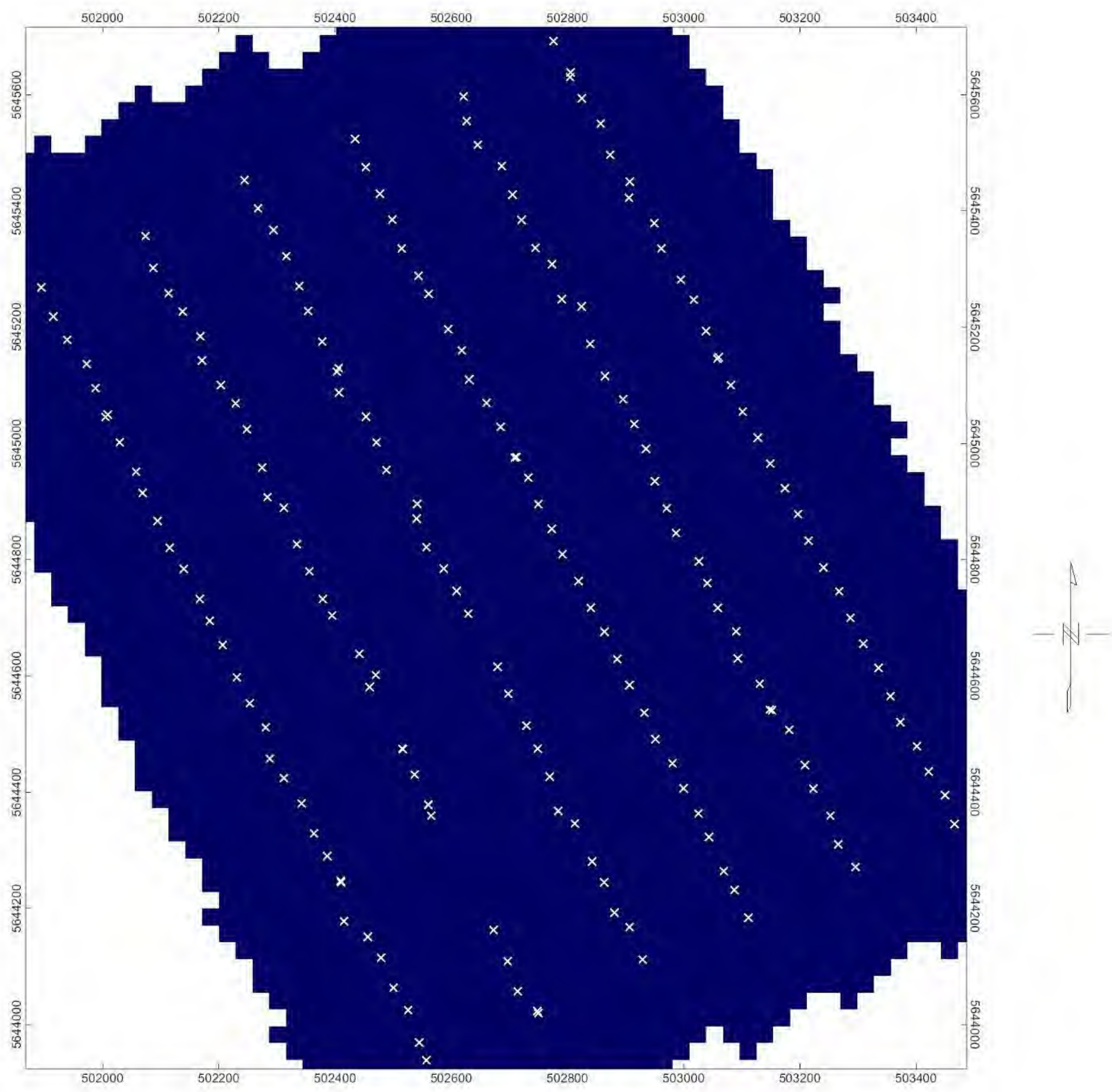
INTERPRETATION OF SGH RESULTS - A21-11733
TRILLIUM GOLD MINES – MAGRUM EAST GRID 2 SURVEY

This report is based on the SGH results from the analysis of a total of 193 soil samples from the MAGRUM EAST GRID 2 survey.   The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis.   Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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QUALITY ASSURANCE – MAGRUM EAST GRID 2 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. <u>The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool</u>. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the MAGRUM EAST GRID 2 Soil Survey was excellent as demonstrated by 13 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **6.4%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **10 Field Duplicate samples submitted from the MAGRUM EAST GRID 2 Soil Survey** was considered very good at **11.3%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the MAGRUM EAST GRID 2 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the MAGRUM EAST GRID 2 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. Targets shallower than about 3 to 5 metres (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-11733 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 2
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the MAGRUM EAST GRID 2 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the MAGRUM EAST GRID 2 survey had little agreement with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-11733 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 2
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. It is possible that each of the apical anomalies on page 23 may be related to some type of gold mineralization. None of these anomalies are expected to be due to noise although each individual occurrence has not been interpreted. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) gave little support to the interpretation of these anomalies at the MAGRUM EAST GRID 2 Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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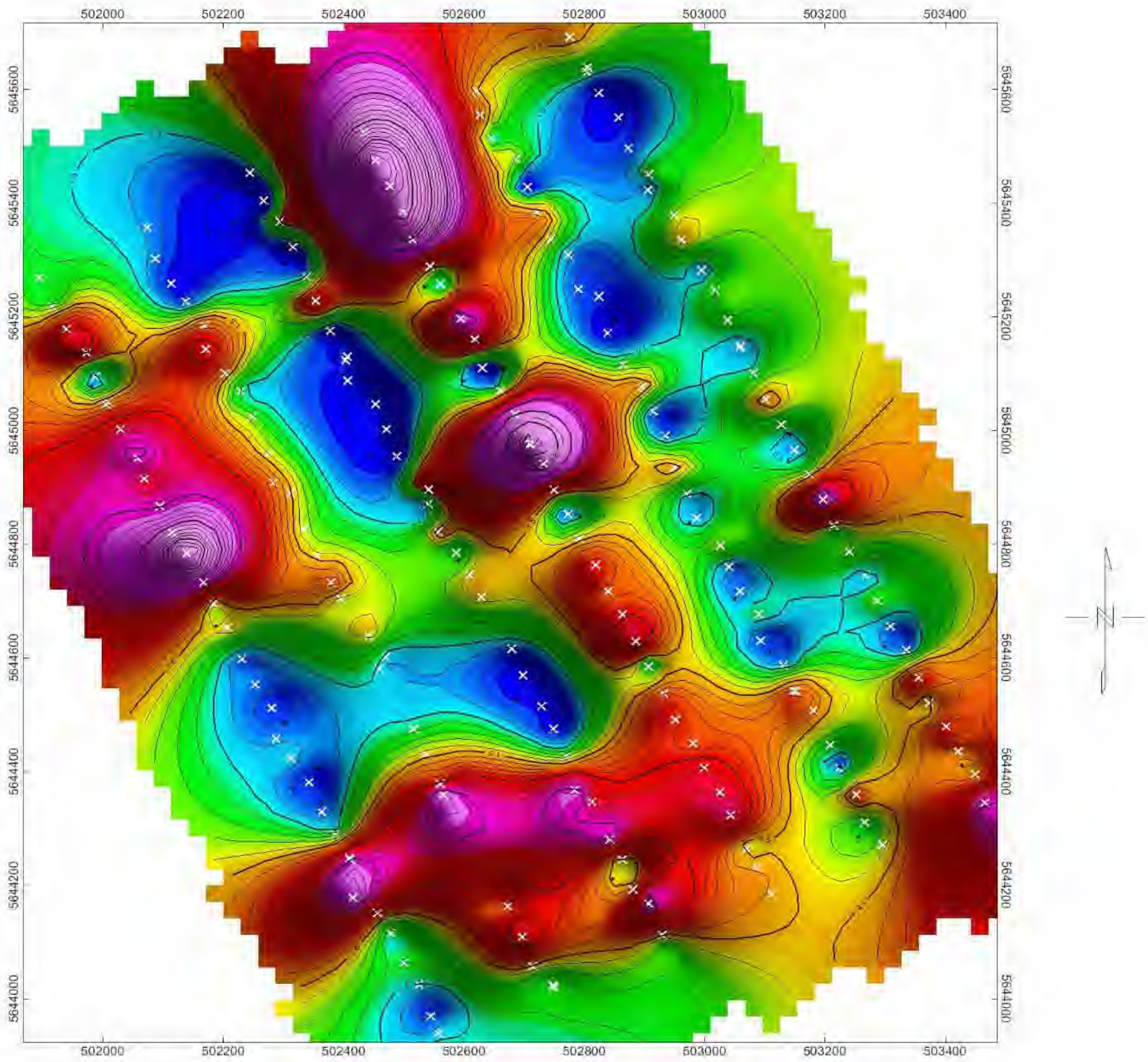
A21-11733 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 2
SGH "GOLD" PATHFINDER CLASS MAP



SGH APICAL ANOMALIES = POSSIBLE GOLD MINERALIZATION

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 2.0 OF 6.0

GEOSOFT

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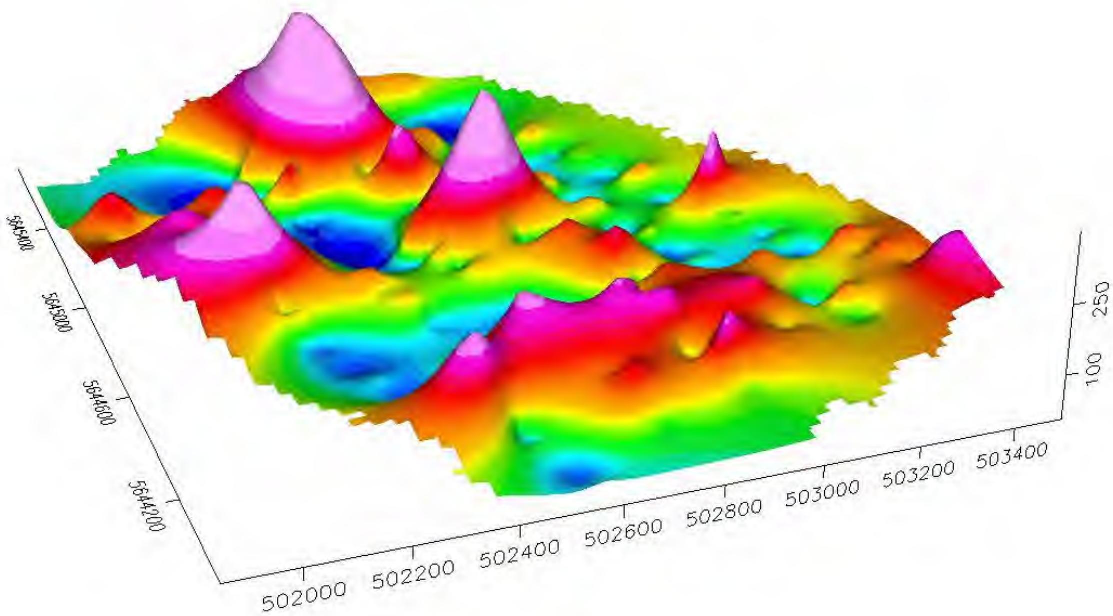
A21-11733 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 2
SGH "GOLD" PATHFINDER CLASS MAP



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A21-11733 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 2 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines MAGRUM EAST GRID 2 survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the MAGRUM EAST GRID 2 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 2.0 on a scale of 6.0. The Rating for the MAGRUM EAST GRID 2 survey means that, based only on SGH, that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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A21-11733 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 2 SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the MAGRUM EAST GRID 2 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 24, 2021

Date Analysis Complete: July 9, 2021

Interpretation Report: August 13, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: MAGRUM EAST GRID 2 Survey

Activation Laboratories Workorder: A21-11733

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

193 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

REPORT/WORKORDER: A21-11733

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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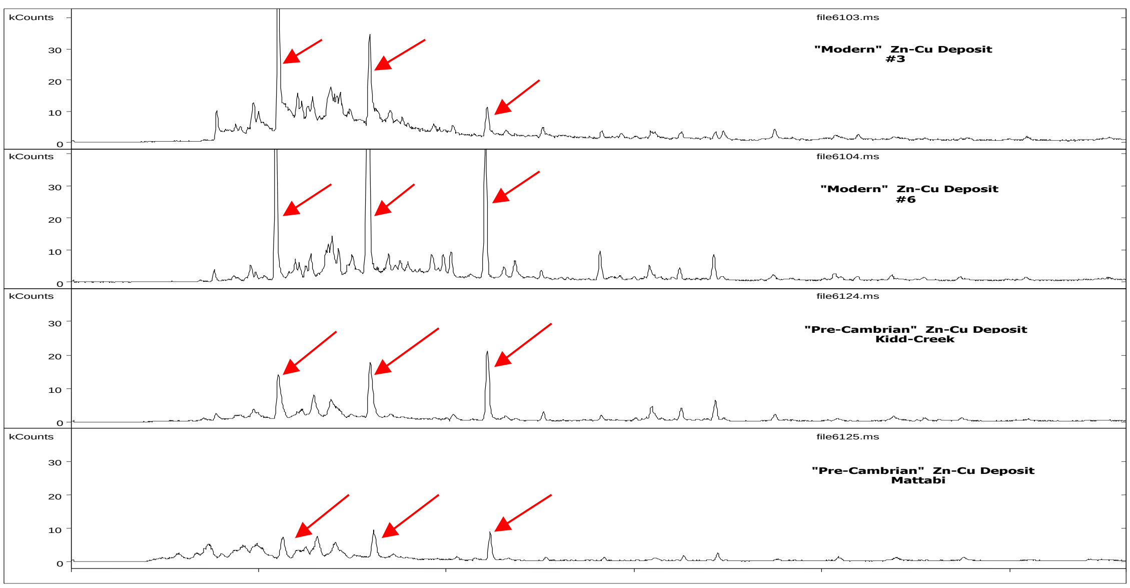
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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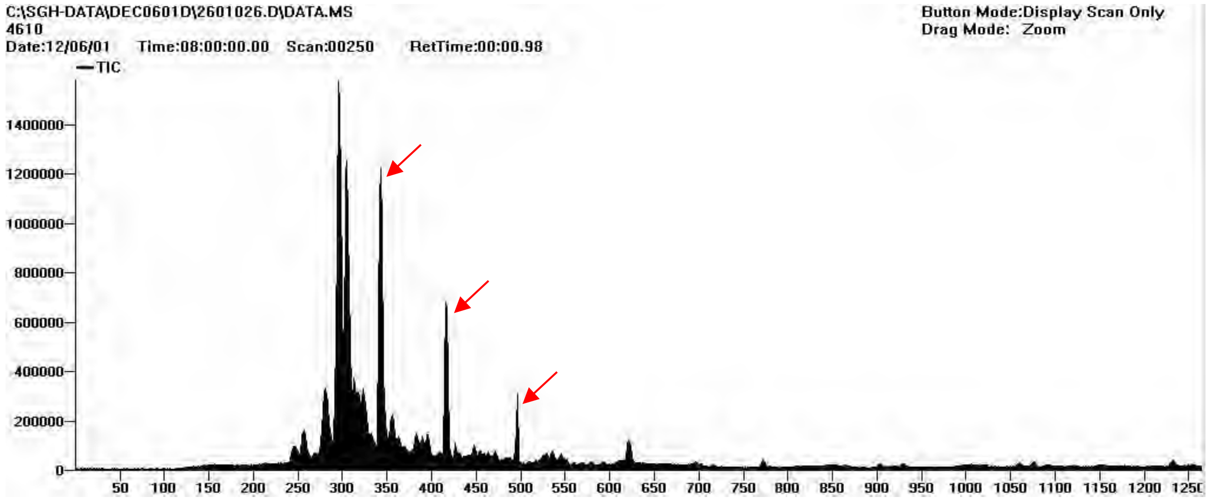
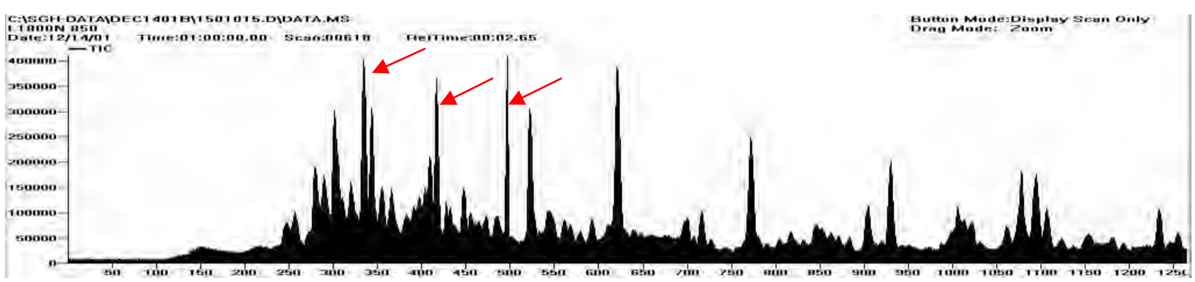
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

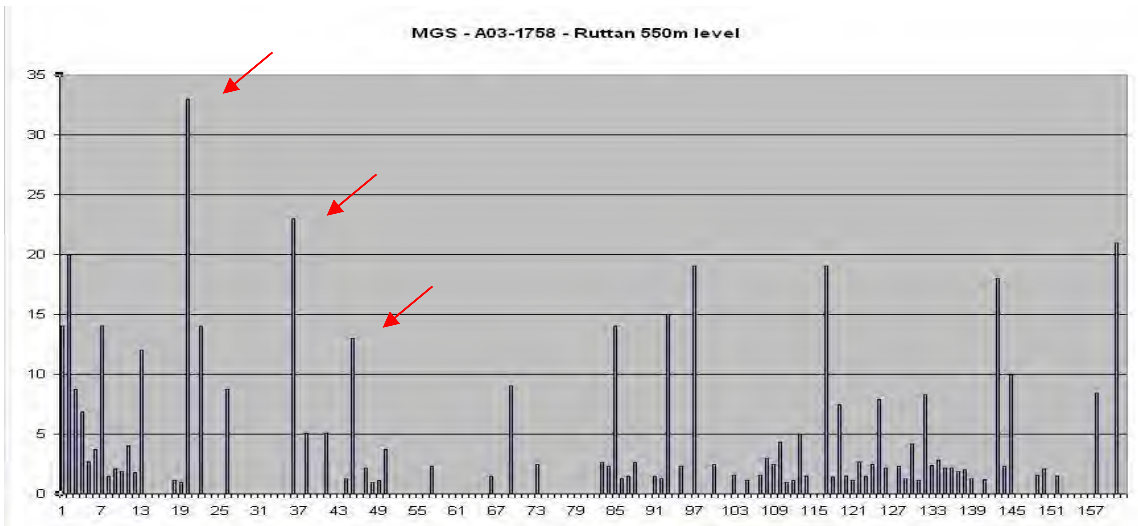
Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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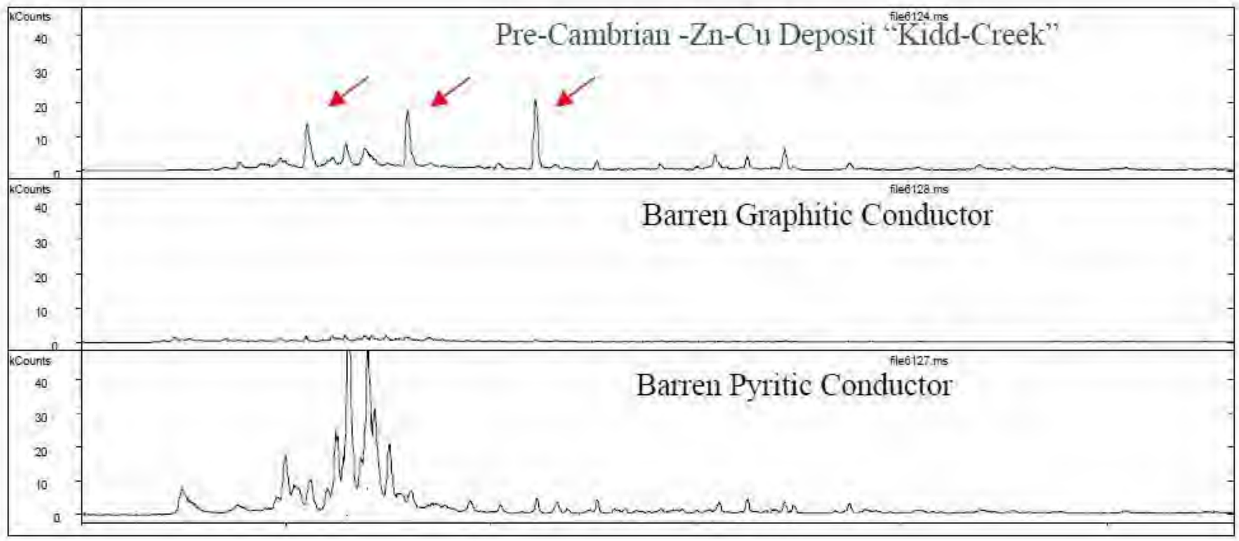

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

<u>SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING</u>

<u>Sample Type and Survey Design:</u> It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

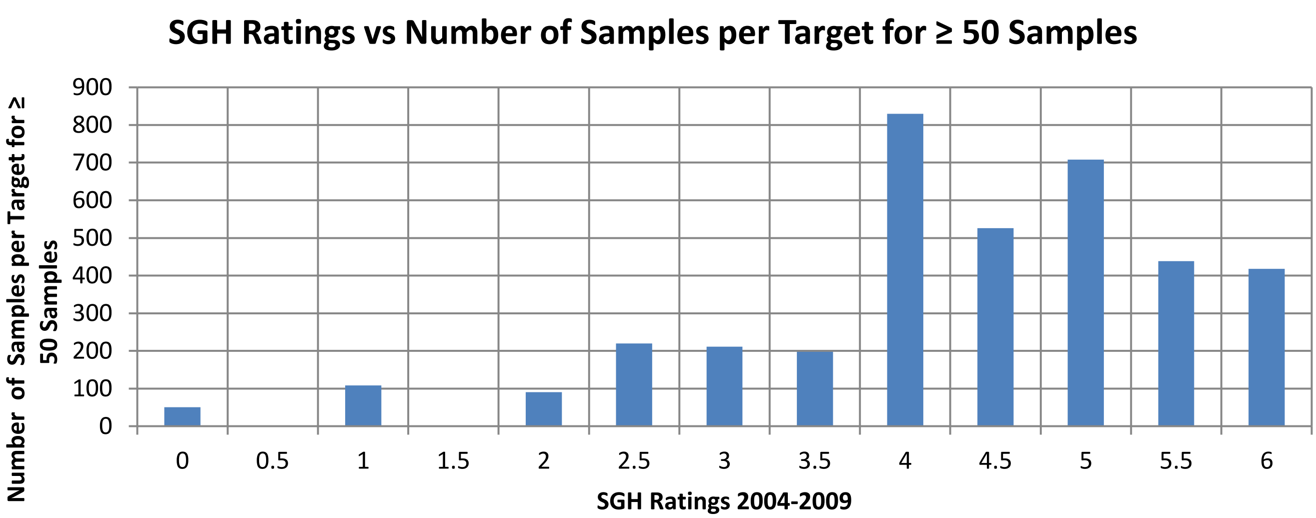
The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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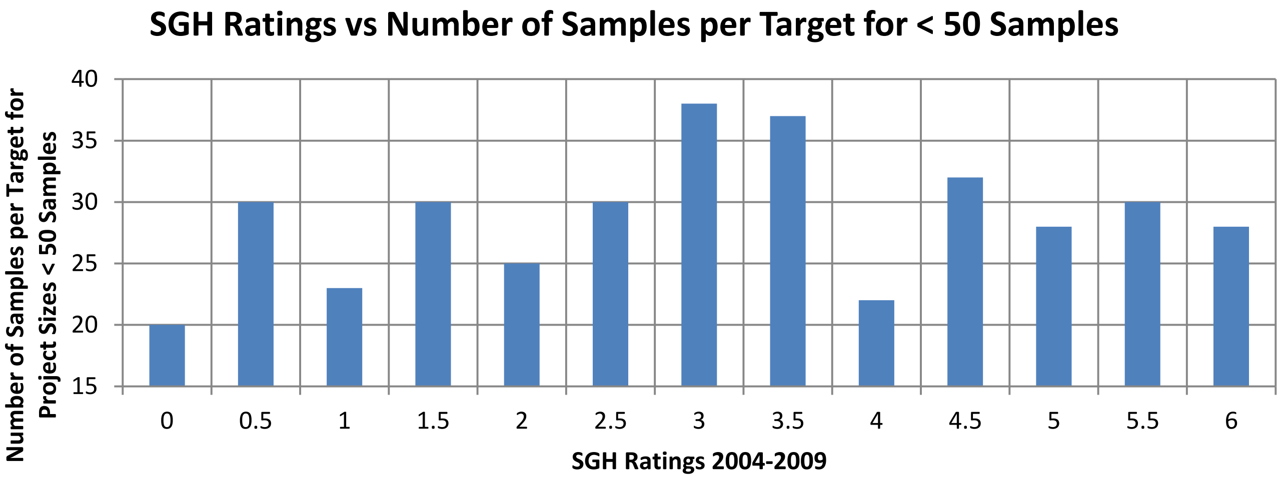
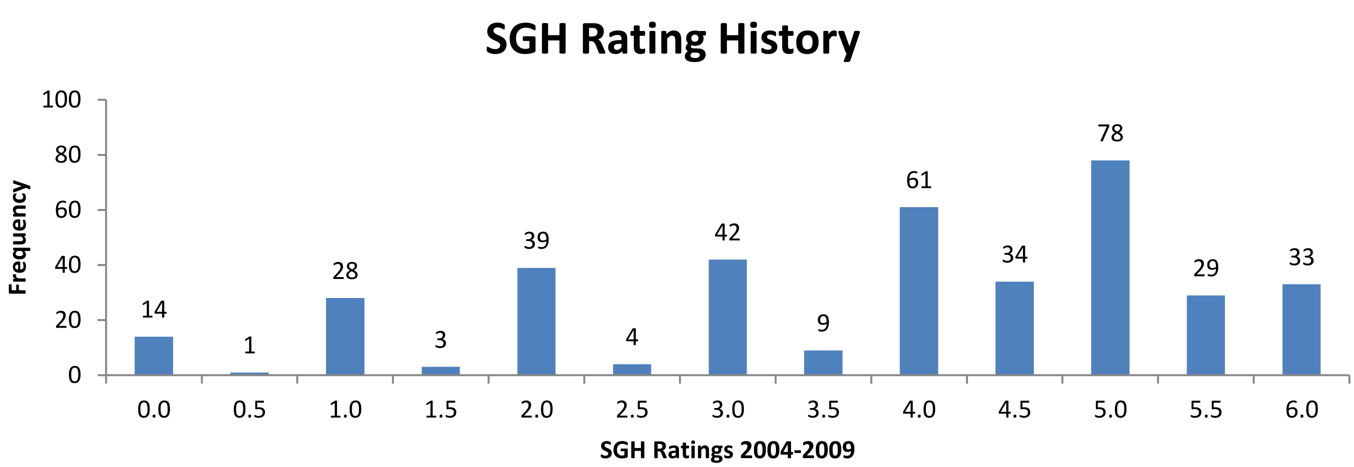
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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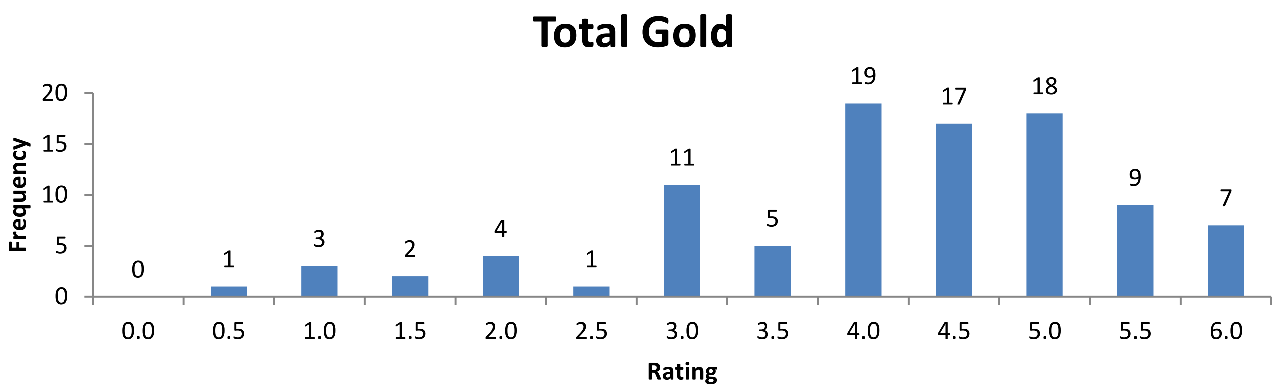
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Magrum East Grid 2 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Gold
664894	11.5
664895	10.6
664896	22.7
664897	22.1
664898	4.6
664898-R	5.0
664899	14.1
664900DUP	19.8
664901	22.4
664902	26.9
664903	21.4
664904	24.3
664905	31.3
664906	41.4
664907	29.7
664908	37.2
664909	46.7
664910	43.8
664911	41.7
664912	37.1
664913	16.5
664913-R	13.6
664914	7.9
664915	29.1
664916	23.2
664917	4.8
664918	10.4
664919	31.1
664920DUP	49.7
664921	38.6
664922	39.8
664923	16.8
664924	6.2
664925	15.1
664926	20.4
664927	17.4
664928	21.1
664928-R	18.2
664929	25.0
664930	10.0
664931	18.9
664932	19.8
664933	17.9
664934	21.5
664935	21.5
664936	24.9
664937	12.4

664938	16.7
664939	15.9
664940DUP	24.9
664941	28.6
664942	14.7
664943	17.1
664943-R	15.9
664944	19.5
664945	12.7
664946	21.9
664947	6.8
664948	8.4
664949	12.5
664950	8.0
664951	13.9
664952	11.4
664953	30.8
664954	12.2
664955	8.2
664956	10.9
664957	17.3
664958	12.0
664958-R	8.4
664959	8.8
664960DUP	8.1
664961	12.2
664962	12.6
664963	8.5
664964	15.6
664965	13.4
660578	29.0
660579	19.6
660580DUP	18.3
660581	14.8
660582	11.4
660583DUP	9.4
660584	10.2
660585	9.0
660585-R	8.0
660586	15.4
660587	13.1
660588	18.9
660589	13.9
660590	13.1
660591	15.1
660592	17.6
660593	13.9
660594	12.6
660595	8.8
660596	16.7
660597	22.3

660598	16.1
660599	16.1
660600DUP	10.0
660600DUP-R	8.5
660601	5.9
660602	6.7
660603	7.7
660604	11.8
660605	8.3
660606	13.5
660607	18.8
660608	4.7
660609	14.8
660610	9.9
660611	18.5
660612	14.8
666412	10.3
666413	6.5
666414	10.9
666414-R	9.4
666415	11.2
666416	8.6
666417	18.2
666418	30.5
666419	24.6
666420DUP	27.0
666421	9.4
666422	8.2
666423	6.4
666424	10.2
666425	8.6
666426	6.7
666427	9.0
666428	7.3
666429	16.0
666429-R	15.5
666430	11.0
666431	12.9
666432	30.7
666433	14.3
666434	11.6
666435	28.8
666436	16.6
666437	23.5
666438	14.4
666439	9.8
666440	12.0
666441	19.8
666442	29.4
666443	11.2
666444	5.7

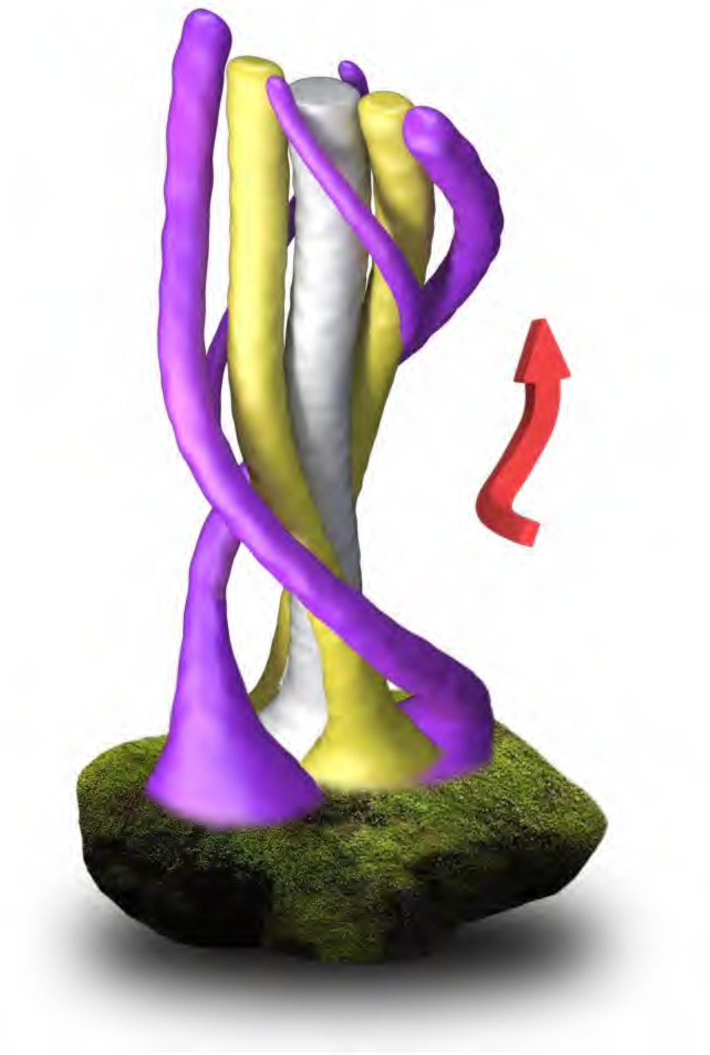
666444-R	5.4
666445	7.2
666446	5.4
666447	5.4
666448	12.0
666449	14.8
666450	15.2
666451	9.6
666452	16.8
666453	5.2
666454	22.1
666455	5.1
666456	6.6
666457	4.9
666458	6.8
666459	8.5
666459-R	10.2
666460DUP	4.9
666461	5.1
666462	23.0
666463	8.0
666464	5.6
666465	16.9
666466	4.7
666467	8.3
666468	8.9
666469	8.8
666470	5.9
666471	6.4
666472	18.8
666473	13.5
666474	10.7
666474-R	10.7
666475	18.4
666476	6.7
666477	11.6
666478	16.4
666479	22.4
666480DUP	16.9
666481	7.9
666482	7.0
666483	11.6
666484	7.8
666485	8.0
666486	14.4
666487	8.2
666488	9.4
666489	16.7
666489-R	18.0
666490	7.5
666491	6.8

666492	18.1
666493	11.4
666494	4.6
666495	8.0
666496	7.3
666497	8.4

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
MAGRUM EAST GRID 3 SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

MAGRUM EAST GRID 3 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-11734

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this MAGRUM EAST GRID 3 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was able to identify a potential ridge of apical anomalies.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This “SGH Interpretation Report” has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided “as is” without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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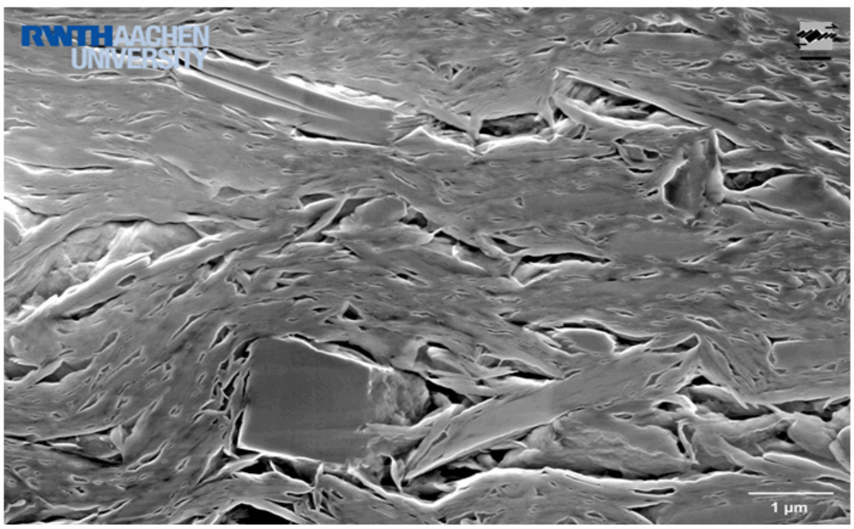
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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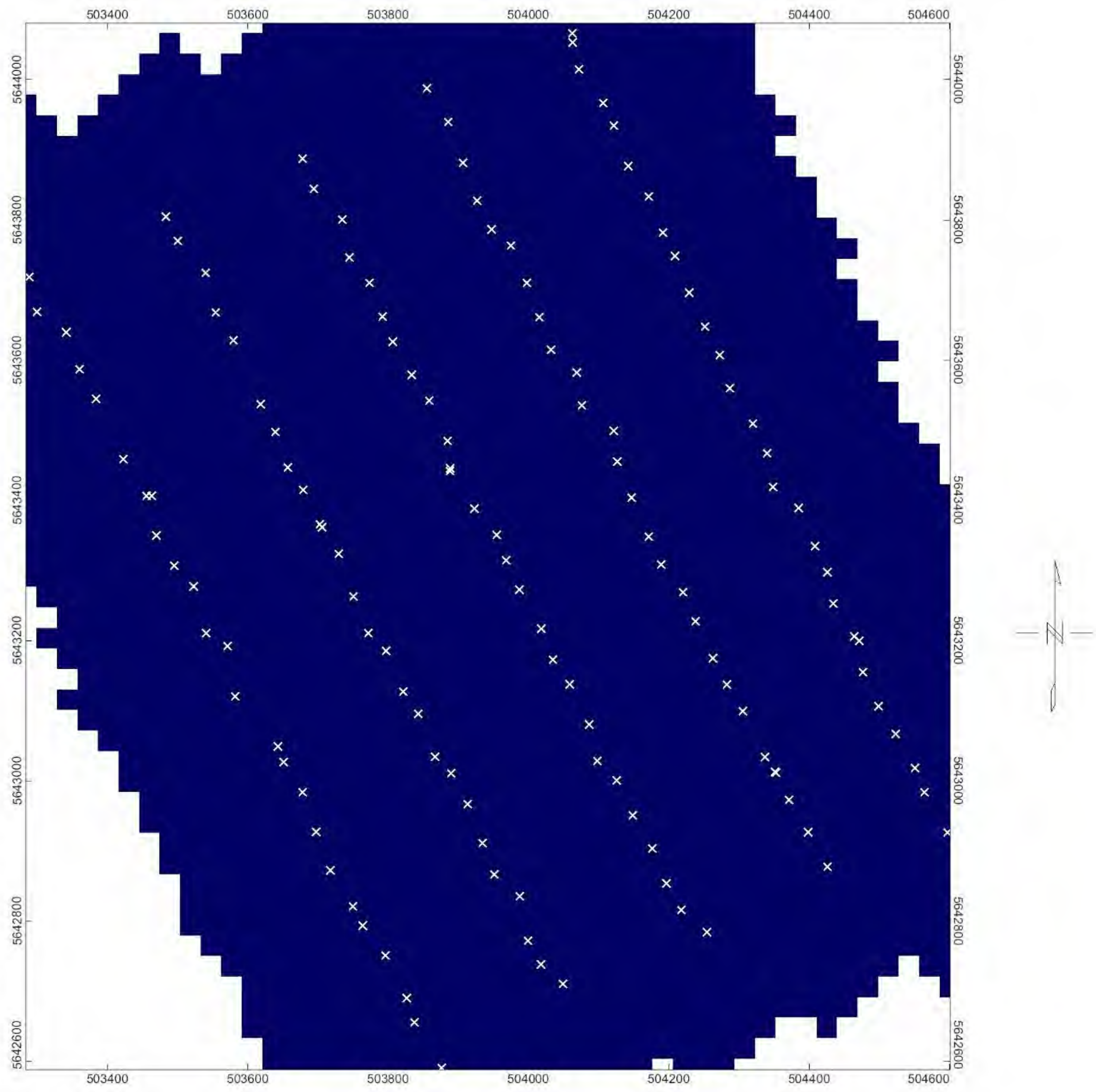
INTERPRETATION OF SGH RESULTS - A21-11734
TRILLIUM GOLD MINES – MAGRUM EAST GRID 3 SURVEY

This report is based on the SGH results from the analysis of a total of 134 soil samples from the MAGRUM EAST GRID 3 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m line spacing. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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QUALITY ASSURANCE – MAGRUM EAST GRID 3 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. <u>The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool</u>. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the MAGRUM EAST GRID 3 Soil Survey was excellent as demonstrated by 9 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **7.6%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **4 Field Duplicate samples submitted from the MAGRUM EAST GRID 3 Soil Survey** was considered very good at **15.9%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the MAGRUM EAST GRID 3 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the MAGRUM EAST GRID 3 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-11734 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 3 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. <u>Example:</u> A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature <u>Rating</u> indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

<u>**Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report.**</u> It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually <u>**MORE IMPORTANT**</u> than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-11734 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 3
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the MAGRUM EAST GRID 3 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the MAGRUM EAST GRID 3 survey had some agreement with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-11734 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 3
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows a ridge of apical anomalies trending east to west across the survey outlined in yellow. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) provided little support to the interpretation of these anomalies at the MAGRUM EAST GRID 3 Project which is reflected in the lower confidence rating.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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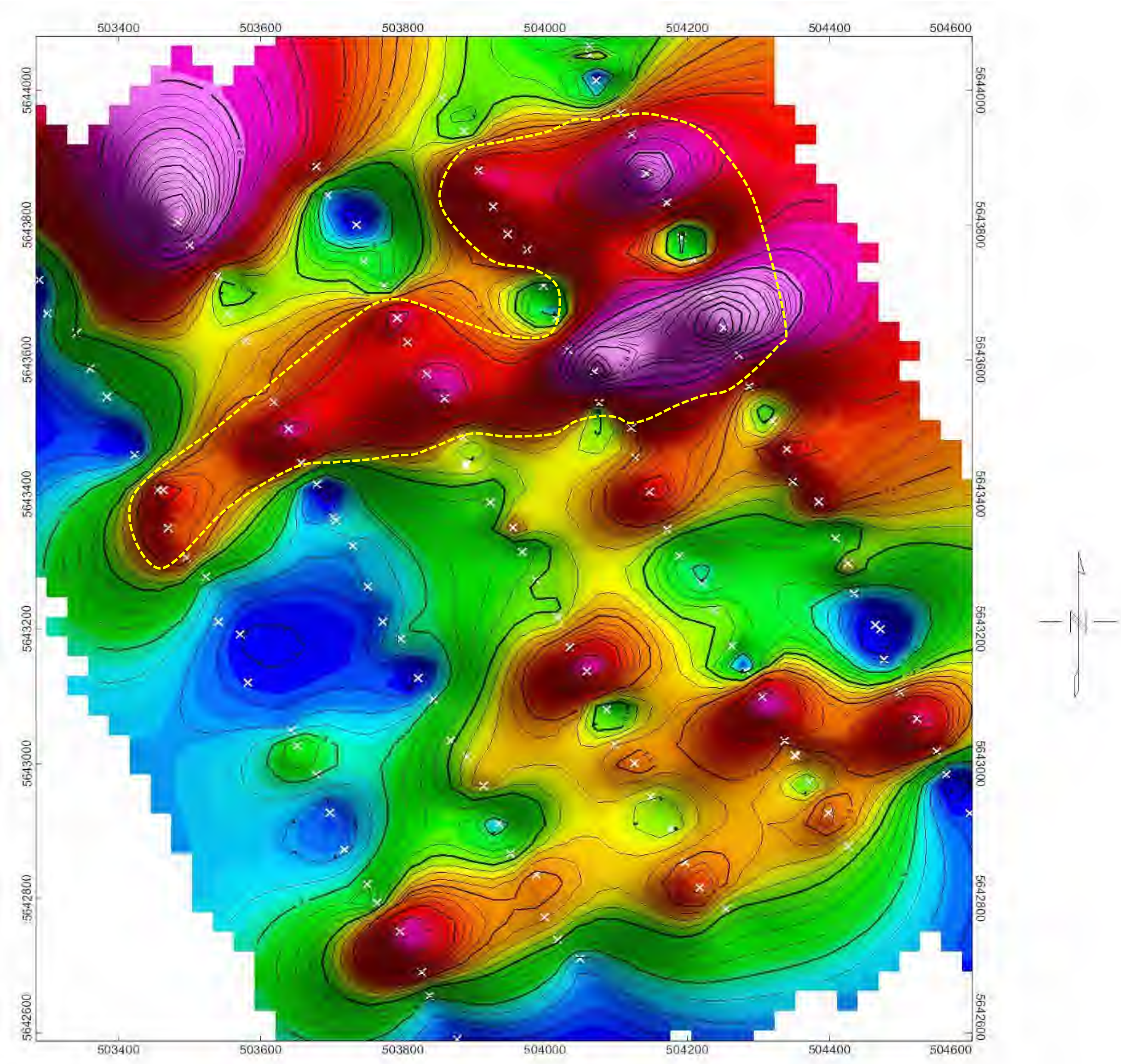
A21-11734 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 3
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 2.5 OF 6.0</u>

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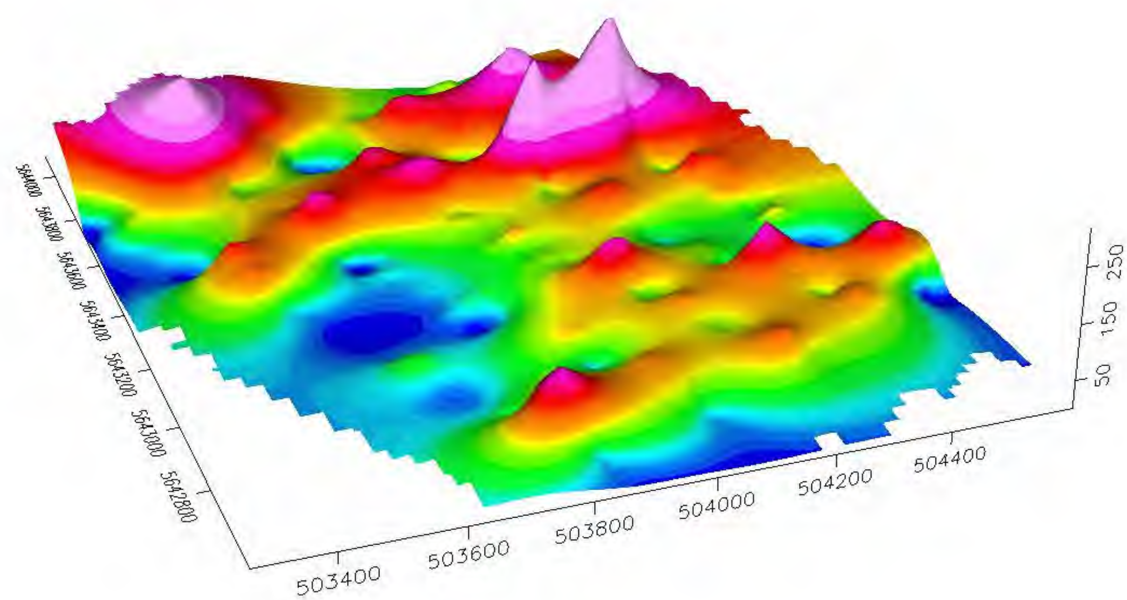
A21-11734 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 3
SGH "GOLD" PATHFINDER CLASS MAP



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A21-11734 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 3 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines MAGRUM EAST GRID 3 survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the MAGRUM EAST GRID 3 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 3.0 on a scale of 6.0. The Rating for the MAGRUM EAST GRID 3 survey means that, based only on SGH, that there is hope that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. <u>Other geological, geochemical and/or geophysical information should also be considered.</u>

<u>It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.</u>

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A21-11734 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 3 SOIL SURVEY - SGH SURVEY
RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the MAGRUM EAST GRID 3 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered “an approximation”, thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 24, 2021

Date Analysis Complete: July 13, 2021

Interpretation Report: August 23, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

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V6E 2E9

Attention: William Paterson

RE: Your Reference: MAGRUM EAST GRID 3 Survey

Activation Laboratories Workorder: A21-11734

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

133 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-11734

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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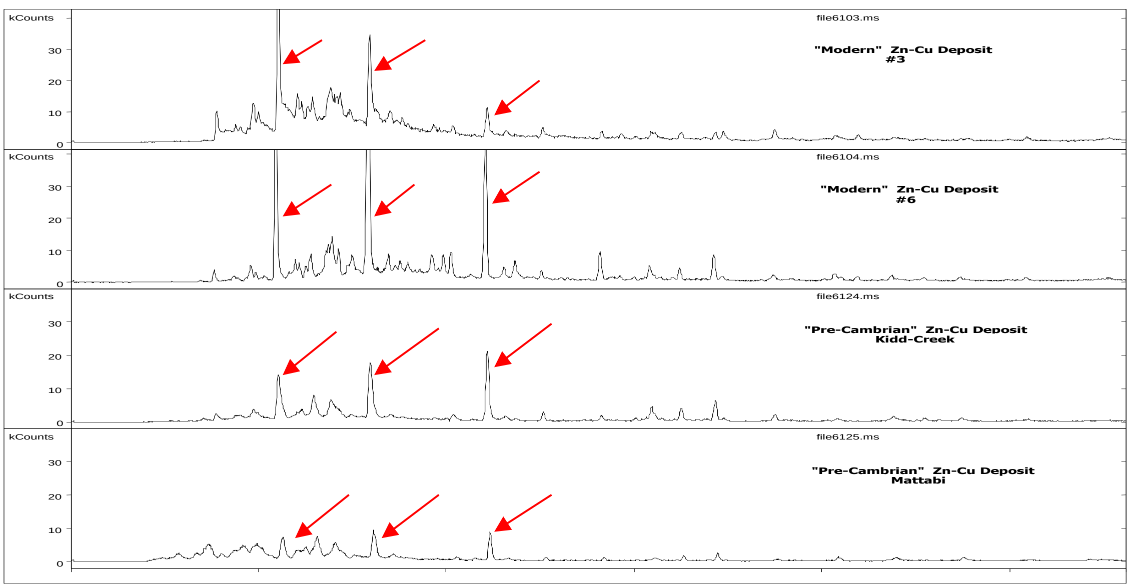
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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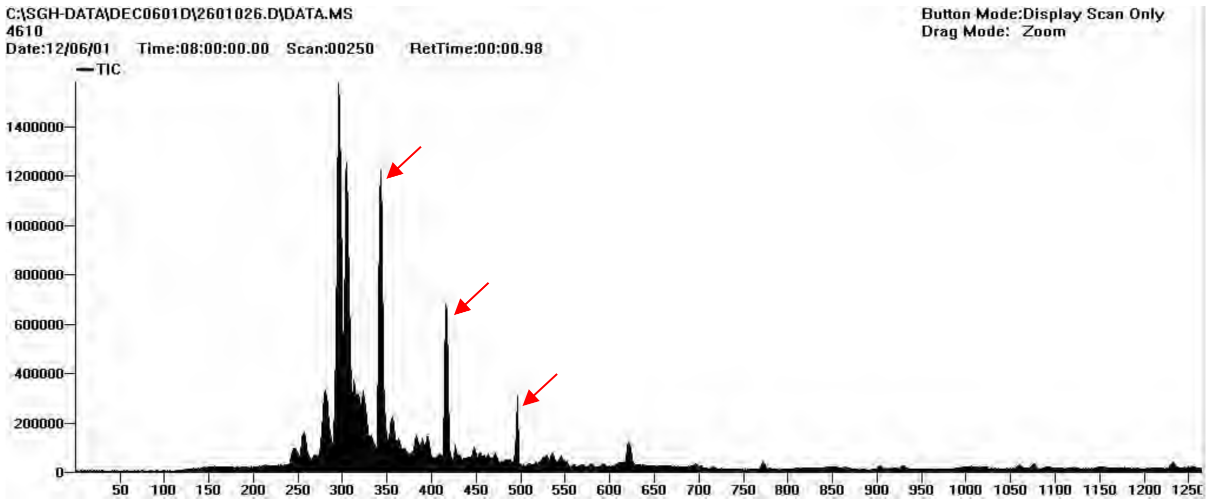
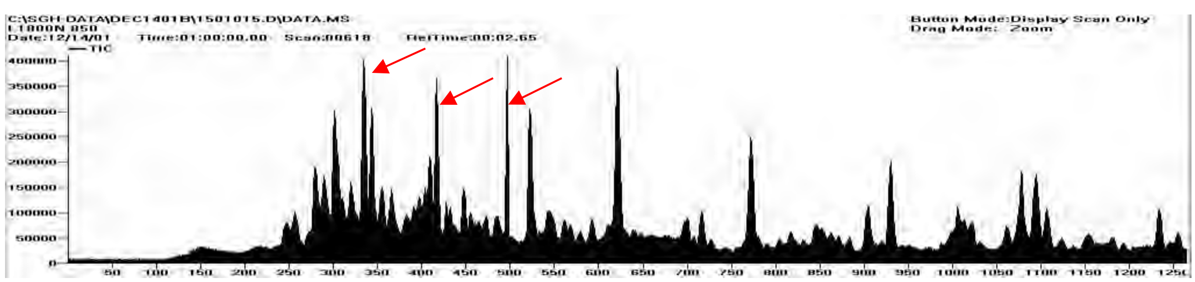
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

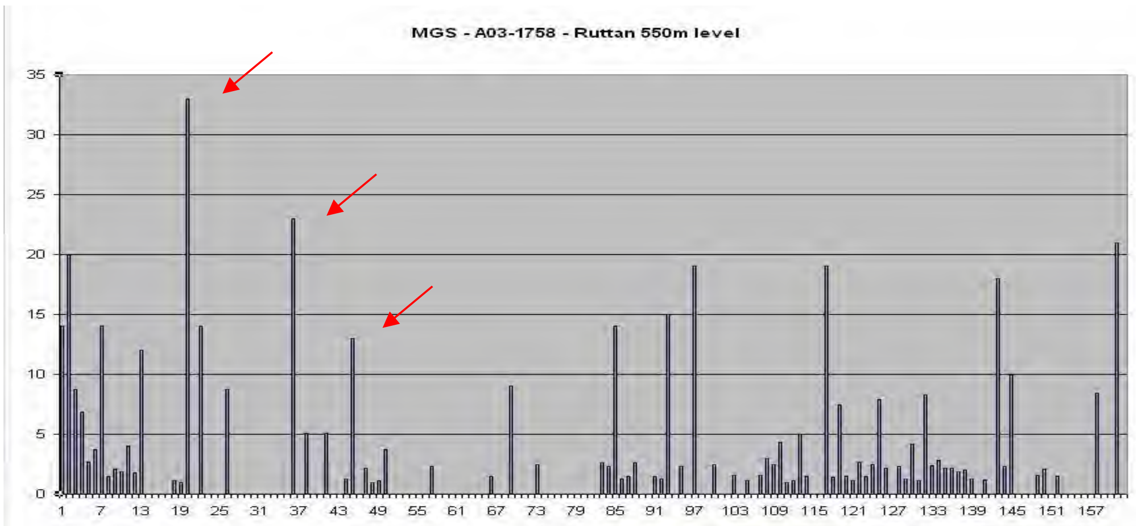
Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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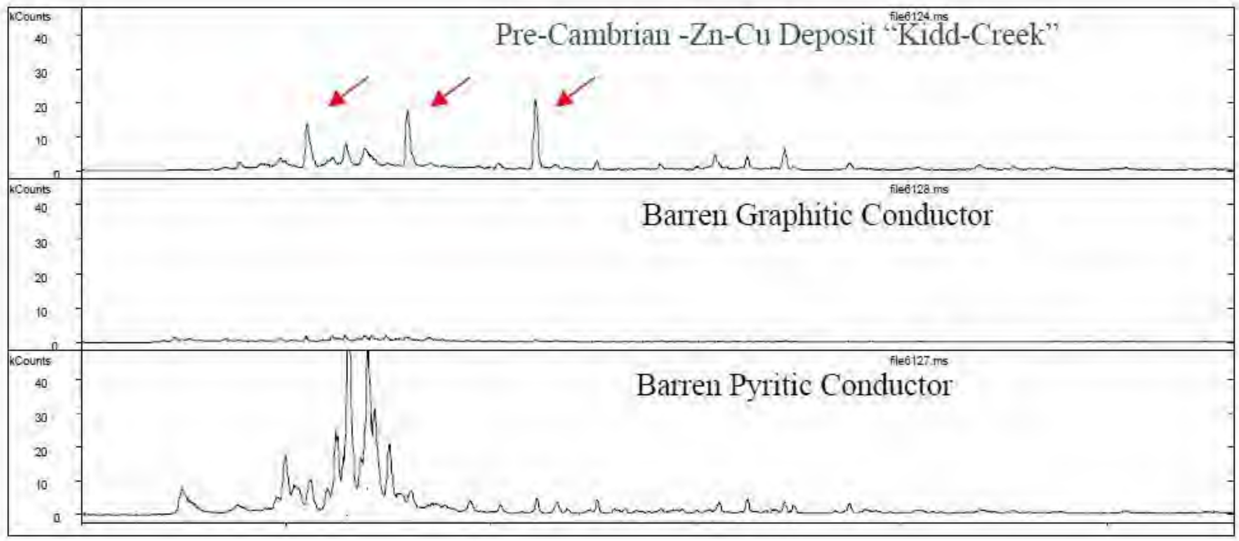

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"
SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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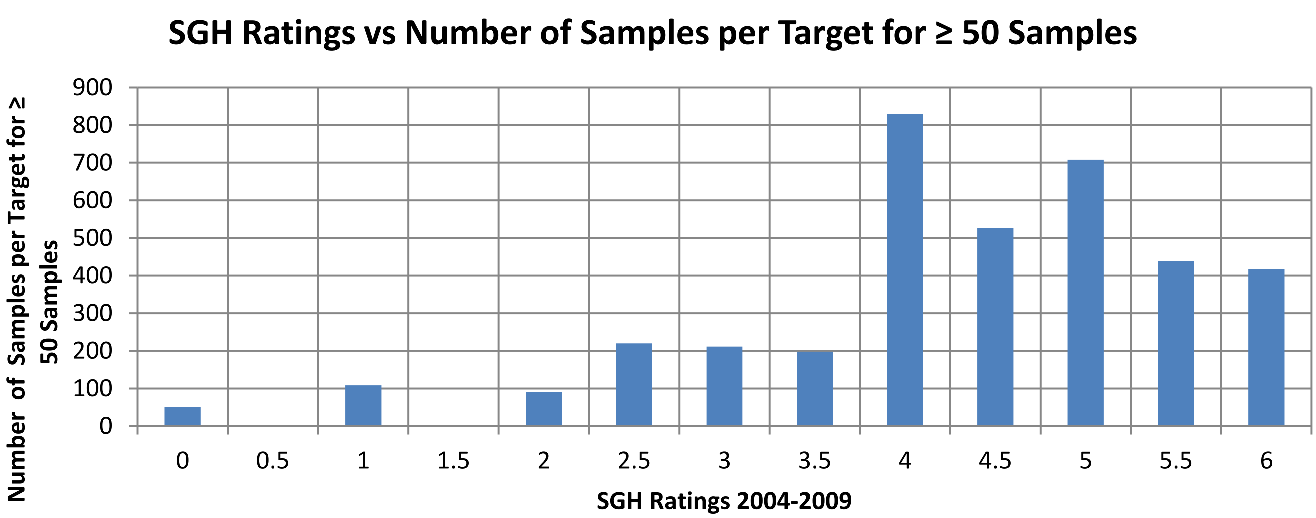
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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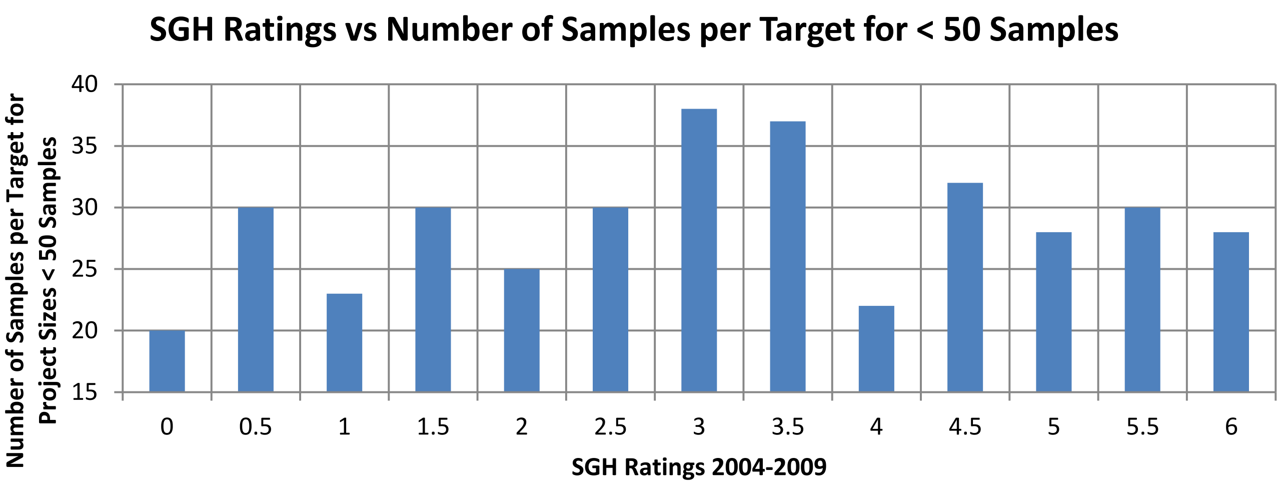
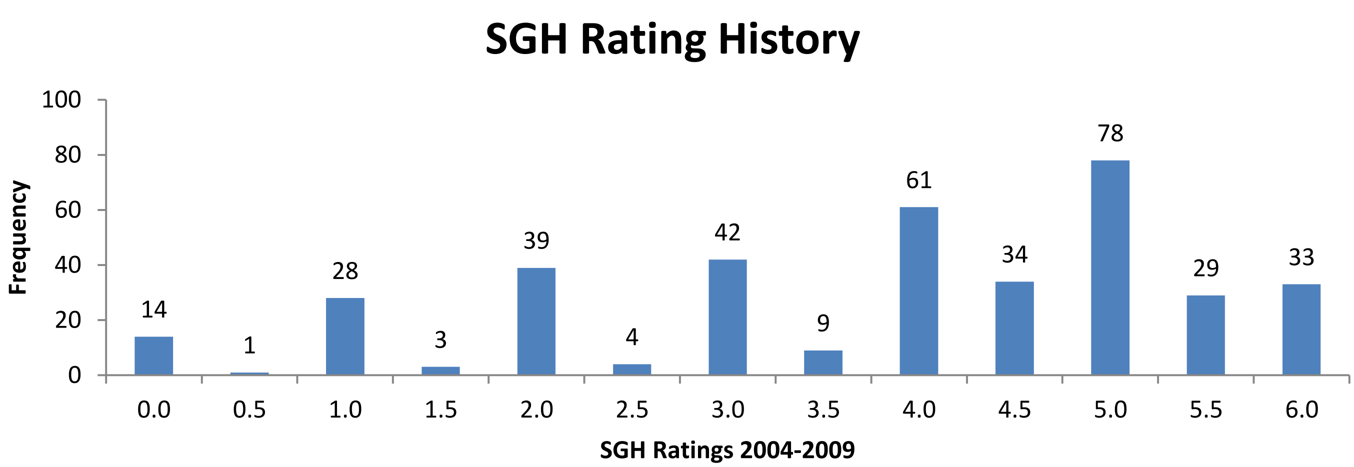
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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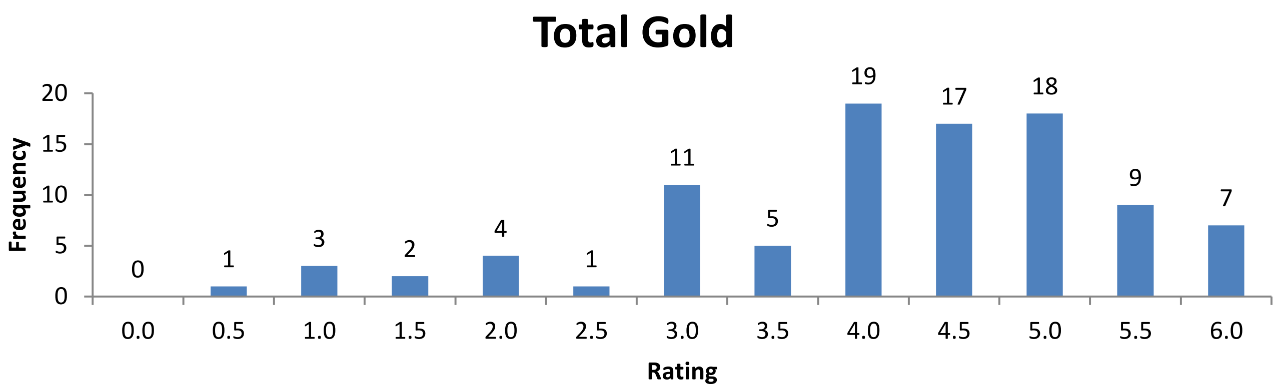
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Magrum East Grid 3 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Gold
664833	6.4
664834	4.7
664835	13.5
664836	17.9
664837	12.4
664837-R	13.1
664838	5.1
664839	5.1
664840DUP	5.6
664841	6.9
664842	12.0
664843	7.1
664844	14.0
664845	10.4
664846	15.9
664847	8.5
664848	11.7
664849	18.3
664850	38.3
664851	27.1
664852	8.6
664852-R	6.6
664853	6.6
664854	17.9
664855	23.8
664856	16.6
664857	13.0
664858	4.9
664859DUP	13.2
664860	7.3
664861	10.5
664862	8.5
664863	16.7
664864	15.4
664865	13.0
664866	15.1
664867	8.6
664867-R	9.3
664868	6.7
664869	19.5
664870	34.3
664871	9.7
664872	11.7
664873	11.7
664874	15.6
664875	11.0
664876	8.2

664877	7.6
661569	14.9
661570	6.8
661571	5.0
661572	10.0
661573	5.1
661573-R	8.8
661574	19.2
661575	13.4
661576	16.7
661577	18.6
661578	9.3
661579	12.3
661580DUP	10.1
661581	9.0
661582	11.8
661583	8.3
661584	10.4
661585	9.7
661586	13.5
661587	19.9
661588	8.2
661588-R	7.0
661589	11.6
661590	12.8
661591	10.2
661592	10.0
661593	12.1
661594	14.3
661595	9.8
661596	10.6
661597	13.6
661598	9.1
661599DUP	12.6
661600	11.8
661601	10.3
661602	20.6
661603	5.0
661603-R	6.0
661604	9.8
661605	10.0
666372	5.6
666373	7.3
666374	10.2
666375	7.6
666376	7.9
666378	5.4
666379	18.8
666380DUP	11.1
666381	12.9
666382	13.7

666383	7.6
666384	6.7
666384-R	7.1
666385	5.9
666386	6.2
666388	6.9
666389	9.6
666390	8.1
666391	6.4
666392	6.7
666393	8.7
666394	7.5
666395	19.6
666396	14.4
660552	10.1
660553	11.3
660555	12.1
660556	18.1
660557	13.7
660558	4.7
660559	8.4
660560	6.7
660561	7.0
660562	7.1
660563	6.3
660564	8.6
660565	5.1
660566	8.1
660567	9.9
660568	10.6
660569	11.1
660569-R	12.2
660570	7.0
660571	9.2
660572	12.8
660573	11.7
660574	10.3
660575	6.9
660576	6.4
660577	7.4
660551	9.5
660549	28.8
660550	22.8

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
MAGRUM EAST GRID 4 SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

MAGRUM EAST GRID 4 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-11735

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this MAGRUM EAST GRID 4 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was able to detect a rabbit-ear anomaly on the eastern edge of the survey.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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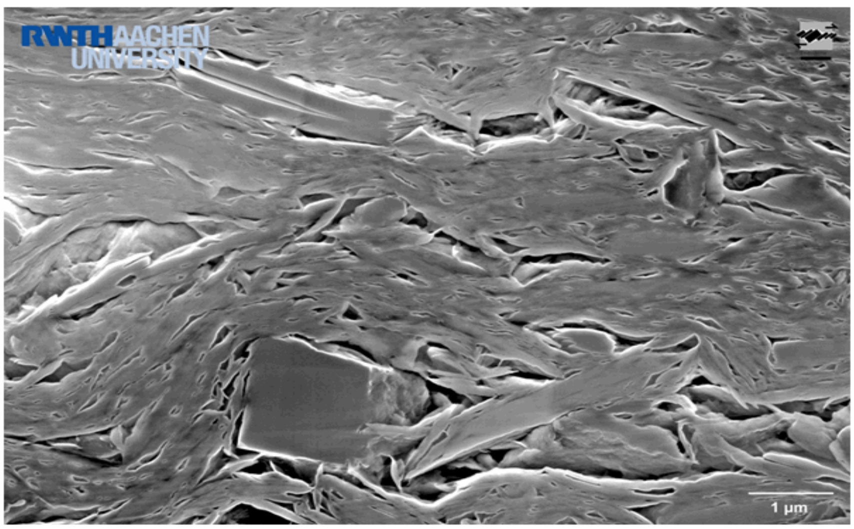
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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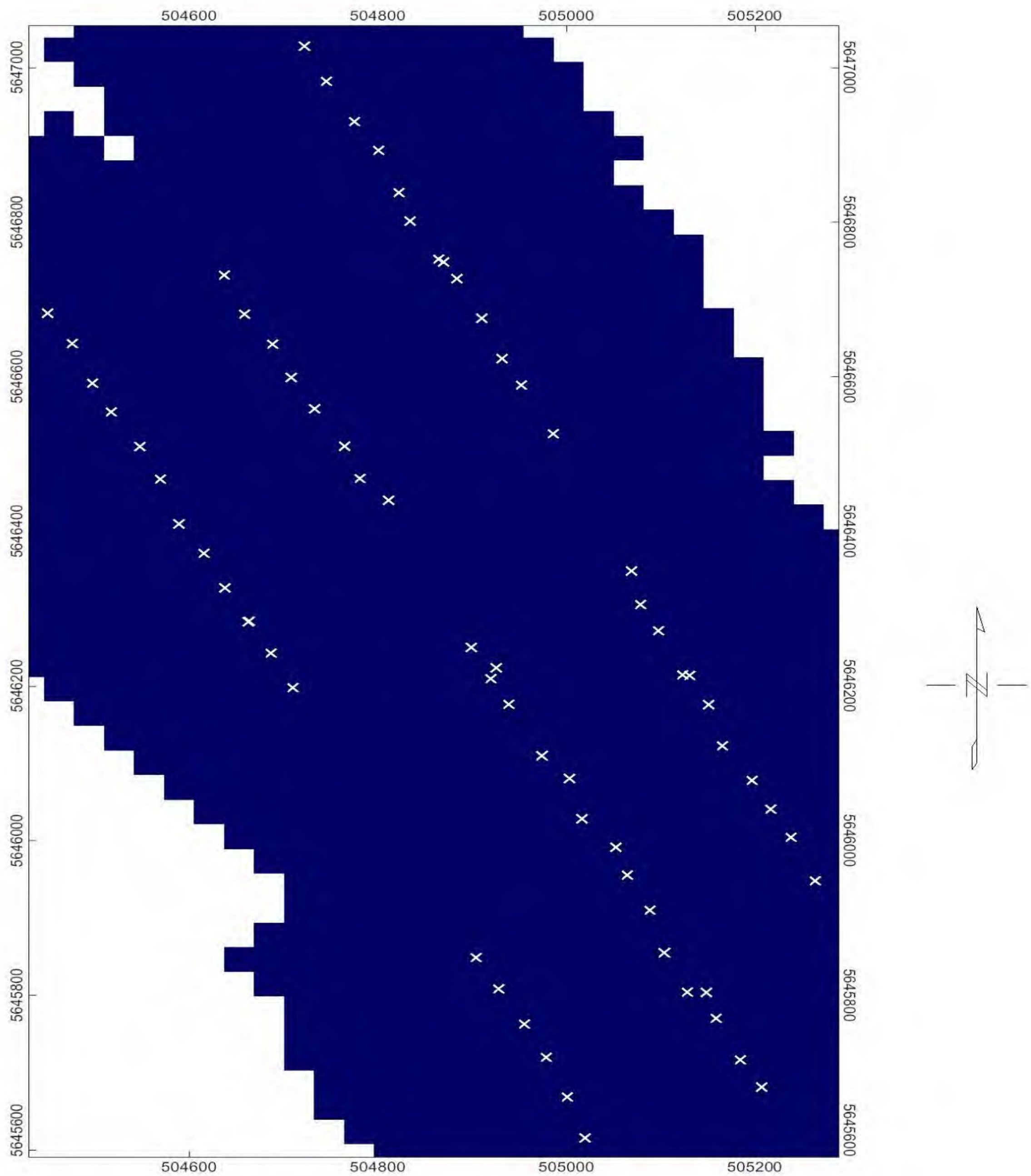
INTERPRETATION OF SGH RESULTS - A21-11735
TRILLIUM GOLD MINES – MAGRUM EAST GRID 4 SURVEY

This report is based on the SGH results from the analysis of a total of 66 soil samples from the MAGRUM EAST GRID 4 survey. The survey can be described as three transects with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is slightly above the minimum to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the MAGRUM EAST GRID 4 Soil Survey was excellent as demonstrated by 5 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **5.2%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **4 Field Duplicate samples submitted from the MAGRUM EAST GRID 4 Soil Survey** was considered excellent at **8.0%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the MAGRUM EAST GRID 4 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the MAGRUM EAST GRID 4 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-11735 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 4 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-11735 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 4
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the MAGRUM EAST GRID 4 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the MAGRUM EAST GRID 4 survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-11735 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 4
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows what appears to be a rabbit-ear anomaly on the eastern edge of the survey outlined in yellow. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of this anomaly at the MAGRUM EAST GRID 4 Project.

Again, the prediction of this anomaly for gold mineralization is based only on SGH.

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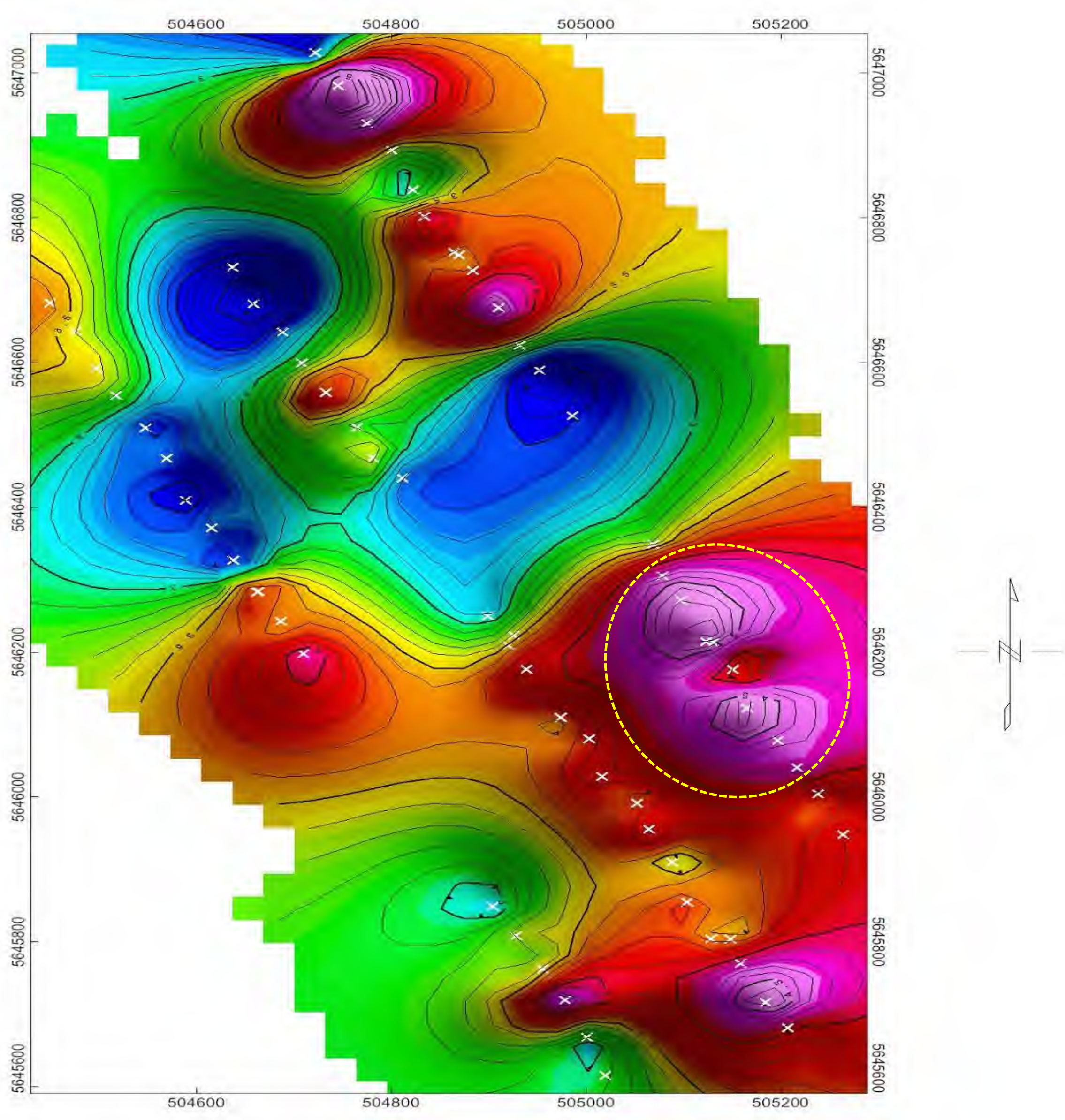
A21-11735 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 4
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.0 OF 6.0</u>

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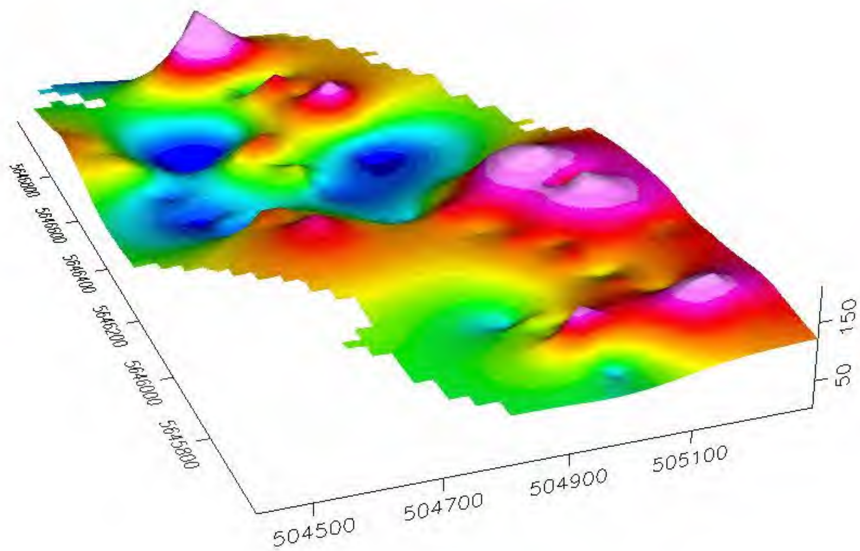
A21-11735 – TRILLIUM GOLD MINES – MAGRUM EAST GRID 4
SGH "GOLD" PATHFINDER CLASS MAP



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A21-11735 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 4 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines MAGRUM EAST GRID 4 survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the MAGRUM EAST GRID 4 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.0 on a scale of 6.0. The Rating for the MAGRUM EAST GRID 4 survey means that, based only on SGH, that there is a chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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A21-11735 – TRILLIUM GOLD MINES
MAGRUM EAST GRID 4 SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the MAGRUM EAST GRID 4 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. Additional samples could be warranted to the east of this survey to determine the extent of the mineralization. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): June 24, 2021

Date Analysis Complete: July 14, 2021

Interpretation Report: August 18, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: MAGRUM EAST GRID 4 Survey

Activation Laboratories Workorder: A21-11735

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

66 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-11735

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the <u>organic</u> signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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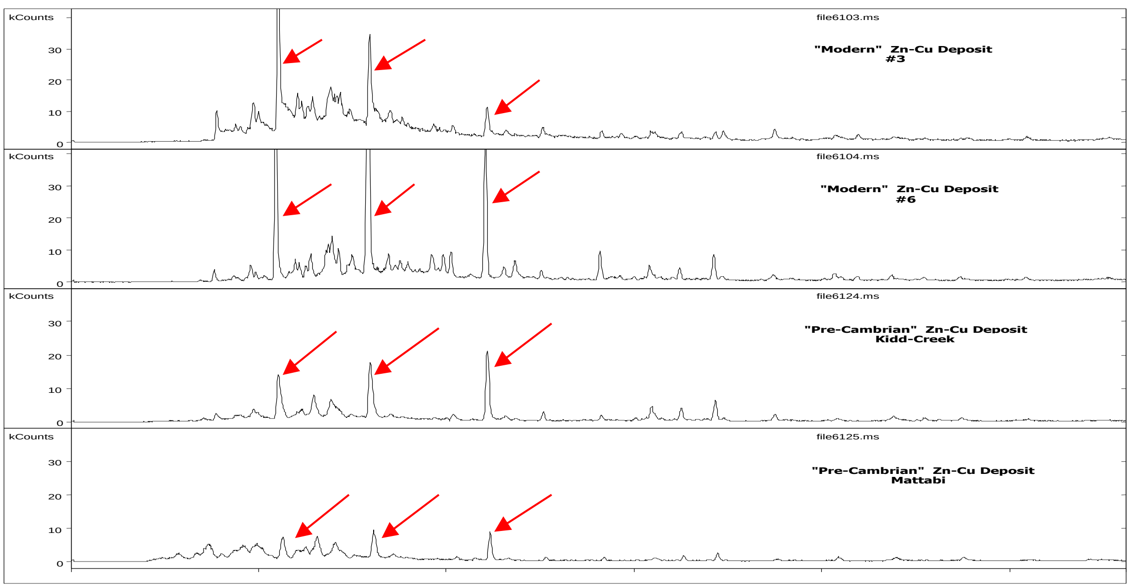
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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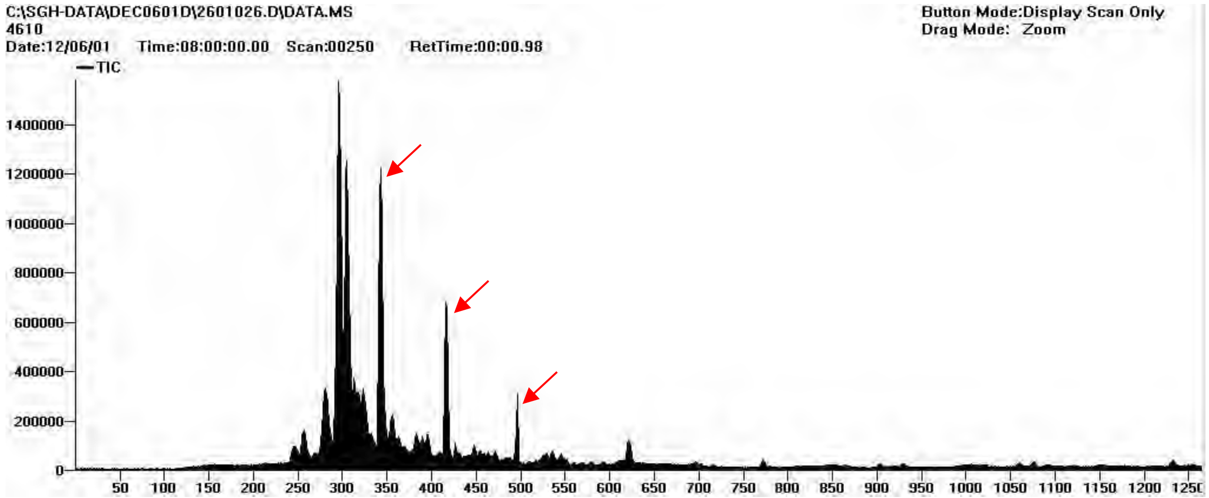
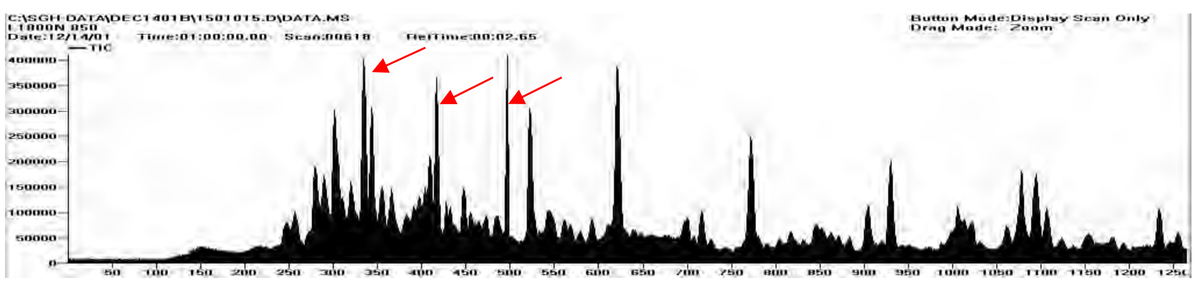
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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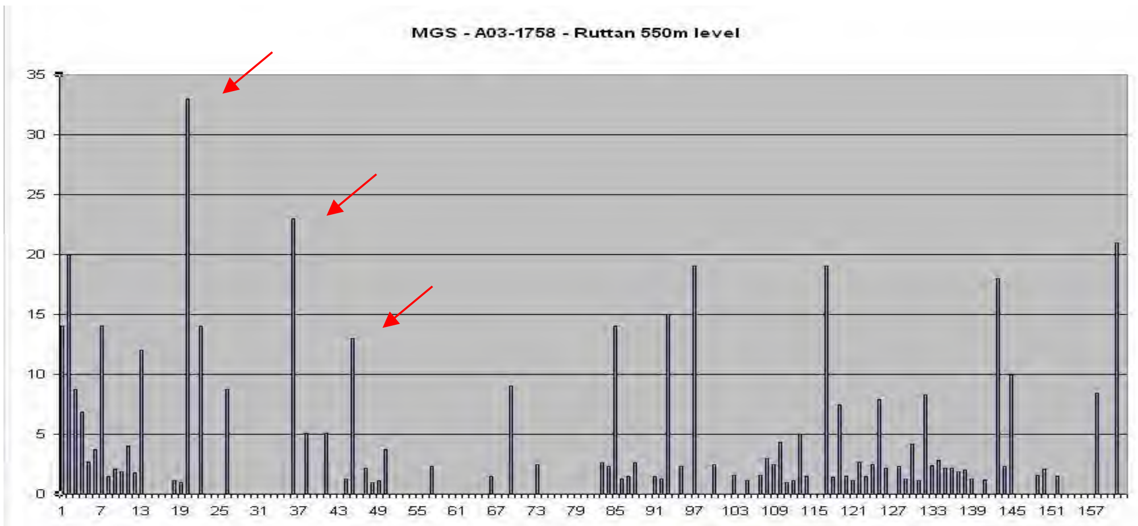
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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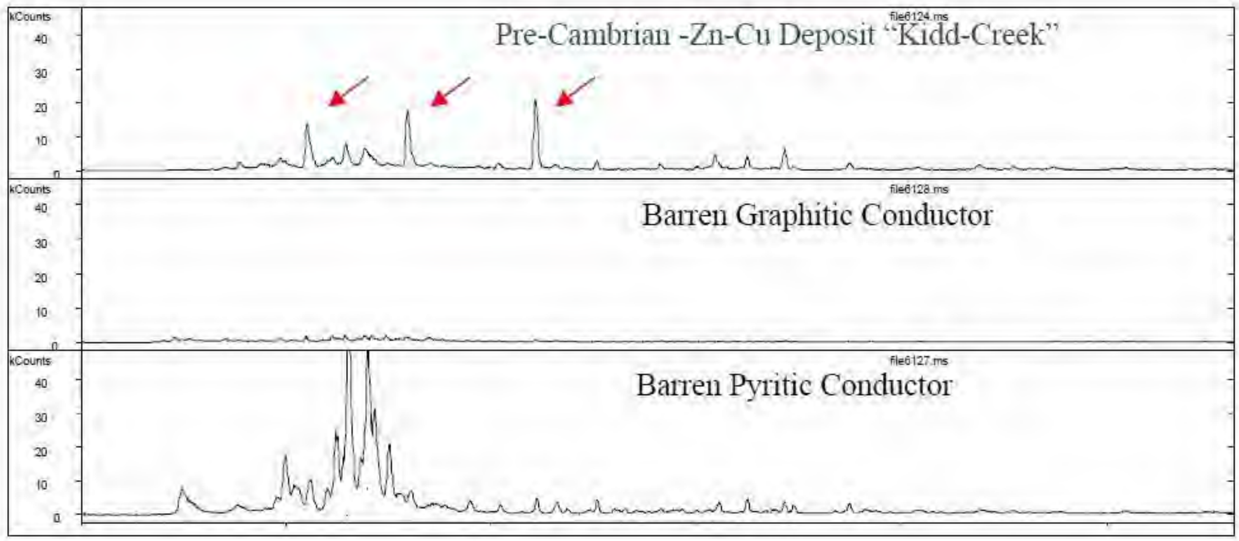

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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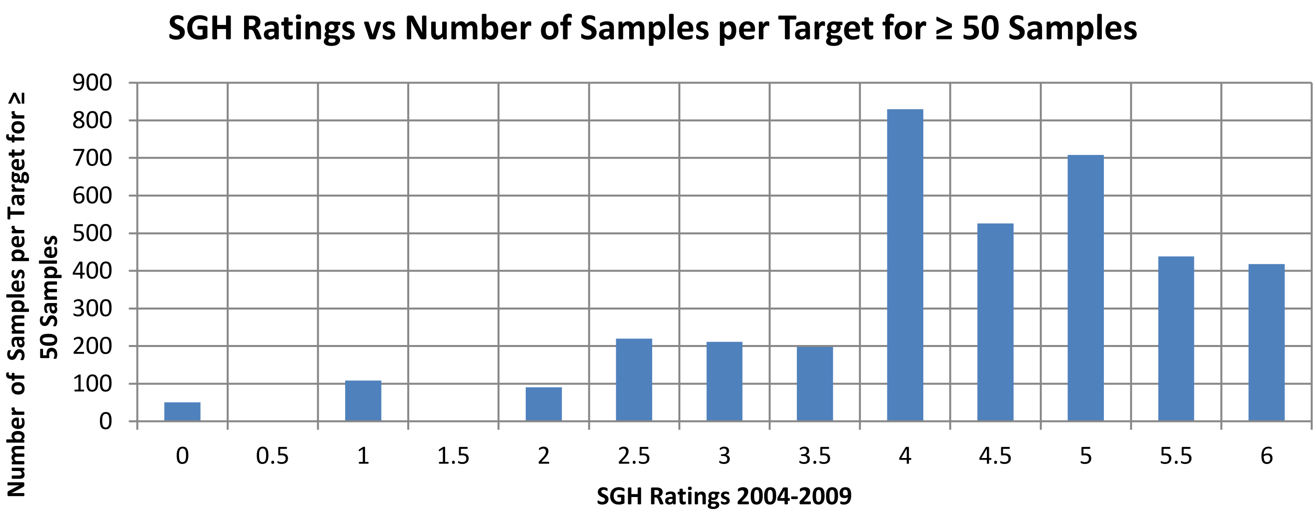
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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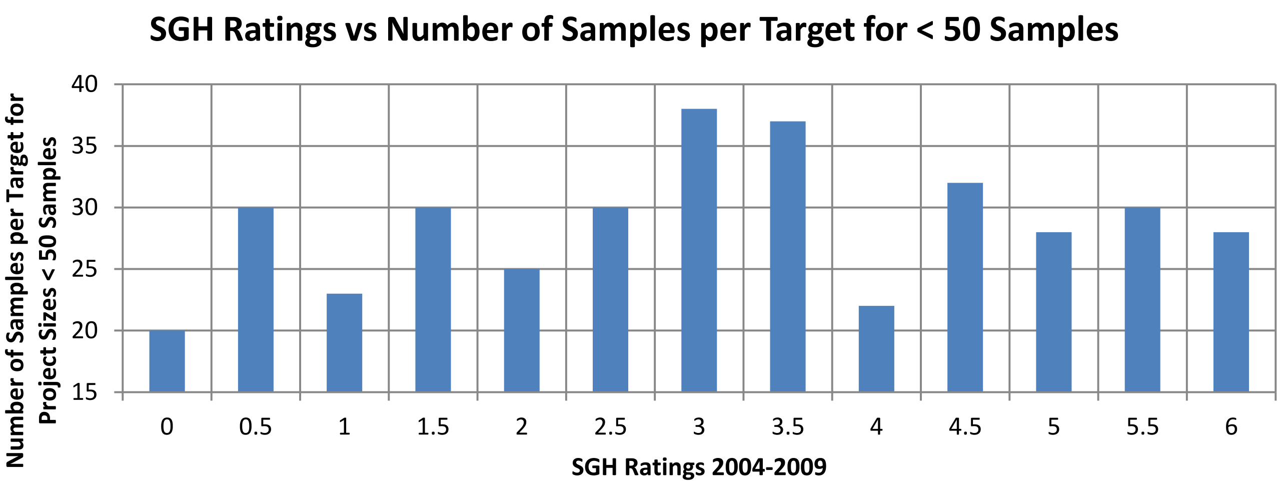
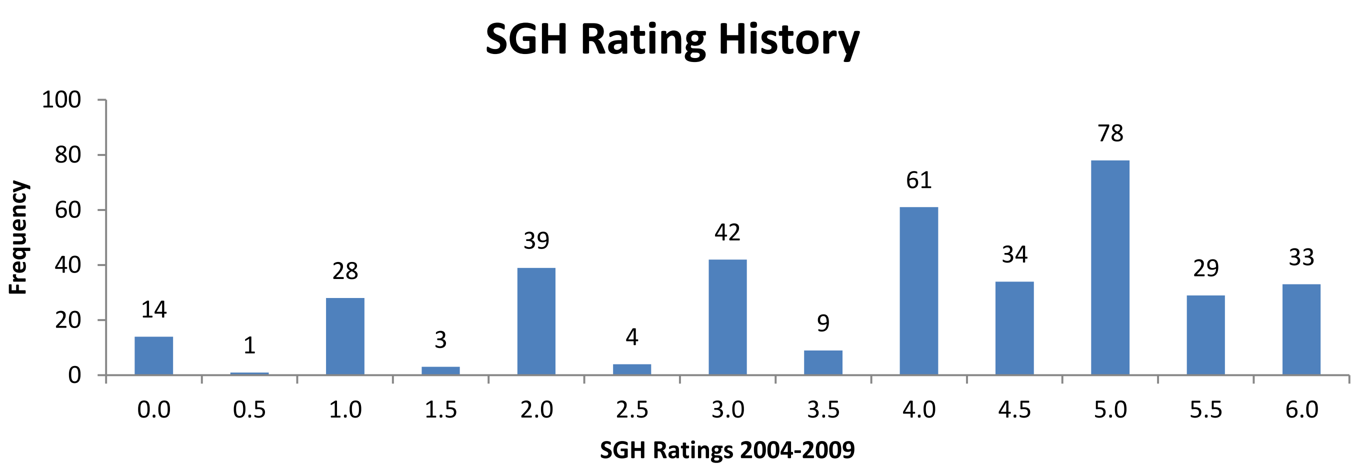
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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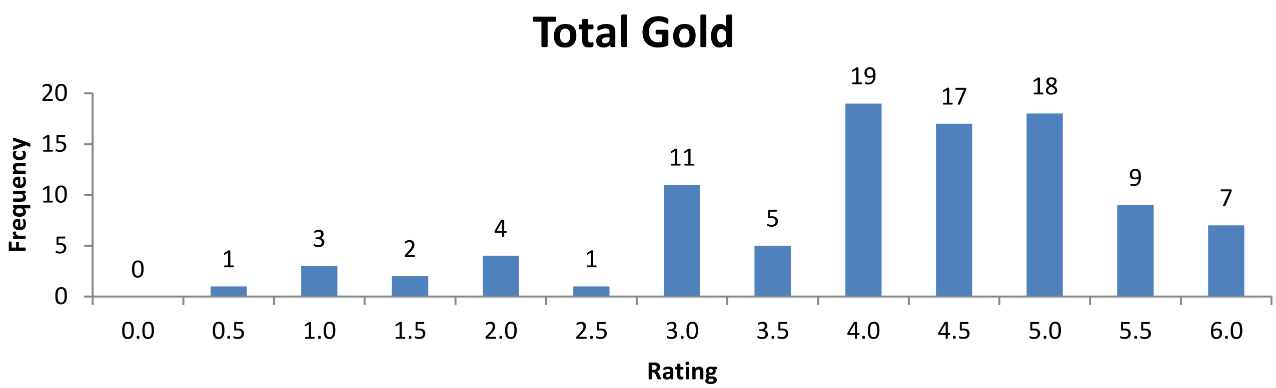
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Magrum East Grid 4 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Gold
665051	3.1
665052	2.8
665053	4.8
665054	3.1
665055	3.3
665055-R	3.6
665056	2.8
665057	4.2
665058	3.5
665059	5.5
665060DUP	2.8
665061	2.2
665062	2.9
665063	2.3
665064	2.7
665065	2.5
665066	3.3
665067	3.5
665068	3.4
665069	3.7
660613	2.2
660613-R	2.2
660614	5.8
660615	4.6
660616	3.3
660617	2.7
660618	4.2
660619	3.5
660620DUP	3.7
660621	3.6
660622	4.6
660623	3.4
660624	2.0
660625	2.5
660626	2.6
660627	3.6
660628	2.9
660628-R	3.0
660629	4.2
660630	3.1
660631	2.8
660632	1.3
660633	2.4
666498	2.8
666499	3.4
666500DUP	3.4
666501	4.1

666502	3.5
666503	3.7
666504	4.0
666505	3.5
666506	4.1
666507	3.3
666507-R	3.4
666508	3.9
666509	3.6
666510	4.2
666511	4.9
666512	3.9
666513	3.9
666514	3.6
666515	4.4
666516	4.3
666517	5.1
666518	3.3
666519	5.2
666520DUP	4.7
666521	4.7
666522	4.5
666522-R	4.4
666523	3.3

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
MAGRUM GRID 5 SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

MAGRUM GRID 5 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-12859

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this MAGRUM GRID 5 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey helped to identify the possible presence of a Redox Zone and the corresponding mineralization; however additional samples could be warranted to better define the redox zone.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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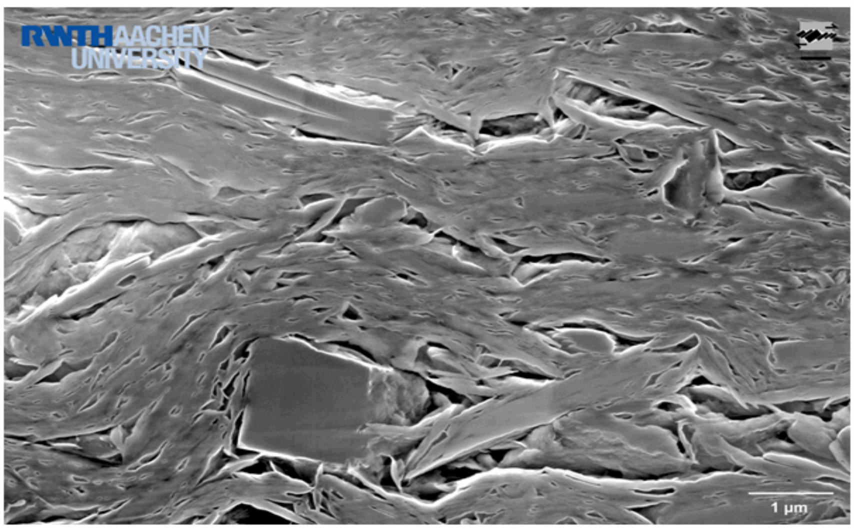
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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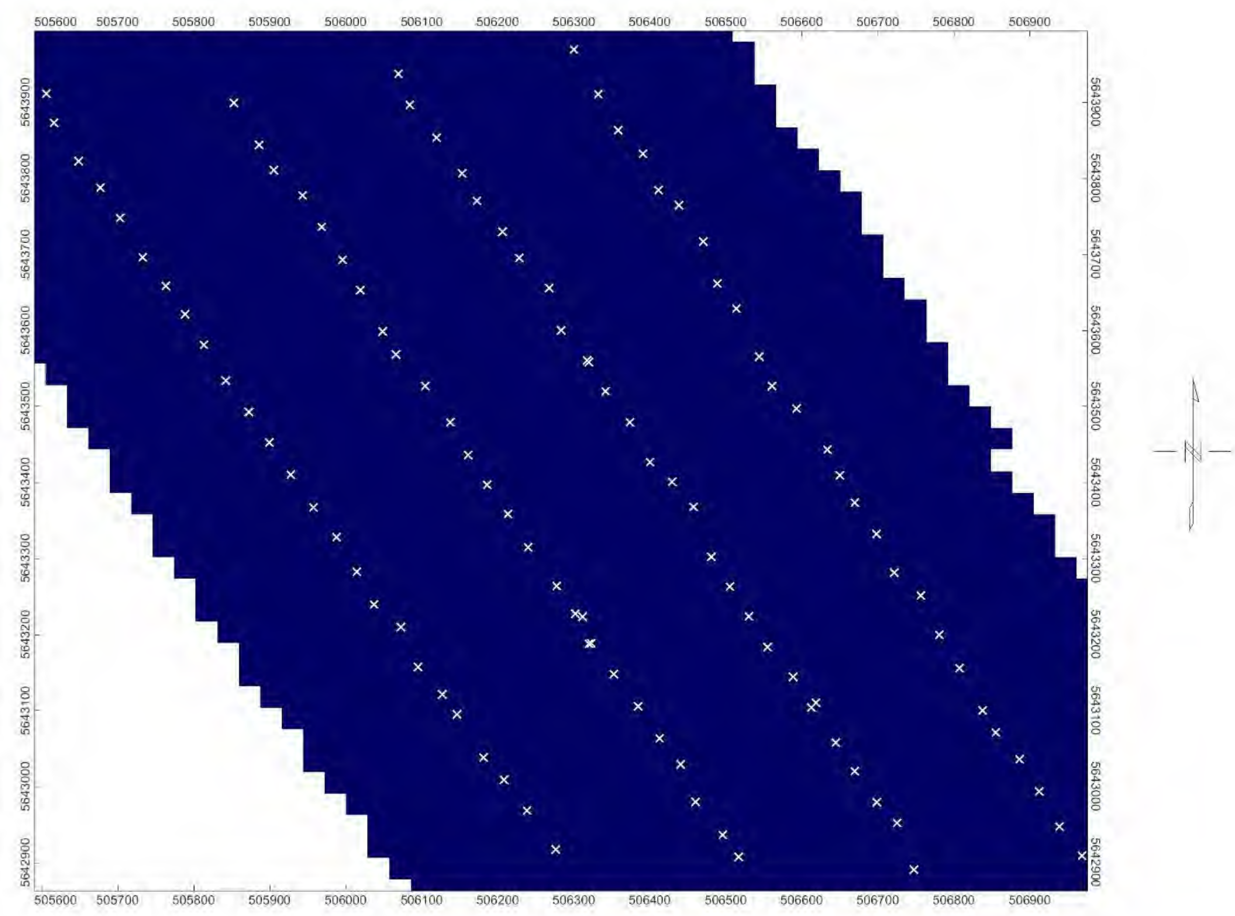
INTERPRETATION OF SGH RESULTS - A21-12859
TRILLIUM GOLD MINES – MAGRUM GRID 5 SURVEY

This report is based on the SGH results from the analysis of a total of 108 soil samples from the MAGRUM GRID 5 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – MAGRUM GRID 5 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the MAGRUM GRID 5 Soil Survey was excellent as demonstrated by 7 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **8.8%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **6 Field Duplicate samples submitted from the MAGRUM GRID 5 Soil Survey** was considered very good at **12.0%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the MAGRUM GRID 5 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the MAGRUM GRID 5 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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A21-12859 – TRILLIUM GOLD MINES
MAGRUM GRID 5 SOIL SURVEY - SGH INTERPRETATION
SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-12859 – TRILLIUM GOLD MINES
MAGRUM GRID 5 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. <u>Example:</u> A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature <u>Rating</u> indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

<u>Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report.</u> It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **<u>MORE IMPORTANT</u>** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-12859 – TRILLIUM GOLD MINES – MAGRUM GRID 5
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the MAGRUM GRID 5 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the MAGRUM GRID 5 survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-12859 – TRILLIUM GOLD MINES – MAGRUM GRID 5
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows what appears to be a nested halo anomaly at the center of a potential redox zone. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of this anomaly at the MAGRUM GRID 5 Project.

Again, the prediction of this anomaly for gold mineralization is based only on SGH.

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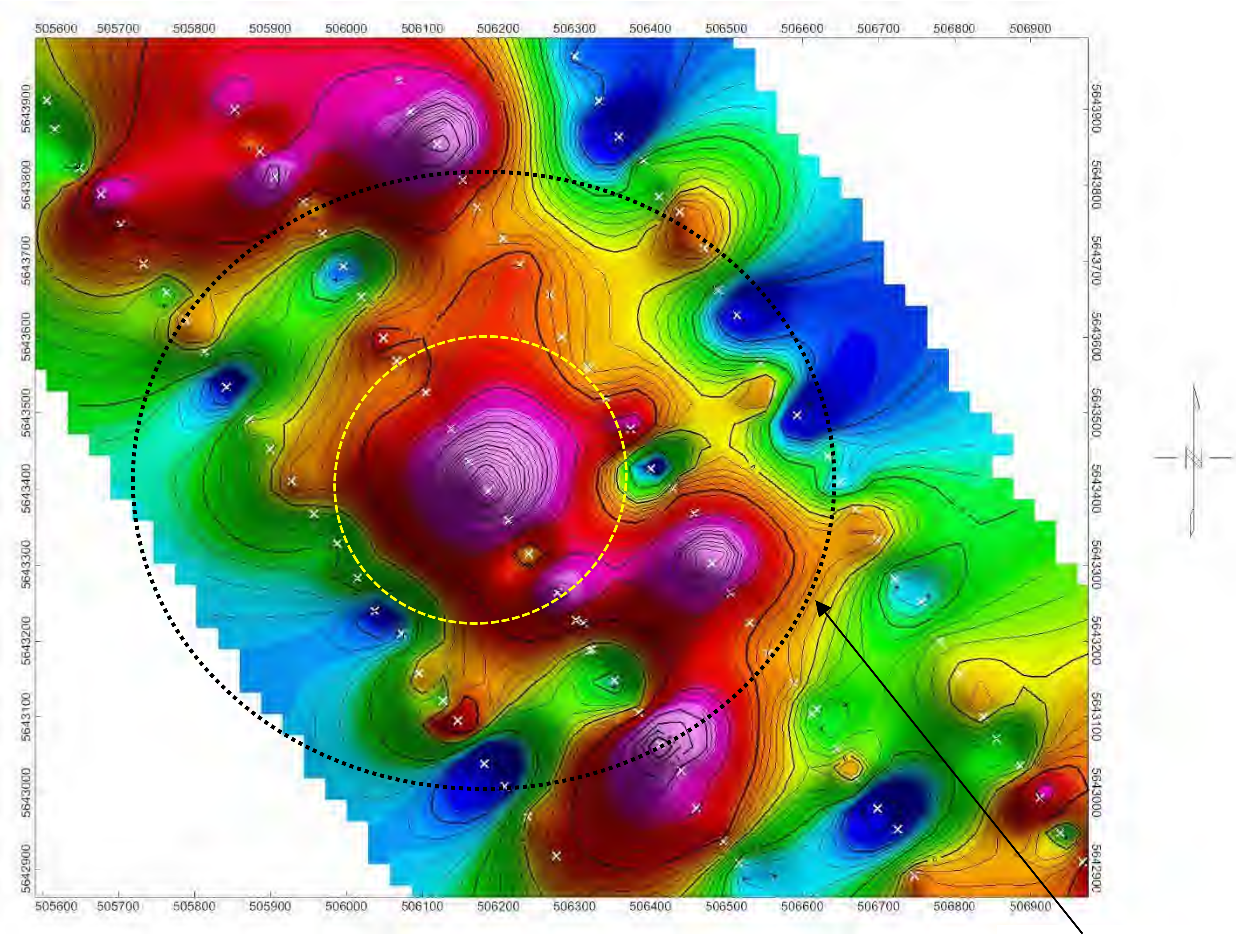
A21-12859 – TRILLIUM GOLD MINES – MAGRUM GRID 5
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.0 OF 6.0</u>

GEOSOFT

Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

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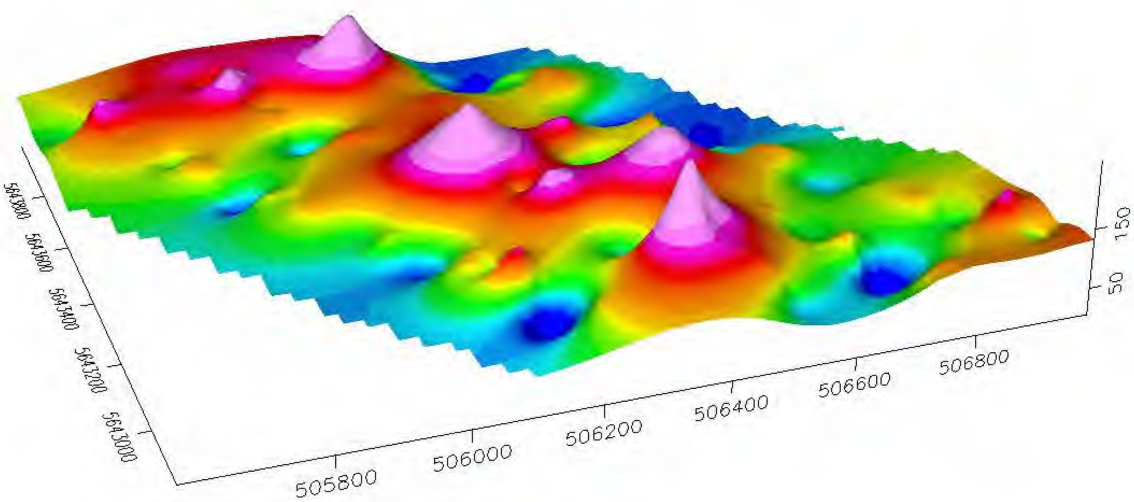
A21-12859 – TRILLIUM GOLD MINES – MAGRUM GRID 5
SGH "GOLD" PATHFINDER CLASS MAP



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A21-12859 – TRILLIUM GOLD MINES
MAGRUM GRID 5 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines MAGRUM GRID 5 survey may be based on what may appear to be the presence of a redox zone. Based also on the makeup of the SGH signatures, this redox zone may be associated with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the MAGRUM GRID 5 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.0 on a scale of 6.0. The Rating for the MAGRUM GRID 5 survey means that, based only on SGH, that there is a chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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In general, the number of samples was more than adequate to show what the author believes to be valuable information at the MAGRUM GRID 5 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. Additional samples could be warranted to expand this survey to potentially better define the redox zone. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered “an approximation”, thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): July 7, 2021

Date Analysis Complete: August 9, 2021

Interpretation Report: August 30, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: MAGRUM GRID 5 Survey

Activation Laboratories Workorder: A21-12859

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

108 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-12859

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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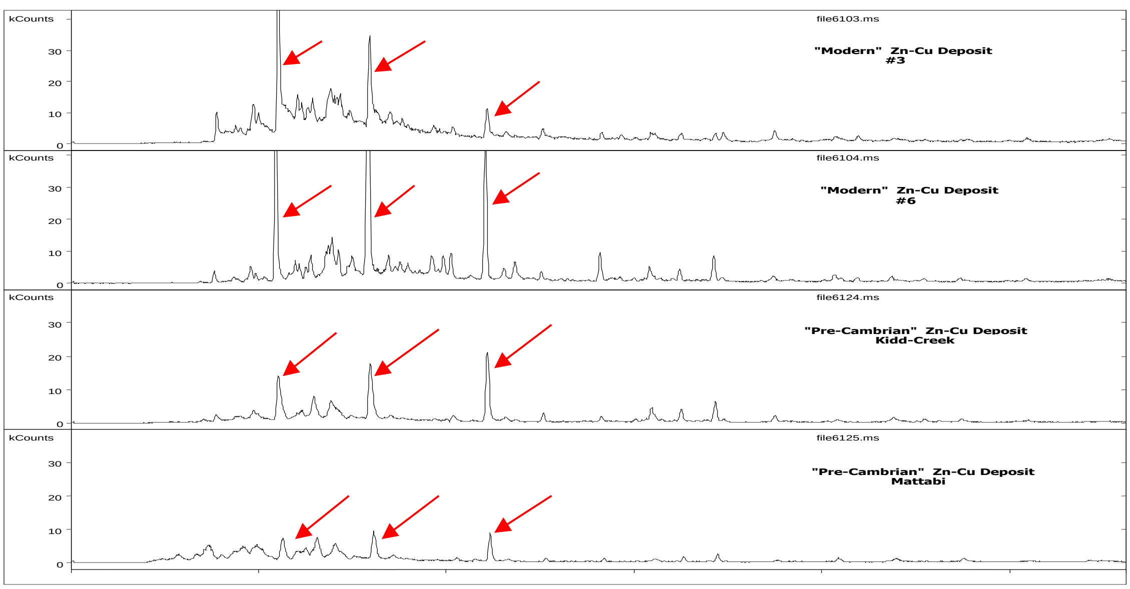
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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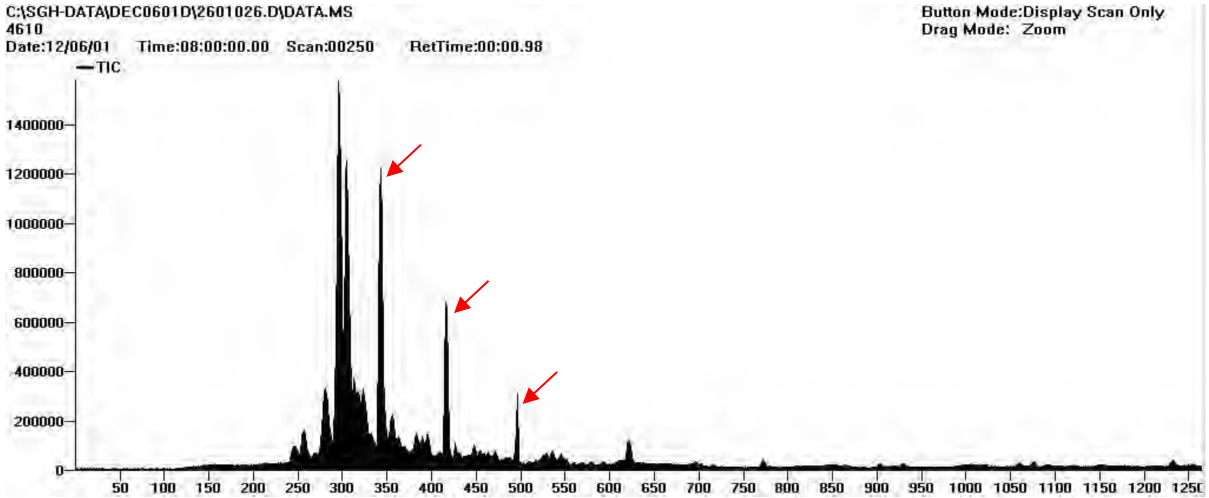
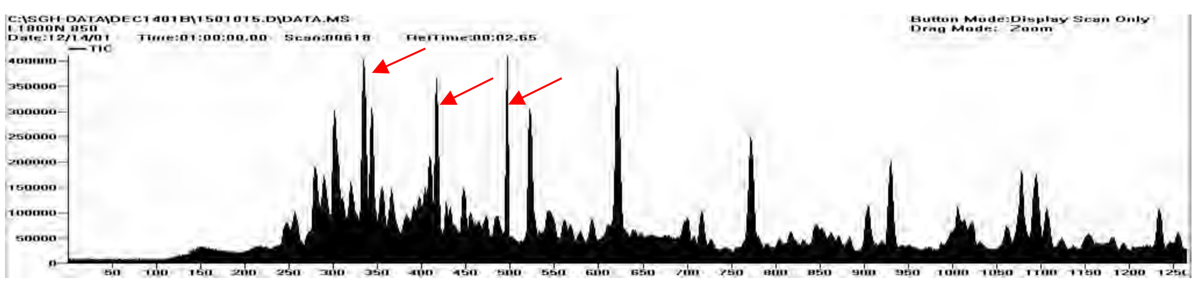
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

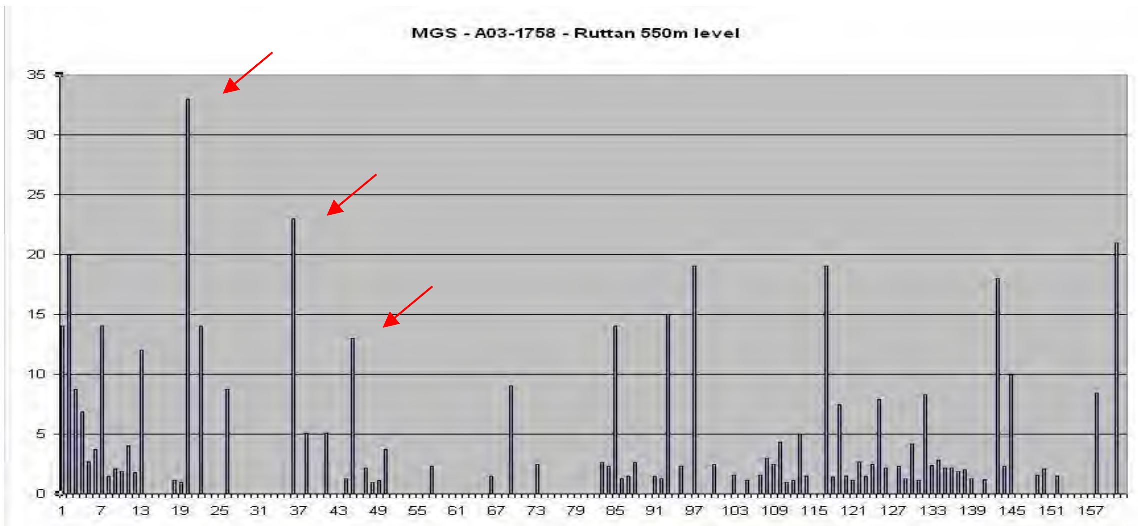
Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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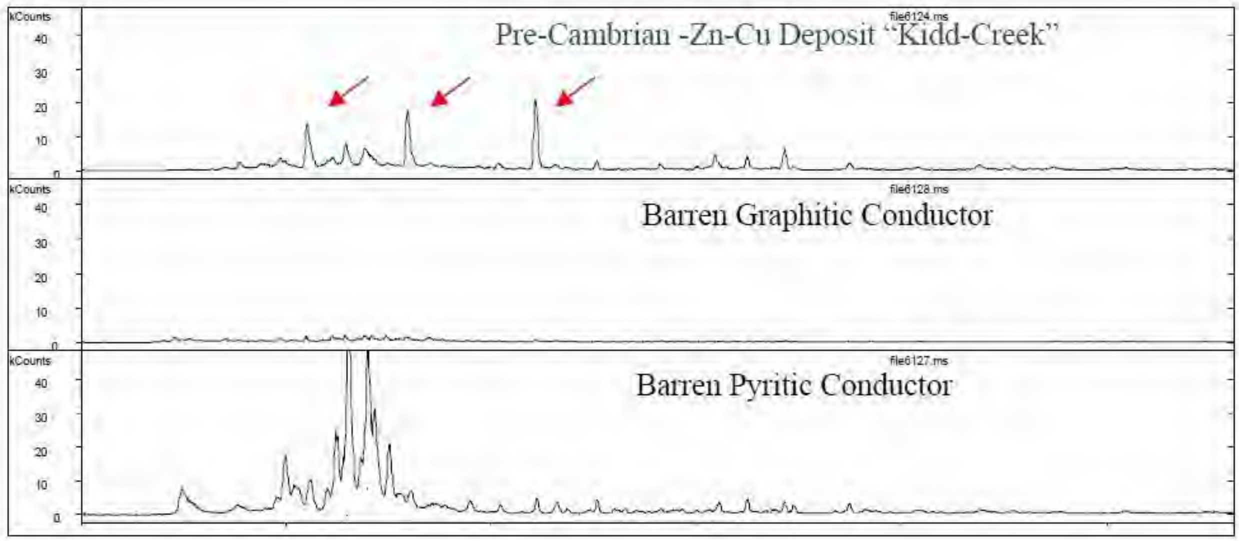

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

<u>SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING</u>

<u>Sample Type and Survey Design:</u> It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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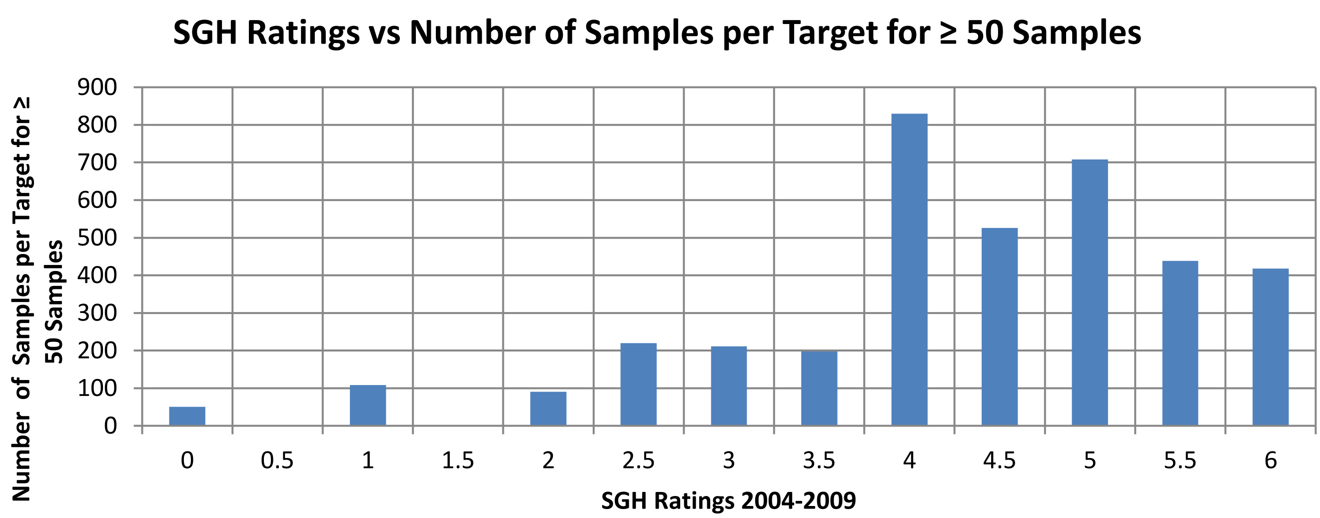
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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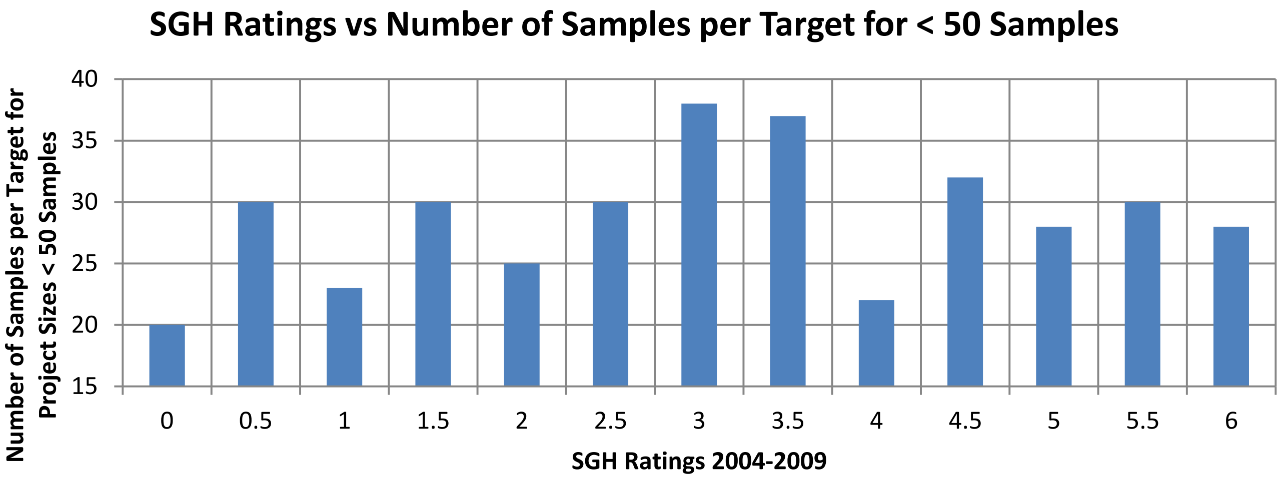
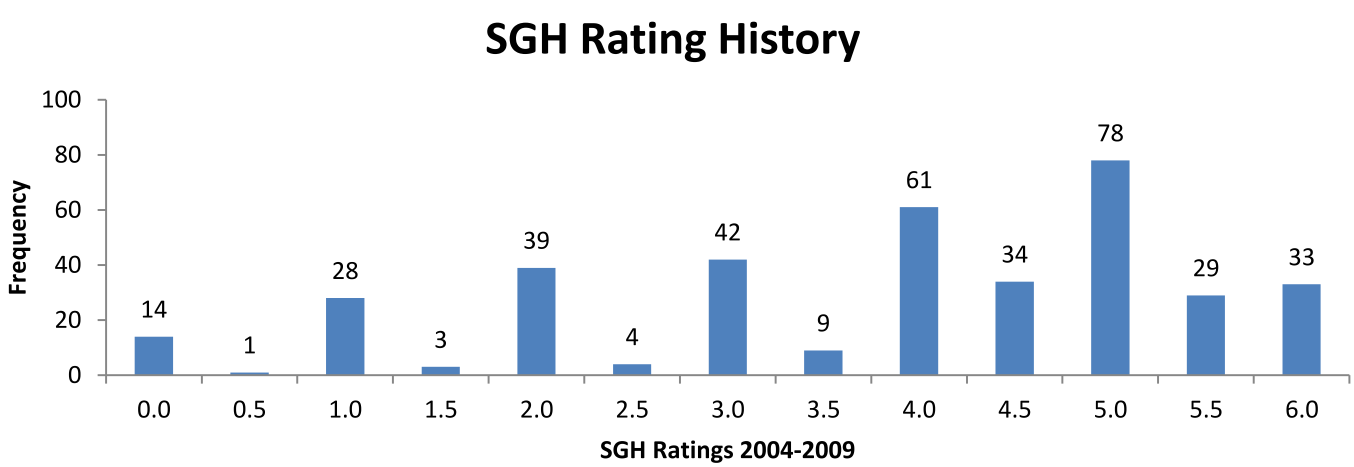
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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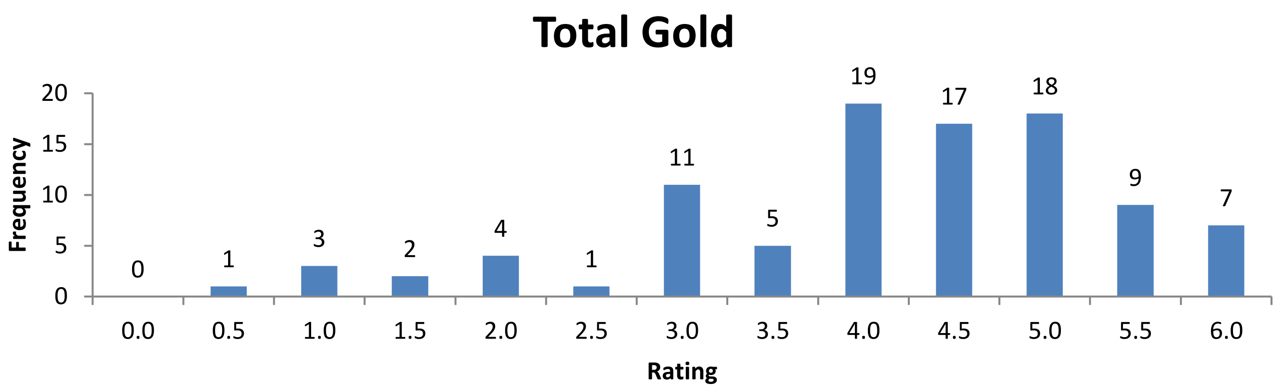
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Magrum Grid 5 Survey

	SGH-Gold
660634	9.7
660635	6.4
660636	4.3
660637	10.1
660638	8.2
660638-R	8.3
660639	8.4
660640DUP	7.4
660641	9.6
660642	9.5
660643	8.8
660644	9.1
660645	9.5
660646	7.8
660647	8.1
660648	12.3
660649	7.9
660650	10.2
660651	9.6
660652	9.3
660653	7.1
660653-R	5.7
660654	4.3
660655	12.4
660656	8.0
660657	9.8
660658	7.0
660659	8.8
660660DUP	8.6
660661	7.5
660662	8.9
660663	17.0
660664	11.5
660665	11.1
660666	10.2
660667	7.3
665070	10.5
665070-R	12.0
665071	11.3
665072	15.3
665073	10.4
665074	9.8
665075	9.5
665076	10.5
665077	9.8
665078	9.7
665079	9.2

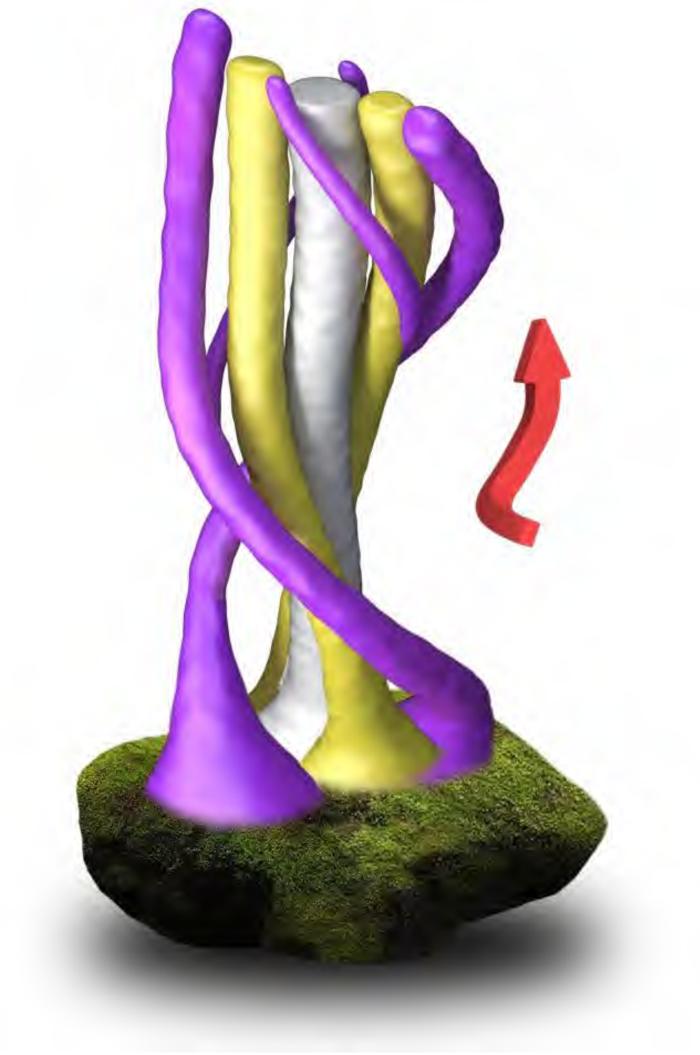
665080DUP	9.4
665081	9.7
665082	12.2
665083	5.3
665084	9.7
665085	10.6
665085-R	10.8
665086	14.0
665087	10.7
665088	10.1
665089	8.8
665090	8.2
665091	7.8
665092	12.5
665093	9.8
665094	9.8
665095	8.1
665096	9.6
665097	9.3
665098	5.7
665099	8.6
665100DUP	9.2
665100DUP-R	9.4
665101	8.7
665102	9.7
665103	8.8
665104	7.8
665105	8.8
665106	6.6
666524	6.9
666525	7.3
666526	4.6
666527	8.8
666528	7.9
666529	9.9
666530	9.8
666531	7.9
666532	4.9
666532-R	6.5
666533	8.0
666534	10.4
666535	4.8
666536	8.6
666537	6.5
666538	9.5
666539	9.3
666540DUP	10.1
666541	7.4
666542	7.4
666543	11.3
666544	9.5

666545	13.6
666546	9.0
666547	9.6
666547-R	10.5
666548	6.2
666549	8.5
666550	10.5
666551	9.6
666552	10.0
666553	11.3
666554	13.7
666555	15.3
666556	12.5
666557	9.1
666558	13.0
666559	9.6
666560DUP	10.6

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
MAGRUM GRID 6 SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

MAGRUM GRID 6 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-12860

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this MAGRUM GRID 6 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey was beneficial in identifying the possible presence of a Redox Zone and the corresponding mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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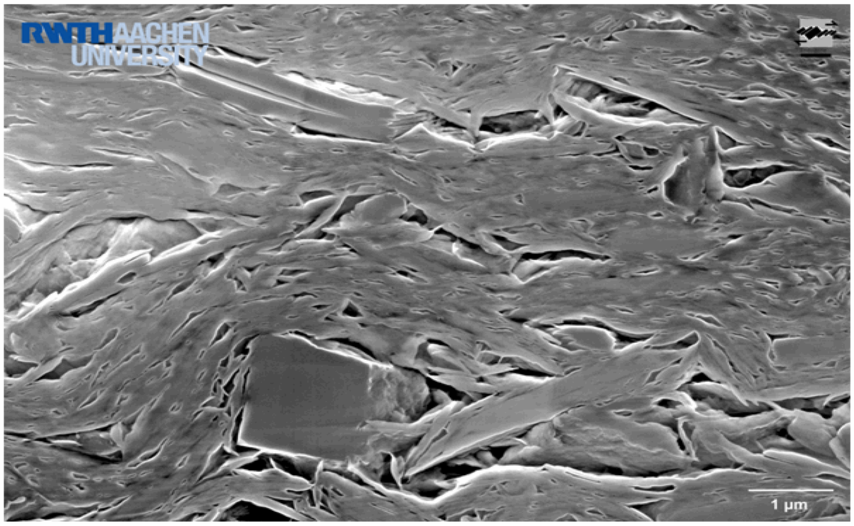
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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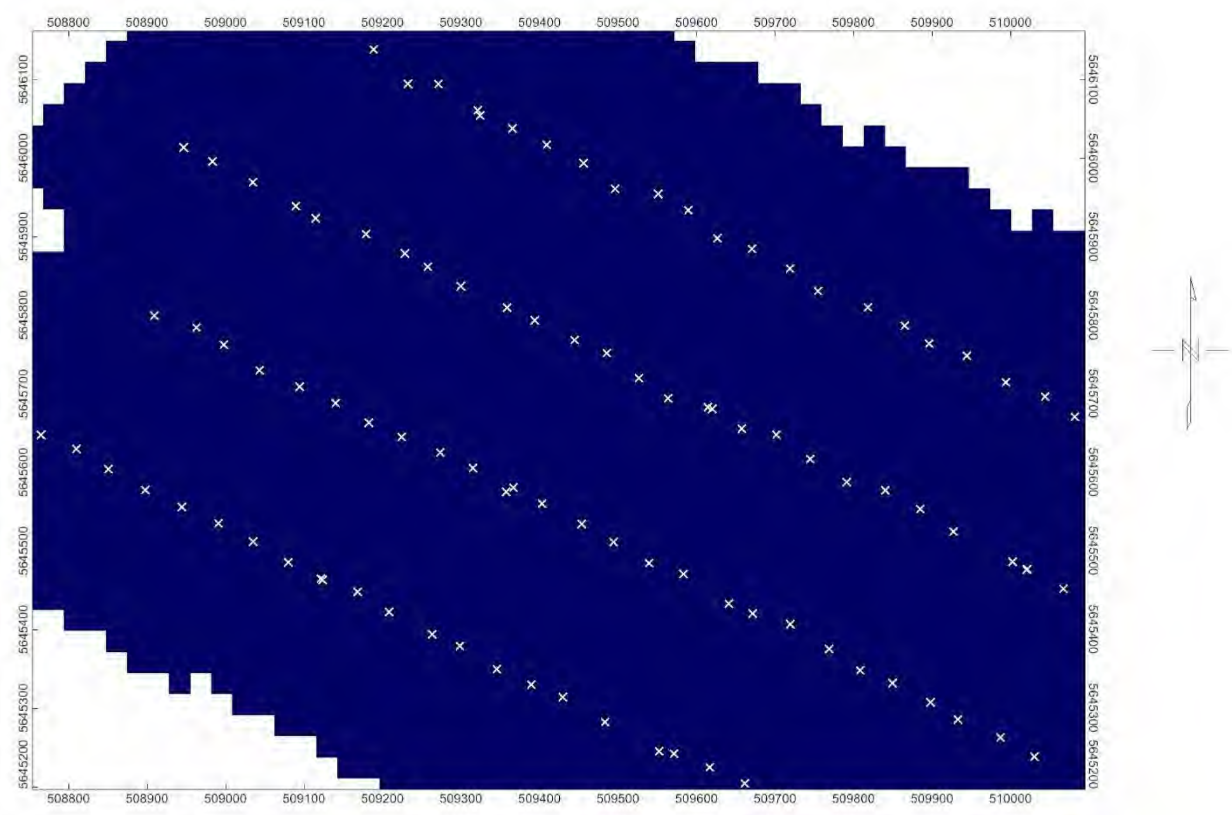
INTERPRETATION OF SGH RESULTS - A21-12860
TRILLIUM GOLD MINES – MAGRUM GRID 6 SURVEY

This report is based on the SGH results from the analysis of a total of 100 soil samples from the MAGRUM GRID 6 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – MAGRUM GRID 6 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the MAGRUM GRID 6 Soil Survey was excellent as demonstrated by 7 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **9.9%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **6 Field Duplicate samples submitted from the MAGRUM GRID 6 Soil Survey** was considered good at **17.2%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the MAGRUM GRID 6 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The maps shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to redox and gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the MAGRUM GRID 6 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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A21-12860 – TRILLIUM GOLD MINES
MAGRUM GRID 6 SOIL SURVEY - SGH INTERPRETATION
SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. Targets shallower than about 3 to 5 metres (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-12860 – TRILLIUM GOLD MINES
MAGRUM GRID 6 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-12860 – TRILLIUM GOLD MINES – MAGRUM GRID 6
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the MAGRUM GRID 6 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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SGH "GOLD" INTERPRETATION

The SGH Pathfinder Class map shown on page 22 and in 3D view on page 23 shows the SGH anomaly from one of the most reliable SGH Pathfinder Classes in predicting the presence of Redox conditions that can support other SGH Pathfinder Class maps for Gold mineralization. Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the MAGRUM GRID 6 survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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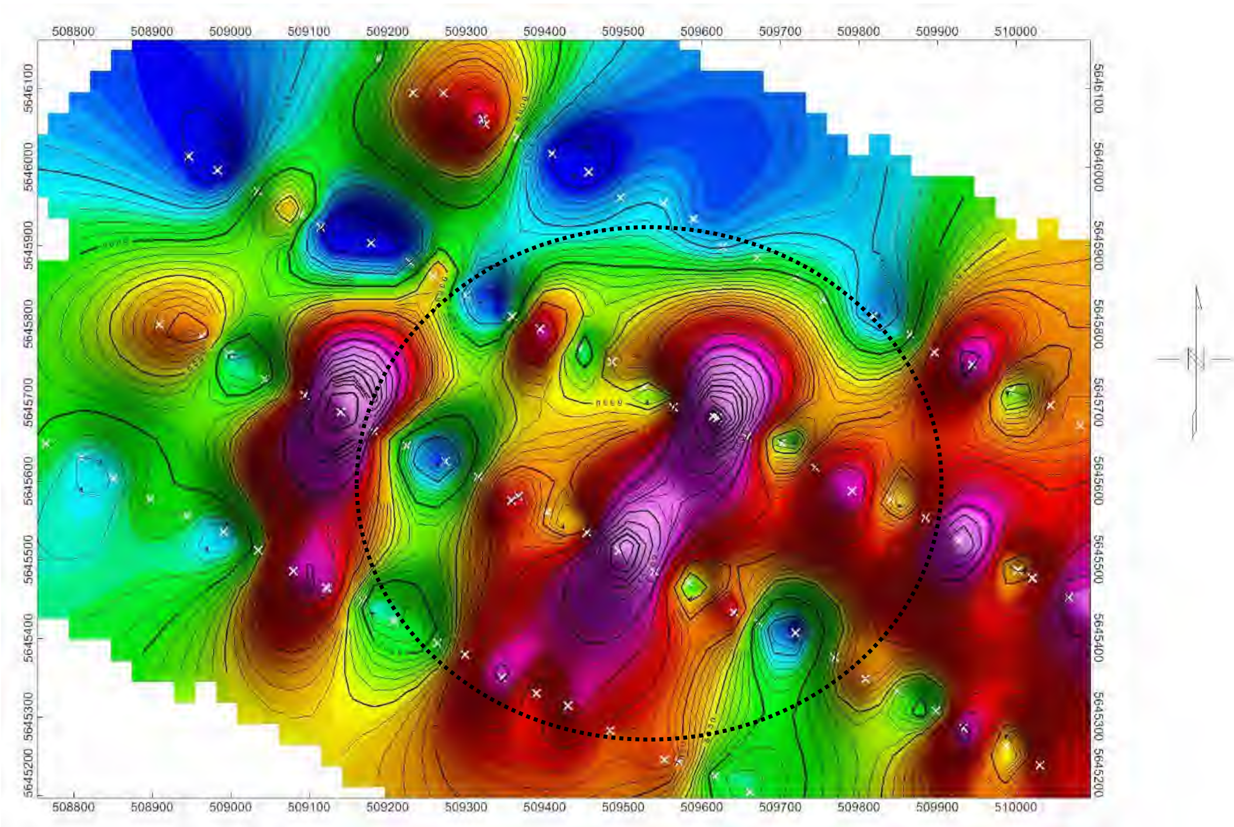
A21-12860 – TRILLIUM GOLD MINES – MAGRUM GRID 6
SGH "REDOX" PATHFINDER CLASS MAP



SEGMENTED-NESTED HALO ANOMALY ILLUSTRATING POSSIBLE PRESENCE OF REDOX ZONE

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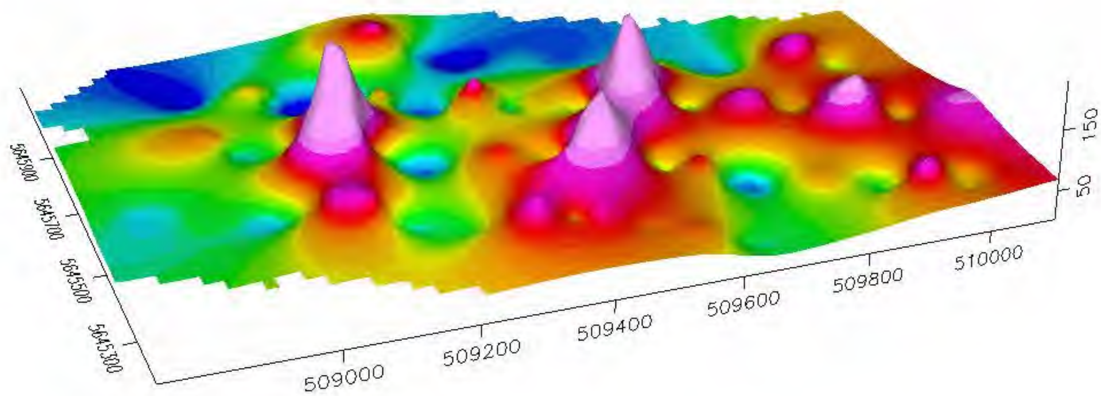
SGH "REDOX" PATHFINDER CLASS MAP



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A21-12860 – TRILLIUM GOLD MINES – MAGRUM GRID 6
SGH GOLD INTREPRETATION

Page 25 of this report, and in 3D-view on page 26, shows the anomalies from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates apical anomalies at the center and the edges of the redox zone. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of these anomalies at the MAGRUM GRID 6 Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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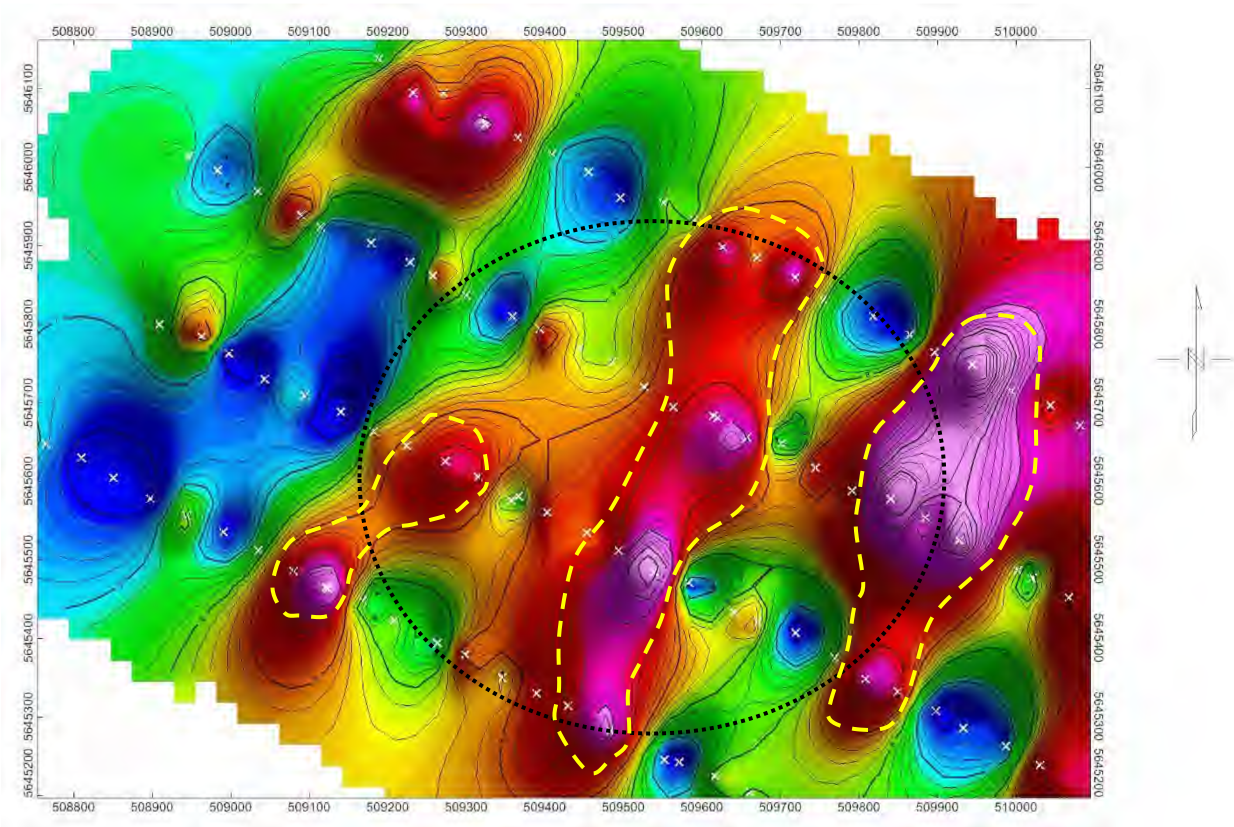
A21-12860 – TRILLIUM GOLD MINES – MAGRUM GRID 6
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINES

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.0 OF 6.0</u>

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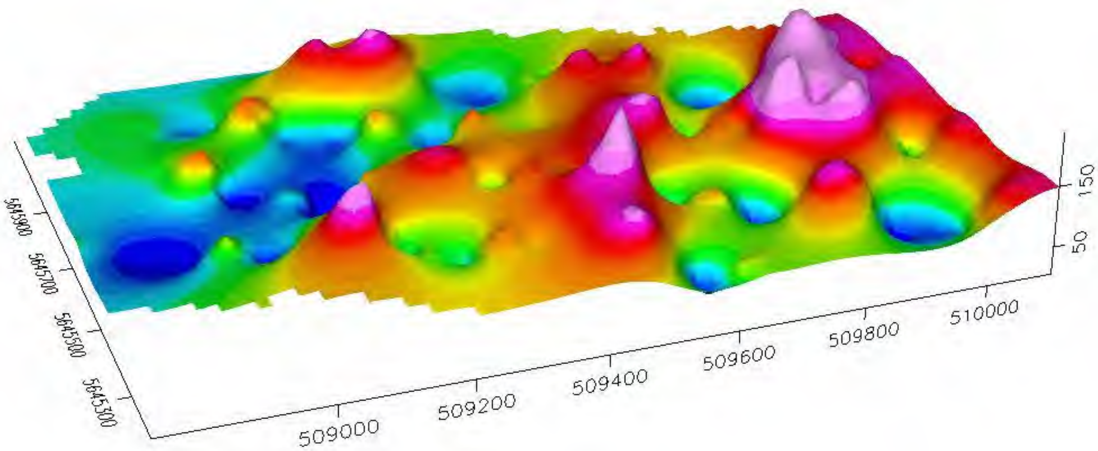
A21-12860 – TRILLIUM GOLD MINES – MAGRUM GRID 6
SGH "GOLD" PATHFINDER CLASS MAP



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A21-12860 – TRILLIUM GOLD MINES
MAGRUM GRID 6 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 25 relative to the presence of gold mineralization at the Trillium Gold Mines MAGRUM GRID 6 survey may be based on what may appear to be the presence of a redox zone. Based also on the makeup of the SGH signatures, this redox zone may be associated with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the MAGRUM GRID 6 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.0 on a scale of 6.0. The Rating for the MAGRUM GRID 6 survey means that, based only on SGH, that there is a chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 25 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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In general, the number of samples was more than adequate to show what the author believes to be valuable information at the MAGRUM GRID 6 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sample on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): July 7, 2021

Date Analysis Complete: August 3, 2021

Interpretation Report: August 31, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: MAGRUM GRID 6 Survey

Activation Laboratories Workorder: A21-12860

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

100 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-12860

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the <u>organic</u> signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking

44. **Transect-** A straight line or narrow section through an object or across a section of land.

45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.

46. **Threshold-** level or point at which data is accepted as significant or true.

47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.

48. **Visible (in terms of signature)**- the portion shown in a chart or map

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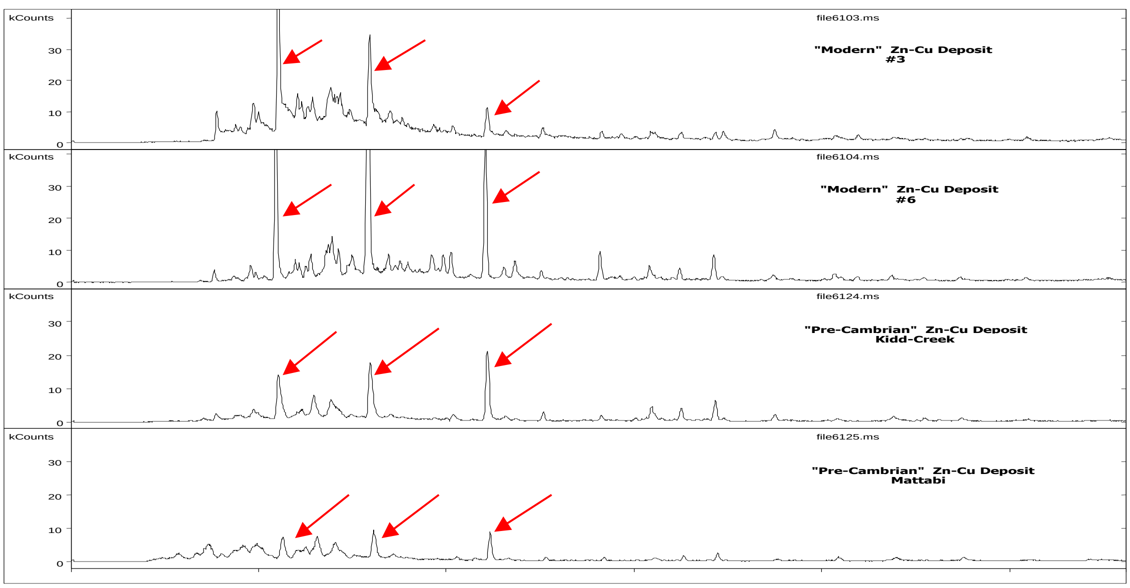
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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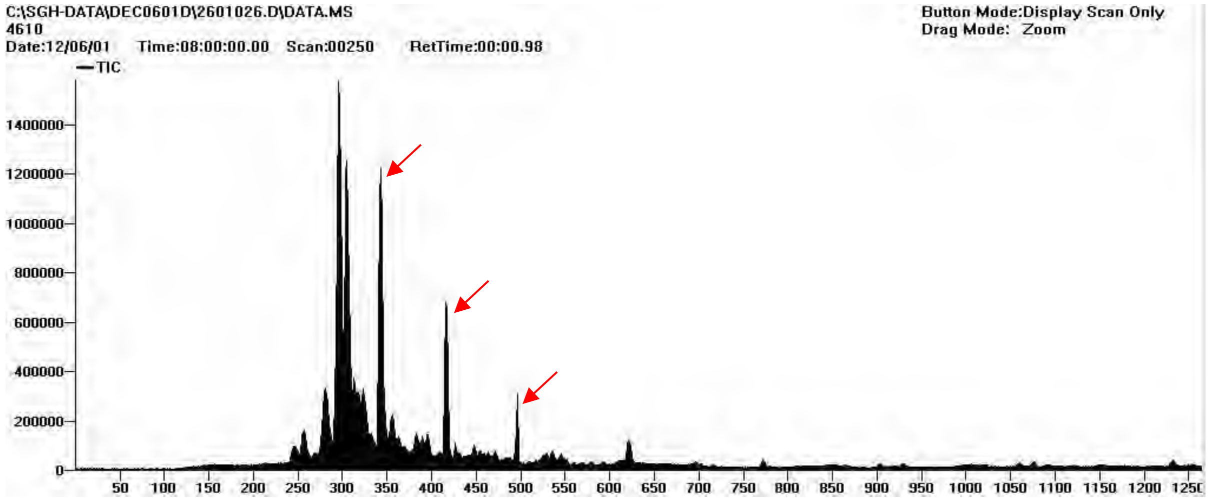
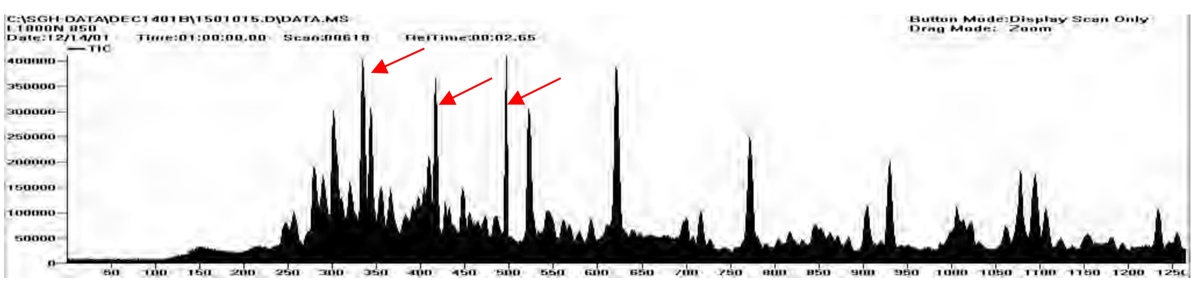
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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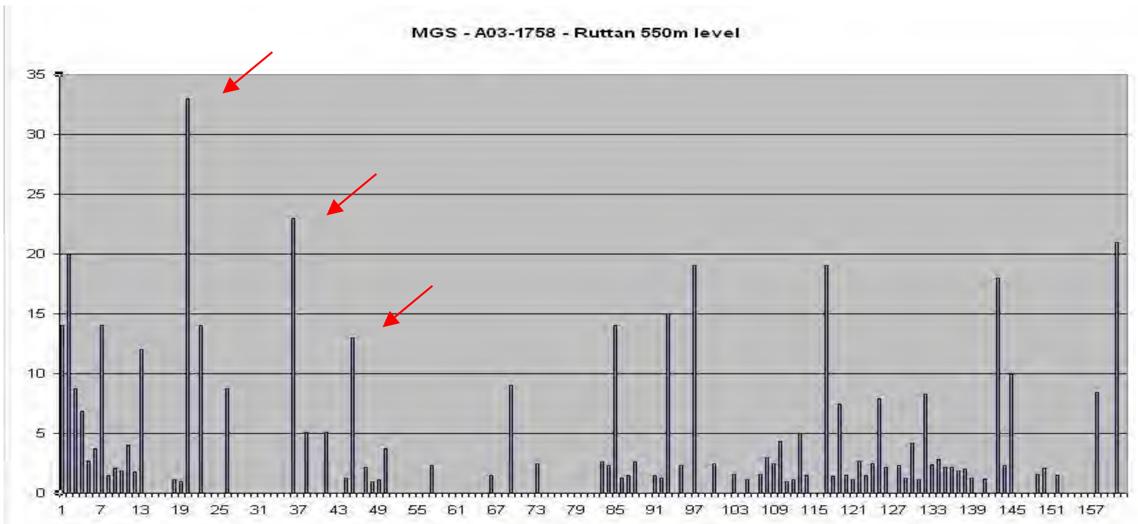
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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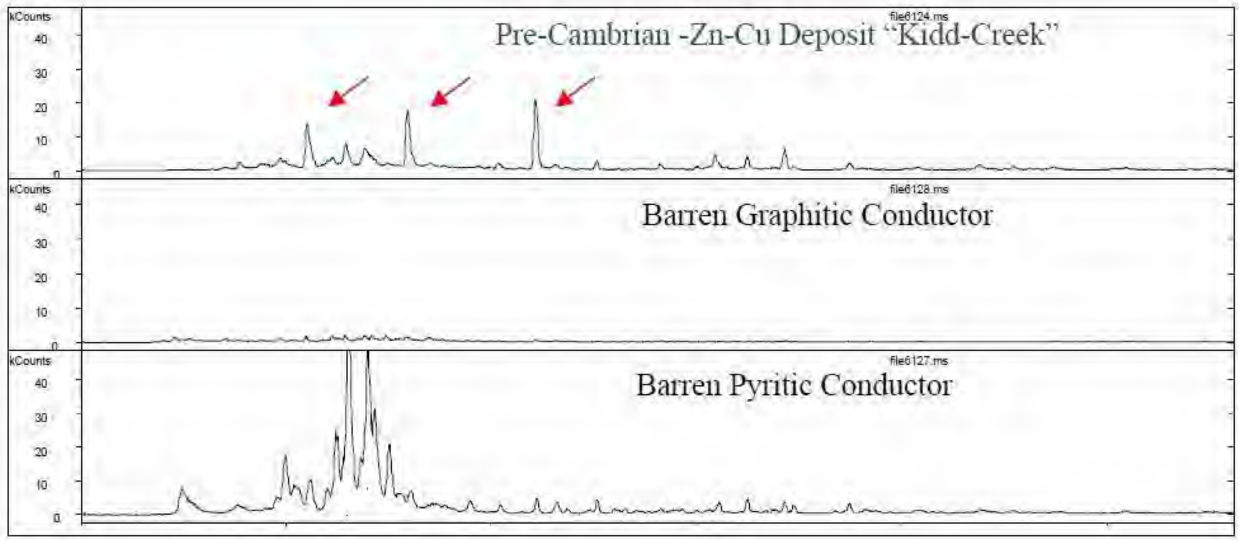

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with well defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with fairly well defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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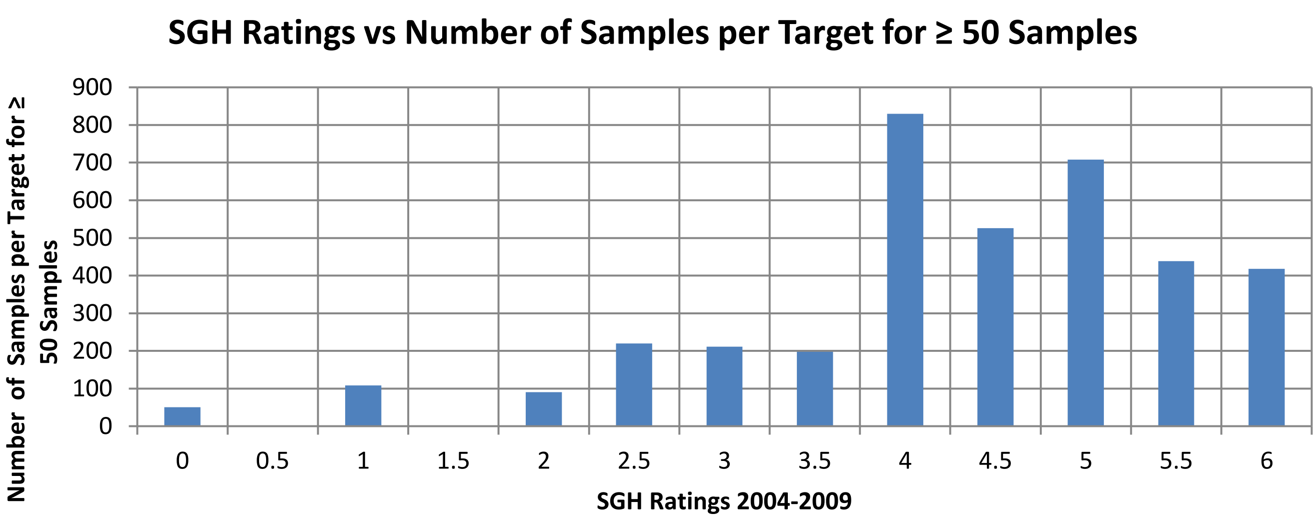
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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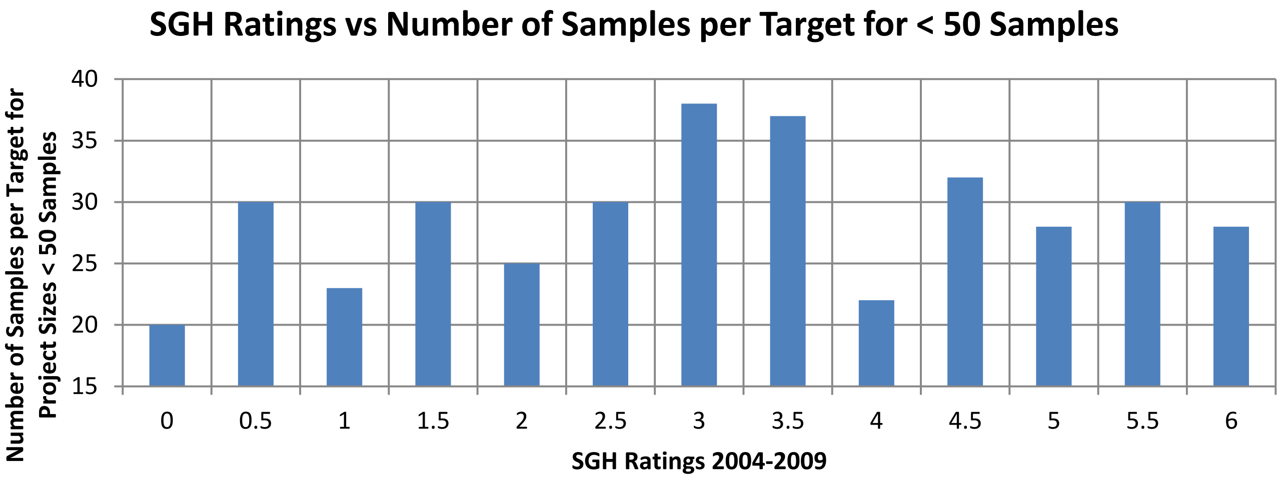
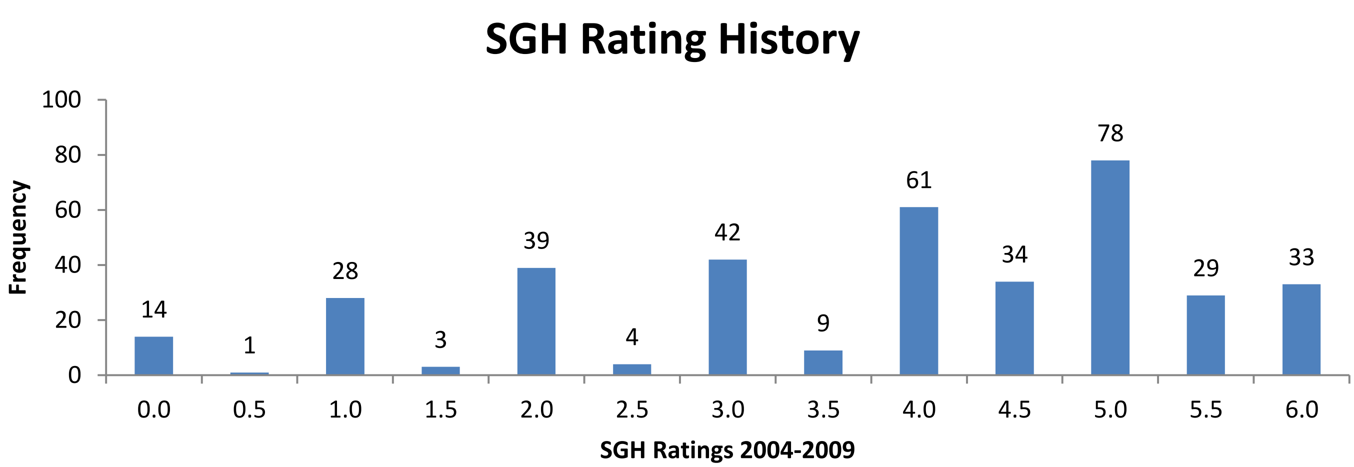
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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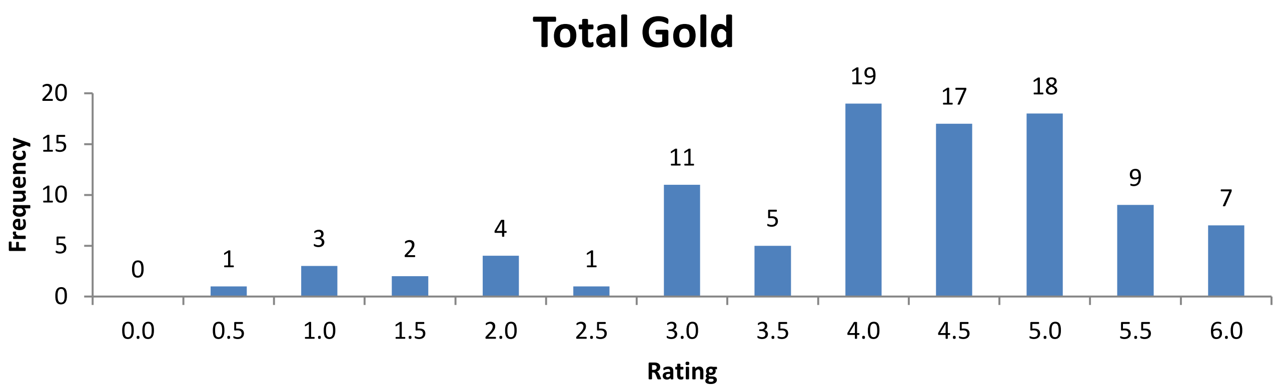
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Magrum Grid 6 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Redox	SGH-Gold
660668	3308	6.0
660669	5295	7.7
660670	5005	11.4
660671	4574	8.8
660672	3551	9.9
660672-R	4116	12.5
660673	3281	7.5
660674	4113	8.3
660675	3802	5.9
660676	2512	6.5
660677	2711	6.9
660678	4859	10.0
660679	6043	13.7
660680DUP	13483	9.5
660681	7466	8.5
660682	6917	11.2
660683	4758	7.1
660684	3008	7.5
660685	2132	6.2
660686	5087	7.0
660687	6323	9.2
660687-R	7612	11.8
660688	1939	6.3
660689	2640	6.7
660690	2839	5.8
660691	7684	9.3
660692	3182	7.8
660693	3219	5.1
660694	11187	9.8
660695	3567	8.1
660696	6916	8.1
660697	5758	8.9
660698	5149	9.9
660699	9903	8.1
660700DUP	38135	13.1
660701	10107	11.9
664878	15202	10.3
664878-R	6661	10.3
664879	7097	5.7
664880DUP	8137	8.5
664881	4944	7.9
664882	14285	13.4
664883	7577	10.3
664884	5651	15.5
664885	10998	8.4
664886	8189	10.0
664887	4259	6.3

664888	4536	5.8
664889	7227	10.4
664890	11750	15.0
664891	4550	11.4
664892	7407	9.3
664893	7718	10.5
664893-R	6518	11.2
665131	7331	11.8
665132	9825	10.0
665133	6515	9.5
665134	10988	8.3
665135	7155	9.8
665136	4806	6.6
665137	4519	8.1
665138	4197	6.6
665139	9637	13.1
665140DUP	10544	13.1
665141	10356	10.0
665142	4959	7.7
665143	3667	5.4
665144	4810	8.8
665145	4976	5.4
665145-R	5042	5.4
665146	4121	5.8
665147	4114	5.4
665148	4995	7.1
665149	7005	7.2
665150	7567	10.0
665151	4145	5.5
665152	4668	6.1
665153	6758	7.6
665154	29953	2.9
665155	7487	9.1
665156	4138	8.9
665157	2907	10.5
665158	5924	10.4
665159	4297	7.8
665160DUP	6782	5.1
665160DUP-R	14904	8.9
665161	6746	9.9
665162	5849	9.3
665163	19227	9.7
665164	10915	15.3
665165	4319	5.7
666397	4499	8.0
666398	4529	8.4
666399	4802	5.1
666400DUP	14963	5.4
666401	3409	5.0
666402	9120	8.5
666403	4101	9.0

666404	3035	5.3
666405	6099	7.8
666406	7767	11.7
666406-R	6755	11.2
666407	5553	10.5
666408	4122	5.1
666409	11696	6.4
666410	5077	6.1
666411	8113	10.2

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
BLOCK 1 SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

BLOCK 1 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-12846

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this BLOCK 1 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey was beneficial in identifying two potential areas of mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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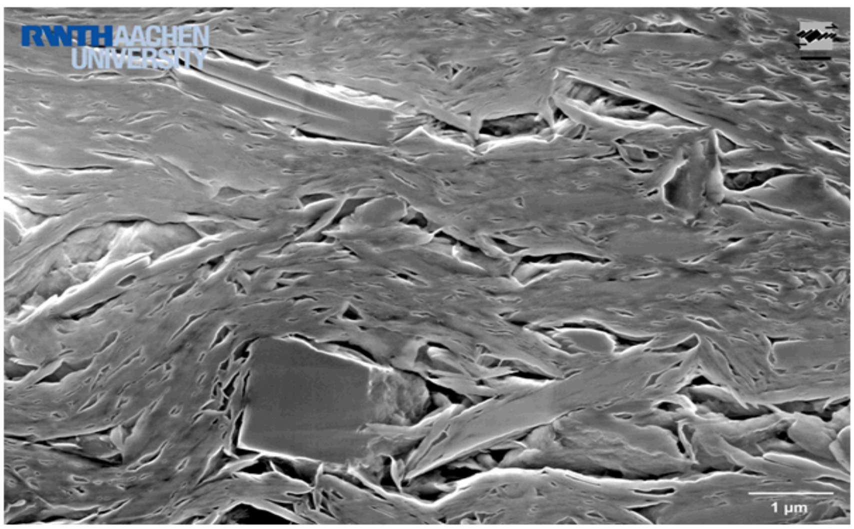
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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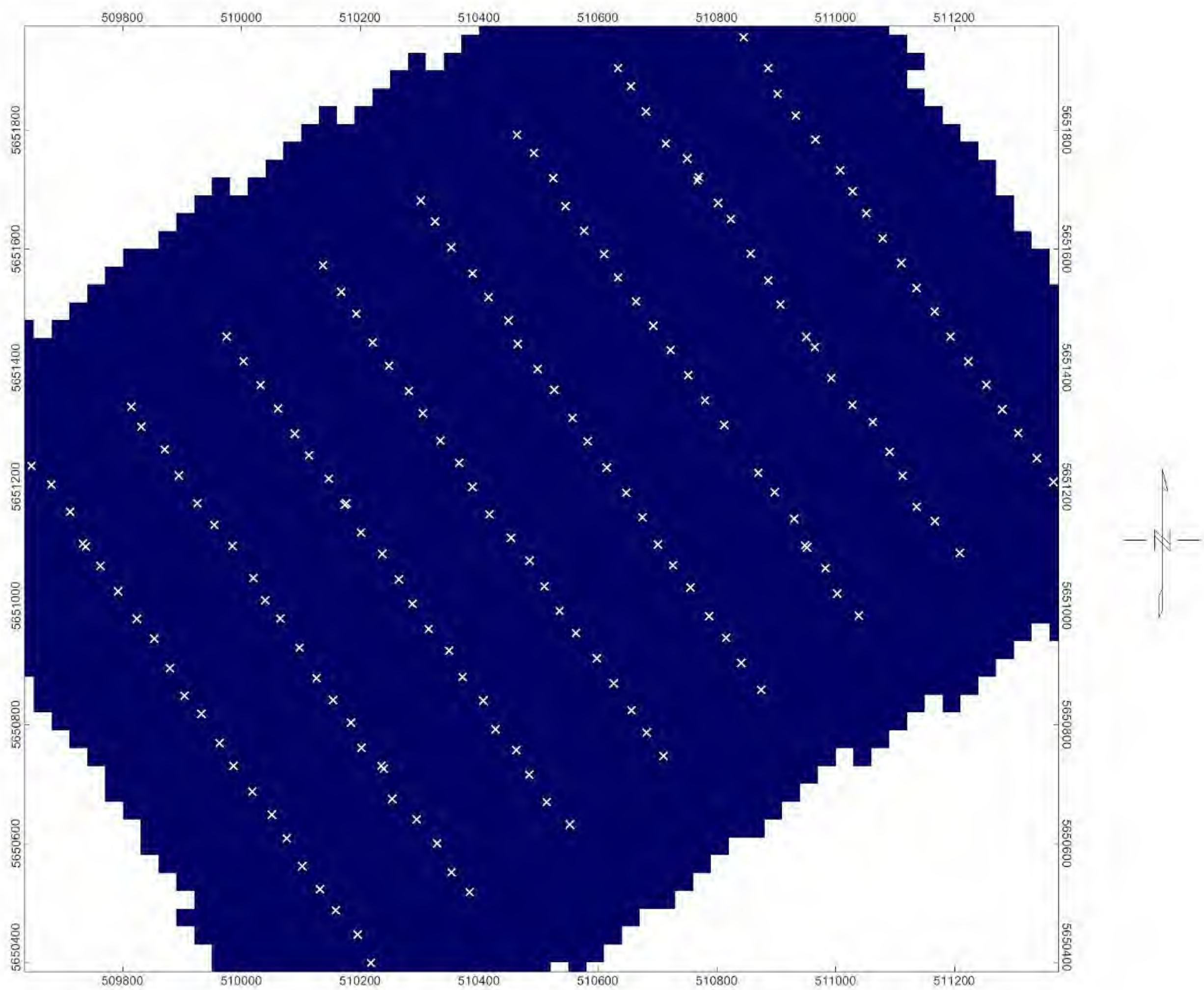
INTERPRETATION OF SGH RESULTS - A21-12846
TRILLIUM GOLD MINES – BLOCK 1 SURVEY

This report is based on the SGH results from the analysis of a total of 174 soil samples from the BLOCK 1 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – BLOCK 1 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the BLOCK 1 Soil Survey was excellent as demonstrated by 12 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **7.2%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **9 Field Duplicate samples submitted from the BLOCK 1 Soil Survey** was considered very good at **11.7%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the BLOCK 1 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the BLOCK 1 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. Targets shallower than about 3 to 5 metres (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-12846 – TRILLIUM GOLD MINES
BLOCK 1 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-12846 – TRILLIUM GOLD MINES – BLOCK 1
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the BLOCK 1 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast.   It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the BLOCK 1 survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-12846 – TRILLIUM GOLD MINES – BLOCK 1
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows what appears to be a symmetrical segmented nested-halo anomaly on the western edge of the survey as well as an apical anomaly in the northern portion both outlined in yellow. We believe that mineralization might exist at theses locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of these anomalies at the BLOCK 1 Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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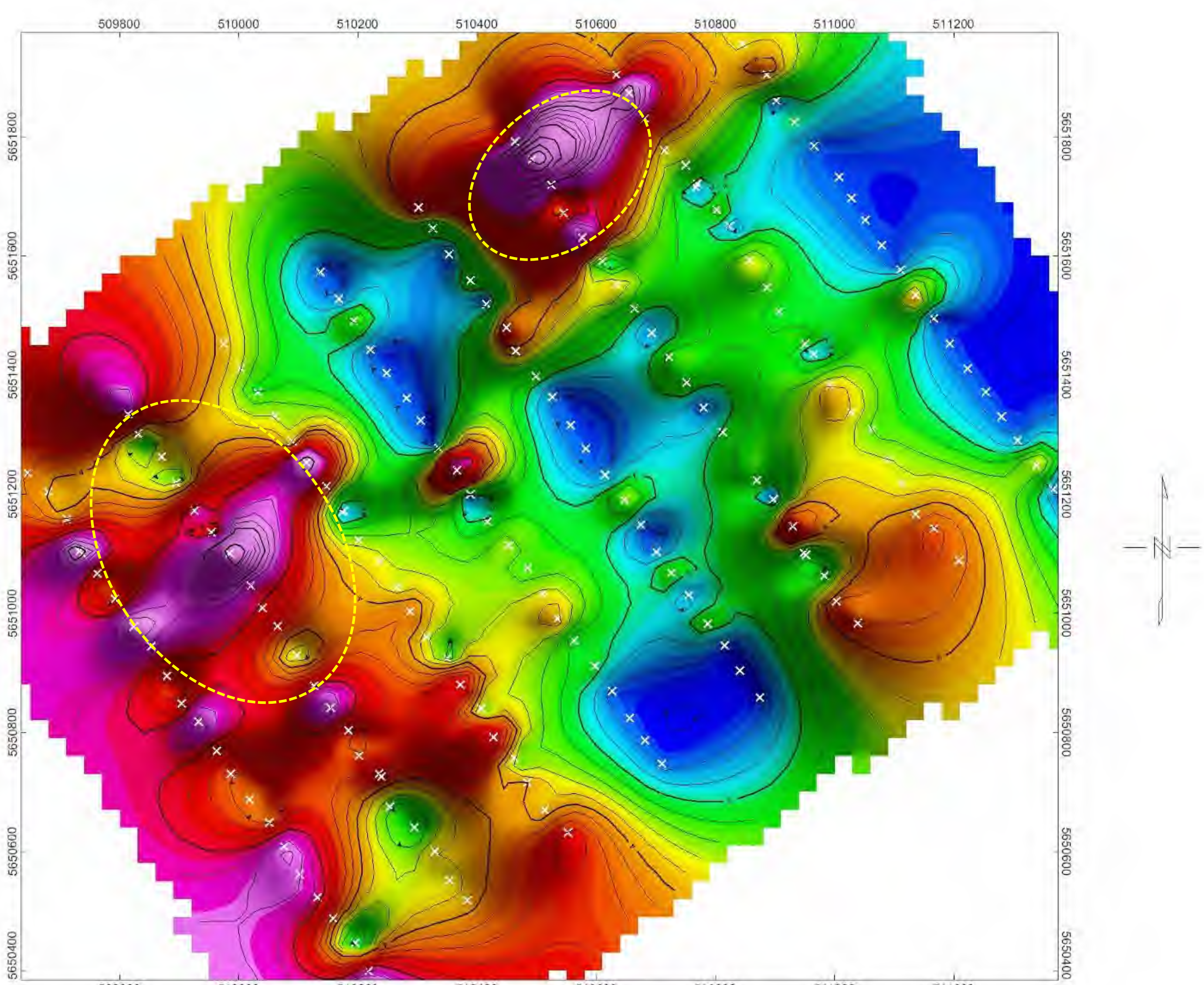
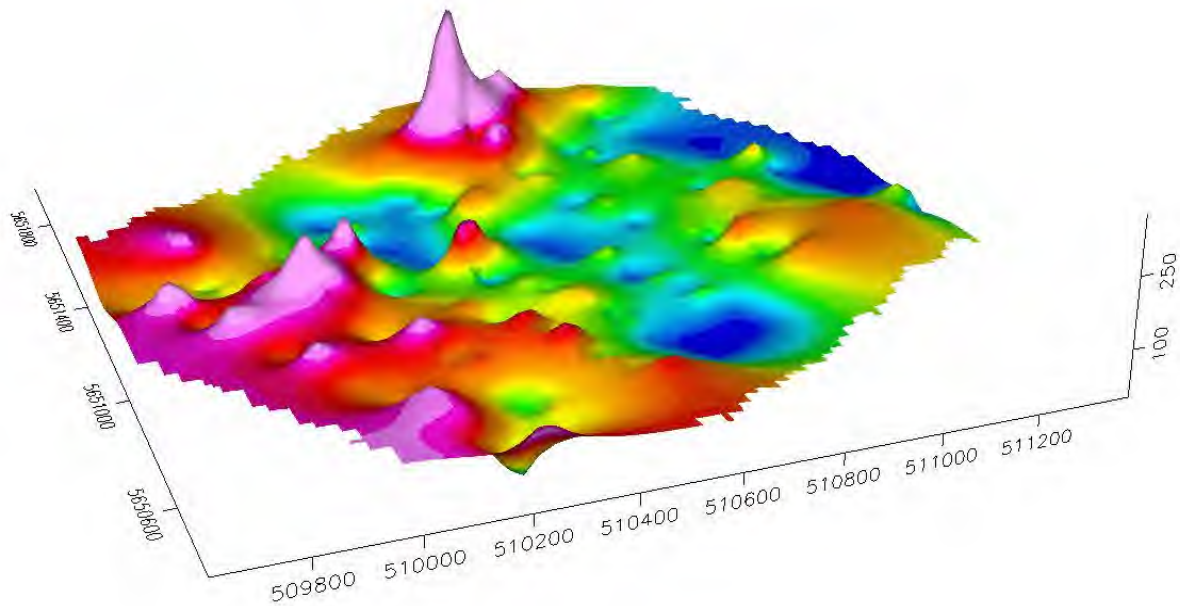
A21-12846 – TRILLIUM GOLD MINES – BLOCK 1
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.0 OF 6.0</u>

A21-12846 – TRILLIUM GOLD MINES – BLOCK 1
SGH "GOLD" PATHFINDER CLASS MAP



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A21-12846 – TRILLIUM GOLD MINES
BLOCK 1 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines BLOCK 1 survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the BLOCK 1 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.0 on a scale of 6.0. The Rating for the BLOCK 1 survey means that, based only on SGH, that there is a chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. <u>Other geological, geochemical and/or geophysical information should also be considered.</u>

<u>It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.</u>

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A21-12846 – TRILLIUM GOLD MINES
BLOCK 1 SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the BLOCK 1 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): July 7, 2021

Date Analysis Complete: July 28, 2021

Interpretation Report: August 25, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: BLOCK 1 Survey

Activation Laboratories Workorder: A21-12846

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

174 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

REPORT/WORKORDER: A21-12846

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits.
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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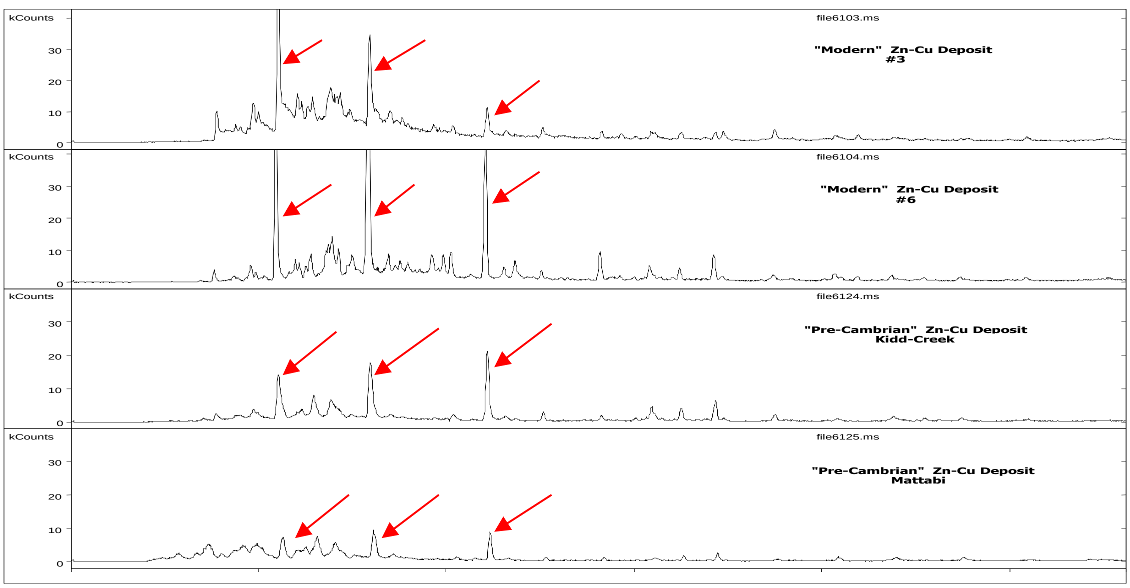
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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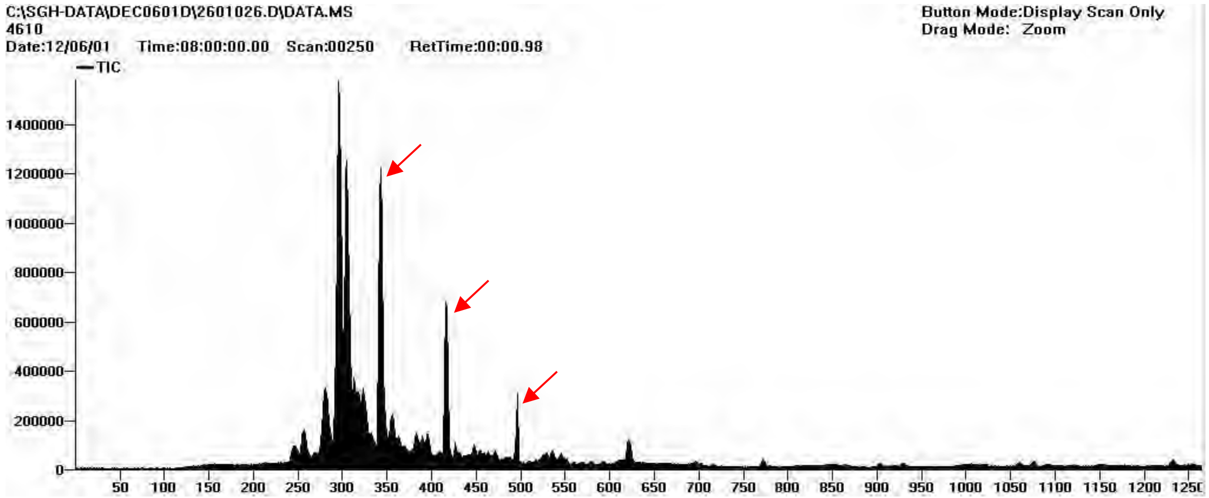
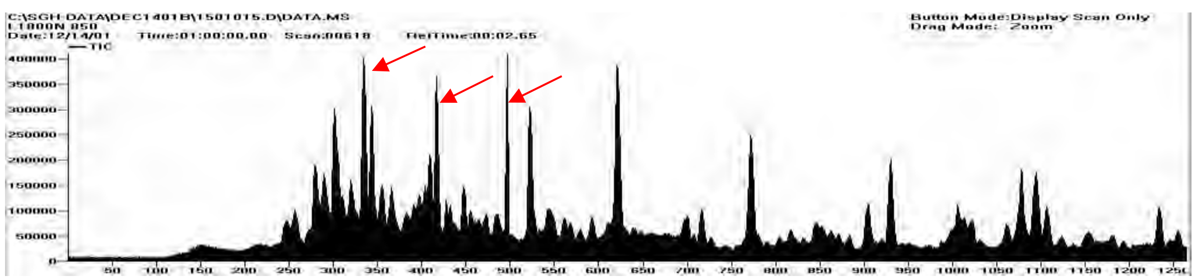
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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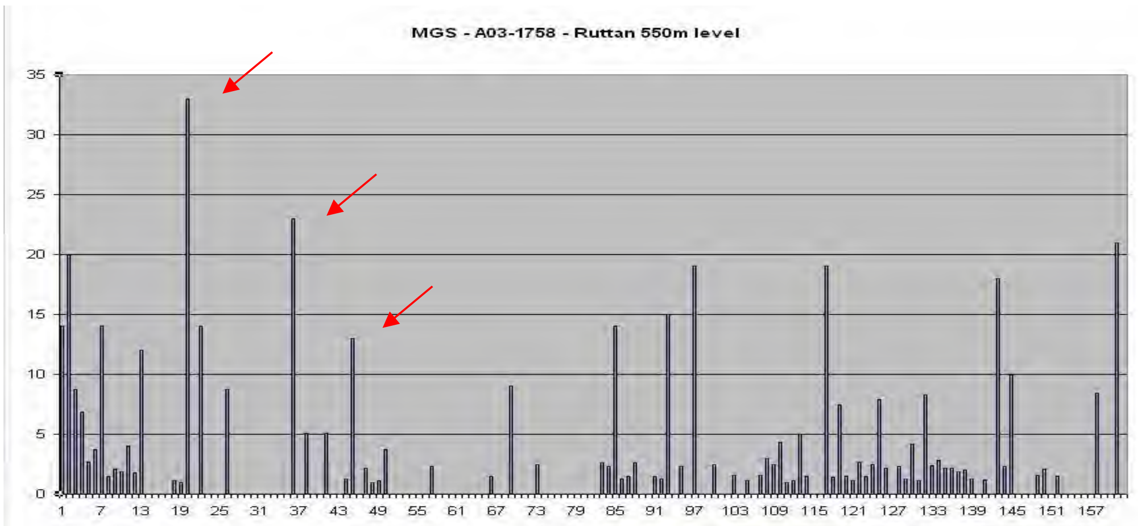
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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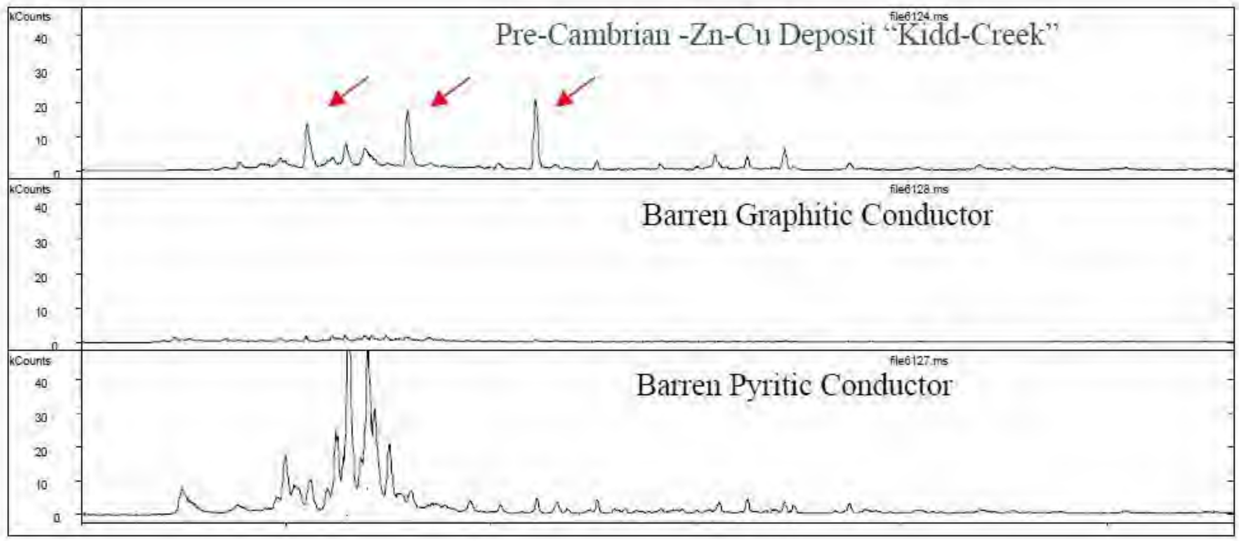

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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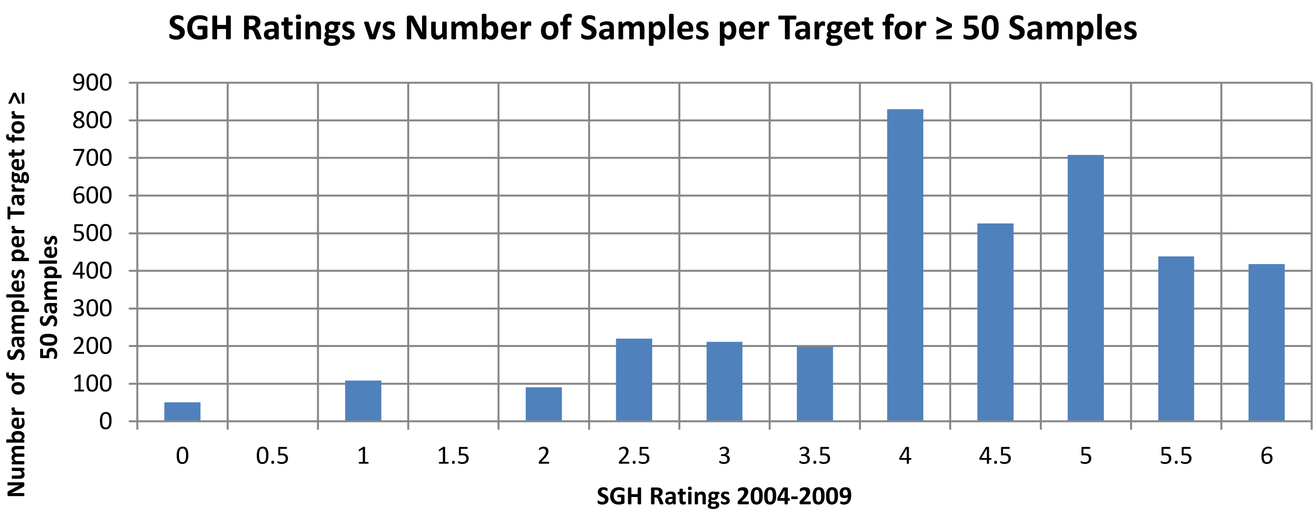
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

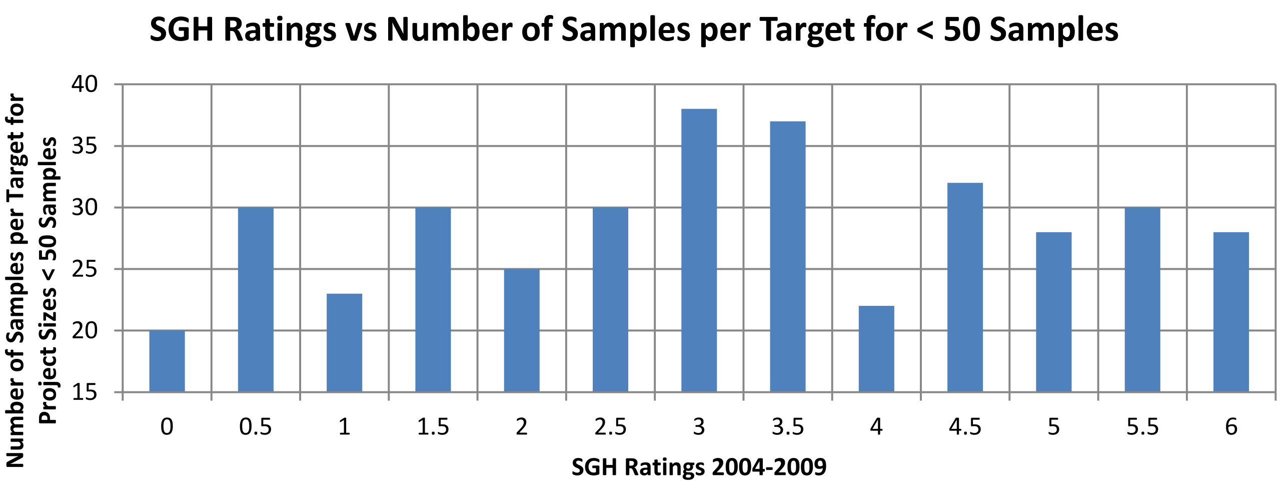
- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

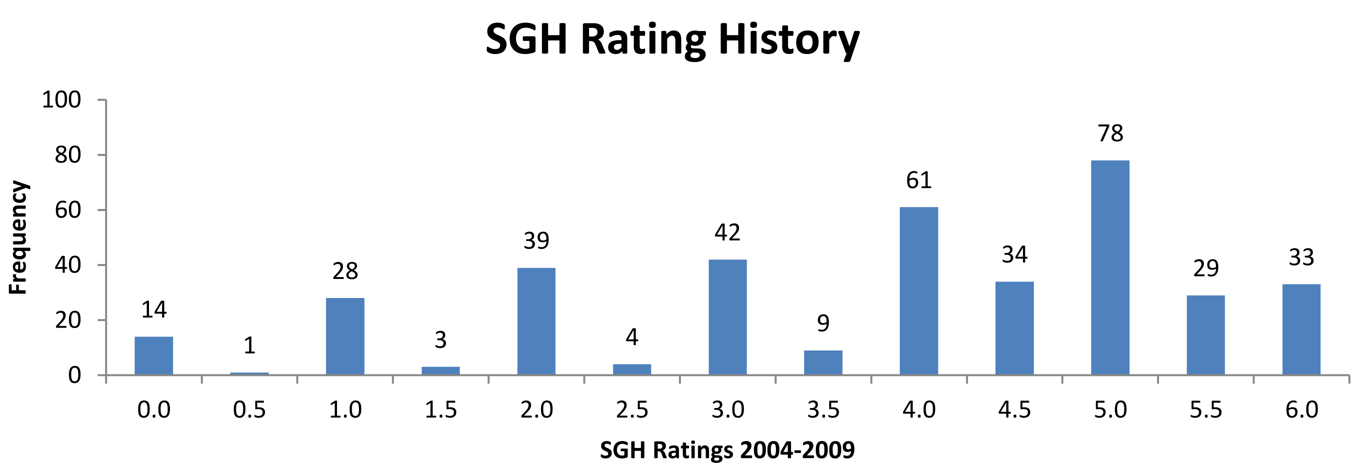
A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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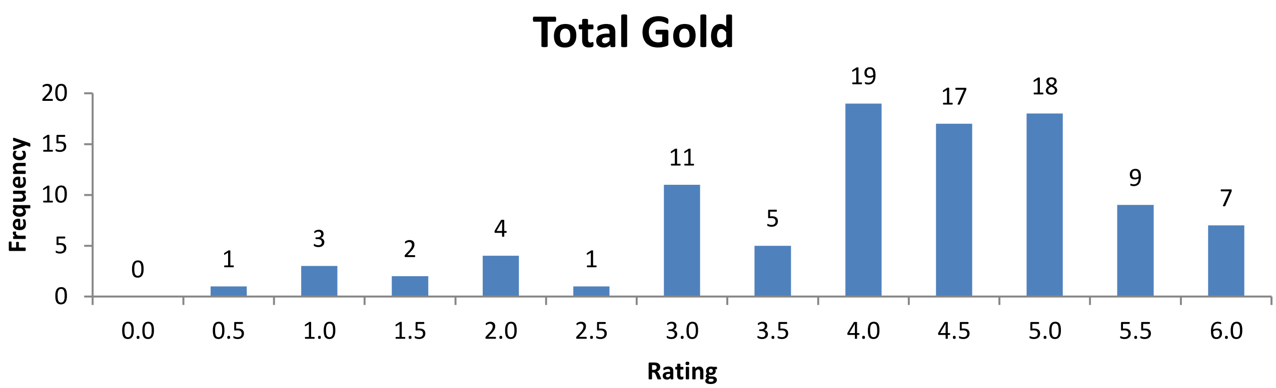
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Block 1 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Gold
660702	5.7
660703	2.5
660704	4.4
660705	5.3
660706	5.4
660706-R	5.4
660707	5.8
660708	4.2
660709	4.3
660710	4.4
660711	4.7
660712	6.1
660713	4.4
660714	4.6
660715	5.5
660716	6.4
660717	4.2
660718	4.5
660719	7.2
660720DUP	6.3
660721	4.6
660721-R	3.2
660722	4.0
660723	4.2
660724	5.7
660725	3.1
660726	3.9
660727	3.2
660728	5.6
660729	4.2
660730	8.1
660731	5.2
660732	5.0
660733	4.6
660734	3.3
660735	5.0
660736	6.2
660736-R	6.1
660737	4.2
660738	4.4
660739	4.7
660740DUP	4.3
660741	3.3
660742	3.1
660743	3.9
660744	3.7
660745	3.9

660774	4.0
660775	7.0
660776	4.8
660777	3.6
660778	3.7
660779	3.0
660779-R	2.5
660780DUP	2.5
660781	3.4
660782	2.5
660783	3.8
660784	3.3
660785	3.1
660786	3.4
660787	2.5
660788	4.0
660789	3.9
660790	3.3
660791	3.7
660792	3.6
660793	4.1
660794	3.9
660794-R	5.1
660795	4.3
660796	4.2
660797	4.4
660798	3.1
660799	3.1
660800DUP	3.2
660801	5.1
660802	2.5
660803	3.4
665166	4.9
665167	3.7
665168	4.2
665169	3.1
665170	5.7
665171	3.0
665171-R	3.1
665172	5.5
665173	3.2
665174	3.6
665175	4.4
665176	3.6
665177	3.7
665178	3.6
665179	2.5
665180DUP	2.5
665181	4.3
665182	6.7
665183	3.5

665184	3.7
665185	3.1
665186	3.9
665186-R	3.4
665187	3.9
665188	2.5
665189	2.5
665190	3.5
665191	2.5
665192	2.5
665193	2.5
665194	2.5
665195	2.5
665196	6.8
665197	2.5
665198	3.1
665199	3.9
665200DUP	3.4
665201	2.5
665201-R	3.8
665202	3.7
665203	4.0
665204	3.0
665205	3.2
665206	2.5
665207	2.5
665208	2.5
665209	2.5
665210	2.5
665211	2.5
665212	2.5
665213	3.3
665214	2.5
665215	3.4
665216	2.5
665216-R	2.5
665217	2.5
665218	3.7
665219	2.5
665220DUP	2.5
665221	2.5
665222	2.5
665223	2.5
665224	3.2
665225	4.0
665226	4.5
665227	2.5
665228	3.3
665229	2.5
665230	3.2
665231	4.3

665231-R	4.3
665232	4.5
665233	12.6
665234	5.1
665235	4.2
665236	6.6
665237	2.5
665238	4.0
665239	2.5
665240DUP	3.8
665241	2.5
665242	3.4
665243	3.3
665244	2.5
665245	3.1
666561	4.0
666561-R	3.4
666562	4.4
666563	2.5
666564	3.1
666565	2.5
666566	2.5
666567	2.5
666568	2.5
666569	2.5
666570	2.5
666571	4.2
666572	2.5
666573	2.5
666574	2.5
666575	2.5
666576	2.5
666576-R	2.5
666577	2.5
666578	3.9
666579	2.5
666580DUP	2.5

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
LUCKY 7 SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

LUCKY 7 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-15344

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this LUCKY 7 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. Additional samples could be warranted to the south of this survey to help better define the mineralization and potentially locate a redox zone if it exists.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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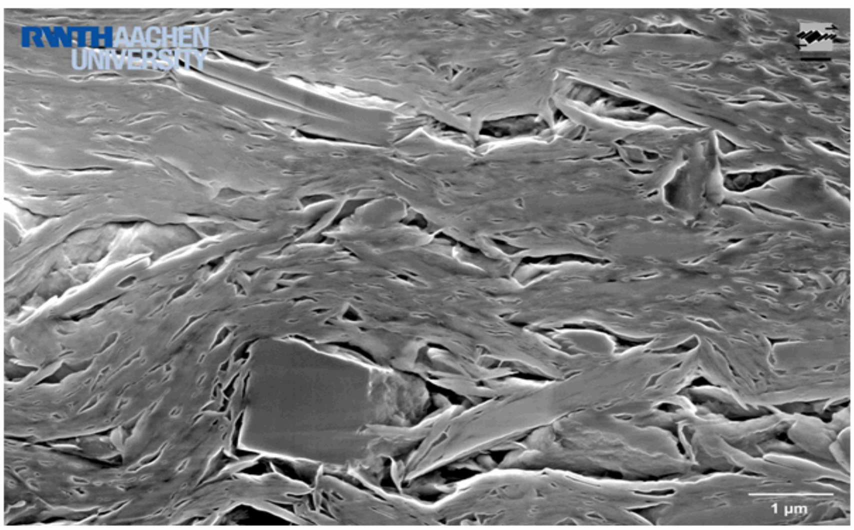
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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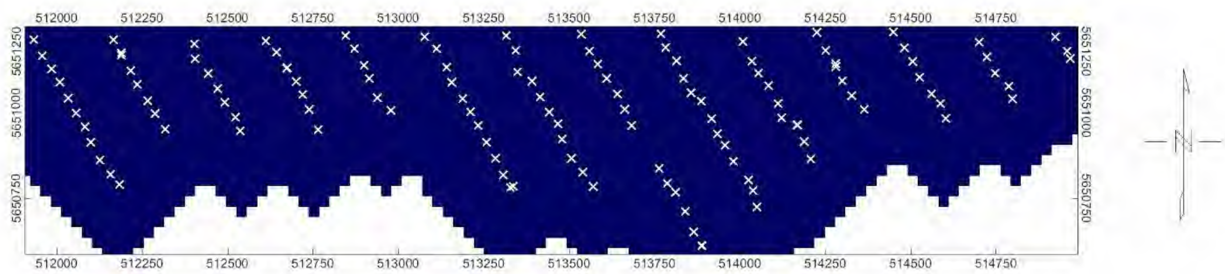
INTERPRETATION OF SGH RESULTS - A21-15344
TRILLIUM GOLD MINES – LUCKY 7 SURVEY

This report is based on the SGH results from the analysis of a total of 122 soil samples from the LUCKY 7 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



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SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – LUCKY 7 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the LUCKY 7 Soil Survey was very good as demonstrated by 8 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **13.8%** which represents a very good level of analytical performance especially at such low parts-per-trillion concentrations.

The **6 Field Duplicate samples submitted from the LUCKY 7 Soil Survey** was considered good at **16.7%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the LUCKY 7 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the LUCKY 7 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-15344 – TRILLIUM GOLD MINES
LUCKY 7 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-15344 – TRILLIUM GOLD MINES – LUCKY 7
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the LUCKY 7 Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the LUCKY 7 survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-15344 – TRILLIUM GOLD MINES – LUCKY 7
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map shows what appears to be a halo anomaly just west of the center of the survey, outlined in yellow. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of this anomaly at the LUCKY 7 Project.

Again, the prediction of this anomaly for gold mineralization is based only on SGH.

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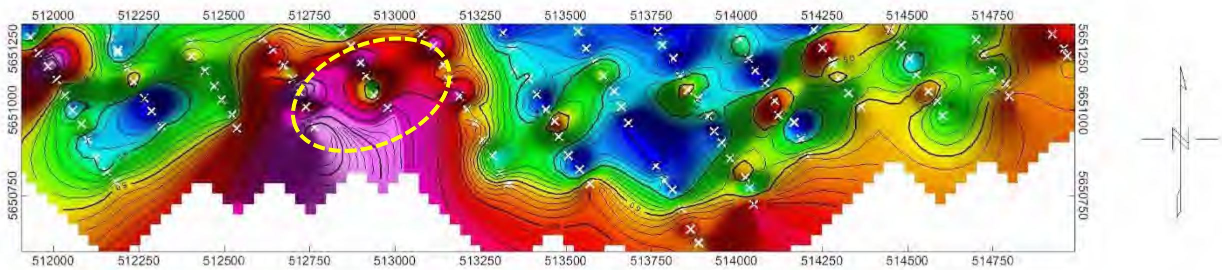
A21-15344 – TRILLIUM GOLD MINES – LUCKY 7
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 3.5 OF 6.0

GEOSOFT

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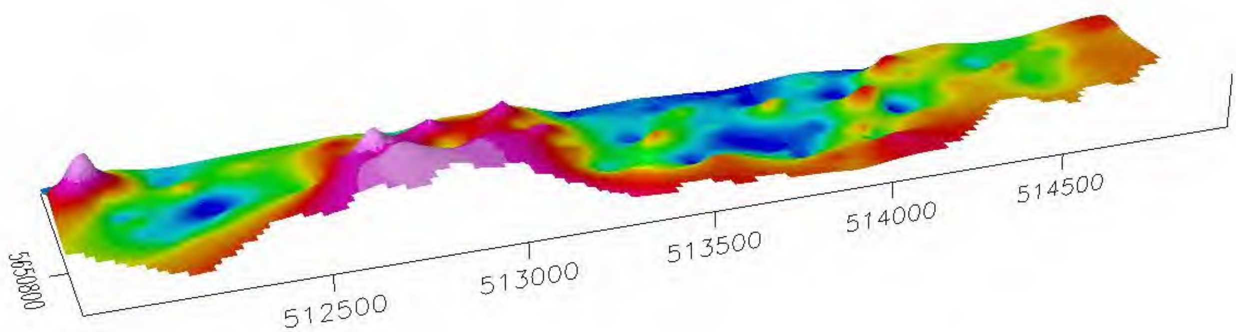
A21-15344 – TRILLIUM GOLD MINES – LUCKY 7
SGH "GOLD" PATHFINDER CLASS MAP



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A21-15344 – TRILLIUM GOLD MINES
LUCKY 7 SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines LUCKY 7 survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the LUCKY 7 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 3.5 on a scale of 6.0. The Rating for the LUCKY 7 survey means that, based only on SGH, that there is hope that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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LUCKY 7 SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the LUCKY 7 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. Additional samples could be warranted to the south of this survey to potentially better define the mineralization and help locate a redox zone if it exists. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): August 10, 2021

Date Analysis Complete: September 7, 2021

Interpretation Report: September 30, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: LUCKY 7 Survey

Activation Laboratories Workorder: A21-15344

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

122 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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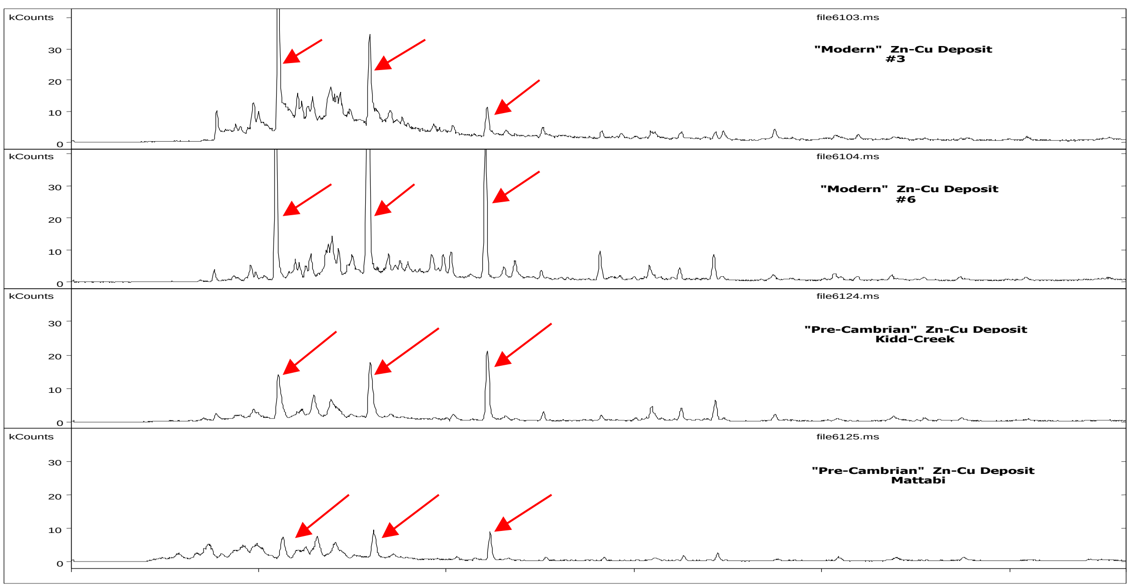
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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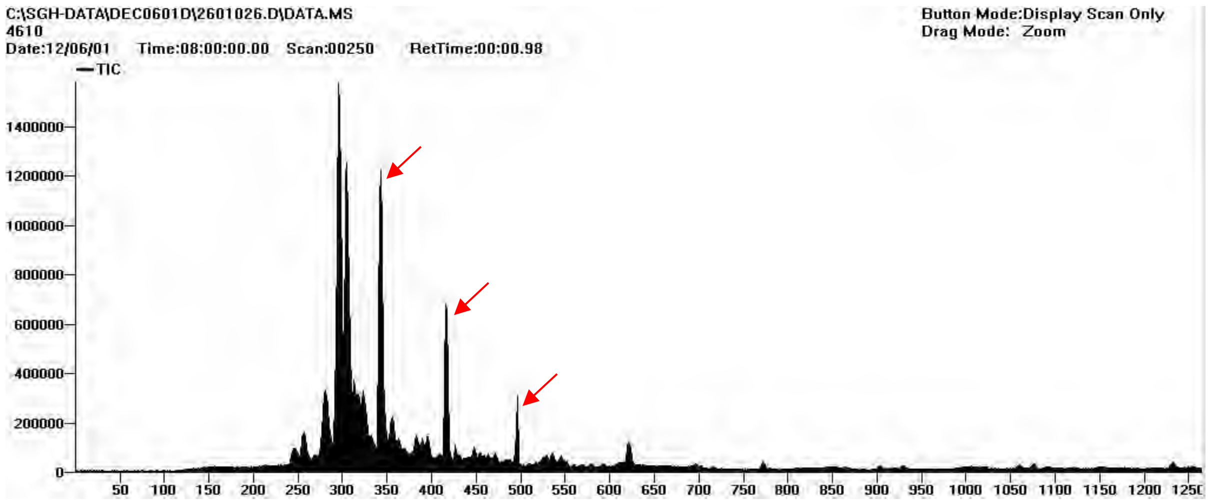
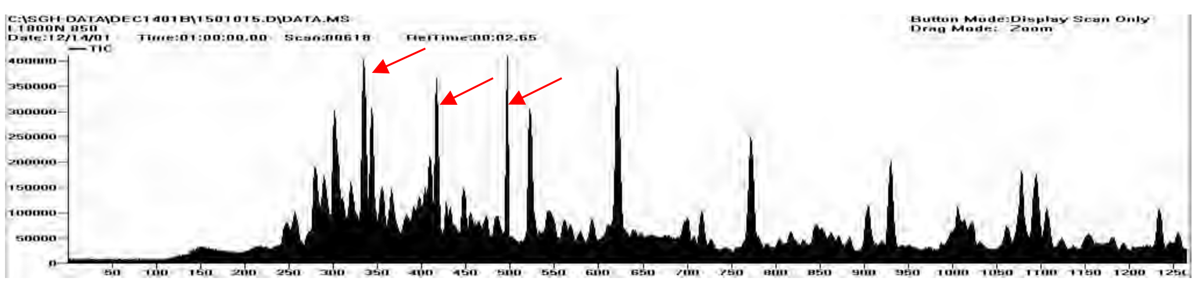
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

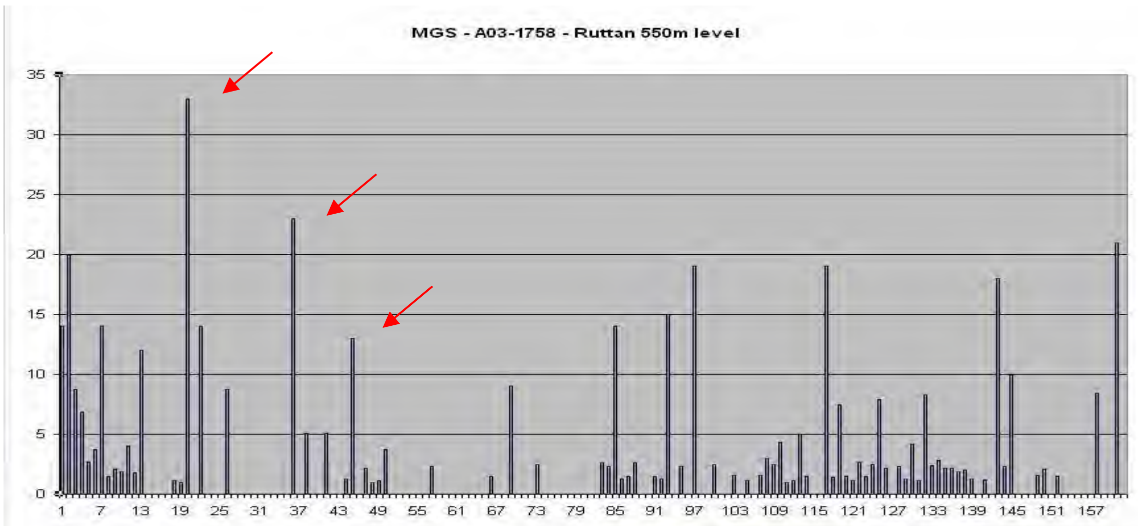
Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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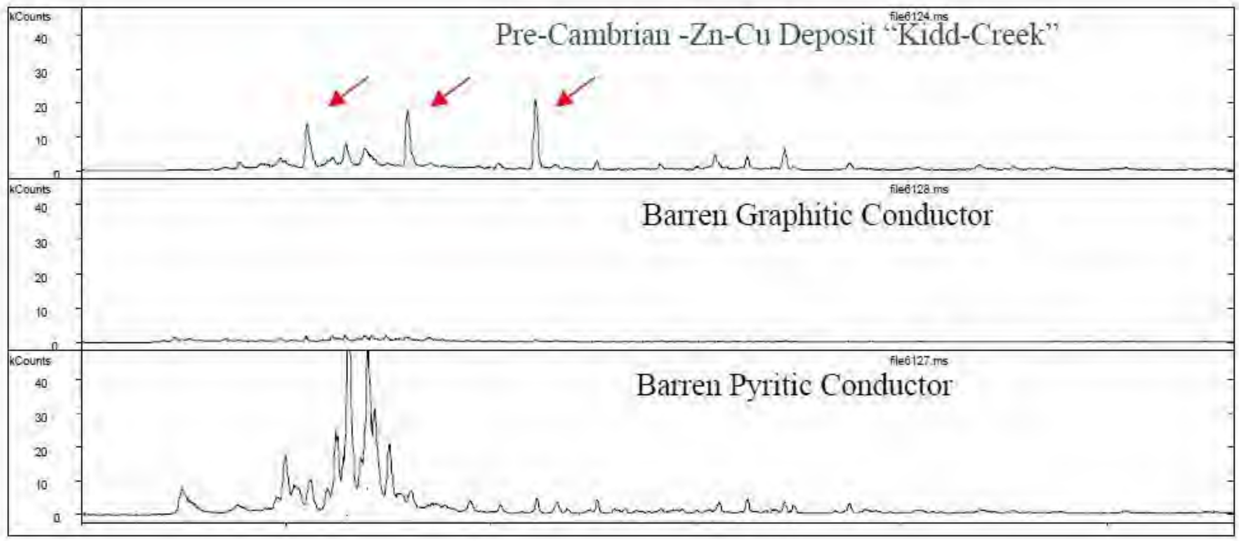

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

<u>SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING</u>

<u>Sample Type and Survey Design:</u> It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with well defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with fairly well defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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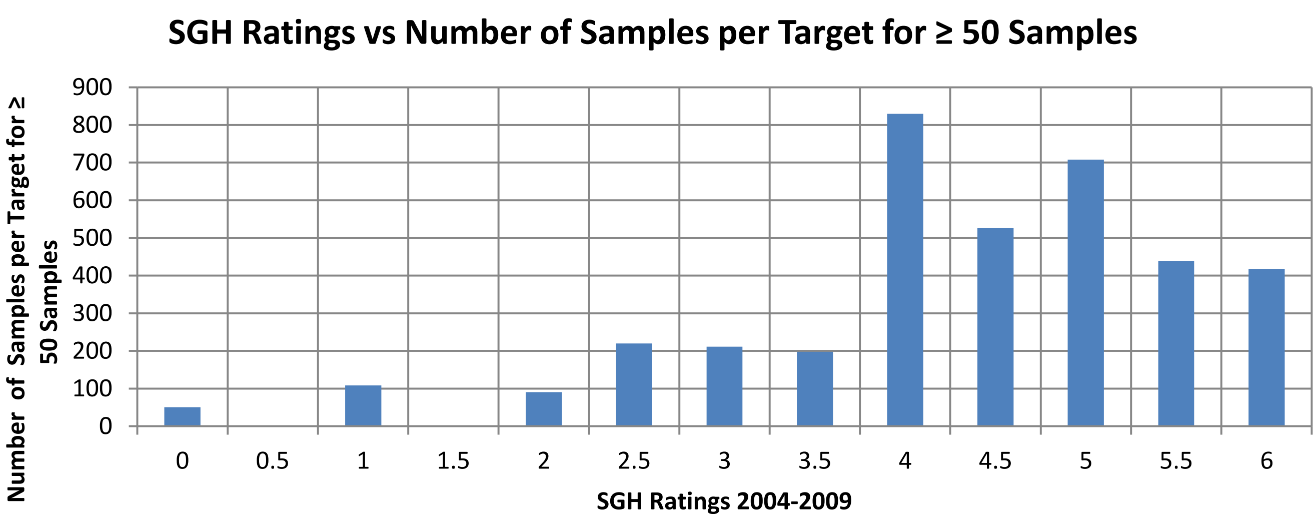
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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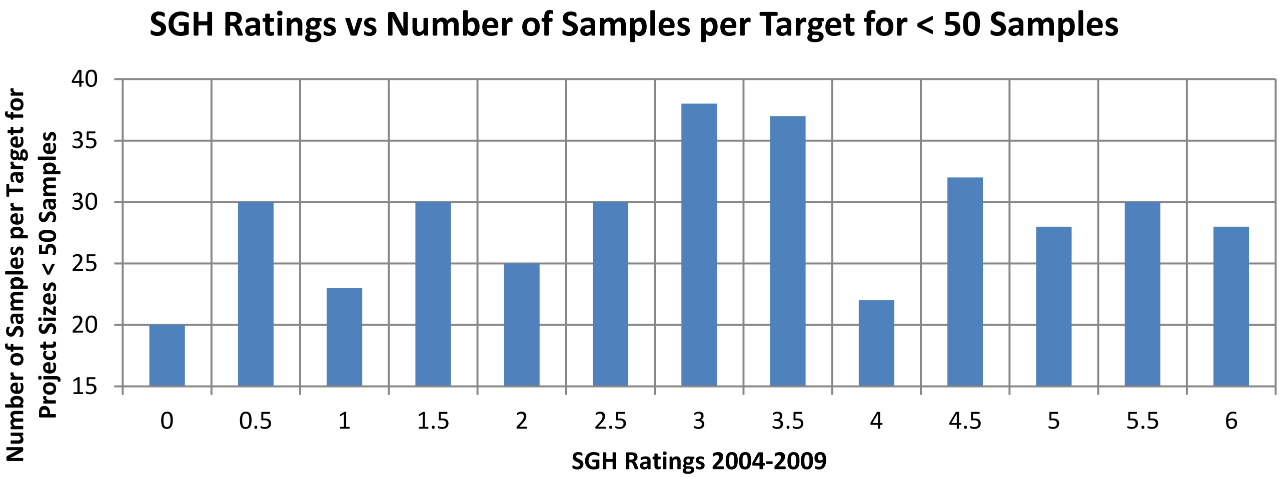
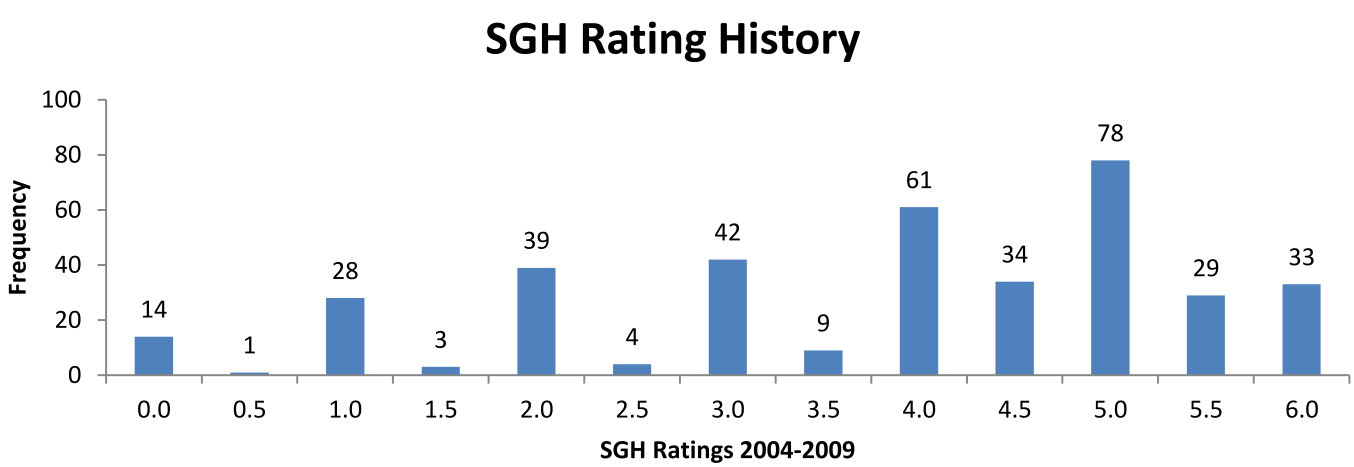
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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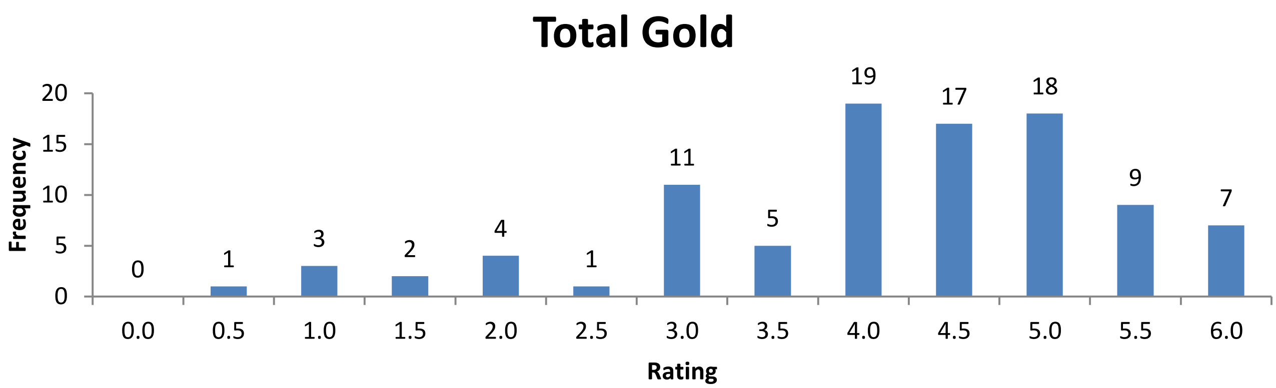
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Lucky 7 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Gold
665868	45.5
665869	51.9
665870	43.2
665871	43.5
665872	43.9
665872-R	45.7
665873	42.4
665874	57.5
665875	114.3
665876	48.9
665877	144.3
665878	40.1
665879	64.5
665880DUP	54.9
665881	65.2
665882	49.0
665883	39.9
665884	56.6
665885	96.4
665886	50.4
665887	39.9
665887-R	39.5
665888	83.9
665889	54.3
665890	88.4
665891	50.2
665892	56.2
665893	83.3
665894	44.9
665895	56.5
665896	53.5
665897	38.3
665898	41.4
665899	53.2
665900DUP	54.0
665901	52.2
665902	58.4
665902-R	68.1
665903	62.3
665904	41.3
665905	52.8
665906	43.1
665907	49.6
665908	57.3
665909	41.5
665910	44.4
665911	61.0

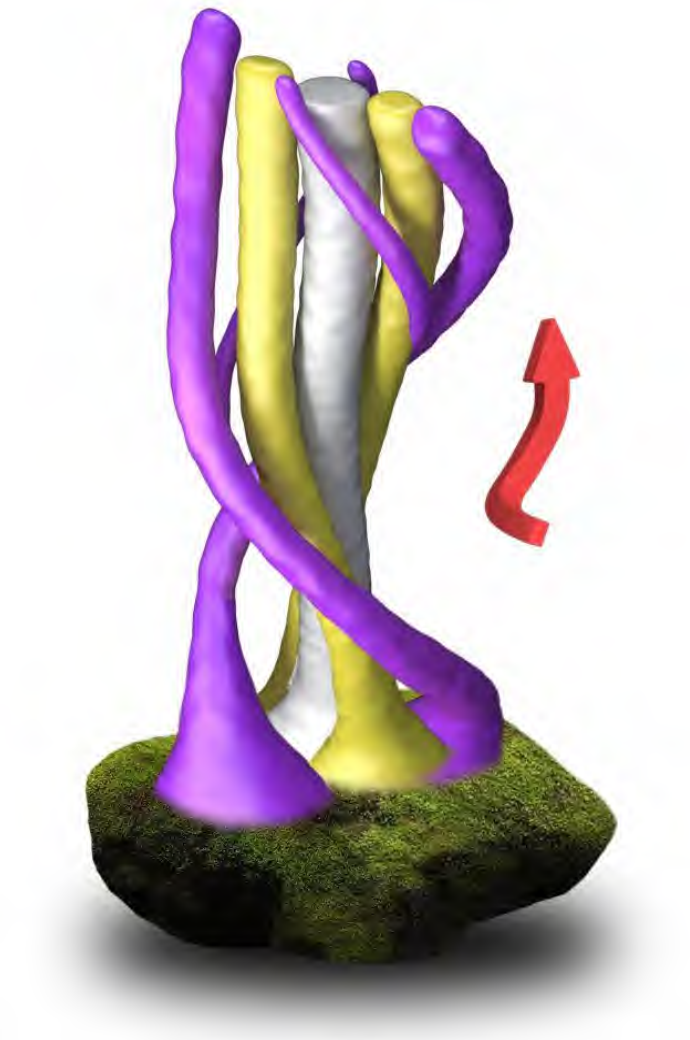
665912	38.3
665913	37.3
665914	44.9
665915	54.0
665916	52.6
665917	41.7
665917-R	40.7
665918	54.3
665919	45.1
665920DUP	40.0
665921	78.3
665922	26.1
665923	58.7
665924	26.6
665925	36.7
665926	45.0
665927	63.8
665928	27.6
665929	35.9
665930	40.8
665931	38.5
665932	41.0
665932-R	39.1
665933	28.9
665993	41.6
665994	40.9
665995	25.5
665996	26.9
665997	71.1
665998	59.4
665999	20.2
666000DUP	27.7
666001	36.4
666002	52.3
666003	68.2
666004	27.2
666005	56.6
666006	42.8
666006-R	49.0
666007	36.2
666008	31.4
666009	43.2
666010	34.3
665107	49.4
665108	38.5
665109	40.2
665110	35.6
665111	48.3
665112	32.5
665113	46.9
665114	49.8

665115	140.7
665116	55.7
665117	37.2
665117-R	32.8
665118	40.4
665119	30.3
665120DUP	35.3
665121	43.8
665122	58.4
665123	26.7
665124	23.1
665125	40.5
660399	55.5
660400DUP	49.5
660401	61.5
660402	51.6
660403	29.0
660404	39.8
660405	22.7
660405-R	33.7
660406	28.5
660407	41.9
660408	33.0
660409	49.5
660410	39.8
660411	30.4
660412	36.9
660413	27.6
660414	38.0
660415	26.2
660416	34.8
660417	63.0

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
BLOCK 2 SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

BLOCK 2 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-15346

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this BLOCK 2 GRID Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. The grid shape of this survey was beneficial in identifying the possible presence of a Redox Zone and the corresponding mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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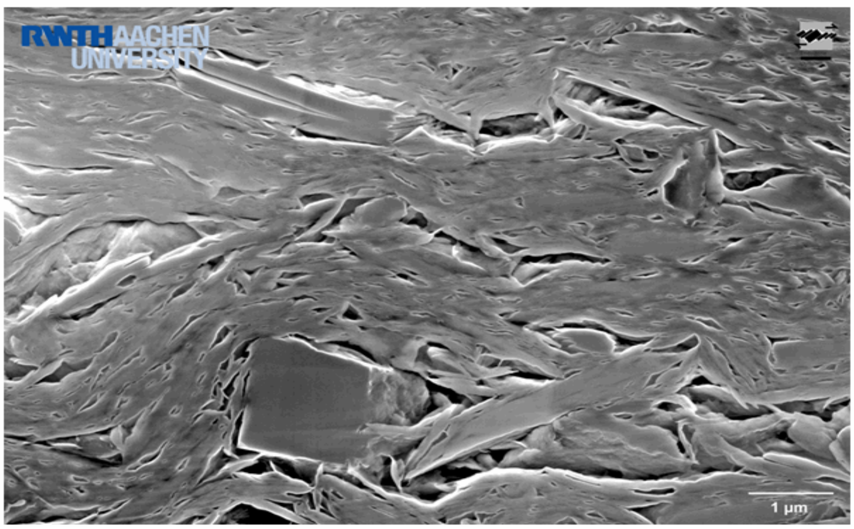
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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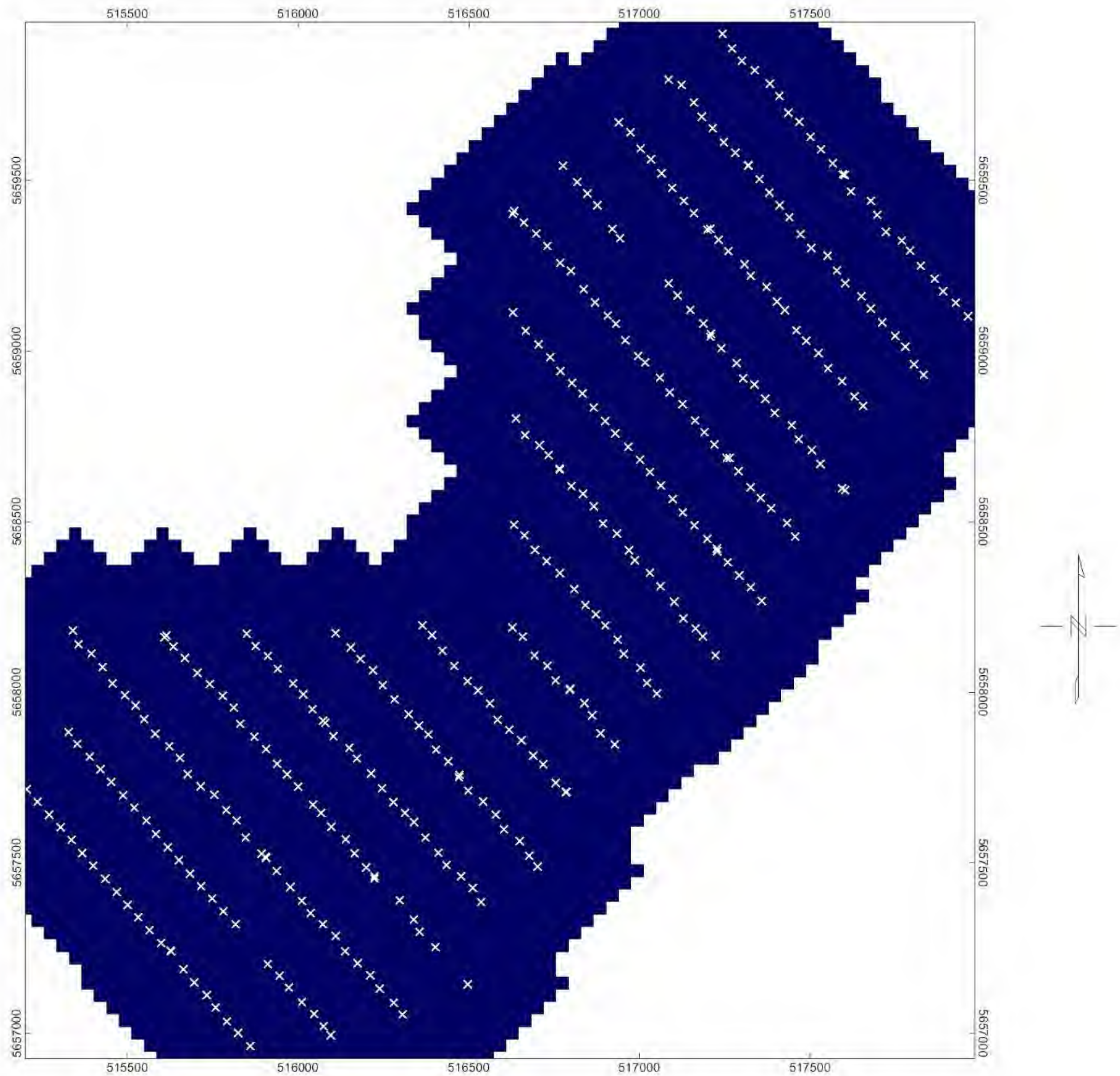
INTERPRETATION OF SGH RESULTS - A21-15346
TRILLIUM GOLD MINES – BLOCK 2 GRID SURVEY

This report is based on the SGH results from the analysis of a total of 358 soil samples from the BLOCK 2 GRID survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



QUALITY ASSURANCE – BLOCK 2 GRID SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the BLOCK 2 GRID Soil Survey was excellent as demonstrated by 24 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **8.3%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **17 Field Duplicate samples submitted from the BLOCK 2 GRID Soil Survey** was considered very good at **11.7%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the BLOCK 2 GRID survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The maps shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to redox and gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the BLOCK 2 GRID survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-15346 – TRILLIUM GOLD MINES
BLOCK 2 GRID SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the BLOCK 2 GRID Soil Survey, the SGH data in general had good signal strength and the SGH Class maps in this report are fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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The SGH Pathfinder Class map shown on page 22 and in 3D view on page 23 shows the SGH anomaly from one of the most reliable SGH Pathfinder Classes in predicting the presence of Redox conditions that can support other SGH Pathfinder Class maps for Gold mineralization. Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the BLOCK 2 GRID survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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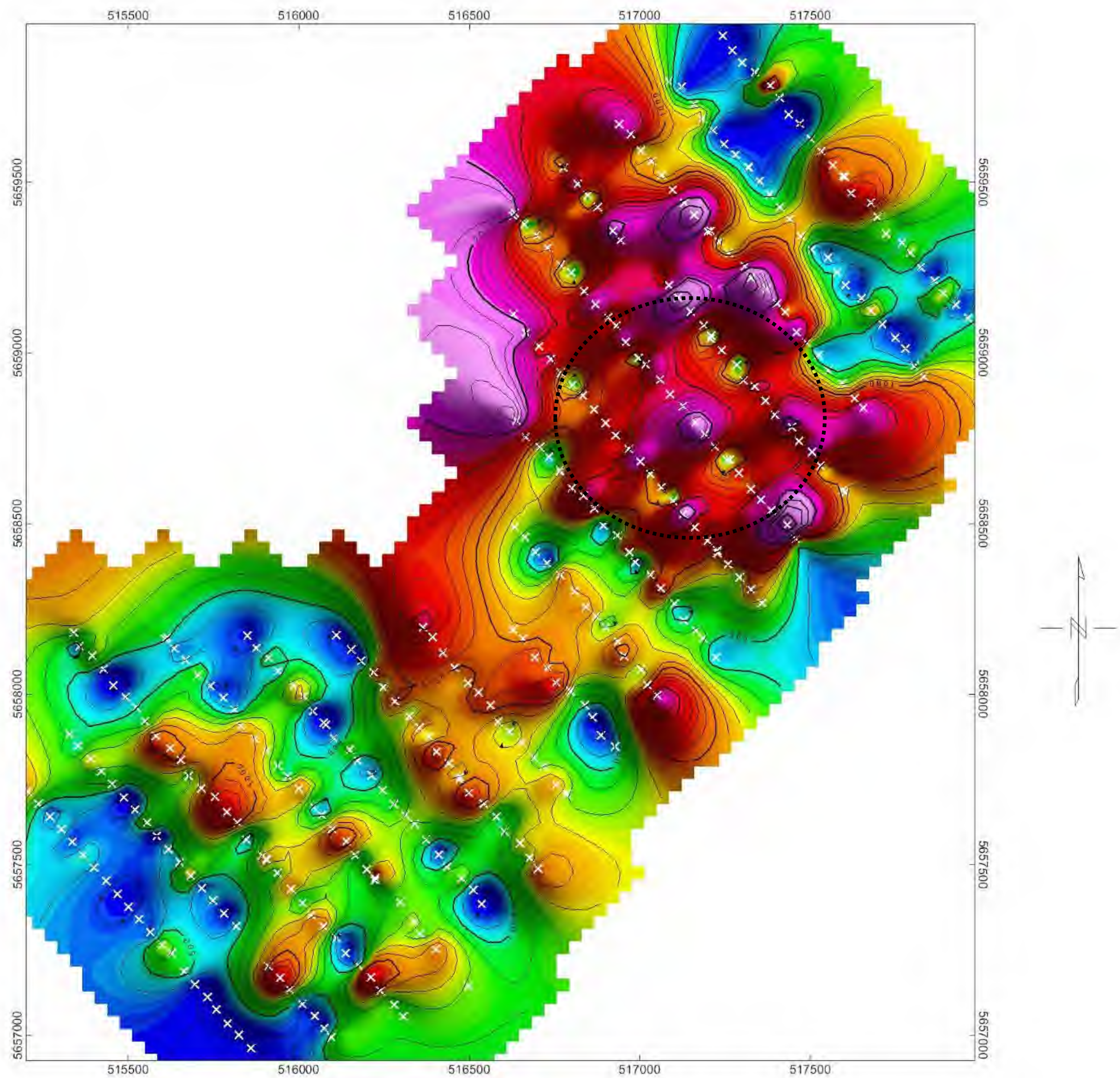
A21-15346 – TRILLIUM GOLD MINES – BLOCK 2 GRID
SGH "REDOX" PATHFINDER CLASS MAP



SEGMENTED NESTED-HALO ANOMALY ILLUSTRATING POSSIBLE PRESENCE OF A REDOX ZONE

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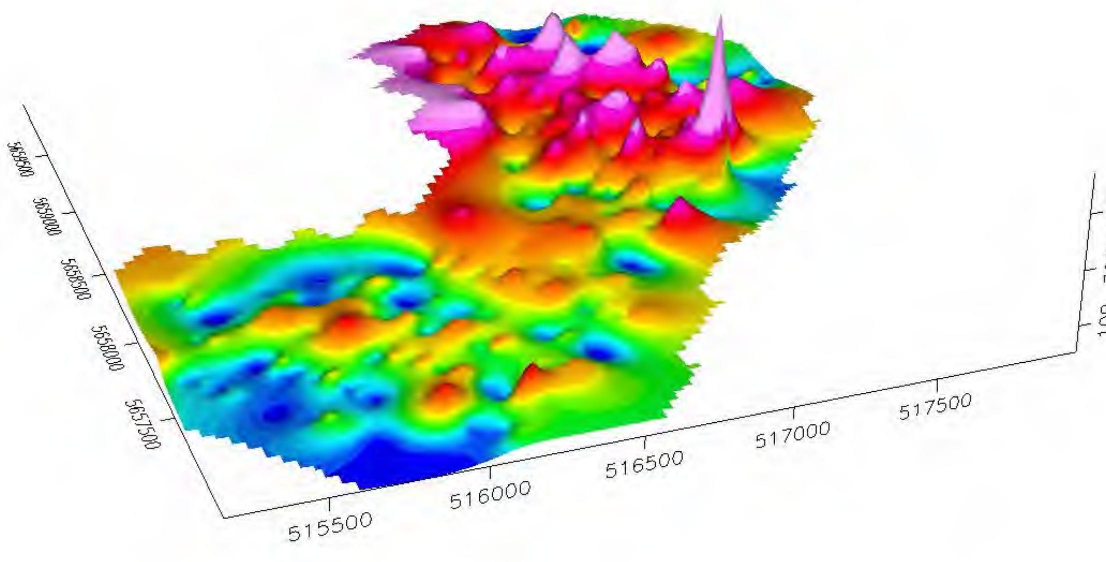
A21-15346 – TRILLIUM GOLD MINES – BLOCK 2 GRID
SGH "REDOX" PATHFINDER CLASS MAP



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A21-15346 – TRILLIUM GOLD MINES – BLOCK 2 GRID
SGH GOLD INTREPRETATION

Page 25 of this report, and in 3D-view on page 26, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates what appears to be a segmented nested-halo anomaly coincident to that of the redox zone. We believe that mineralization might exist at this location as a vertical projection beneath this anomaly. Several other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of this anomaly at the BLOCK 2 GRID Project.

Again, the prediction of this anomaly for gold mineralization is based only on SGH.

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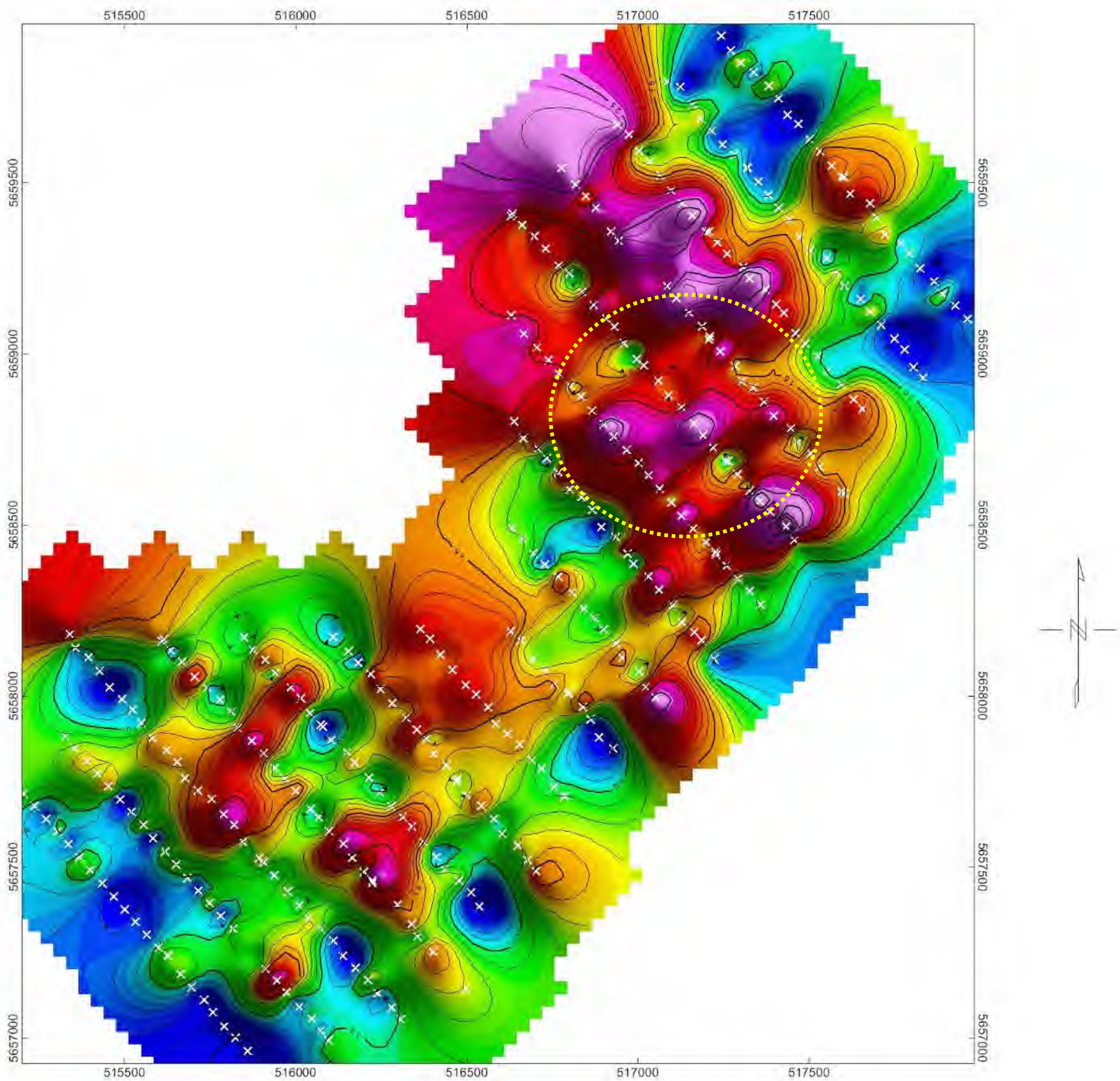
A21-15346 – TRILLIUM GOLD MINES – BLOCK 2 GRID
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINE

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 5.0 OF 6.0

GEOSOFT

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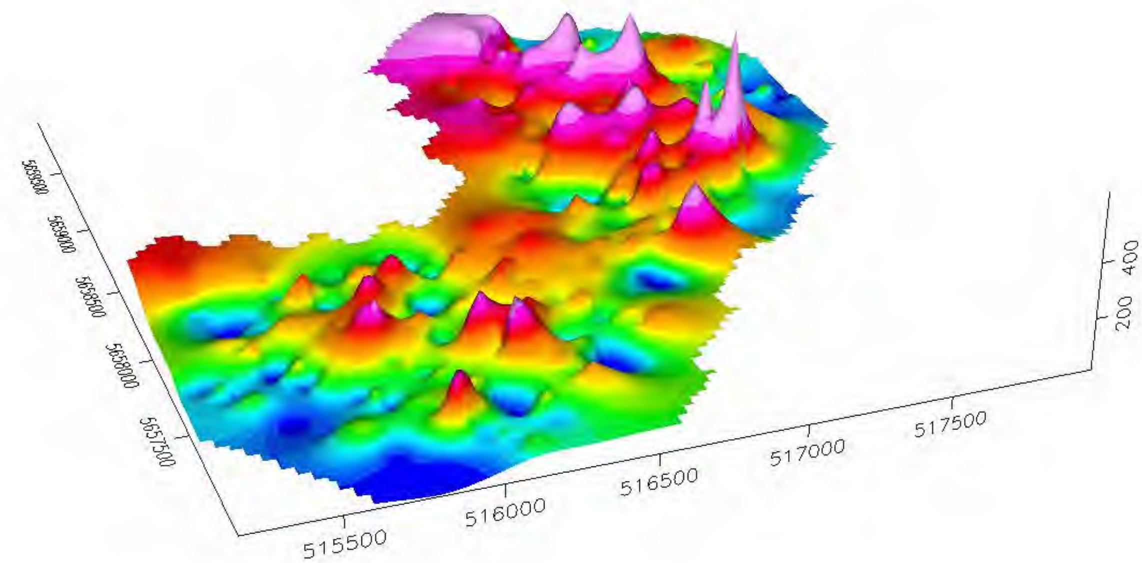
A21-15346 – TRILLIUM GOLD MINES – BLOCK 2 GRID
SGH "GOLD" PATHFINDER CLASS MAP



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A21-15346 – TRILLIUM GOLD MINES
BLOCK 2 GRID SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 25 relative to the presence of gold mineralization at the Trillium Gold Mines BLOCK 2 GRID survey may be based on what may appear to be the presence of a redox zone. Based also on the makeup of the SGH signatures, this redox zone may be associated with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the BLOCK 2 GRID survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 5.0 on a scale of 6.0. The Rating for the BLOCK 2 GRID survey means that, based only on SGH, that there is a high probability that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 25 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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BLOCK 2 GRID SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the BLOCK 2 GRID survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sample on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): August 10 2021

Date Analysis Complete: September 23, 2021

Interpretation Report: October 20, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: BLOCK 2 Survey

Activation Laboratories Workorder: A21-15346

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

358 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-15346

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX “A”

List of terms

1. **SGH** – “SOIL GAS HYDROCARBON” GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- “3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth’s surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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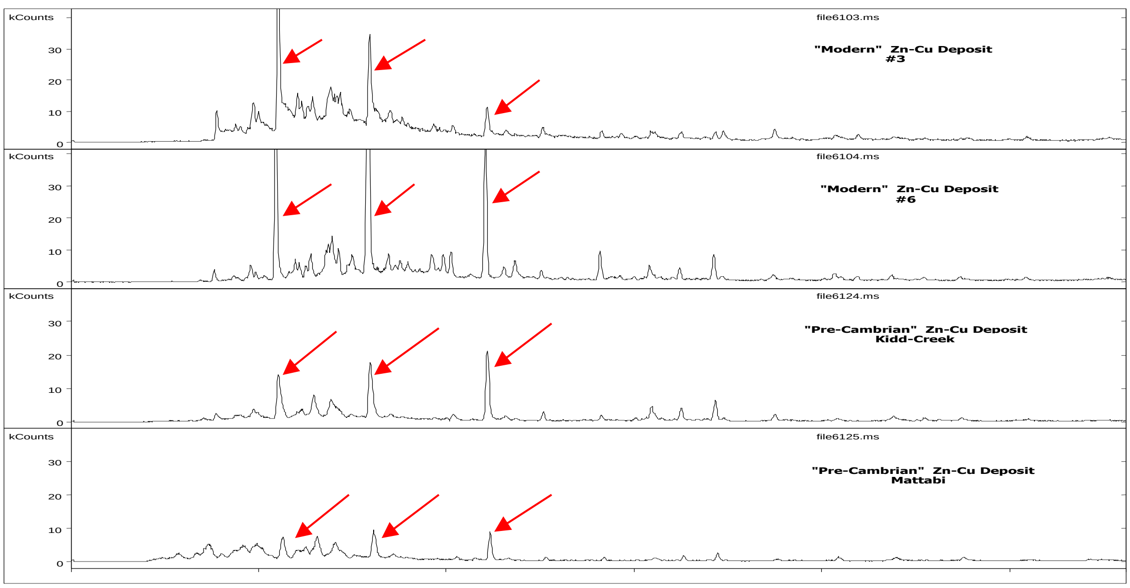
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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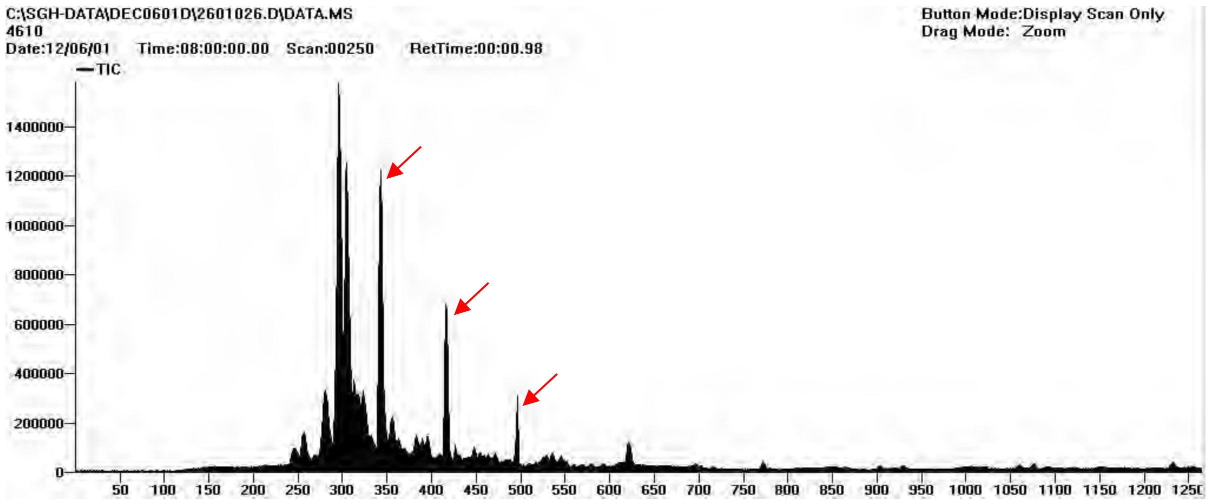
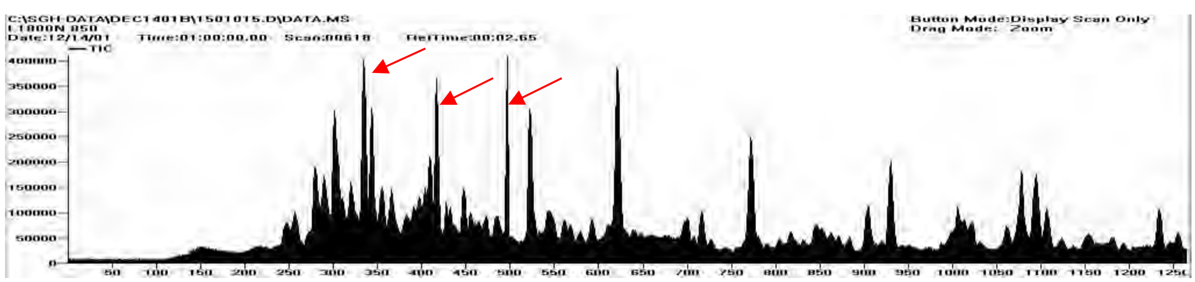
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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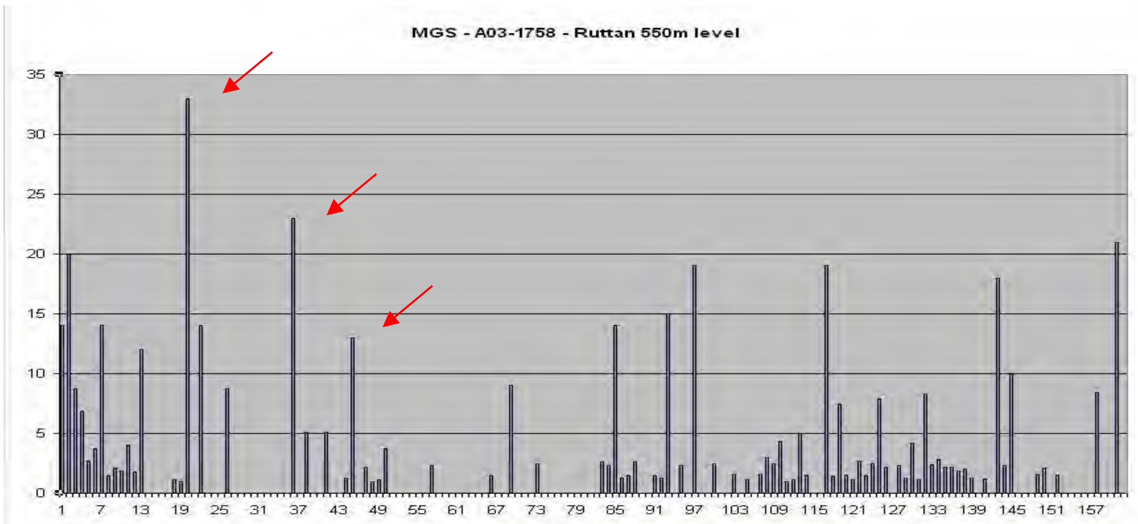
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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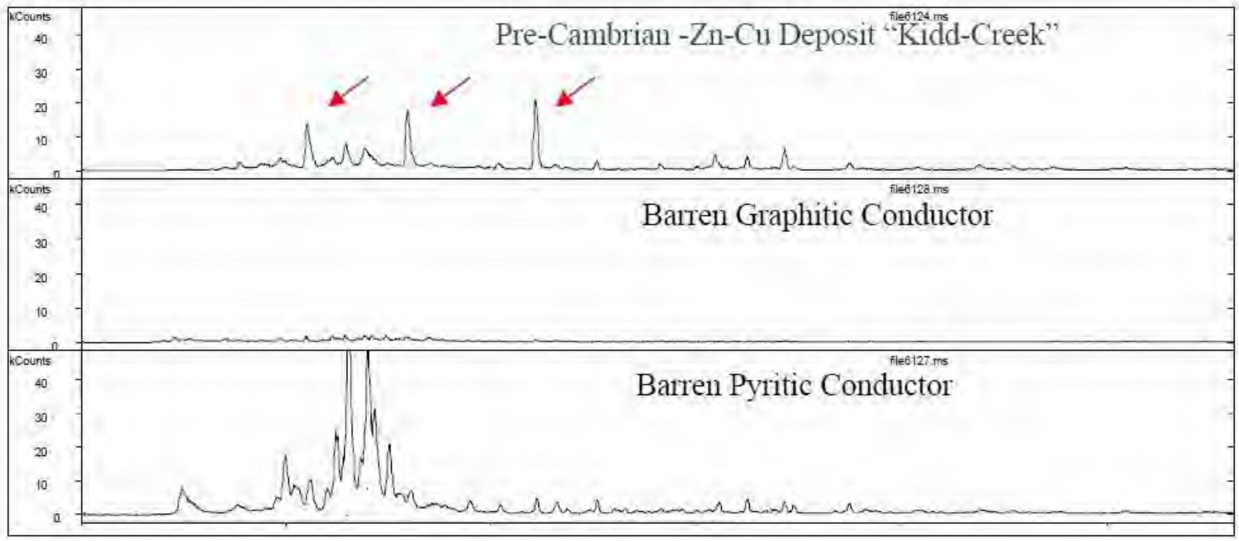

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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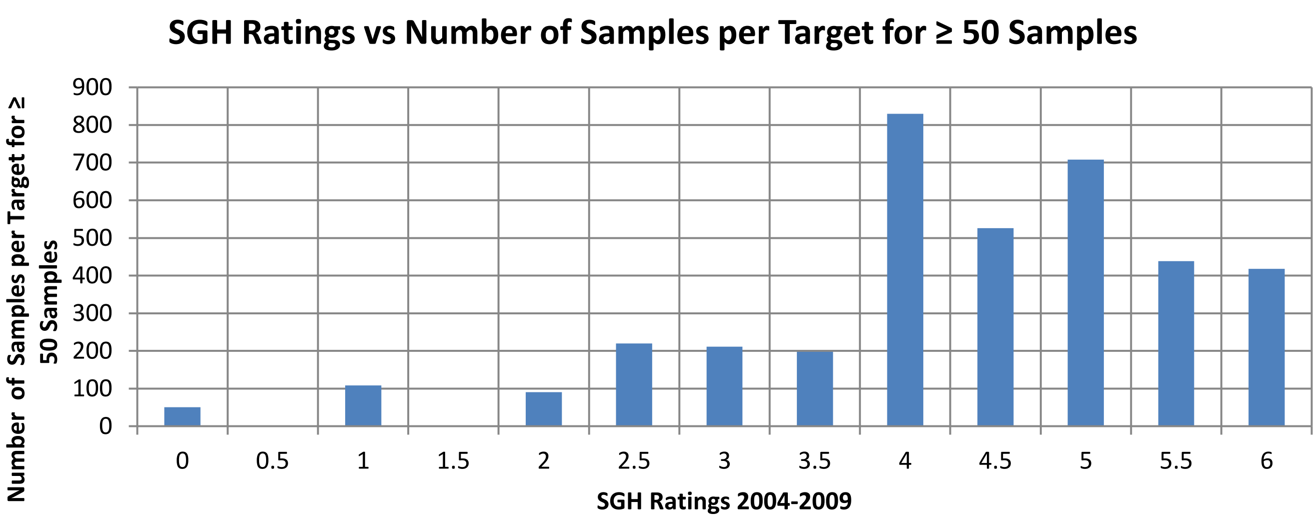
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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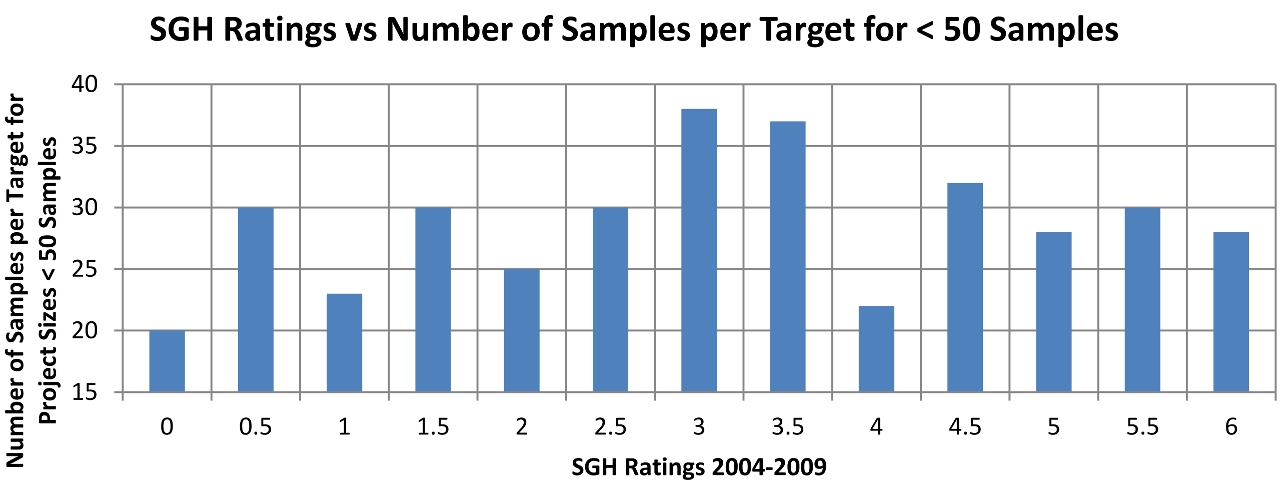
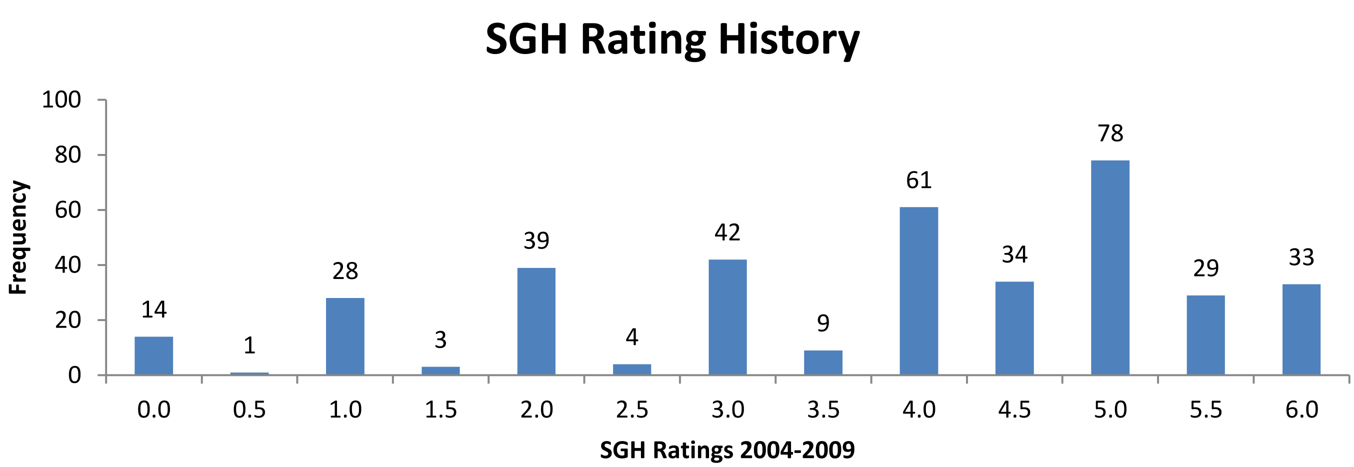
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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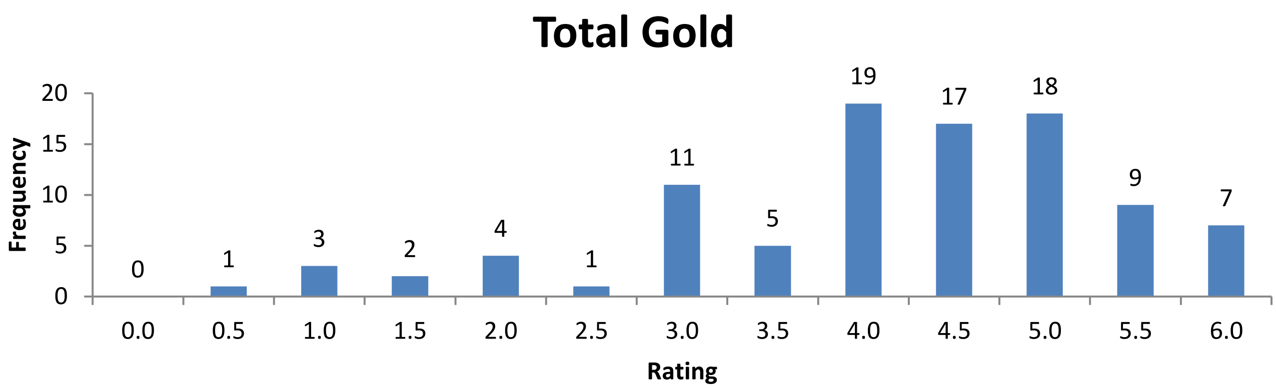
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Block 2 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Redox	SGH-Gold
665665	2081	17.6
665666	1146	19.1
665667	573	9.7
665668	548	9.8
665669	326	9.1
665669-R	349	10.6
665670	599	11.8
665671	2738	15.8
665672	686	20.8
665673	2213	15.7
665674	2204	26.7
665675	3005	43.8
665676	1478	12.9
665677	792	19.0
665678	803	18.2
665679	805	15.0
665680DUP	1857	14.7
665681	3359	38.9
665682	2162	25.6
665683	1131	19.9
665684	814	14.4
665684-R	775	13.8
665685	954	12.5
665686	541	9.8
665687	2028	24.6
665688	1912	27.3
665689	768	27.7
665690	2104	29.5
665691	425	13.1
665692	1128	26.8
665693	2439	19.7
665694	1748	27.2
665695	1284	20.7
665696	3372	33.5
665697	2102	23.6
665698	1071	20.8
665699	330	10.0
665699-R	427	11.6
665700DUP	395	10.1
665701	1731	28.0
665702	355	11.2
665703	895	18.1
665704	1827	15.1
665705	1231	19.5
665706	1558	23.4
665707	2482	18.6
665708	460	9.3

665709	2646	17.7
665710	558	12.7
665711	1010	17.3
665712	832	14.1
665713	520	12.1
665714	6882	58.3
665714-R	5345	53.1
665715	1055	11.2
665716	2181	43.3
665717	904	12.5
665718	1375	16.8
665719	379	8.4
665720DUP	304	7.4
665721	1504	18.6
665722	2285	28.9
665723	2278	30.2
665724	1812	17.0
665725	1468	17.7
665726	1579	16.1
665727	2010	24.1
665728	159	5.0
665729	2411	13.7
665729-R	1976	16.7
665730	1276	16.7
665731	1218	19.8
665732	2236	23.5
665733	1306	11.9
665734	348	8.6
665735	1068	17.9
665736	1109	18.2
665737	890	19.7
665738	445	12.9
665739	934	12.4
665740DUP	3686	32.1
665741	1943	19.2
665742	2132	24.4
665743	1215	18.1
665744	1878	24.9
665744-R	1443	14.5
665745	994	21.9
665746	432	13.0
665747	1305	16.8
665748	825	15.1
665749	1687	29.2
665750	1286	26.5
665751	1326	21.7
665752	2453	19.1
665753	744	22.1
665754	1170	22.0
665755	314	9.7
665756	3262	30.8

665757	570	15.1
665758	1884	13.6
665759	751	18.5
665759-R	616	17.9
665760DUP	675	17.0
665761	1024	22.1
665762	618	11.4
665763	1010	9.1
665764	777	12.1
665765	332	5.9
665766	705	23.2
665767	655	16.8
665768	453	12.1
665769	415	11.9
665770	1301	23.5
665771	828	22.3
665772	158	4.3
665773	1142	18.7
665774	672	10.4
665774-R	577	10.1
665775	176	5.3
665776	1434	12.0
665777	1906	12.7
665778	1169	12.9
665779	1038	23.0
665780DUP	547	11.0
665781	293	5.6
665782	830	16.1
665783	1229	13.8
665784	2562	20.1
665785	755	11.7
665786	676	12.1
665787	411	11.4
665788	192	5.4
665789	983	17.6
665789-R	1090	17.7
665790	880	14.3
665791	992	10.9
665792	864	11.0
665793	521	10.3
665794	1046	13.4
665795	1085	17.0
665796	687	9.8
665797	796	15.9
665798	2050	30.5
665799	671	11.0
665800DUP	659	11.8
665801	1008	10.0
665802	504	8.1
665803	704	13.7
665804	965	15.4

665804-R	841	14.7
665805	638	14.2
665806	835	13.9
665807	1080	16.5
665808	1137	18.4
665809	891	19.9
665810	971	16.9
665811	1264	15.6
665812	1168	18.4
665813	1697	19.1
665814	914	17.9
665815	941	13.2
665816	1269	12.0
665817	876	12.4
665818	1561	17.3
665819	659	12.8
665819-R	377	7.3
665820DUP	685	12.6
665821	587	18.7
665822	177	6.4
665823	269	6.1
665824	373	6.5
665825	97	3.1
665826	318	5.8
665827	751	13.0
665828	587	12.1
665829	165	5.7
665830	625	15.4
665831	685	19.8
665832	763	18.5
665833	496	11.4
665834	547	8.2
665834-R	676	9.9
665835	329	10.0
665836	438	15.1
665837	691	12.1
665838	383	8.3
665839	204	6.8
665840DUP	139	4.9
665841	281	10.7
665842	897	21.2
665843	834	22.7
665844	374	9.2
665845	654	18.9
665846	313	10.6
665847	235	9.7
665848	255	8.1
665849	313	12.2
665849-R	283	11.6
665850	206	5.8
665851	1009	18.1

665852	621	14.0
665853	1159	15.2
665854	533	11.8
665855	1158	24.9
665856	588	10.3
665857	1348	15.6
665858	919	13.7
665859	1132	13.7
665860DUP	509	10.9
665861	1251	12.1
665862	1073	17.1
665863	435	8.8
665864	622	11.1
665864-R	499	9.7
665865	874	14.2
665866	632	11.3
665867	1059	16.8
665934	1050	16.2
665935	541	9.7
665936	774	15.7
665937	621	14.5
665938	1152	15.0
665939	1289	35.6
665940DUP	663	21.6
665941	439	8.7
665942	604	18.5
665943	1243	29.5
665944	1059	10.7
665945	291	10.4
665945-R	321	11.0
665946	430	8.5
665947	1106	20.6
665948	477	12.2
665949	555	9.4
665950	793	17.8
665951	918	25.2
665952	909	13.3
665953	332	10.4
665954	318	9.5
665955	283	8.7
665956	718	21.6
665957	361	10.5
665958	358	8.2
665959	556	14.2
665960DUP	544	15.4
665960DUP-R	501	14.8
665961	809	18.5
665962	281	8.1
665963	958	9.0
665964	319	9.9
665965	109	3.4

665966	392	8.6
665967	545	9.5
665968	434	8.0
665969	1201	15.4
665970	1022	14.6
665971	1063	14.5
665972	625	13.1
665973	829	16.6
665974	1218	15.7
665975	1544	25.8
665975-R	1425	22.3
665976	1067	25.9
665977	252	10.4
665978	738	15.9
665979	1219	13.7
665980DUP	915	12.2
665981	609	9.1
665982	1042	13.3
665983	364	8.5
665984	950	13.8
665985	1051	12.4
665986	297	6.4
665987	348	7.0
665988	173	4.9
665989	1939	15.5
665990	749	7.8
665990-R	668	7.2
665991	937	14.1
665992	318	5.6
660303	1008	7.8
660304	378	6.5
660305	268	6.0
660306	303	6.0
660307	241	6.9
660308	1070	15.5
660309	304	6.9
660310	272	11.2
660311	498	13.3
660312	282	7.5
660313	418	12.8
660314	852	14.2
660315	826	13.0
660315-R	1052	16.2
660316	552	10.9
660317	487	8.2
660318	285	7.6
660319	225	5.2
660320DUP	478	9.0
660321	369	11.7
660322	182	5.6
660323	260	8.0

660324	989	14.7
660325	612	11.0
660326	129	4.4
660327	656	11.5
660328	250	7.6
660329	157	4.5
660330	457	17.1
660330-R	499	17.2
660331	147	5.2
660332	1562	15.0
660333	242	7.9
660334	194	5.2
660335	161	4.7
660336	499	9.2
660337	990	15.8
660338	1245	16.9
660339	1011	16.4
660340DUP	853	14.8
660341	1443	18.0
660342	1341	20.3
660343	604	9.8
660344	721	16.0
660345	380	7.5
660345-R	337	6.5
660346	798	11.1
660347	374	7.5
660348	139	4.3
660349	1127	15.2
660350	98	3.6
660351	495	8.8
660352	171	5.3
660353	218	4.7
660354	267	6.7
660355	272	7.0
660356	150	5.9
660357	277	8.9
660358	586	12.7
660359	486	10.6
660360DUP	562	12.3
660360DUP-R	605	12.2
660361	810	10.7
660362	216	6.2
660363	393	7.5
660364	219	6.1
660365	206	6.1
660366	378	8.0
660367	316	11.3
660368	629	11.9
660369	142	5.3
660370	569	12.6
660371	246	6.3

660372	560	9.6
660373	927	11.6
660374	598	11.1
660375	383	14.3
660375-R	426	10.3
660376	885	14.4
660377	651	11.9
660378	668	16.2
660379	158	5.0
660380DUP	151	5.0
660381	255	7.0
660382	844	14.9
660383	100	4.4
660384	554	12.5
660385	384	10.8
660386	943	10.1
660387	201	6.5
660388	491	13.4
660389	161	5.8
660390	344	11.8
660390-R	521	12.0
660391	922	11.2
660392	1614	30.4
660393	924	11.6
660394	232	7.3
660395	381	11.4
660396	195	7.4
660397	670	11.4
660398	675	13.0

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
BLOCK 3 SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

BLOCK 3 SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-15036

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this BLOCK 3 Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was able to identify potential gold mineralization as trending apical anomalies in what appears to be a redox zone.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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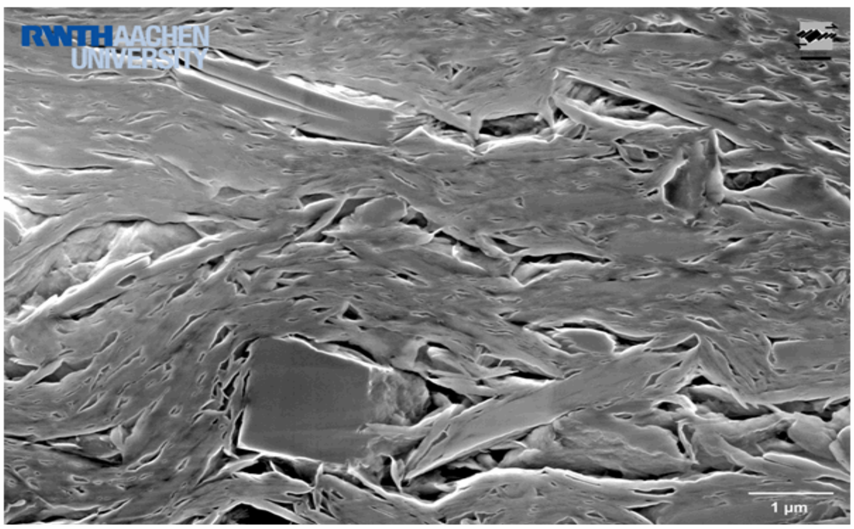
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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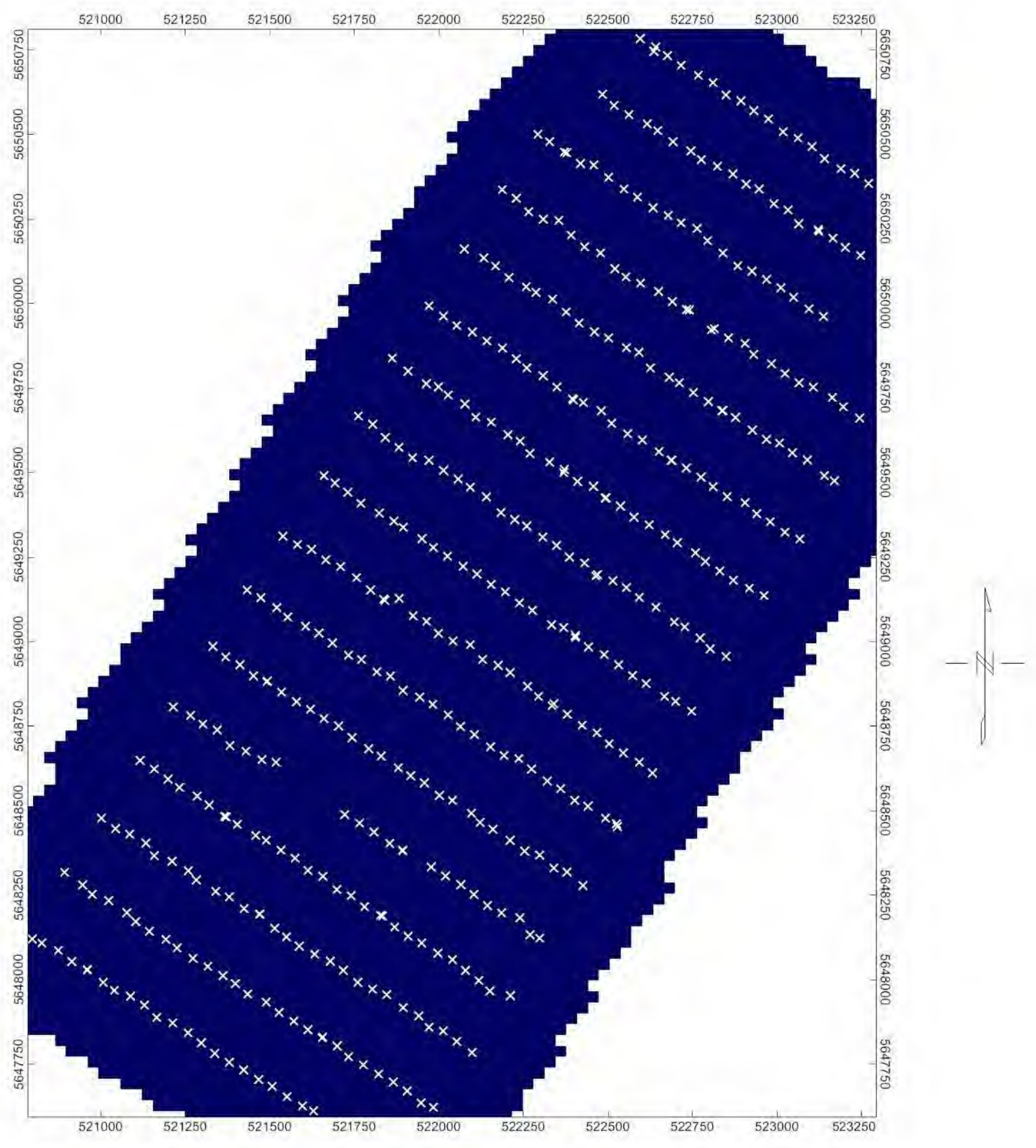
INTERPRETATION OF SGH RESULTS - A21-15036
TRILLIUM GOLD MINES – BLOCK 3 SURVEY

This report is based on the SGH results from the analysis of a total of 443 soil samples from the BLOCK 3 survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



QUALITY ASSURANCE – BLOCK 3 SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the BLOCK 3 Soil Survey was excellent as demonstrated by 30 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **9.8%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **21 Field Duplicate samples submitted from the BLOCK 3 Soil Survey** was considered very good at **13.1%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the BLOCK 3 survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the BLOCK 3 survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-15036 – TRILLIUM GOLD MINES
BLOCK 3 SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. Example: A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature Rating indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report. It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **MORE IMPORTANT** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-15036 – TRILLIUM GOLD MINES – BLOCK 3
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the BLOCK 3 Soil Survey, the SGH data in general had good signal strength and the SGH Class maps in this report are fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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The SGH Pathfinder Class map shown on page 22 and in 3D view on page 23 shows the SGH anomaly from one of the most reliable SGH Pathfinder Classes in predicting the presence of Redox conditions that can support other SGH Pathfinder Class maps for Gold mineralization. Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the BLOCK 3 survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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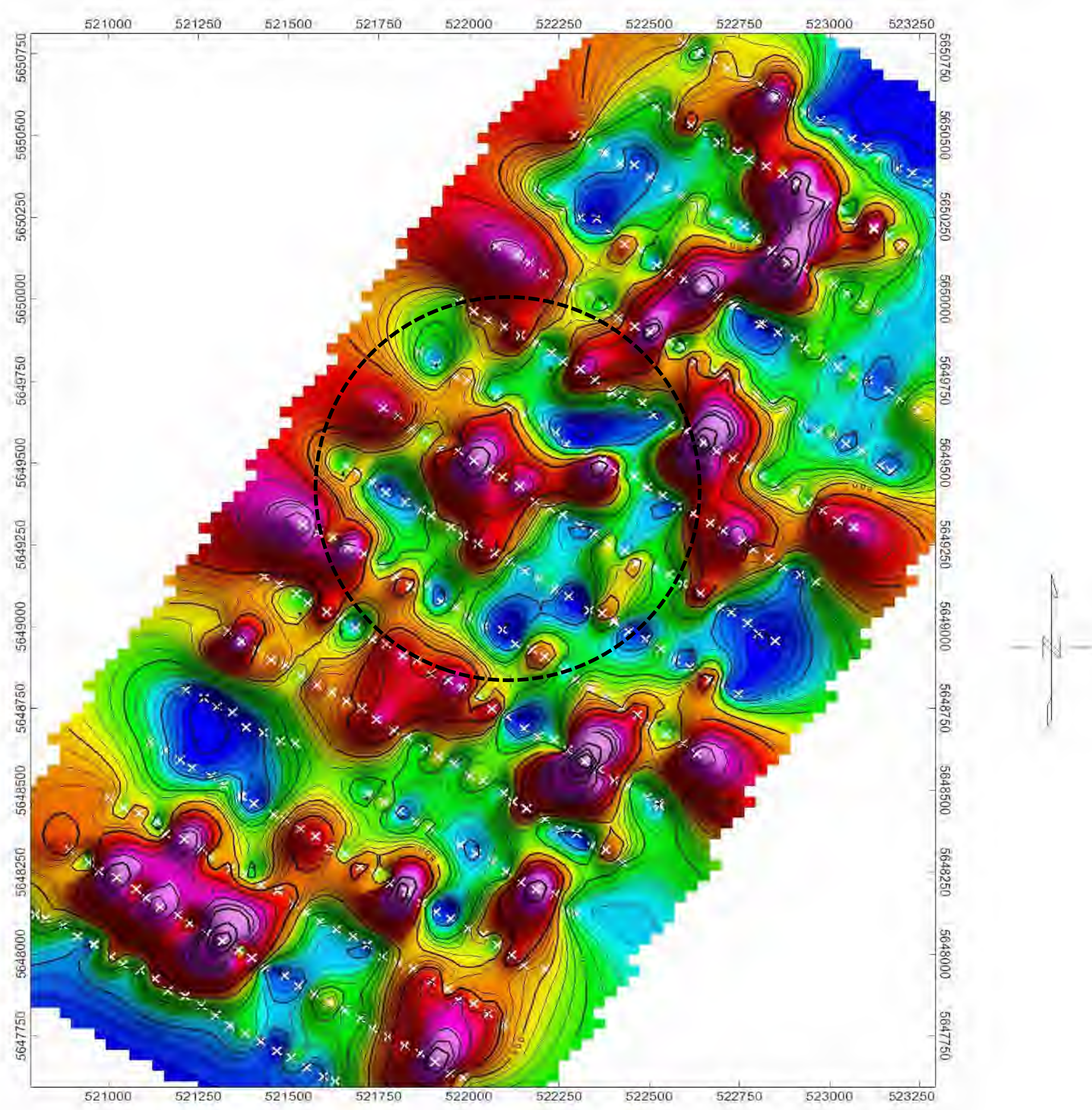
A21-15036 – TRILLIUM GOLD MINES – BLOCK 3
SGH "REDOX" PATHFINDER CLASS MAP



SEGMENTED NESTED-HALO ANOMALY ILLUSTRATING POSSIBLE PRESENCE OF A REDOX ZONE

Results represent only the material tested. Actlabs is not liable for any claim/damage from the use of this report in excess of the test cost. Samples are discarded in 90 days unless requested otherwise. This report is only to be reproduced in full.

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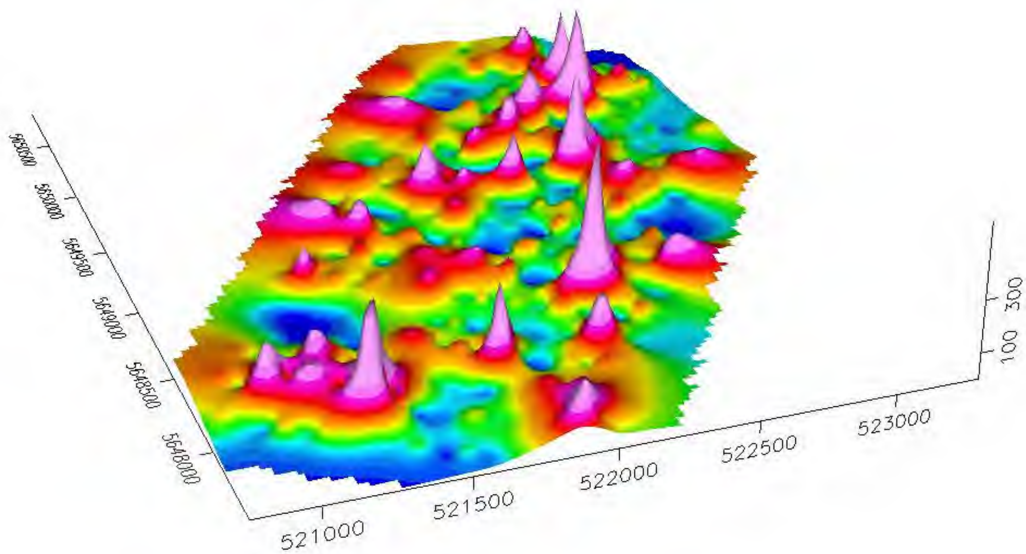
SGH "REDOX" PATHFINDER CLASS MAP



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A21-15036 – TRILLIUM GOLD MINES – BLOCK 3
SGH GOLD INTREPRETATION

Page 25 of this report, and in 3D-view on page 26, shows the anomalies from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates apical anomalies trending across the survey through the redox zone. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of these anomalies at the BLOCK 3 Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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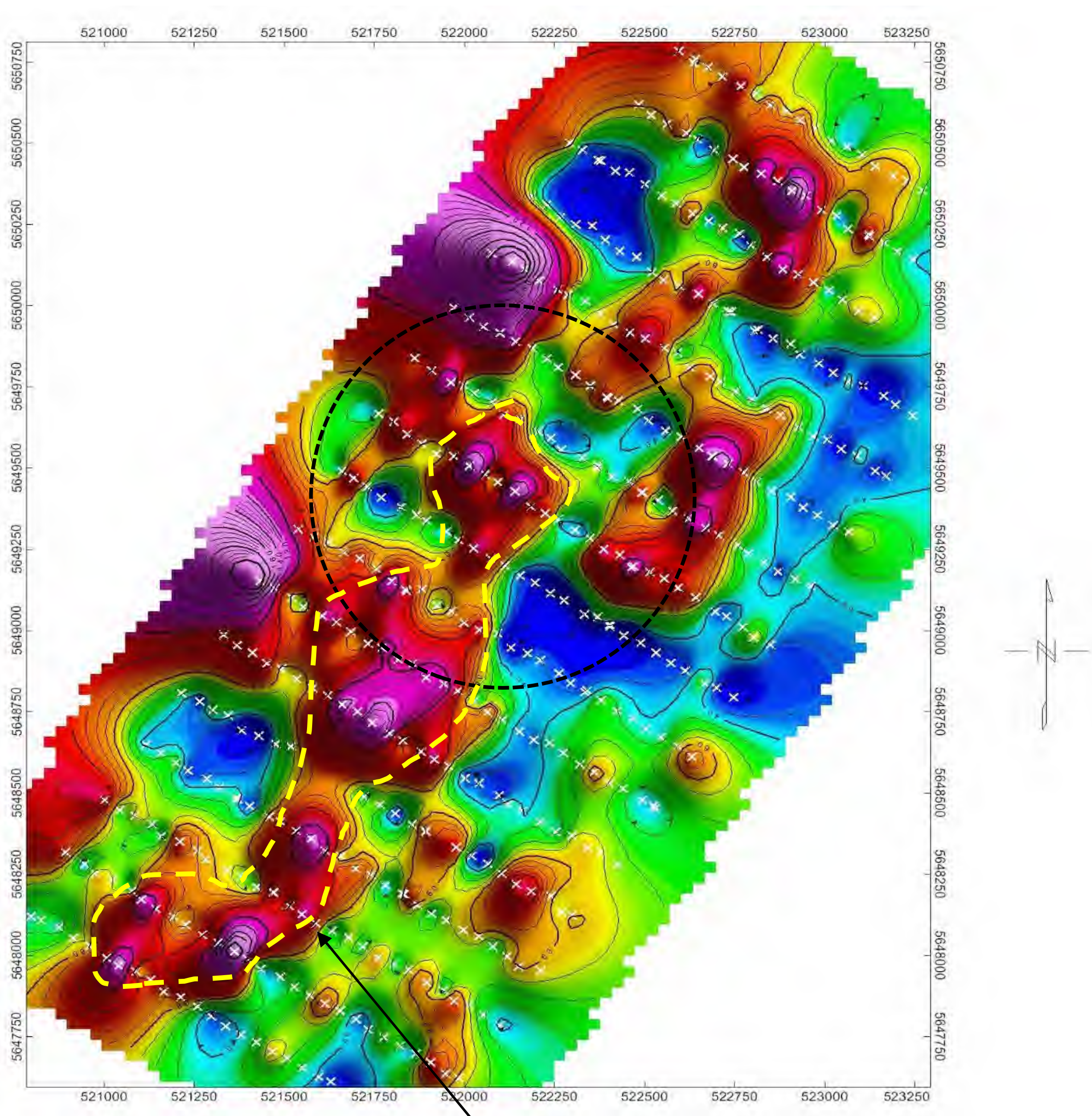
A21-15036 – TRILLIUM GOLD MINES – BLOCK 3
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GENERAL GOLD TREND

<u>SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.0 OF 6.0</u>

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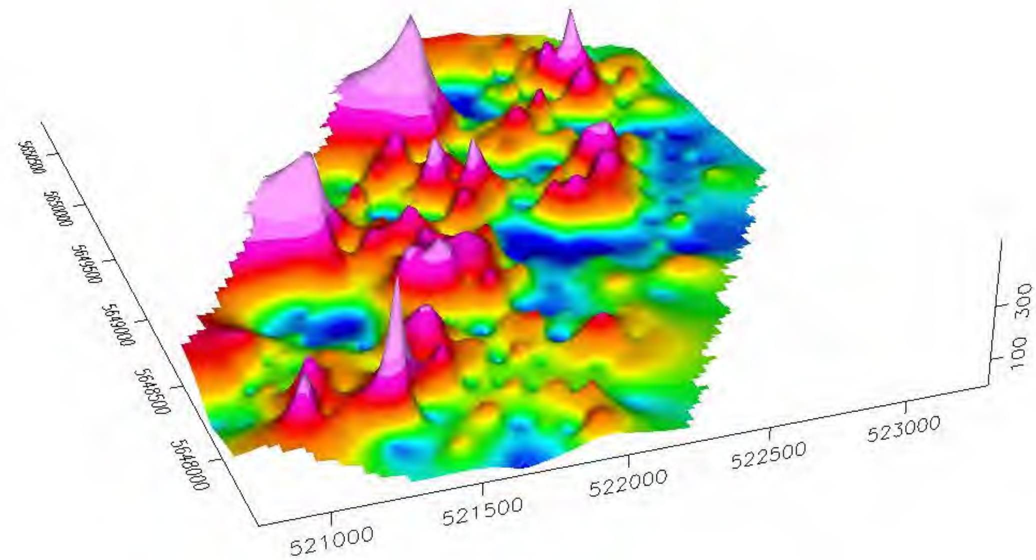
A21-15036 – TRILLIUM GOLD MINES – BLOCK 3
SGH "GOLD" PATHFINDER CLASS MAP



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A21-15036 – TRILLIUM GOLD MINES - BLOCK 3 SOIL SURVEY
SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 25 relative to the presence of gold mineralization at the Trillium Gold Mines BLOCK 3 GRID survey may be based on what may appear to be the presence of a redox zone. Based also on the makeup of the SGH signatures, this redox zone may be associated with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the BLOCK 3 survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.0 on a scale of 6.0. The Rating for the BLOCK 3 survey means that, based only on SGH, that there is a chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only <u>starts to be "good" at a level of 4.0</u>. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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A21-15036 – TRILLIUM GOLD MINES
BLOCK 3 SOIL SURVEY - SGH SURVEY RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the BLOCK 3 survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): August 10, 2021

Date Analysis Complete: September 21, 2021

Interpretation Report: October 21, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: BLOCK 3 Survey

Activation Laboratories Workorder: A21-15036

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

443 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-15036

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at the time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of the material submitted for analysis.

Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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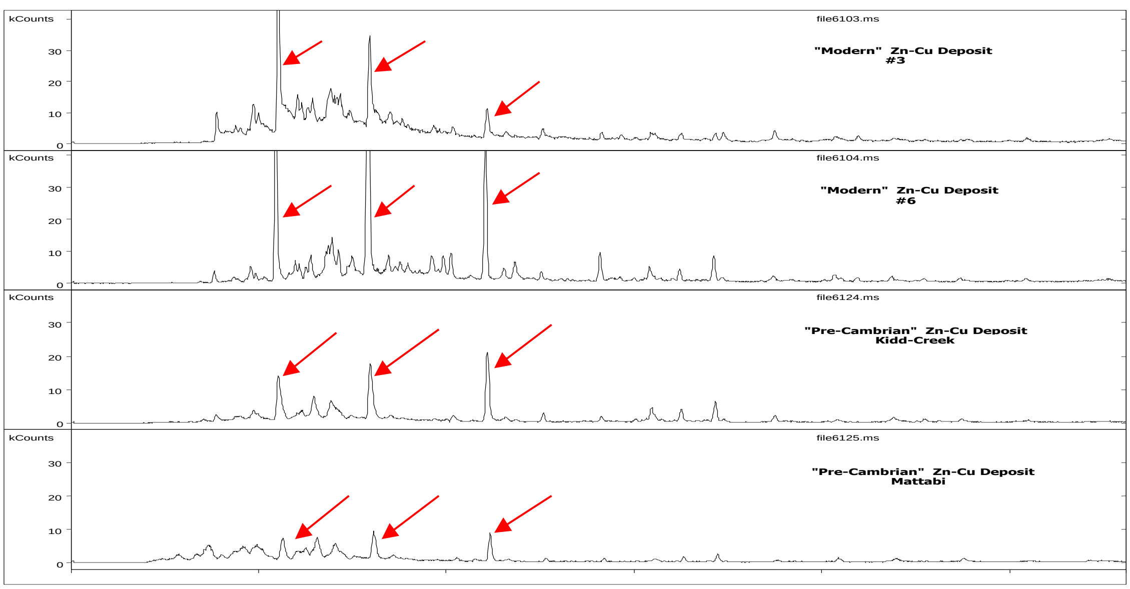
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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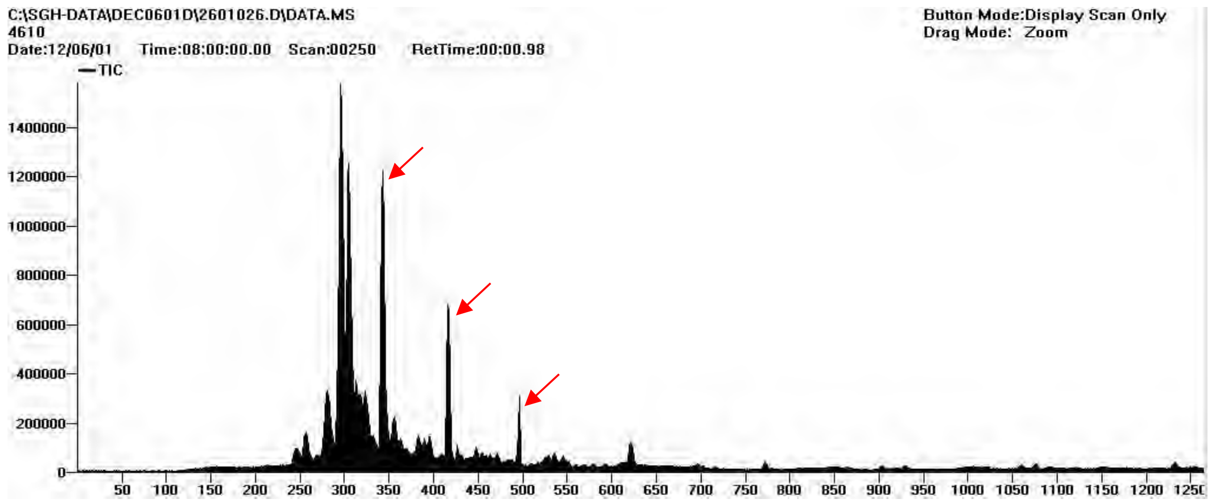
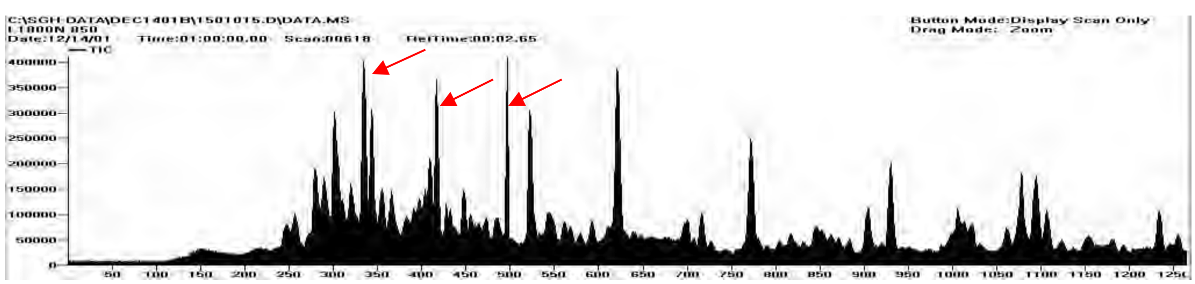
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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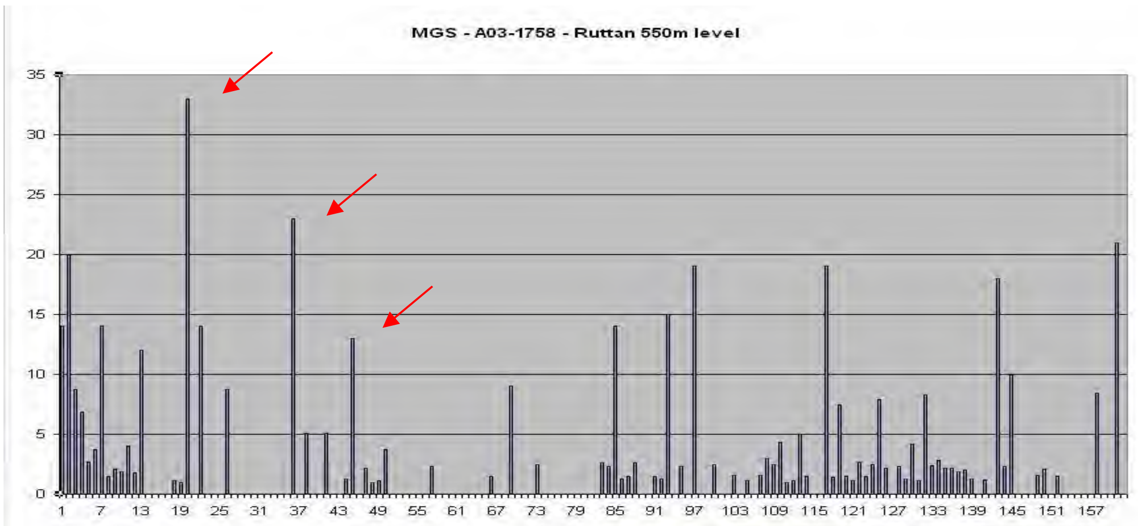
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.

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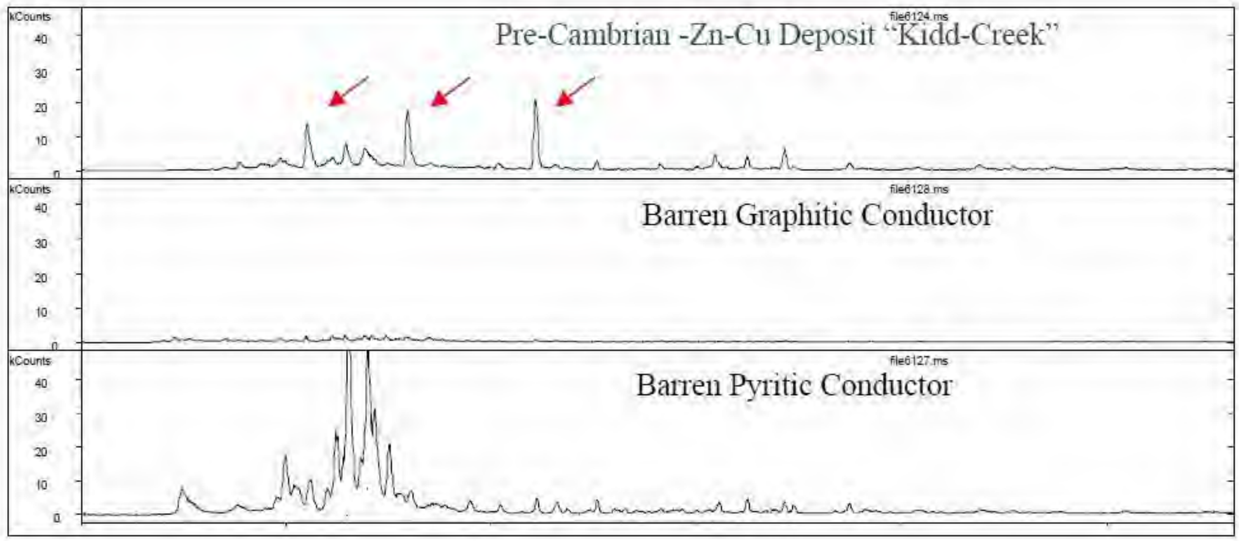

SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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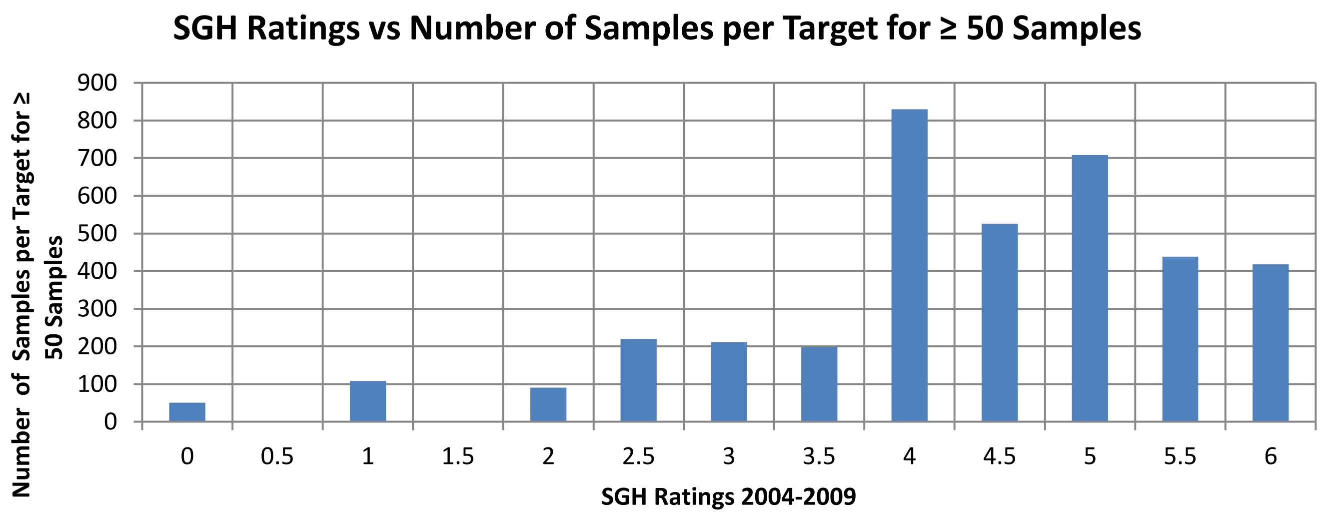
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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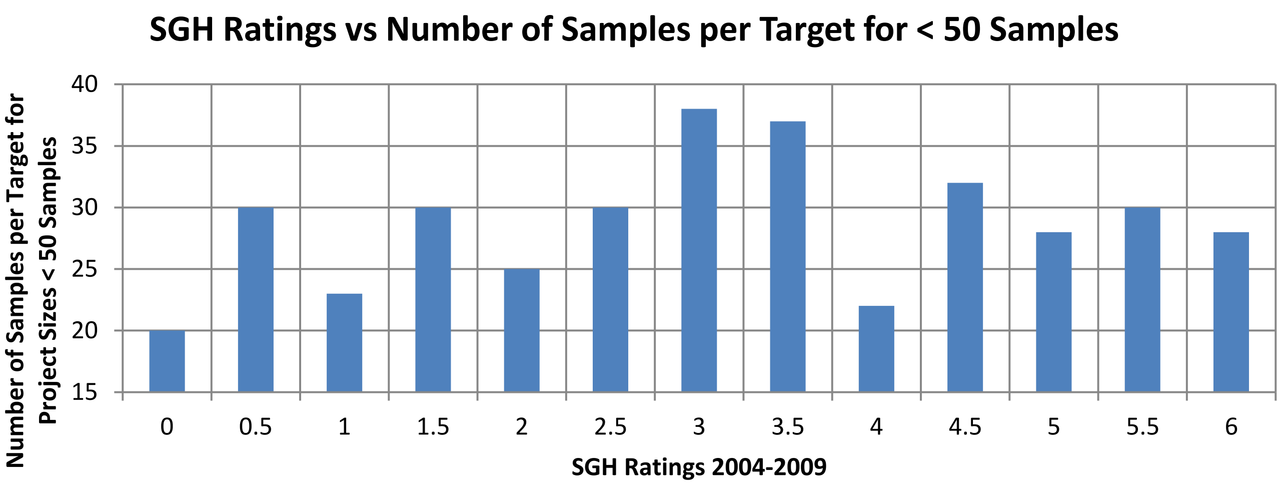
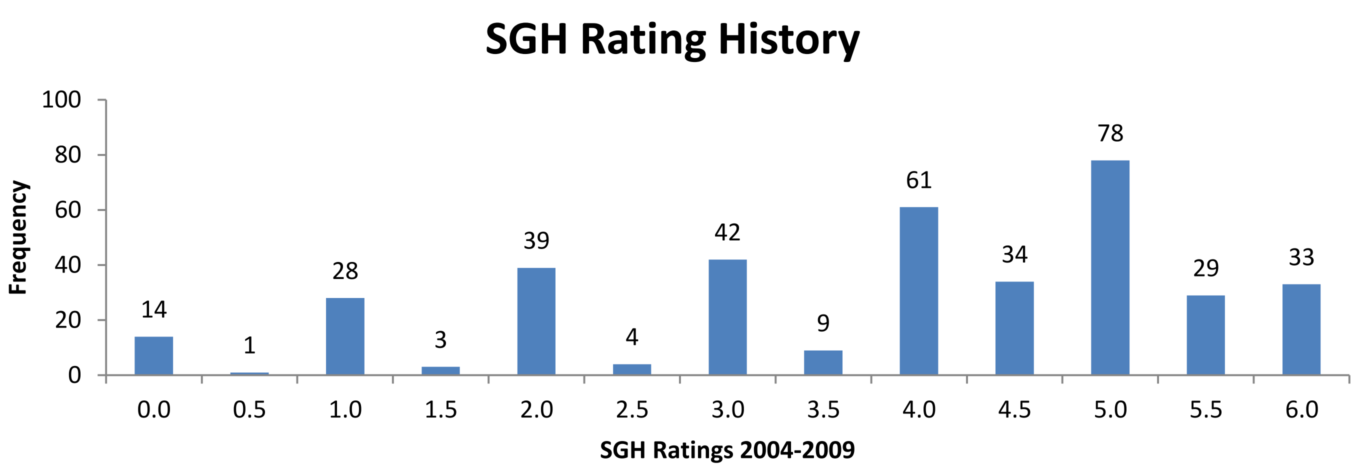
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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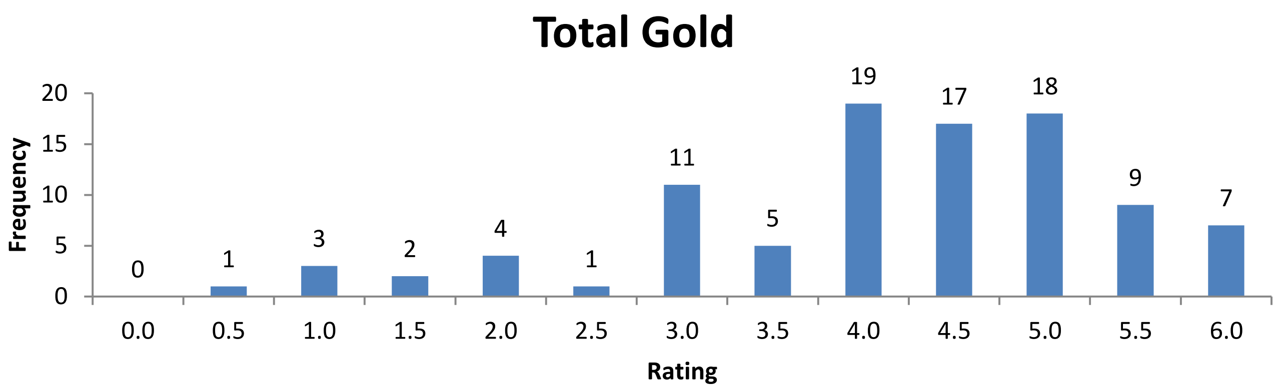
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc.
Block 3 Survey

SGH Units – ppt (Parts-per-trillion)

	SGH-Redox	SGH-Gold
661643	1482	36.6
661644	1247	91.6
661645	941	90.6
661647	1089	54.2
661648	692	51.6
661648-R	828	68.7
661649	3453	184.8
661650	1440	89.1
661651	777	36.7
661652	1960	178.7
661653	815	59.4
661654	823	89.1
661642	480	46.8
661641	471	88.5
661640DUP	557	98.8
661639	513	32.2
661628	194	48.3
661637	1335	116.2
661636	976	109.9
665382	1120	77.7
665383	426	30.0
665383-R	473	34.0
665384	1296	62.5
665385	3282	56.9
665386	561	38.7
665387	1797	135.0
665388	2003	95.9
665389	1444	60.8
665390	969	60.0
665391	1573	82.4
665411	827	40.5
665410	892	54.7
665409	1385	71.9
665408	683	36.2
665407	1545	88.2
665406	957	50.6
665405	1576	45.9
665405-R	871	44.7
665404	915	37.8
665583	406	34.0
665600DUP	1095	93.9
665599	515	66.7
665598	502	60.6
665584	1212	32.9
665597	771	48.8
665585	600	32.7
665596	284	31.7

665586	325	39.7
665587	1154	83.8
665593	427	34.4
665588	1406	41.3
665595	590	49.2
665589	2167	109.1
665589-R	3447	118.3
665594	5850	119.1
665590	1221	46.9
665591	149	20.0
665592	481	69.5
666711	441	30.7
666710	514	37.4
666709	980	78.8
666708	261	48.9
666707	1960	152.3
666706	208	51.0
666705	4409	218.6
666704	1169	108.1
666703	2386	88.0
666702	226	30.7
666701	845	44.5
666701-R	506	33.6
666699	1890	98.0
666700DUP	1646	85.8
666698	354	45.0
666697	1022	47.2
666694	266	62.2
666696	455	39.3
666695	361	48.7
666636	986	96.5
666635	515	39.6
666634	1082	60.2
666665	237	36.3
666664	387	43.7
666663	312	45.8
666662	603	51.4
666661	889	78.8
666661-R	744	74.0
666660DUP	386	46.0
666659	597	54.8
666658	558	33.8
666657	686	37.9
666656	993	54.1
666655	1080	45.0
666654	1266	34.0
666653	2948	84.5
666652	1157	68.9
666651	782	57.4
665527	403	34.7
665528	1656	80.0

665523	560	47.7
665524	462	39.0
665525	776	42.9
665525-R	590	37.7
665522	1205	68.2
665526	211	27.5
665521	441	28.7
665520DUP	529	38.3
665519	316	30.9
665518	509	33.3
665517	228	28.2
665516	399	32.6
665515	442	58.0
665514	454	47.6
665513	865	78.6
665512	377	25.8
665511	601	62.7
666805	1378	89.8
666804	1067	94.2
666804-R	1066	90.9
666803	1160	119.0
666802	1488	106.5
666801	1676	91.5
666800DUP	235	34.1
666799	254	35.2
666798	338	29.4
666797	496	56.4
666796	657	36.4
666795	618	34.8
666794	292	24.7
666793	719	47.8
666792	269	25.4
666791	368	30.3
666788	304	35.9
666790	565	30.3
666790-R	523	35.8
666789	833	40.2
661655	398	38.1
661656	417	39.9
661657	287	34.1
661658	973	109.9
661659	222	72.1
661660DUP	1488	122.7
661661	608	128.0
661662	455	80.3
661663	552	76.8
660984	968	87.2
660985	740	65.9
660986	831	68.8
660987	574	52.0
660988	612	36.8

660988-R	441	28.9
660989	442	37.6
660990	605	40.4
660991	412	44.3
660992	131	63.8
660196	776	70.3
661664	474	78.5
661665	1353	71.5
661681DUP	1411	115.9
661680	777	122.0
661666	344	31.7
661667	284	35.2
661679	1324	134.8
661668	335	43.1
661678	930	70.0
661669	245	85.9
661669-R	99	35.1
661677	488	48.7
661670	213	34.2
661676	571	39.7
661675	804	39.1
661674	467	31.8
661673	1461	38.8
661672	1228	34.3
667671	1703	55.8
665551	766	30.2
665550	694	35.4
665549	402	28.4
665548	797	47.4
665547	1347	37.3
665564	1003	36.2
665563	1038	37.6
665563-R	1124	34.8
665562	371	32.7
665561	596	32.5
665560DUP	698	32.1
665559	961	35.6
665558	730	51.0
665557	798	45.2
665556	1418	40.9
665555	639	41.4
665554	617	41.3
665553	781	55.4
665552	2242	71.8
666633	410	51.8
666632	650	40.3
666631	2491	82.0
666630	1786	64.4
666630-R	1320	62.3
666629	626	63.0
666628	1175	56.4

666627	399	51.5
666626	859	44.6
665610	619	112.5
665609	938	119.0
665608	847	127.0
665607	840	118.0
665606	1481	122.6
660993	635	50.8
660195	1159	100.9
660994	342	43.4
660194	1350	126.5
660995	362	39.5
660193	1262	110.0
660193-R	945	116.3
660996	517	29.2
660192	469	46.7
665605	487	42.7
665604	542	52.9
665603	300	37.9
665602	1978	78.7
665601	1001	54.1
665419	1103	87.4
665420DUP	1052	109.7
665418	1079	63.1
665417	603	118.9
665416	505	78.5
665415	465	34.4
665414	577	60.9
665413	252	35.9
665413-R	294	44.7
665412	626	71.8
665510	273	34.9
665509	454	28.2
665508	1229	94.0
665507	6021	127.1
665506	944	72.3
665505	660	75.6
665504	687	31.2
665503	436	54.8
665502	737	57.6
665501	469	58.1
666738	405	89.2
666737	337	22.7
666736	573	34.8
666761	1743	202.0
666761-R	1604	190.4
666735	388	63.5
666762	1761	256.9
666734	1176	94.7
666763	1521	229.3
666733	3058	92.8

666764	1354	113.3
666732	1001	58.5
666765	1072	118.1
666731	499	53.1
666766	686	47.7
666730	470	62.3
666767	661	42.4
666768	473	61.5
666769	1020	55.3
666716	1550	77.8
666716-R	967	80.2
666717	739	68.9
666718	396	33.6
666720DUP	5967	53.0
666719	2074	79.8
666721	716	58.5
666722	202	43.8
666723	266	55.7
666724	717	56.4
666725	889	61.6
666726	478	45.1
666727	1287	57.4
666667	141	297.9
666666	1928	73.9
666678	886	82.7
666679	536	73.0
666679-R	442	64.0
666680DUP	186	46.6
666681	889	68.1
666682	838	58.7
666683	767	97.1
666684	898	44.3
666685	2396	78.0
666686	840	51.1
666687	374	75.3
666688	229	53.6
666689	538	47.0
666690	239	37.5
666691	257	51.3
666692	601	66.7
666693	270	63.8
666728	830	59.5
666728-R	884	64.7
666729	825	58.2
666715	674	60.6
666714	556	56.6
666713	651	58.5
666712	1296	72.2
666832	2065	85.2
666833	1566	80.4
666834	593	54.1

666824	1046	143.6
666835	2579	62.7
666825	960	99.5
666836	1028	88.0
666826	1516	146.6
666837	439	52.1
666827	1125	117.1
666827-R	1111	122.8
666838	929	133.2
666828	665	64.5
666839	1299	67.1
666840DUP	1121	88.9
666829	455	81.6
666841	425	69.4
666830	1006	113.2
666831	287	55.5
666815	788	86.0
666816	2316	83.5
666817	630	86.3
666814	930	242.6
666818	1101	92.9
666813	855	103.7
666820DUP	873	54.6
666820DUP-R	784	53.5
666819	946	62.0
666812	622	53.3
666821	585	56.2
666811	511	47.4
666822	1125	61.9
666810	1543	110.6
666823	782	73.4
666809	565	93.0
666808	292	68.9
666807	880	57.9
666806	1190	118.9
665529	224	47.3
665530	219	36.6
665531	554	35.4
665546	527	42.9
665546-R	612	48.4
665532	459	45.3
665545	366	39.6
665533	464	42.8
665544	362	54.8
665534	7994	47.9
665543	267	60.1
665535	1083	66.3
665542	1185	55.8
665536	1422	54.8
665541	581	51.7
665537	481	47.2

665538	520	39.2
665540DUP	352	34.8
665539	393	44.5
660215	434	42.8
660215-R	416	41.7
660216	847	58.8
660217	255	26.3
660218	523	50.3
661606	384	60.5
660220DUP	783	75.3
660219	478	61.1
661607	778	49.7
661608	731	36.9
661609	629	45.7
661610	1406	113.6
661611	1246	79.1
666770	859	83.9
666771	2871	106.1
666772	435	73.3
666773	427	38.4
666773-R	422	41.0
666774	1180	60.5
666775	657	72.5
666776	1365	46.3
666777	673	49.7
666778	670	37.8
666780DUP	566	63.2
666779	558	47.1
666781	805	76.7
666782	395.4	47.4
666783	446.2	42.1
666784	586.5	35.0
666785	242.0	25.5
666786	540.0	47.1
666787	350.8	28.1
661612	559.5	58.7
661612-R	506.9	55.3
661613	401.0	32.3
665567	549.0	77.5
665568	312.2	71.7
665569	949.5	142.1
665570	898.8	42.1
665571	712.4	43.8
665572	338.4	39.3
665566	117.4	34.5
665573	1147.2	95.2
665565	218.3	17.54
665574	547.9	70.06
665575	467.4	41.77
665576	331.5	33.62
661614	505.5	32.7

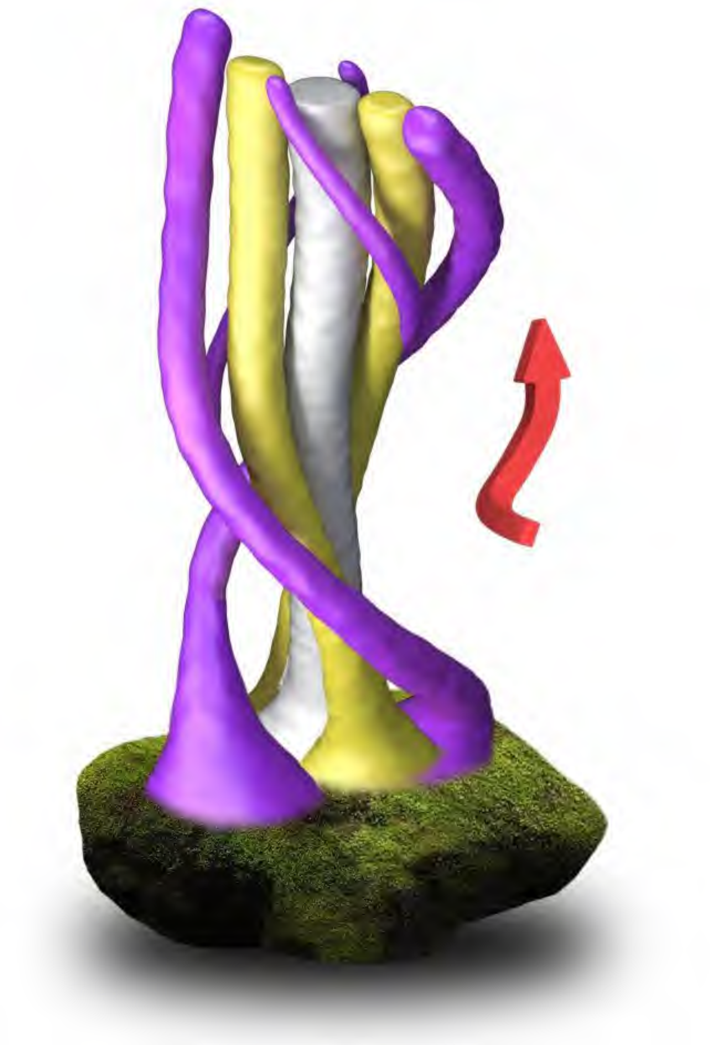
661615	707.3	27.42
661615-R	354.6	21.34
661616	180.0	21.53
661617	180.4	28.1
665577	263.1	35.92
665578	384.4	41.23
665582	150.8	26.51
665580DUP	3518.0	58.65
665579	1071.7	49.41
665581	700.1	36.39
660975	657.8	39.67
660976	828.6	46.3
660977	568.4	40.82
660978	515.4	54.59
660979	402.5	54.94
660980DUP	195.2	54.87
660981	925.5	84.76
660981-R	1083.7	89.89
660982	563.7	169.15
660983	504.3	53.99
666846	425.2	38.14
666847	1097.5	123.75
666848	323.9	33.3
666849	300.0	27.92
666850	388.2	35.65
666842	206.2	43.67
666843	807.5	67.08
666844	562.5	63.81
666845	408.8	100.02
660206	542.3	36.04
660205	449.7	42.09
660204	249.8	51.59
660207	422.1	50.67
660207-R	282.7	41.18
660203	283.8	28.45
660208	162.1	31.66
660202	287.8	37.69
660209	170.7	47.33
660201	628.4	39.57
660210	326.2	41.98
660199	352.8	46.57
660200DUP	421.6	46.73
660211	257.8	27.36
660198	161.6	25.87
660212	376.0	26.23
660197	680.8	65.1
660213	574.7	42.86
660214	614.8	52.6
661618	1113.4	47.62
661618-R	1377.0	46.01
661620DUP	607.4	35.63

661619	565.2	33.19
661621	249.9	19.44
661622	294.3	31.86
661623	662.9	33.3
661624	364.5	32.7
661625	264.7	32.69
661626	1455.5	51.33
661627	327.7	26.18
661635	1503.5	74.46
661628	239.9	25.95
661634	2042.5	51.01
661633	653.5	38.42
661632	1146.6	47.72
661631	542.1	30.65
661631-R	477.5	25.65
661630	252.4	49.06
661629	666.8	39.34
661646	541.8	55.27
665392	6373.8	76.28

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
FLY MOTH NORTH GRID SGH SURVEY



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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

FLY MOTH NORTH GRID SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-13538

41 Bittern St. ● Ancaster, ON ● L9G 4V5 ● CANADA ● Tel: (905) 648-9611 ● Fax: (905) 648-9613 ● Toll Free: 1-888-ACTLABS

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this FLY MOTH NORTH GRID Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was able to identify the possible presence of two Redox Zones and the corresponding mineralization.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

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SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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SGH DATA INTERPRETATION

Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially "blind" to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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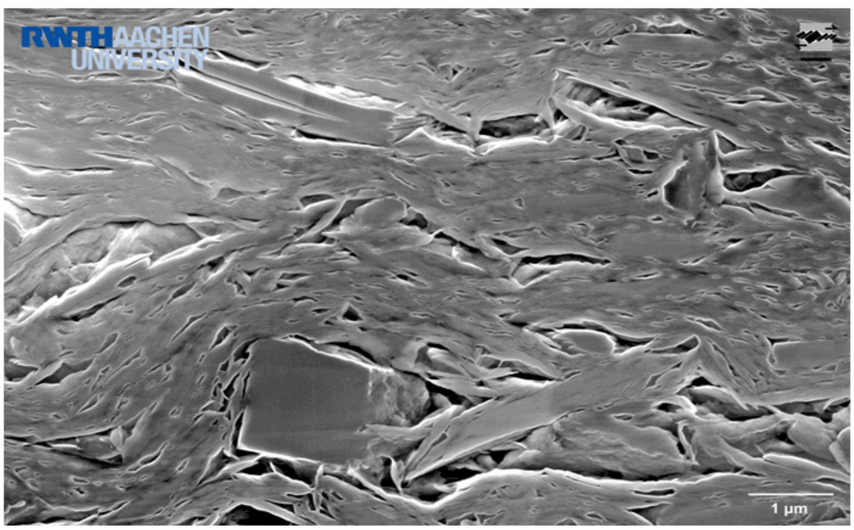
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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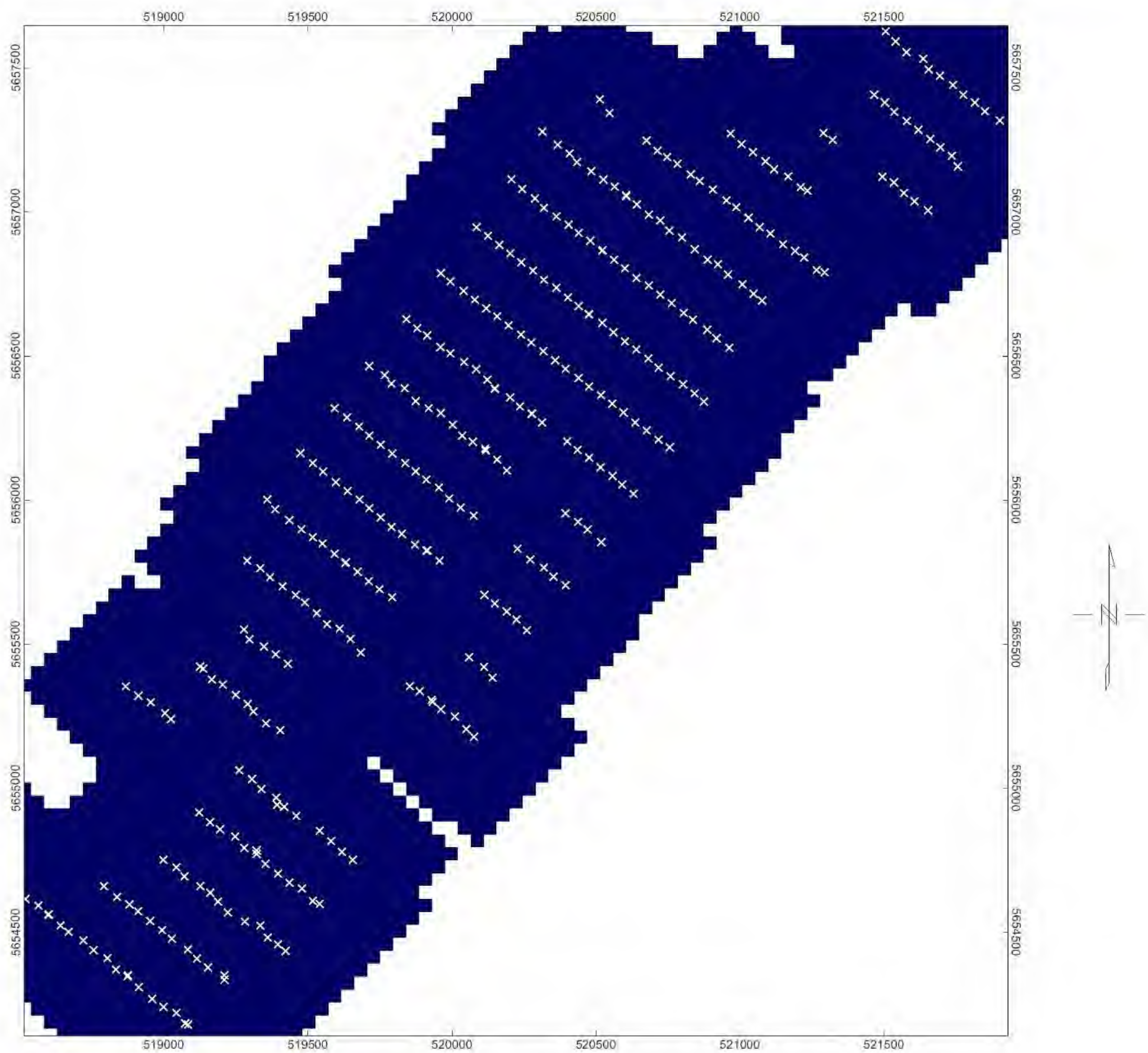
INTERPRETATION OF SGH RESULTS - A21-13538
TRILLIUM GOLD MINES – FLY MOTH NORTH GRID SURVEY

This report is based on the SGH results from the analysis of a total of 339 soil samples from the FLY MOTH NORTH GRID survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – FLY MOTH NORTH GRID SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. <u>The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool</u>. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the FLY MOTH NORTH GRID Soil Survey was excellent as demonstrated by 22 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **8.6%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **17 Field Duplicate samples submitted from the FLY MOTH NORTH GRID Soil Survey** was considered very good at **13.0%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the FLY MOTH NORTH GRID survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The maps shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to redox and gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the FLY MOTH NORTH GRID survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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A21-13538 – TRILLIUM GOLD MINES
FLY MOTH NORTH GRID SOIL SURVEY - SGH INTERPRETATION
SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. Targets shallower than about 3 to 5 metres (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-13538 – TRILLIUM GOLD MINES
FLY MOTH NORTH GRID SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. <u>Example:</u> A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature <u>Rating</u> indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

<u>Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report.</u> It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **<u>MORE IMPORTANT</u>** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-13538 – TRILLIUM GOLD MINES – FLY MOTH NORTH GRID
SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the FLY MOTH NORTH GRID Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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A21-13538 – TRILLIUM GOLD MINES - FLY MOTH NORTH GRID
SGH "GOLD" INTERPRETATION

The SGH Pathfinder Class map shown on page 22 and in 3D view on page 23 shows the SGH anomaly from one of the most reliable SGH Pathfinder Classes in predicting the presence of Redox conditions that can support other SGH Pathfinder Class maps for Gold mineralization. Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the FLY MOTH NORTH GRID survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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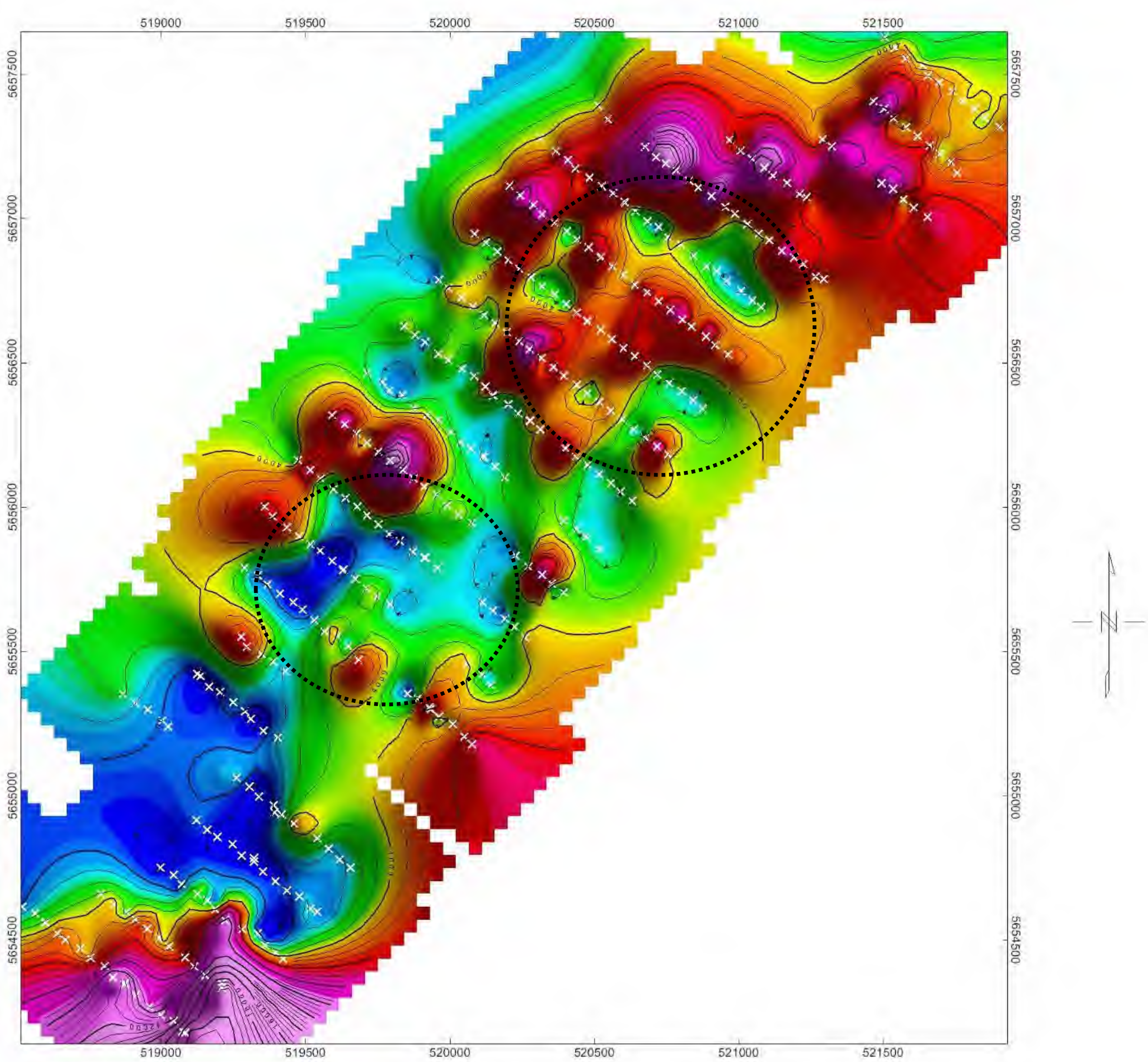
A21-13538 – TRILLIUM GOLD MINES – FLY MOTH NORTH GRID
SGH "REDOX" PATHFINDER CLASS MAP



HALO ANOMALIES ILLUSTRATING POSSIBLE PRESENCE OF REDOX ZONES

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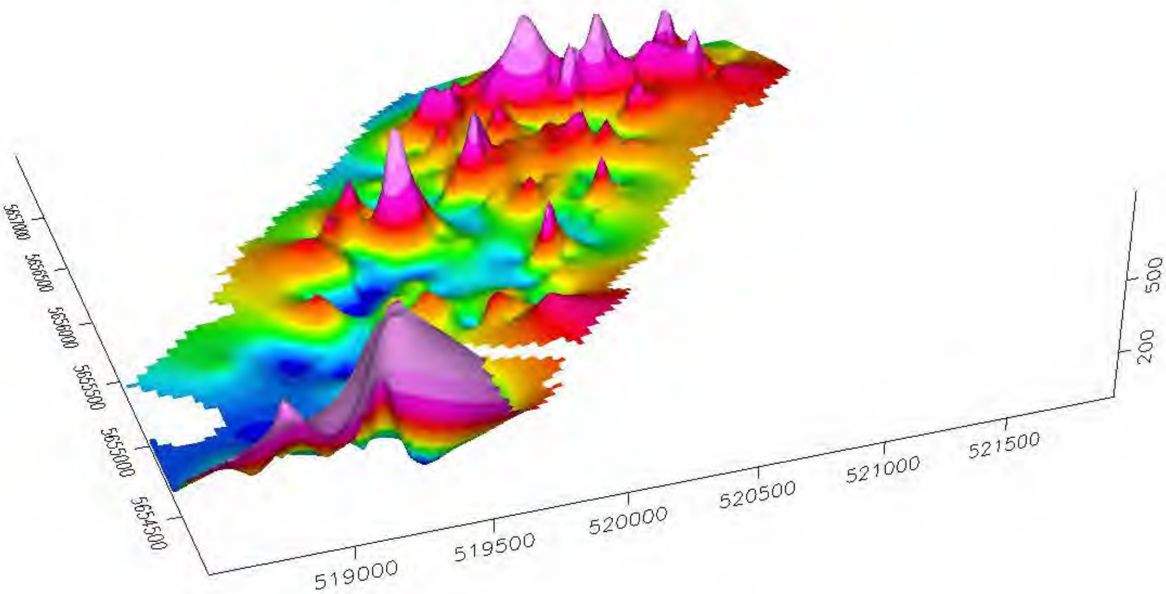
A21-13538 – TRILLIUM GOLD MINES – FLY MOTH NORTH GRID
SGH "REDOX" PATHFINDER CLASS MAP



GEOSOFT

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Page 25 of this report, and in 3D-view on page 26, shows the anomalies from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates what appears to be halo anomalies within each of the redox zones. It is possible that each of the apical anomalies on page 25 may be related to some type of gold mineralization. None of these anomalies are expected to be due to noise although each individual occurrence has not been interpreted. The most important locations that might be investigated further are those that have synergy with the Redox Zones. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of these anomalies at the FLY MOTH NORTH GRID Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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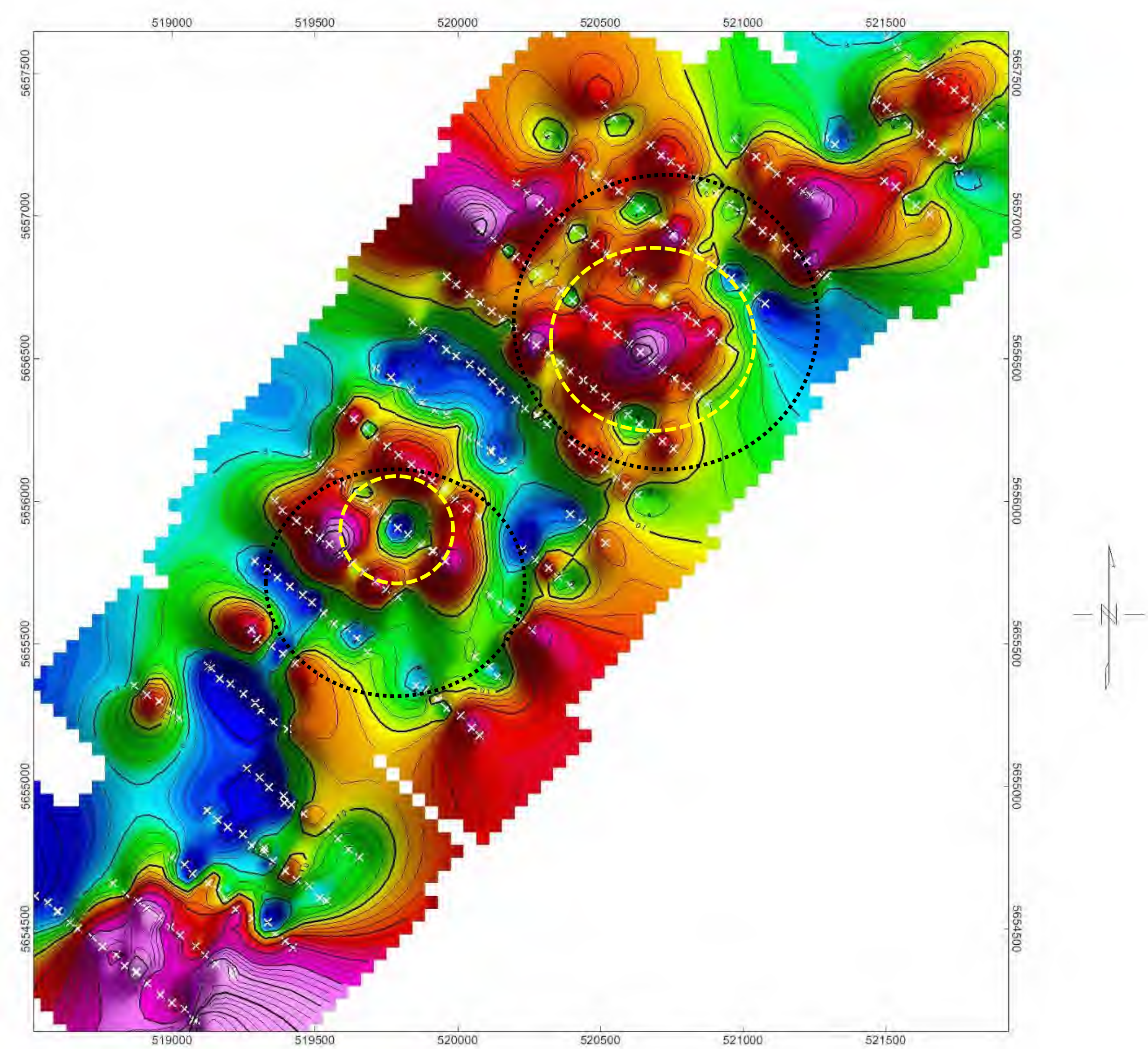
A21-13538 – TRILLIUM GOLD MINES – FLY MOTH NORTH GRID
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINES

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 4.0 OF 6.0

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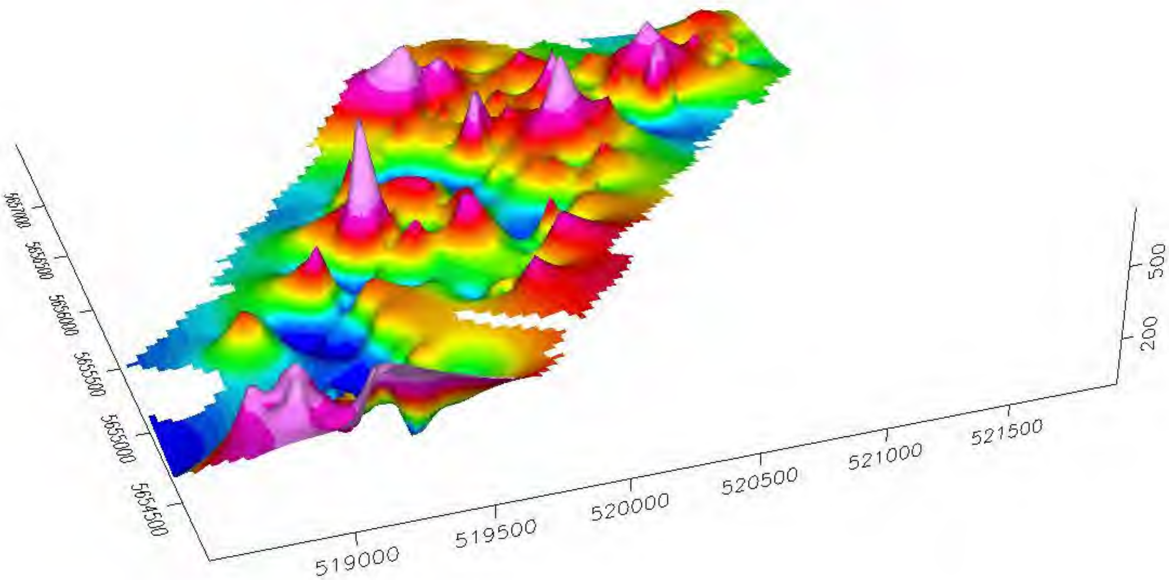
A21-13538 – TRILLIUM GOLD MINES – FLY MOTH NORTH GRID
SGH "GOLD" PATHFINDER CLASS MAP



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A21-13538 – TRILLIUM GOLD MINES
FLY MOTH NORTH GRID SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 25 relative to the presence of gold mineralization at the Trillium Gold Mines FLY MOTH NORTH GRID survey may be based on what may appear to be the presence of redox zones. Based also on the makeup of the SGH signatures, these redox zones may be associated with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the FLY MOTH NORTH GRID survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 4.0 on a scale of 6.0. The Rating for the FLY MOTH NORTH GRID survey means that, based only on SGH, that there is a chance that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 25 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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A21-13538 – TRILLIUM GOLD MINES
FLY MOTH NORTH GRID SOIL SURVEY - SGH SURVEY
RECOMMENDATIONS

In general, the number of samples was more than adequate to show what the author believes to be valuable information at the FLY MOTH NORTH GRID survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sample on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. <u>As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.</u>

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that <u>sample locations from the original survey within, or bordering, the area of interest be re-sampled</u> rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): July 16, 2021

Date Analysis Complete: August 5, 2021

Interpretation Report: September 7, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: FLY MOTH NORTH GRID Survey

Activation Laboratories Workorder: A21-13538

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

339 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-13538

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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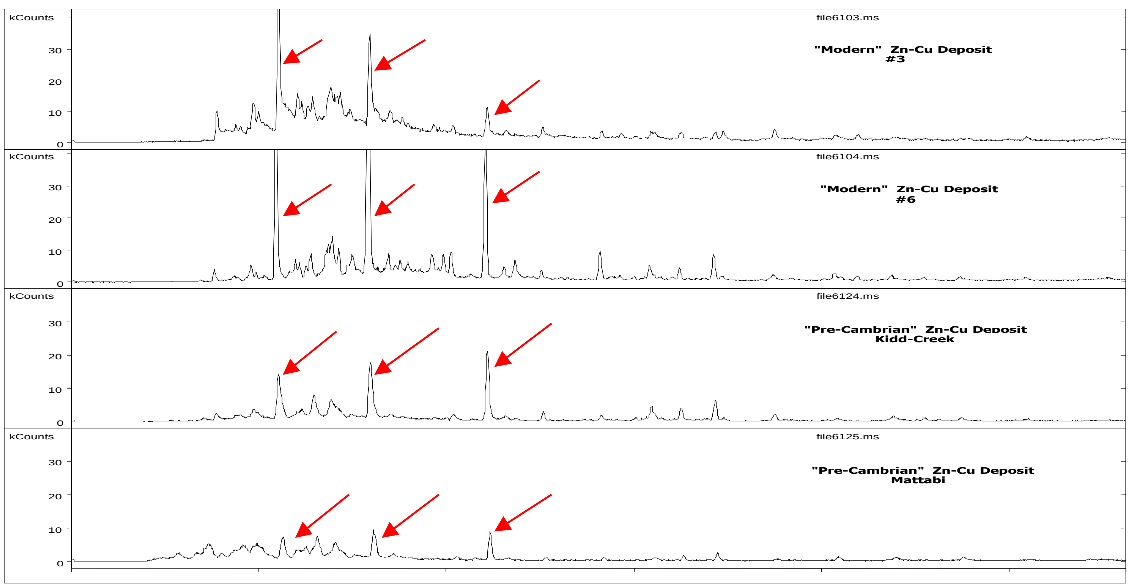
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE
EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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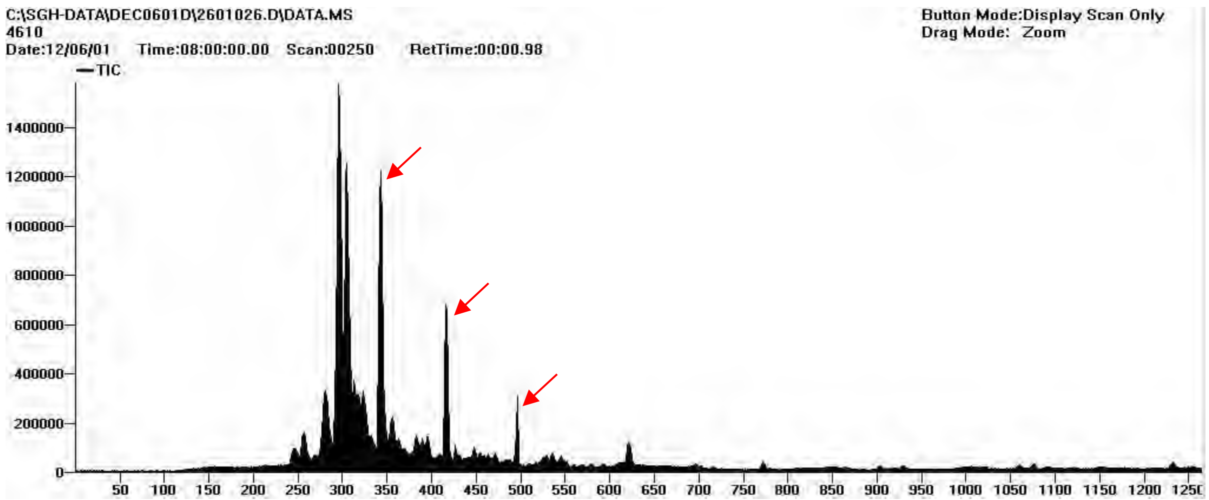
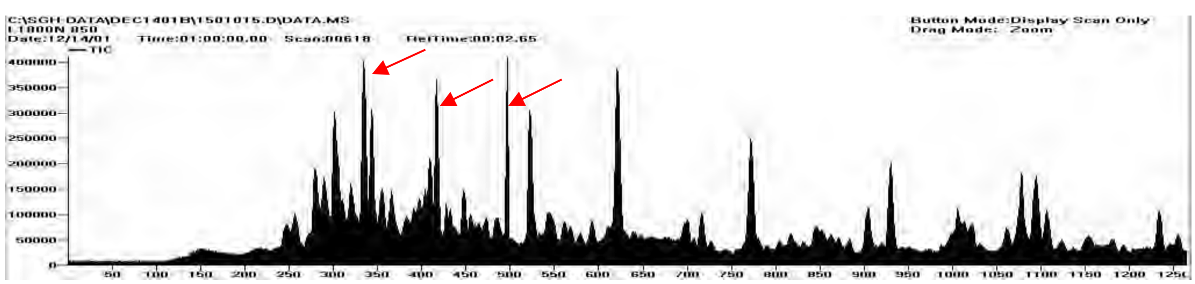
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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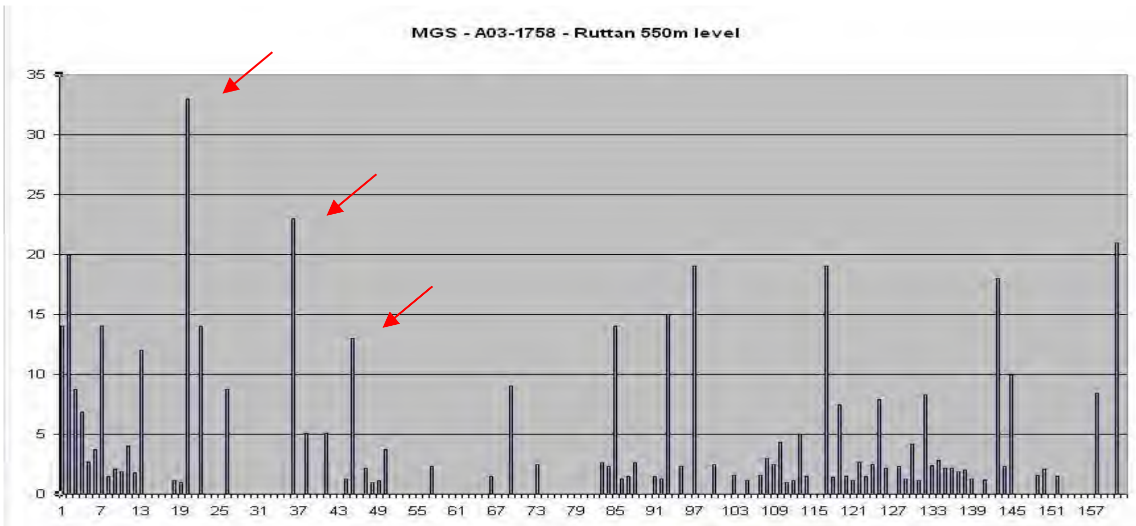
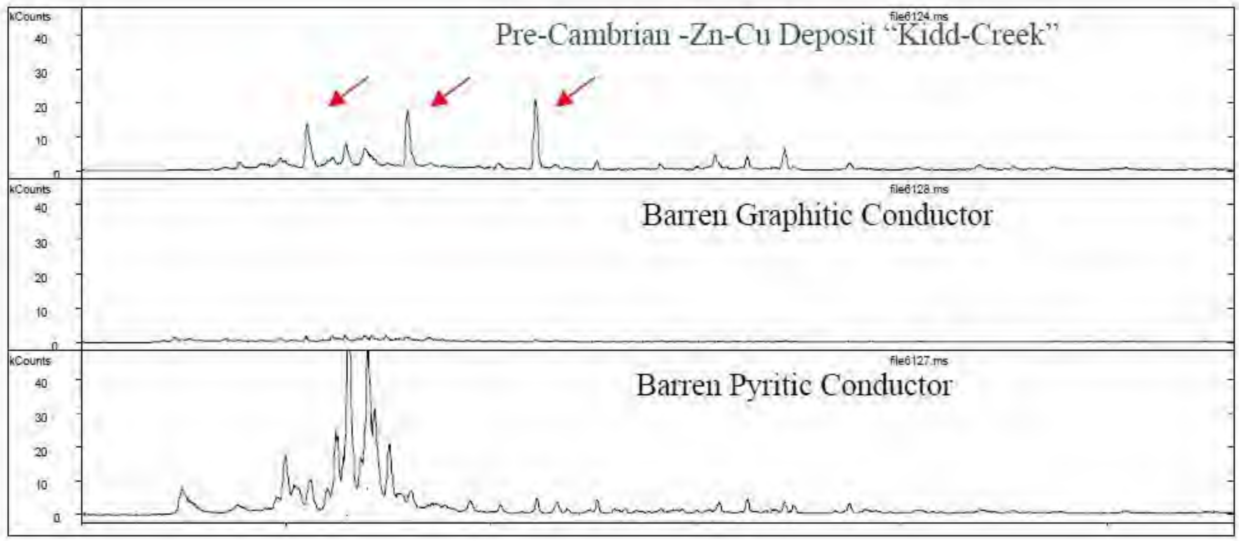
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.



SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

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APPENDIX "C"

<u>SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING</u>

<u>Sample Type and Survey Design:</u> It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"

SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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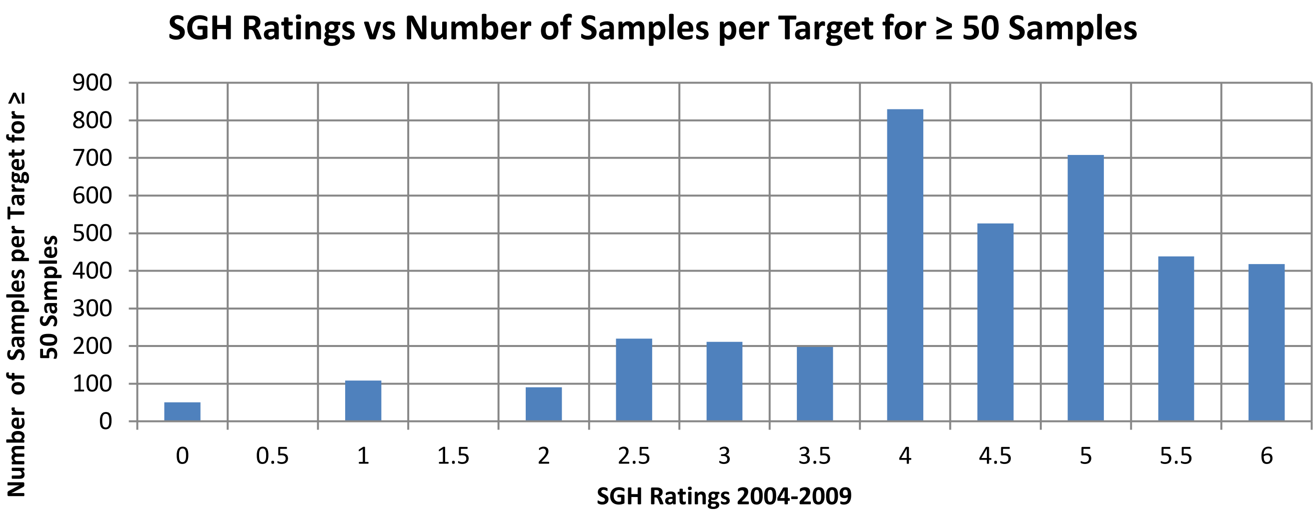
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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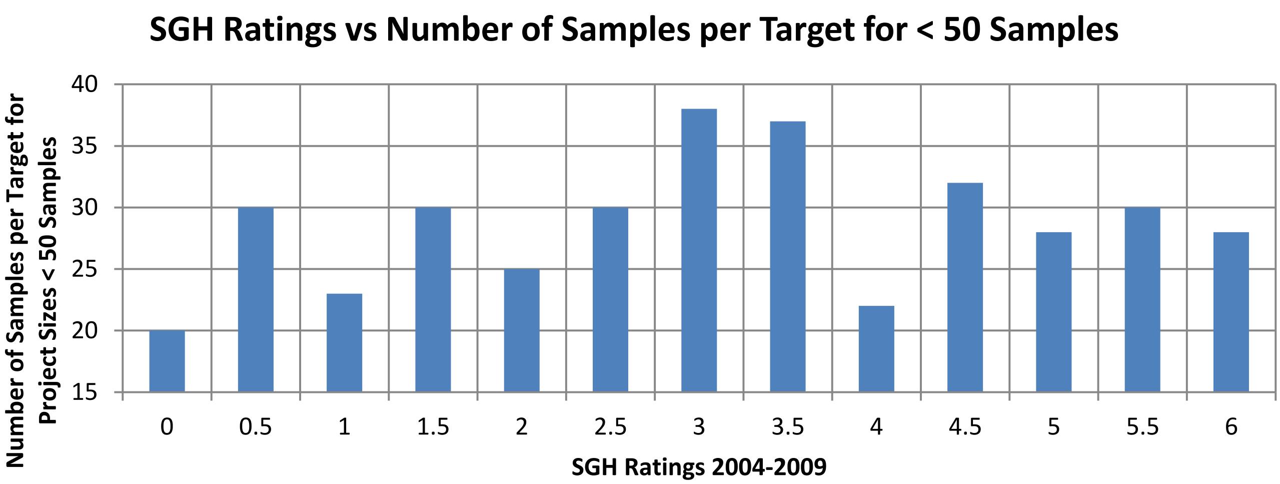
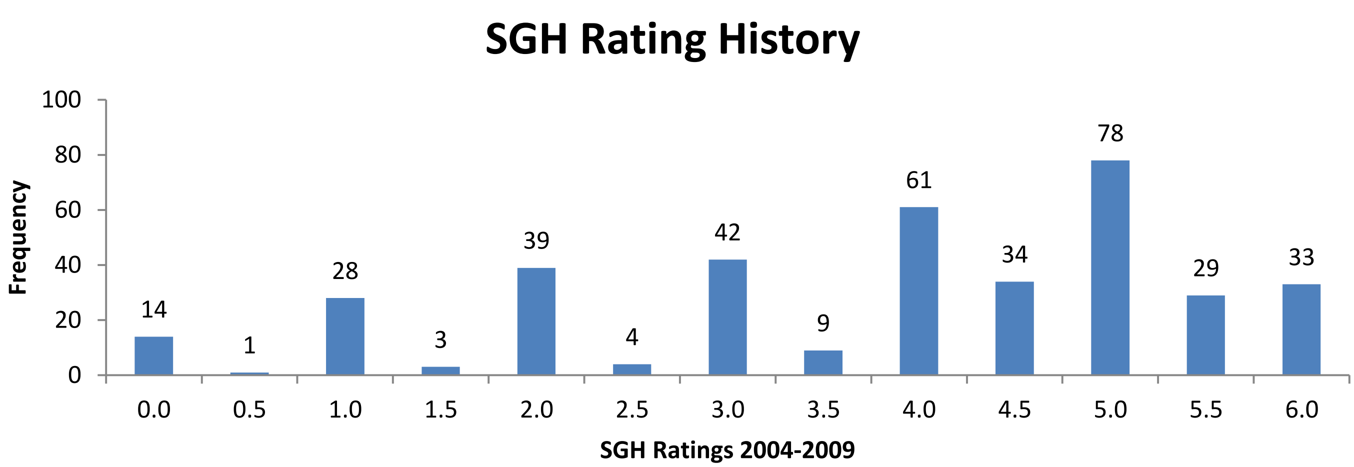
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



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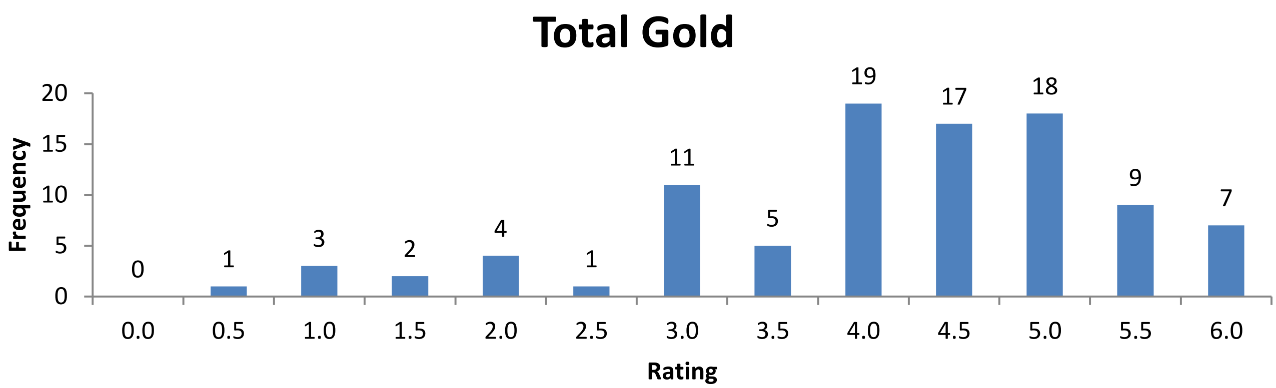
More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Fly Moth North Survey

	SGH-Redox	SGH-Gold
660133	4053	9.4
660134	6783	8.4
660135	4683	20.1
660136	3572	18.0
660137	7089	13.1
660137-R	5662	16.2
660138	12952	16.7
660139	15155	16.4
660140DUP	7516	26.8
660141	9971	14.1
660142	9163	16.6
660143	10230	13.1
660144	11293	15.3
660145	18674	17.2
660146	20346	24.1
660147	20723	18.1
660148	20392	18.6
660149	14469	20.8
660150	6671	13.5
660151	5838	10.5
660152	5470	16.5
660152-R	4033	15.1
660153	3432	11.8
660154	6198	19.0
660155	4875	17.9
660156	3041	16.6
660157	4612	8.4
660158	3528	8.7
660746	2567	7.7
660747	4395	8.5
660748	5353	9.7
660749	2827	8.4
660750	5735	11.9
660751	4701	12.9
660752	4914	13.0
660753	3510	12.2
660754	5390	11.9
660754-R	4409	12.2
660755	3173	7.7
660756	4807	9.7
660757	5257	7.1
660758	5395	12.9
660759	2556	7.9
660760DUP	2524	8.0
660761	6867	13.5
660762	5065	10.2
660763	4463	9.8

660764	2653	8.5
660765	15375	13.7
660766	5432	10.1
660767	3766	8.2
660768	9101	5.7
660769	7065	11.9
660769-R	8759	13.0
660770	11854	15.1
660771	3462	9.2
660772	5627	8.7
660773	7085	11.5
660804	6179	8.7
660805	5061	9.0
660806	10486	13.8
660807	16915	10.4
660808	7757	11.4
660809	7234	13.9
660810	8686	13.4
660811	4979	19.1
660812	4714	8.3
660813	4475	11.5
660814	6993	21.7
660814-R	8777	21.6
660815	4174	8.7
660816	10366	12.5
660817	2680	9.2
660818	4720	16.1
660819	4864	11.3
660820DUP	2983	8.6
660821	4358	9.4
660822	3537	8.9
660823	15577	10.7
660824	3873	8.5
660825	8375	12.2
660826	12447	13.1
660827	13794	11.7
660828	14976	15.5
660829	9232	11.6
660829-R	9754	11.1
660830	5503	8.8
660831	3629	13.0
660832	4028	9.3
660833	4307	9.1
660834	8305	13.8
660835	5691	11.6
660836	5347	10.3
660837	7039	11.4
660838	9860	13.0
660839	5491	8.3
660840DUP	3898	10.5
660841	2695	7.5

660842	3298	10.8
660843	1923	9.4
660844	4111	20.9
660844-R	4180	19.2
660845	3911	11.2
660846	3260	9.4
660847	3176	12.1
660848	2593	8.1
660849	2216	5.5
660850	2392	8.7
660851	2271	8.9
660852	3370	5.0
660853	2483	11.6
660854	2930	10.9
660855	2554	6.9
660856	3498	6.5
660857	3036	8.3
660858	2607	7.1
660859	2254	7.1
660859-R	2221	4.8
660860DUP	2399	7.1
660861	2699	7.6
660862	2712	9.0
660863	3150	10.4
660864	3185	8.2
660865	4176	8.2
660866	3340	7.7
660867	2245	6.4
660868	1944	10.6
660869	2379	4.6
660870	3009	7.9
660871	4225	8.7
660872	3526	10.9
660873	1921	6.4
660874	4857	7.6
660874-R	3293	7.8
660875	3822	7.4
660876	2761	6.9
660877	1602	7.0
660878	6768	7.3
660879	3673	6.7
660880DUP	3445	6.5
660881	1962	7.9
660882	2233	4.9
660883	3494	8.1
660884	11537	15.6
660885	2665	7.5
660886	3626	8.7
660887	4288	15.7
660888	3224	9.5
660889	1970	6.8

660889-R	2215	8.0
660890	2222	9.2
660891	2507	8.3
660892	4527	9.8
660893	2012	6.4
660894	2687	7.6
660895	7252	13.0
660896	5479	15.3
660897	4555	13.5
660898	2963	7.2
660899	6989	11.5
660900DUP	9572	12.4
660901	2357	7.0
660902	1704	7.5
660903	6604	9.7
660904	1336	6.1
660904-R	1496	6.2
660905	4868	7.5
660906	3971	9.2
660907	2143	9.4
660908	1561	3.9
660909	1151	7.2
660910	1664	6.0
660911	1970	6.7
660912	1629	4.7
660913	3463	7.2
660914	3125	7.9
660915	2403	12.4
660916	2327	12.5
660917	1971	9.0
660918	1904	9.0
660919	1488	6.1
660920DUP	1725	3.9
660921	1567	3.7
660922	1700	3.7
660923	2655	6.7
660924	2028	6.7
660925	971	5.4
660926	1753	5.1
660927	2618	11.0
660928	2475	13.0
660929	2536	4.3
660930	4279	7.0
660931	6620	10.6
660932	6322	22.4
660997	1891	5.1
660998	3179	6.8
660998-R	2693	6.4
660999	2896	6.0
661000DUP	3907	6.8
665246	9863	16.9

665247	3212	9.3
665248	5779	10.7
665249	2862	9.5
665250	2183	9.9
665251	2948	12.5
665252	2767	10.8
665253	3033	14.8
665254	5104	16.8
665255	6661	25.8
665256	3778	13.0
665257	6775	10.9
665258	5162	13.0
665258-R	4668	13.6
665259	5346	11.1
665260DUP	6228	13.5
665261	6145	14.9
665262	2531	7.6
665263	3475	11.1
665264	2919	11.2
665265	3350	8.9
665266	4566	9.5
665267	10731	17.4
665268	2462	7.1
665269	3567	16.8
665270	4995	22.1
665271	4633	12.1
665272	11080	15.8
665273	5058	17.4
665273-R	6954	18.3
665274	9937	13.9
665275	5431	12.9
665276	2147	9.1
665277	2868	9.0
665278	8194	15.0
665279	8783	11.2
665280DUP	4718	9.3
665281	4858	12.1
665282	4351	12.9
665283	4068	8.2
665284	7149	13.2
665285	4958	8.3
665286	7601	12.8
665287	8502	13.5
665288	2352	10.1
665288-R	2350	10.3
665289	1999	9.2
665290	4646	13.9
665291	3901	10.4
665292	4468	10.4
665293	2704	11.1
665294	4368	10.9

665295	4120	8.4
665296	5778	14.6
665297	15822	23.0
665298	3281	8.9
665299	9106	9.2
665300DUP	4831	10.6
665301	4930	11.3
665302	4543	12.5
665303	2798	13.5
665303-R	2768	13.3
665304	3979	12.5
665305	6036	13.3
665306	3933	7.4
665307	2465	8.4
665308	2837	9.5
665309	8555	13.6
665310	3885	11.1
665311	3911	8.5
665312	2375	13.1
665313	3507	9.5
665314	2294	10.5
665315	2816	13.6
665316	4432	10.9
665317	7031	12.0
665318	3650	8.8
665318-R	3996	8.1
665319	4007	10.0
665320DUP	5477	11.8
665321	2805	7.5
665325	5321	8.3
665326	9171	16.6
665327	4504	7.2
665328	3826	11.8
665329	4330	11.7
665330	21908	13.7
665331	6196	13.0
665332	10472	14.3
665333	3529	13.3
665334	3439	8.7
665335	3509	12.0
665336	4036	14.0
665336-R	4072	15.0
665337	2871	10.2
665338	2890	17.6
665339	2913	9.3
665340DUP	2617	9.4
665341	2600	10.1
665342	1785	7.5
665343	1750	3.8
665344	3711	8.7
665345	3621	12.6

665346	3309	9.1
665347	2325	9.6
665348	3037	12.1
665349	2492	12.1
665350	9508	9.1
665351	2591	7.7
665351-R	2830	7.5
665352	8583	12.3
665353	4505	10.0
665354	5390	12.7
665355	3950	11.8
665356	3949	14.9
665357	813	32.2
665358	1713	18.0
665359	1348	8.1
665360DUP	1442	8.5
665361	3108	10.8
665362	3442	14.9
665363	4284	13.9
665364	2088	8.2
665393	2765	8.9
665394	2330	7.2
665394-R	2255	8.6
665395	2409	8.7
665396	3821	10.1
665397	4588	11.1
665398	1867	5.4
665399	2036	3.6
665400DUP	2123	9.2
665401	1324	3.5
665402	1230	3.6
665403	2750	6.8
666601	1012	9.8
666602	2141	5.51
666603	878	3.63
666604	5089	14.78
666605	1837	8.35
666606	2070	7.55
666606-R	1526	6.82
666607	14517	16.36
666608	4650	10.3
666609	1035	3.81
666610	2560	8.86
666611	3974	6.84
666612	3192	22.17
666613	1655	8.23
666614	3260	7.76
666615	1967	8.08
666616	2170	10.21
666617	1677	13.27
666618	1412	5.11

666619	1536	9.96
666620DUP	1623	9.41
666621	1369	6.59
666621-R	1348	8.87
666622	1325	6.73
666623	1119	3.65
666624	1809	9.29
666625	2001	6.01

3D - SGH

"A SPATIOTEMPORAL GEOCHEMICAL HYDROCARBON INTERPRETATION"

TRILLIUM GOLD MINES INC.
FLY MOTH SOUTH SGH SURVEY

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SGH – SOIL GAS HYDROCARBON
Predictive Geochemistry

for

TRILLIUM GOLD MINES INC.

FLY MOTH SOUTH SGH SOIL SURVEY

** Jeff Brown,*

Activation Laboratories Ltd

(- author)*

Dale Sutherland (- originator)

EVALUATION OF SAMPLE DATA – EXPLORATION FOR: "GOLD" TARGETS

THE SGH GOLD INTERPRETATION TEMPLATE IS USED FOR THIS REPORT

Workorder: A21-15345

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Executive Summary

It is important to read the Report Preface on the next page as an introduction to the report. For more detail the Overview section on page 8 could also be read.

The customized section for this FLY MOTH SOUTH Survey starts on page 15. In the author's opinion, the SGH appeared to perform well in terms of response. SGH was able to identify potential Gold mineralization as apical anomalies in what appears to be a redox zone.

Note that some exploration companies submit this report intact to government assessors as proof of work on their claim. Be aware that the SGH data is not attached to this report; it is supplied separately as an Excel spreadsheet. Government assessors will also have to be supplied with this data.

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PREFACE

THIS "STANDARD" SGH INTERPRETATION REPORT:

The purpose of this Soil Gas Hydrocarbon (SGH) interpretation "Standard Report" is to ensure that clients and other potential reviewers of the results have a good understanding of this organic, deep penetrating geochemistry. As SGH provides such a large data set and is not interpreted in the same way as an inorganic geochemical method, the provision of this interpretation and report enables the user to realize the results in a timely fashion and capitalizes on years of research and development since the inception of SGH in 1996 combined with the knowledge obtained by Activation Laboratories through the interpretation of SGH data from over 1,100 surveys for a wide variety of target types in various lithologies from many geographical locations. Although referenced today as a "nano-technology", the analysis of SGH has not changed since inception. The report is compulsory as it is the only known organic geochemistry that, in spite of the name, uses "non-gaseous" semi-volatile organic compounds interpreted using a forensic signature approach. Many different sample types can be used in the same survey. Interpretation is based solely on SGH data and does not include the consideration from any other geochemistry (inorganic), geology, or geophysics that may exist related to the survey area(s). This report can also provide evidence of project maintenance. To keep the price to a minimum and to provide as short a turnaround time as practically possible, usually only one SGH Pathfinder Class map is illustrated in a "Standard Report" with an applied interpretation although several other SGH Pathfinder Class maps are used and referenced. Definitions of certain terms or phrases used in this report can be found in Appendix A.

The interpretation in this report has used the results from some of the research with SGH in recent years which has focused on the potential that the SGH data is able to further dissect and understand the relationships between the chemical Redox conditions in the overburden the development of an electrochemical cell and its affect in shaping the upward migration of geochemical anomalies. This has resulted in the development by Activation Laboratories of a new enhanced model of the Electrochemical/ Redox Cell theory originated by Govett (1976) that was further developed to the model by Hamilton (2004, 2007). The new enhanced model developed by Sutherland (2011) takes the general anomalies expected by the Hamilton model to a higher level of detail and specificity. This has resulted in a more confident level of interpretation which has been referenced as 3D-SGH or **3D-"Spatiotemporal Geochemical Hydrocarbons (SGH)"**. This model was formally introduced at the International Applied Geochemistry Symposium (IAGS) organized by The Association of Applied Geochemists that took place in Rovaniemi, Finland, in August 2011. This new level of understanding of the expected anomaly types that can be observed with SGH provides a new level of quality control in the interpretation process as the symmetry of SGH anomalies can assure the interpreter which anomalies are as a result of a buried target. With the enhanced 3D-SGH interpretation that was introduced in 2012, we also mark the beginning of the ability to make some statements regarding the possible depth to mineralization for some projects as we dissect the Redox cell relative to the new Electrochemical Cell theory. The cover of this report is an artist's rendering of the pathways of different classes of Spatiotemporal Geochemical Hydrocarbons which migrate through the overburden. This model is used as the new 3D-SGH interpretation approach.

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DISCLAIMER

This "SGH Interpretation Report" has been prepared to assist the user in understanding the development and capabilities of this Organic based Geochemistry. The interpretation of the Soil Gas Hydrocarbon (SGH) data is in reference to a template or group of SGH classes of compounds specific to a type of mineralization or target that is chosen by the client (i.e. the template for petroleum, gold, copper, VMS, uranium, etc.). The various templates of SGH Pathfinder Classes that together define the forensic identification signature for a wide range of commodity target types; Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Play, have been developed through years of research and have been further refined from review of case studies and orientation studies has proven to be able to also address a wide range of lithologies. Even with 20+ years of development and experience with SGH, Activation Laboratories Ltd. cannot guarantee that the templates used are applicable to every type of target in every type of environment. The interpretation in this report attempts to identify an anomaly that has the best SGH signature in the survey for the type of mineralization or target chosen by the client. However, this interpretation is not exhaustive and there may be additional SGH anomalies that may warrant interest. It should not be viewed due to the generation of this SGH report, that Activation Laboratories Ltd. has the expertise or is in the business of interpreting any other type of geochemical data as a general service. As the author was trained by the originator of the SGH geochemistry, who has researched and developed this exploration tool since 1996, and has produced similar interpretations using SGH data for over 1,000 surveys, he is the best qualified person to prepare this interpretation as assistance to clients wishing to use this SGH geochemistry. Activation Laboratories Ltd. can offer assistance in general suggestions for sampling protocols and in sample grid design; however we accept no responsibility to the appropriateness of the samples taken. Activation Laboratories Ltd. has made every attempt to ensure the accuracy and reliability of the information provided in this report. Activation Laboratories Ltd. or its employees do not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information or description of processes contained in this report. The information is provided "as is" without a guarantee of any kind in the interpretation or use of the results of the SGH geochemistry. The client or user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using any information or material contained in this report or using data from the associated spreadsheet of results.

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Cautionary Note Regarding Assumptions and Forward Looking Statements

The statements and target rating made in the Soil Gas Hydrocarbon (SGH) interpretive report or in other communications may contain or imply certain forward-looking information related to the quality of a target or SGH anomaly.

Statements related to the rating of a target are based on comparison of the SGH signatures derived by Activation Laboratories Ltd. through previous research on known case studies. The rating is not derived from any statistics or other formula. The rating is a subjective value on a scale of 0 to 6 relative to the similarity of the SGH signature reviewed compared to the results of previous scientific research and case studies based on the analysis of surficial samples over known ore bodies. No information on the results from other geochemical methods, geophysics, or geology is usually available as additional information for the interpretation and assignment of a rating value unless otherwise stated. References to the rating should be viewed as forward-looking statements to the extent that it involves a subjective comparison to known SGH case studies. As with other geochemical methods, an implied rating and the associated anticipated target characteristics may be different than that actually encountered if the target is drilled tested or the property developed. Activation Laboratories Ltd. may also make a scientifically based prediction in this interpretive report to an area that might be used as a drill target. Usually the nearest sample is identified as an approximation to a "possible drill target" location. This is based only on SGH results and is to be regarded as a guide based on the current state of this science.

Unless otherwise stated, Activation Laboratories Ltd. has not physically observed the exploration site and has no prior knowledge of any site description or details or previous test results. Actlabs makes general recommendations for sampling and shipping of samples. Unless stated, the laboratory does not witness sampling, does not take into consideration the specific sampling procedures used or factors such as; the season of sampling, sample handling, packaging, or shipping methods. The majority of the time, Activation Laboratories Ltd. has had no input into sampling survey design. Where specified Activation Laboratories Ltd. may not have conducted sample preparation procedures as it may have been conducted at the client's assigned laboratory external to Actlabs. Although Actlabs has attempted to identify important factors that could cause actual actions, events or results to differ scientifically which may impact the associated interpretation and target rating from those described in forward-looking statements, there may be other factors that cause actions, events or results that are not anticipated, estimated or intended. In general, any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, future events or performance are not statements of historical fact. These "scientifically based educated theories" should be viewed as "forward-looking statements".

Readers of this interpretive report are cautioned not to place undue reliance on forward-looking information. Forward looking statements are made based on scientific beliefs, estimates and opinions on the date the statements are made and for the interpretive report issued. The Company undertakes no obligation to update forward-looking statements or otherwise revise previous reports if these beliefs, estimates and opinions, future scientific developments, other new information, or other circumstances should change that may affect the analytical results, rating, or interpretation.Actlabs nor its employees shall be liable for any claims or damages as a result of this report, any interpretation, omissions in preparation, or in the test conducted. This report is to be reproduced in full, unless approved in writing.

SOIL GAS HYDROCARBON (SGH) GEOCHEMISTRY – OVERVIEW

In the search for gas, oil, minerals and elements, geologists require tools to assess the location and potential quantity of minerals and ores. In the past people looked at the landscape to find the deposit. Similar landscapes indicate similar mineral and metal deposits. This is searching on a macro level, while geochemistry is searching on a micro level. Surficial materials requires many minerals and elements, so surficial materials can contain indications of the presence of minerals and elements.

SGH is a deep penetrating geochemistry that involves the analysis of surficial samples from over potential mineral or petroleum targets. The analysis involves the testing for 162 hydrocarbon compounds in the C5-C17 carbon series range applicable to a wide variety of sample types. These hydrocarbons have been shown to be residues from the decomposition of bacteria and microbes that feed on the target commodity as they require inorganic elements to catalyze the reactions necessary to develop hydrocarbons and grow cells in their life cycle. Specific classes of hydrocarbons (SGH) have been successful for delineating mineral targets found at over 950 metres in depth. Samples of various media have been successfully analyzed i.e., soil (any horizon), sand, till, drill core, rock, peat, humus, lake-bottom sediments and even snow. After preparation in the laboratory, the SGH analysis incorporates a very weak leach, essentially aqueous, that only extracts the surficial bound hydrocarbon compounds and those compounds in interstitial spaces around the sample particles. These are the hydrocarbons that have been mobilized from the target depth. SGH is unique and should not be confused with other hydrocarbon tests or traditional analyses that measure C1 (Methane) to C5 (Pentane) or other gases. Thus, in spite of the name, SGH does not analyze for any hydrocarbons that are actually gaseous at room temperature and SGH can also be used to analyze for hydrocarbons in sample types other than soil. SGH is also different from other soil hydrocarbon tests that thermally extracts or desorbs all of the hydrocarbons from the whole soil sample. This test is less specific as it does not separate the hydrocarbons and thus does not identify or measure the responses as precisely. These tests also do not use a forensic approach for identification. In SGH, the hydrocarbons in the sample extract are separated by high resolution capillary column gas chromatography and then detected by mass spectrometry to isolate, confirm, and measure the presence of only the individual hydrocarbons that have been found to be of interest from initial research and development and from performance testing especially from two Canadian Mining Industry Research Organization (CAMIRO) projects (97E04 and 01E02).

Over the past 20+ years of research, Activation Laboratories Ltd. has developed an in-depth understanding of the unique SGH signatures associated with different commodity targets. Using a forensic approach we have developed target signatures or templates for identification, and the understanding of the expected geochromatography that is exhibited by each class of SGH compounds. In 2004 we began to include an SGH interpretation report delivered with the data to enable our clients to realize the complete value and understanding of the SGH results in a short time frame and provide the benefits to them from past research sponsored by Actlabs, CAMIRO, OMET and other industrial sponsors. In 2011, a new model of Electrochemical/Redox Cell theory was proposed and the new 3D-SGH interpretation approach based on this theory was incorporated in 2012 on a routine basis for SGH interpretation reports.

SGH has attracted the attention of a large number of Exploration companies. In the above mentioned initial research projects the sponsors have included (in no order): Western Mining Corporation, BHP-Billiton, Inco, Noranda, Outokumpu, Xstrata, Cameco, Cominco, Rio Algom, Alberta

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Geological Survey, Ontario Geological Survey, Manitoba Geological Survey and OMET. Further, beyond this research, Activation Laboratories Ltd. has interpreted the SGH data for over 1,000 targets from clients since January of 2004. In both CAMIRO research projects over known mineralization, client orientation studies, and in exploration projects over unknown targets, SGH has performed exceptionally well. As an example, in the first CAMIRO research project that commenced in 1997 (Project 97E04), there were 10 study areas that were submitted blindly to Actlabs. These study sites were specifically selected since other inorganic geochemical methods were unsuccessful at illustrating anomalies related to the target. Although Actlabs was only provided with the samples and their coordinates, SGH was able to locate the blind mineralization with exceptional accuracy in 9 of the 10 surveys. In 2007, shortly after providing SGH interpretation reports, SGH was credited in helping locate previously unknown mineralization, e.g. Golden Band Resources drilled an SGH anomaly and discovered a significant vein containing "visible" gold. (www.goldenbandresources.com) SGH has been very successful and mining companies have repeatedly used SGH on several reports. Of those clients that try this SGH Geochemistry, over 90+% have continued to use this technique as repeat clients. SGH has helped discover a large number of new deposits, however many clients have kept this to themselves as a competitive strategy.

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SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Summary: See Appendix C for more details

In summary, the best conditions for the sample type and survey design include:

- Fist sized samples are usually retrieved from a shallow dug hole in the 15 to 40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely required. SGH is highly effective in areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or as a second choice, in a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. More samples representing a larger area is preferred in order to optimize data contrast.
- If very wet, samples can be drip dried in the field. No special preservation is required for shipping.
- Relative or UTM sample location coordinates are required to allow interpretation.

SAMPLE PREPARATION AND SGH ANALYSIS

Summary: See Appendix D for more details

Upon receipt at Activation Laboratories:

- The samples are air-dried at a relatively low temperature of 40°C.
- The samples are then sieved and the -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected.
- The collected "pulp" is packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organic Geochemical department also located in our World Headquarters in Ancaster, Ontario, Canada.
- Each sample is then extracted, compounds separated by gas chromatography and detected by mass spectrometry at a *Reporting Limit* of one part-per-trillion (ppt).
- The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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SGH DATA QUALITY

Summary: See Appendix E for more details

Reporting Limit:

- The Excel spreadsheet of concentrations for the Hydrocarbons monitored is in units of ppt as "parts-per-trillion" which is equivalent to nanograms/kilogram (ng/Kg). The reporting limit of 1 ppt represents a value of approximately 5 times the standard deviation of low level analysis. Essentially all background noise has already been eliminated. All data reported should be used in geochemical mapping. Actual detectable levels can be significantly < 1 ppt.

Laboratory Replicate Analysis:

- An equal aliquot of a random sample is analyzed as a laboratory replicate.
- Due to the large amount of data, the estimate of method variability is reported as the percent coefficient of Variation (%CV).
- A laboratory replicate analysis is reported at a frequency of 1 for every 15 samples analyzed.
- The variability of field duplicate samples are similarly reported if identified.

Historical SGH Precision:

- Although the SGH analysis reports results at such trace ppt concentration levels, the average %CV for laboratory replicates is excellent at an average of 8% within a range of ±4%.
- Field duplicates have historically been 3 to 5% higher than laboratory replicates.

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Summary: See Appendix F for more details

SGH Interpretation and Report:

- Due to the very large data set provided by the SGH analysis, this interpretation report is provided to offer guidance in regards to the results of this geochemistry for the survey.
- In our interpretation procedure, we separate the 162 compound results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, Thiophenes, aromatic, and polyaromatic compounds. The concentrations of the individual hydrocarbons within a class are simply summed. None of these compounds are gaseous at room temperature.
- At this time the magnitude of the hydrocarbon class data has not been proven to imply a higher grade or quantity of the mineralization if present.
- A "geochemical anomaly threshold value" should not be calculated for SGH data as any background or noise has already been filtered out through the use of a Reporting Limit instead of some type of detection limit.
- SGH hydrocarbon data should never be interpreted individually. Interpretation must always use a compound class.
- Multiple SGH Classes are compared. Multiple SGH Classes that have been associated with the presence of specific mineralization are called SGH Pathfinder Classes that together represent the forensic signature or fingerprint identification that is associated with a specific type of mineralization or petroleum play.
- The anomalies of each class are compared as to their geochromatographic dispersion and ability to vector to a common location that may be referenced as a potential drill target.
- The agreement and behaviour between SGH Pathfinder Classes for a type of target, as a template of Classes, is compared against SGH research and orientation studies. The quality of agreement is expressed as an SGH Rating of confidence that the SGH anomalies of the survey being interpreted are similar to the behaviour of these classes over known mineralization.
- The interpretation is customized for the project survey by the Author. The SGH Rating and Interpretation is subjective and based on the experience from 1,000+ SGH survey interpretations. The interpretation is not conducted or assisted by any computerized process.

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SGH CHARACTERISTICS

Summary: See Appendix G for more details

SGH Characteristics:

- The pattern of SGH anomalies are usually of high contrast and easily observed.
- SGH is able to illustrate exceptionally symmetrical anomalies in spite of exotic overburden and barriers such as permafrost, shale and basalt caps, previously thought to be impenetrable.
- Inorganic geochemistry can illustrate anomalies of metals that have been mobilized by surficial physical processes. As SGH is essentially “blind” to the inorganic content of a sample, SGH anomalies illustrate the true source of mineralization as it is not affected by the effects of terrain or from mobilized cover such as from glacial transport.
- As SGH hydrocarbons are essentially non-polar, highly symmetrical anomalies are observed. As such symmetry is rare in geochemistry this provides a higher level of confidence to the interpretation that is reflected by a higher SGH Rating Score in comparison to known case studies.
- SGH can be analyzed on samples collected in different seasons or adjacent years. The combined data most often does not require any data leveling.

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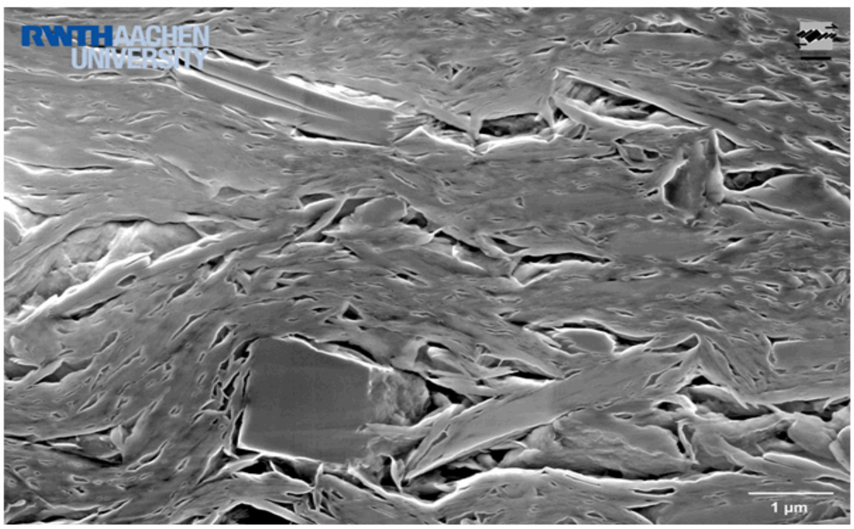
SGH INTERPRETATION – LATEST ENHANCEMENTS

SGH continues to be developed even after 18 years since inception. Although the sample preparation and analysis has stayed the same, in the last 10 years in particular it is the interpretation and understanding of the SGH data and the intricacies of the SGH signatures that have been more refined. In the last 4 years this understanding has extended to the ability to make some prediction of depth from just the use of this geochemistry. A "first" for a geochemistry that is unique to SGH. Today the latest SGH development is the introduction of the concept of the "transparent overburden". The basis of this ability is the understanding that SGH is a Nano-geochemistry. The term "Nano" is not only used to describe the capability in detecting "Nano" quantities of these hydrocarbon based bacterial decomposition products, with the ability to detect 1 nanogram per kilogram (ng/Kg or 1 part-per-trillion), but "Nano" also describes the size of the hydrocarbon compounds detected which are typically < 1 micron in size. These relatively non-polar hydrocarbons are far smaller in size than inorganic oxides and sulphides. This difference is the reason why SGH anomalies are reliable vertical projections of mineral and/or petroleum based targets. This SGH Nano-geochemistry thus makes even the most exotic overburden "transparent". The SEM (Scanning Electron Microscope) image below illustrates the large number of micron sized pore spaces in "Boom Clay", specific high density clay, used to cap deep chambers of high hazard and radioactive wastes. To SGH, this is just a sieve that these hydrocarbons are able to still migrate through by Nano-Capillary action. Inorganic oxides and sulphide anomalies from targets below such complex overburden may be laterally displaced as they must rely on faults and shears in order to migrate to the surface



This new understanding of the rationale of why SGH anomalies are so reliable in their vertical projection of the location of mineralization and in the ability to so accurately delineate shallow and deep mineralization has further lead to the ability to use SGH to review different layers of the overburden as it relates to the mineral target due to the wide molecular weight range of the SGH Nano-geochemistry. Another factor that aids in this review of layers, much like peeling back the layers of a sweet-onion, is the understanding of weathering processes in the 5 metres near the surface that includes the Vadose zone.

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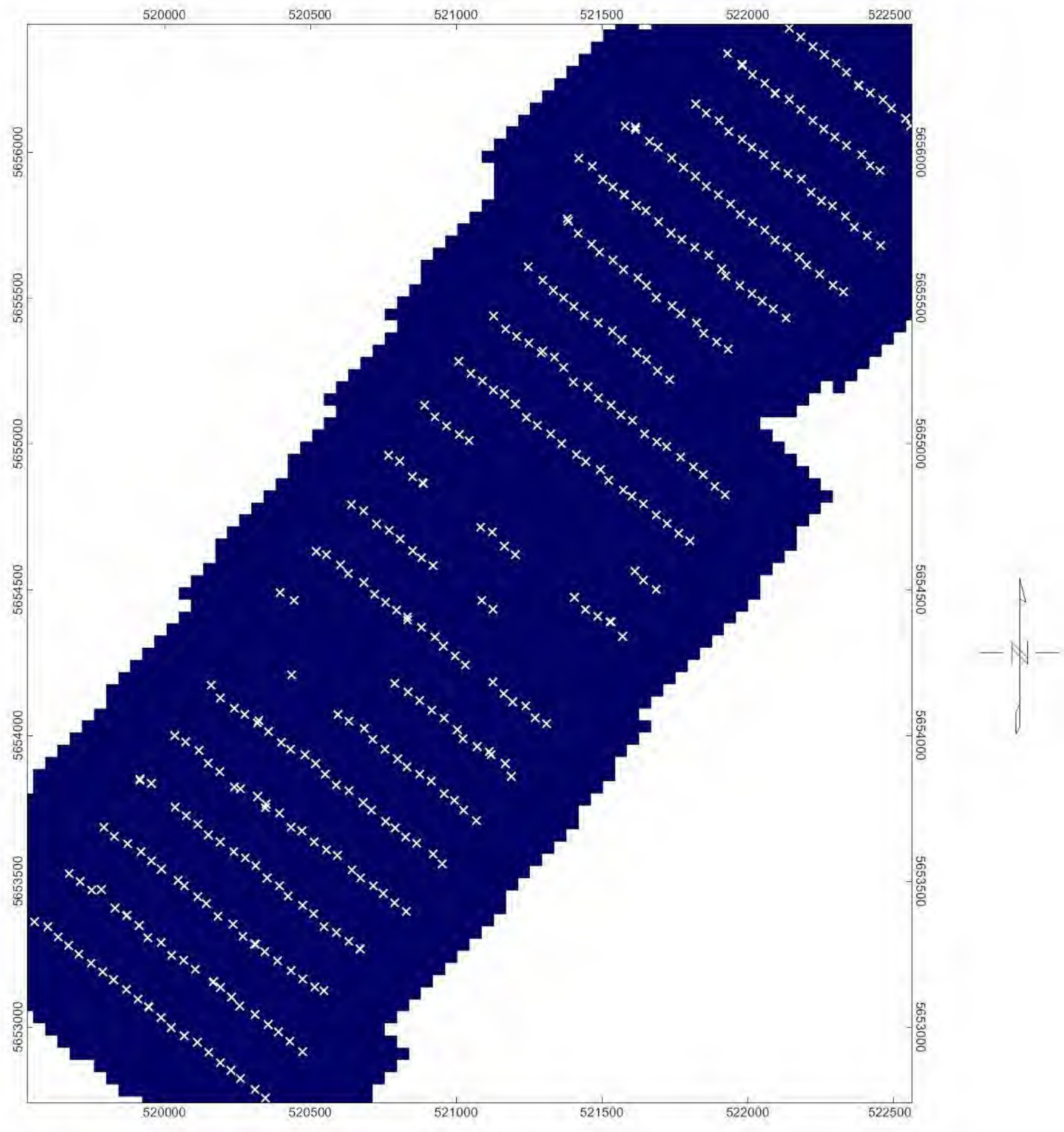
INTERPRETATION OF SGH RESULTS - A21-15345
TRILLIUM GOLD MINES – FLY MOTH SOUTH SURVEY

This report is based on the SGH results from the analysis of a total of 374 soil samples from the FLY MOTH SOUTH survey. The survey can be described as a grid with sample spacing of approximately 50m and approximately 200m between lines. The samples were shipped to Actlabs Global Headquarters, then prepared for analysis. Sample coordinates were provided for mapping of the SGH results for these samples in UTM format. A sample location map is shown below.



SGH INTERPRETATION - TRILLIUM GOLD MINES
QUALITY ASSURANCE – FLY MOTH SOUTH SOIL SURVEY

Note that the associated SGH results are presented in a separate Excel spreadsheet. This data is semi-quantitative and is presented in units of pg/g or *parts-per-trillion* (ppt) as the concentration of specific hydrocarbons in the sample. <u>The number of samples submitted for this survey is more than adequate to use SGH as an exploration tool</u>. SGH has been proven to discriminate between false mobilized soil anomalies and is able to actually locate the source target deposition. SGH is a deep-penetrating geochemistry and has been proven to locate Copper, Gold, VMS, and other types of mineralization as well as for petroleum targets at several hundred metres below the surface irrespective of the type of overburden. Note that the SGH data is only reviewed for the particular target deposit type requested, in this case for the presence of gold. It is assumed that there is only one potential target. If known, in surveys with several complex geophysical targets, to obtain the best interpretation the client should indicate that there are possibly multiple targets. The possibility of multiple geophysical targets should be known due to potential overlap and increased complexity of the resulting geochromatographic anomalies, which could alter the interpretation as to which targets are mineralized or not.

The overall precision of the SGH analysis for the samples at the FLY MOTH SOUTH Soil Survey was excellent as demonstrated by 25 samples taken from this survey which were used for laboratory replicate analysis and were randomized within the analytical run list. The average Coefficient of Variation (%CV) of the replicate results for the samples in this survey was **7.8%** which represents an excellent level of analytical performance especially at such low parts-per-trillion concentrations.

The **20 Field Duplicate samples submitted from the FLY MOTH SOUTH Soil Survey** was considered very good at **10.4%**. It is typically observed that the variability of field duplicates are 5% to 8% CV higher than for laboratory duplicates of random samples taken from the survey. Note that the SGH geochemistry does not detect all organic hydrocarbons present in the samples.

No other statistics were used on the data for this report for mapping or interpretation purposes aside from the use of a Kriging trending algorithm in the GeoSoft Oasis Montaj mapping software. **This interpretation is based only on the analytical results provided by the SGH Nano-Geochemistry from this submission of samples for the FLY MOTH SOUTH survey samples.** A template or group of SGH Pathfinder Classes that have been found to be associated with buried Gold targets was used as the basis for the interpretation of this area. The final interpretation is customized and conducted by the author. Although the term "template" or "signature" appears in this SGH Report, a computerized interpretation is not used.

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SGH INTERPRETATION - SGH TARGET PATHFINDER CLASS MAPS

The map shown in plan and in 3D views in this report are SGH "Pathfinder Class maps" for targeting various chemical classes of hydrocarbon flux signatures related to gold type targets. This report may have been expanded by the author to include additional SGH information that may help understand the structure of the findings if present at the FLY MOTH SOUTH survey area. The map shown represents the simple summation of several individual hydrocarbon compound concentrations that are grouped from within the same organic chemical class. SGH Pathfinder Class maps have been shown to be robust as they are each described using from 4 to 14 chemically related SGH compounds (unless otherwise stated) which are simply summed to create each chemical class map. Thus, each map has a higher level of confidence as it is not illustrating just one compound measurement.

The Gold template of SGH Pathfinder Classes uses primarily low and medium molecular weight classes of hydrocarbon compounds. At least three Pathfinder Class maps, associated with the SGH signature developed must be present to begin to be considered for assignment of a good rating relative to the SGH performance in case studies over known gold types of mineralization (some of these maps might not be shown in this report). These SGH classes must also concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class. The *overall* SGH interpretation Rating has even a higher level of confidence as it further implies the consensus between at least three SGH pathfinder classes. A combination of these SGH Pathfinder Classes potentially defines the signature of a target at depth if present. Each of the SGH Pathfinder Class maps shown in this report is a specific *portion* of the SGH signature relative to the presence of Gold as described. Each pathfinder class map is still just one of the Pathfinder Class maps used in the interpretation template for Gold. Additional interpretation information which may contain additional SGH Pathfinder Class maps is available as a Supplementary Report at an additional price (see Appendix H).

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A21-15345 – TRILLIUM GOLD MINES
FLY MOTH SOUTH SOIL SURVEY - SGH INTERPRETATION
SGH TARGET PATHFINDER CLASS MAPS

Note that any concentration value in the accompanying Excel spreadsheet greater than the "Reporting Limit" of 1 ppt is important data and has been able to depict mineralization or petroleum plays at depth under cover in other projects. The majority of the variability or noise has already been eliminated; additional filtering will adversely affect any interpretation. Note again that a Kriging trending algorithm has been applied to the mapping routine in the Geosoft Oasis Montaj software in the development of the SGH Class maps. SGH concentrations are in some way probably related to the amount of mineralization or petroleum resource present, which probably defines the characteristics or quantity of the biofilm(s) in contact with the target, as well as being related to the depth to the target. SGH results have also been shown to correlate well with geophysical measurements such as magnetic anomalies and those of CSAMT.

The SGH Class maps are the plot of the sums of the particular hydrocarbon class in parts-per-trillion concentration. The dark blue areas of these maps represent very low or non-detect values or areas where no samples were taken. For plotting purposes the values at the Reporting Limit are plotted as one-half of this filtering, or one-half of 1.0 ppt. The hotter colours represent higher concentrations of the sum of the class with the highest values being purple in colour. The lowest concentrations that may be at 0.5 ppt, are shown in blue.

SGH is a "deep penetrating" geochemistry but also works well for deep targets as well as relatively shallow targets. <u>Targets shallower than about 3 to 5 metres</u> (or potentially outcrop) will have a reduced SGH signal due to interaction with atmospheric conditions and samples taken right at surface outcrops will have even weaker signals due to a higher degree of weathering from various environmental processes on these volatile and semi-volatile organic hydrocarbons.

In the interpretation of SGH data there are several goals. In order of importance they are:

- Review for the presence of Redox Cells
- Vector to the location of a mineral target
- Delineate the mineral target
- Identify the type of mineral target
- Describe the features of the possible mineral target
- See if there is information on the basement structure
- Predict a drill target
- Predict the possible depth to the mineral target

Not every goal is expected to be able to be achieved with each SGH data set or survey.

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A21-15345 – TRILLIUM GOLD MINES
FLY MOTH SOUTH SOIL SURVEY
SGH INTERPRETATION RATING AND CLARIFICATION

Often a geochemistry such as SGH is used as an economical exploration investigation tool to provide more information on an exploration target as some geological body or help prioritize some geophysical target. Such occurrences are in general expected to change the chemistry of the immediate overburden which in turn is expected to result in a chemical anomaly as detected in surficial samples. The author believes that it is important to convey to the client the presence of an anomaly even if there is only part of the SGH signature present that may be related to the mineral signature or template requested. In other words, the anomaly illustrated in the report may not be representative of the mineralization sought as only a part of the SGH signature is present, but the anomaly may confirm the presence of some geological or geophysical target which may be valuable to the client for comparison with other data. In addition, it would confirm the ability and sensitivity of SGH to show geological or geophysical occurrences. <u>Example:</u> A well-defined rabbit-ear anomaly on an SGH Pathfinder Class map in a report, even though it may have a lower rating of 2.0 or 3.0, may illustrate to the exploration geologist that SGH does agree that there is some geological body at depth that is changing the chemistry and forming a Redox cell in the overburden. However, the SGH forensic signature <u>Rating</u> indicates that there is a lower confidence that the "identification" of that body is likely to be say Gold (if the SGH Gold template is requested). This information would provide a confirmation that a target does exist, however if the SGH Rating indicates that the target has a lower level of confidence then the target does not have the forensic signature of the mineralization sought. SGH would thus provide a savings to the exploration program and divert focus to potentially other targets having a higher confidence in the SGH identification Rating for Gold in this example.

<u>Thus, the SGH rating must always be considered in conjunction with the SGH Pathfinder Class map(s) shown in the report.</u> It is this rating that provides an insight into the authors' complete interpretation and is a measure of the confidence and to what degree the complete SGH signature compares with the SGH results from over case studies of similar known deposits. Unfortunately, the interpretation of a visual, as the SGH map provided, is so ingrained in humans that the reader may erroneously disregard the author's subjective rating to a large degree. As of November 25, 2011, the author now highlights the rating directly on the page having the plan view of the SGH Pathfinder Class map chosen to be illustrated. Thus to the reader of the report, the authors Rating is actually **<u>MORE IMPORTANT</u>** than the readers instinctive interpretation of just the one map provided. Again, SGH should not be used in isolation from other site information, and that a Rating of 4.0 is when, in the authors' estimation, a signature only starts to have a good identification relative to that type of mineralization, and that the survey may warrant further study although it is not a specific recommendation to drill test the anomaly. As the SGH interpretation is represented by a signature, the SGH Pathfinder Class map(s) illustrated in reports is always only "PART" of the specific SGH signature or template that the client requests (i.e. for Gold, etc.). No one SGH map can represent the complete signature due to the different amounts of spatial dispersion of the anomalies that are expected for the variety of SGH chemical classes within each signature. Thus the author selects the one SGH Class Map relative to the mineralization requested that best represents an anomaly that estimates the overall signature found in the survey.

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A21-15345 – TRILLIUM GOLD MINES – FLY MOTH SOUTH SGH "REDOX" INTERPRETATION

As a general comment in regard to the SGH results at the FLY MOTH SOUTH Soil Survey, the SGH data in general had good signal strength and the SGH Class map in this report is fairly good in contrast. It's important to not think of contrast with SGH as Signal:Noise as by using a "Reporting Limit" the noise has already been completely or nearly completely removed.

One of the first steps in the interpretation of the spatial aspect of SGH data is to locate potential Redox conditions in the overburden. Redox conditions have been well known to be related to blind mineral or petroleum targets; however, Redox conditions can also be attributed to other geological bodies that are of no particular interest. SGH signatures have been shown to be able to differentiate between these targets. SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "Redox Cell locator". Redox Cells can be related to the presence of bacteriological activity related to mineralization but also may be related to the presence of geological bodies such as Granite Gneiss, Dunite, etc. Recently SGH has been shown to be far more sensitive to depicting Redox conditions than even measurements using pH or ORP tests. It is important to understand that; not only is SGH a Redox cell locator, but due to the forensic signature of mineralization used in the interpretation process, SGH can discriminate mineral targets and other target types from geological bodies, other magnetically detected targets, mineralized versus non-mineralized conductors, cultural effects, etc. even in surveys over highly difficult or exotic terrain that often requires the collection of multiple sample types. In the interpretation it is not necessary to detect a Redox cell if mineralization is within approximately 30 metres of the surface as this would be insufficient depth to develop a dispersion halo anomaly. Many SGH surveys for Gold, Petroleum, and other mineral and petroleum based targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Segmented-Nested-Halo", and "Rabbit-Ear" or "Segmented Halo" type anomalies are all typically observed within the SGH data set from the effect of Redox cells that have developed over mineralization and their interaction with Redox conditions and the electromotive forces produced by the subsequent Electrochemical Cell. Different types of anomalies have also been associated with the depth to the target. The types of anomalies developed have been recently explained by the use of the 3D-SGH model of interpretation. The highly symmetrical anomalies illustrated by SGH data closely follow the expected self-organizing patterns of neutral species within an electrochemical cell in recent experiments in physics laboratories. The highly symmetrical anomalies are also able to be observed as the Nano-sized dimensions of these organic hydrocarbons are much smaller than inorganic oxides and sulphides. Thus the SGH hydrocarbons can migrate through the Nano-sized fissures of even clay, basalt, and permafrost caps by means of Nano-capillary action. The simple fact that the SGH anomalies are geometrically symmetrical and not random further improves the confidence of SGH interpretations.

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Remember that signals near the edges of the survey or at the ends of transects can appear to be higher due to the Kriging trending algorithm applied for mapping. For this reason, these anomalies may not be interpreted.

The SGH Class maps are only a portion of the SGH Gold signature used in each interpretation. There is not any one SGH Class map that can, as a single map, be reliably used to interpret the presence of Copper, Gold or any other type of mineralization. Again, as signals or anomalies due to any analytical, sample preparation, or sampling procedure "noise" have been removed through the use of the Reporting Limit filter, any SGH anomaly on this Pathfinder Class Map has a high probability of being real data. The SGH Pathfinder Class maps shown are highly sensitive in illustrating strong results for Gold based on previous research and case studies. Other SGH Classes at the FLY MOTH SOUTH survey agree with the interpretation shown in the following pages.

This portion of the SGH hydrocarbon signatures is predicted to be associated with Gold targets as the detection of those hydrocarbon residues produced by the decomposition of microbes and bacteria from the life cycle death phase that have been feeding on Gold. These residues have subsequently migrated to the surface as a flux of different classes of hydrocarbons or decomposition products. During migration to the surface, dispersion away from the mineralization is expected. The distance of dispersion is dependent on the principle of geochromatography that is in generally related to the average molecular weight of the class. It has been found that the complexity of the overburden does not affect the geochromatographic dispersion of the SGH classes of this Nano-Geochemistry, unless a situation is encountered such as that of a "major" fault that may result in a very slight deflection of this path. This is the basis of the 3D-SGH interpretation as the relatively neutral hydrocarbons that SGH detects are spatially observed as very symmetrical anomalies (as presented by the creator at the IAGS conference in Finland in 2011 and further at the IAGS conference in New Zealand in November of 2013 and Tucson Arizona in 2015).

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A21-15345 – TRILLIUM GOLD MINES – FLY MOTH SOUTH
SGH GOLD INTREPRETATION

Page 23 of this report, and in 3D-view on page 24, shows the anomaly from one of the most reliable SGH Pathfinder Class in predicting the presence of Gold Mineralization. This map illustrates apical anomalies all along what appears to be the edge of a potential Redox Zone. We believe that mineralization might exist at these locations as a vertical projection beneath these anomalies. Other SGH Pathfinder Class Maps associated with the presence of gold mineralization (not shown in this report) support this interpretation of these anomalies at the FLY MOTH SOUTH Project.

Again, the prediction of these anomalies for gold mineralization is based only on SGH.

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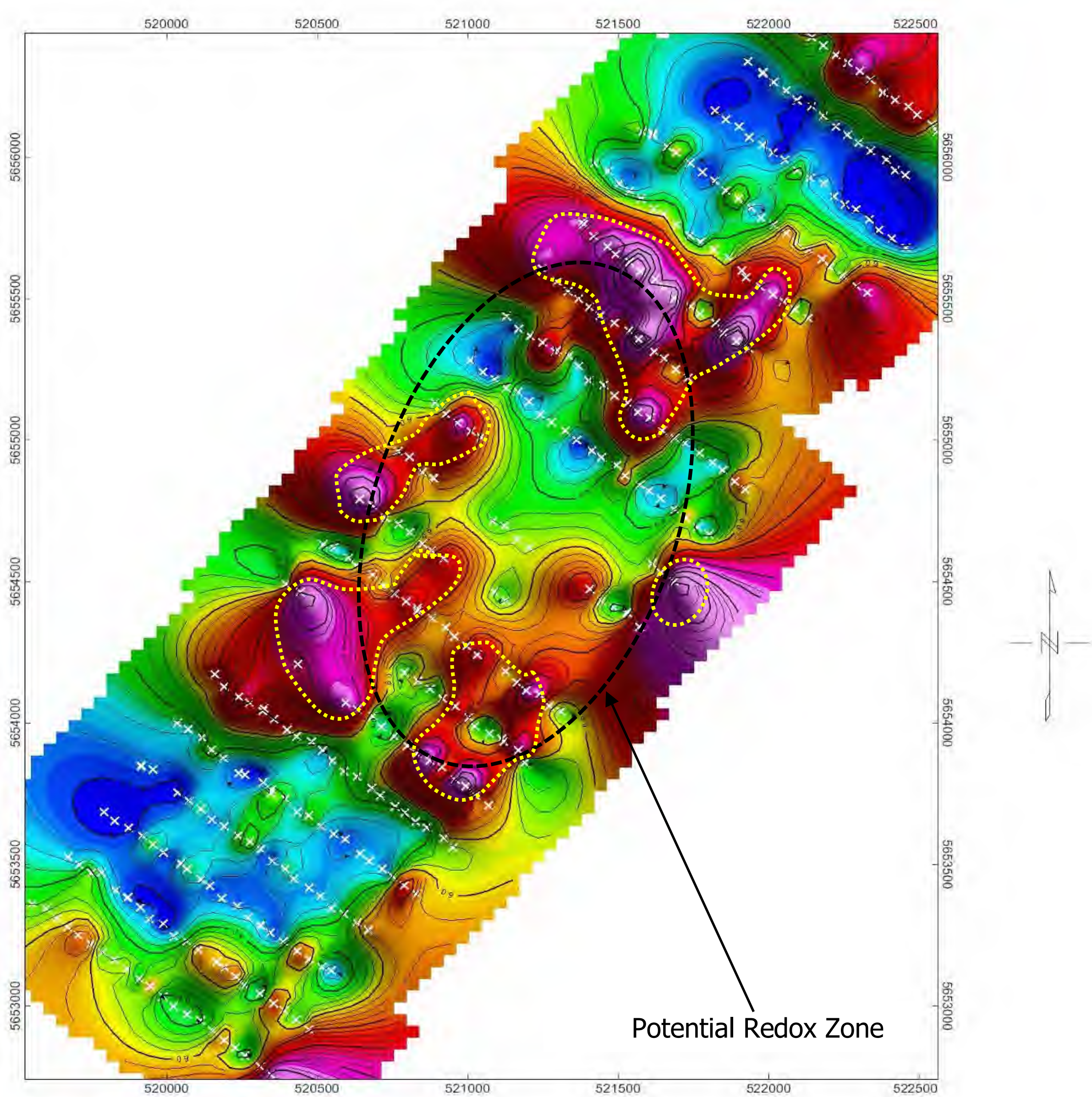
A21-15345 – TRILLIUM GOLD MINES – FLY MOTH SOUTH
SGH "GOLD" PATHFINDER CLASS MAP



PREDICTED GOLD MINERALIZATION – YELLOW OUTLINES

SGH SIGNATURE RATING RELATIVE TO "GOLD" = 3.0 OF 6.0

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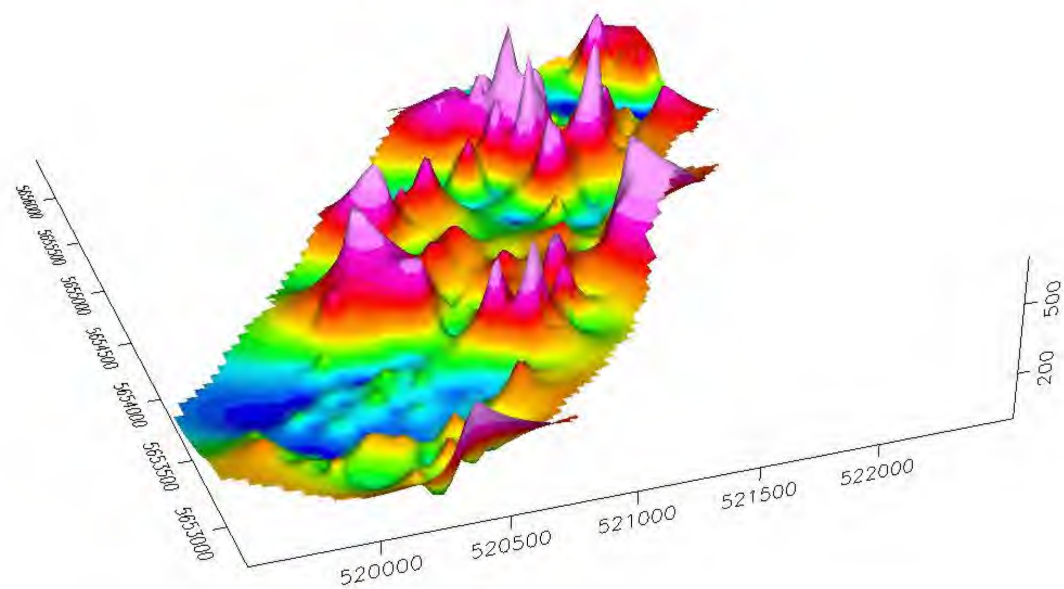
A21-15345 – TRILLIUM GOLD MINES – FLY MOTH SOUTH
SGH "GOLD" PATHFINDER CLASS MAP



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A21-15345 – TRILLIUM GOLD MINES
FLY MOTH SOUTH SOIL SURVEY - SGH INTERPRETATION FOR THE PRESENCE OF MINERALIZATION

The interpretation of the SGH data on page 23 relative to the presence of gold mineralization at the Trillium Gold Mines FLY MOTH SOUTH survey may be based on the makeup of SGH signatures with the possible presence of mineralization.

In general, SGH is not a perfect confirmatory technique for inorganic chemistry's. Inorganic methods will show the highest anomalies for outcrops at surface whereas the SGH sensitivity is reduced at this point due to further degradation by environmental exposure to sun, rain, UV, etc. This reduction may not be seen on the maps provided due to normalization to the highest response in the map overall. SGH predicts whether the mineralization is present at subcrop or deeper portions relative to the mineralized structure.

The subjective SGH confidence rating for the FLY MOTH SOUTH survey assigned to the anomalies in general on these maps where the anomalies coincide on their location is on average 3.0 on a scale of 6.0. The Rating for the FLY MOTH SOUTH survey means that, based only on SGH, that there is hope that mineralization may be present. Note, as the SGH Rating is one of confidence, in our judgment an assignment of a Rating of 0.0 cannot be given out. From client feedback in recent years, a few grass roots exploration surveys that have been interpreted with an SGH Confidence Rating of 4.0 (±0.5) have been drill tested and have had successful mineralization intersections. However, the frequency of success is much more prevalent for those targets that have associated SGH Rating Scores of ≥5.0.

The SGH Ratings shown on page 23 in this and all SGH reports are based on a scale of 6.0, in 0.5 increments, with a value of 6.0 being the best. The SGH Ratings discussed in relation to mineralization represents the similarity of these SGH results with other SGH case studies and orientation studies over known mineralization. Theses SGH signatures or templates have been constantly refined and enhanced since inception and has been proven to be effective and reliable. The SGH templates are based on the interpretation from over 1,100 interpretations of surveys in many different geographical regions and from a wide variety of lithologies. The degree of confidence in the SGH Rating only starts to be "good" at a level of 4.0. A Rating of 4.0 or more is an indication that this SGH Nano-Geochemistry predicts that the zone(s) described may warrant more work or more consideration.

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Any identification of a drill target is not an explicit recommendation by Activation Laboratories Ltd. to drill test the associated location or SGH anomaly. A drill target is implied to ensure that the reader is aware of the location having the highest confidence of being the location of the vertical projection of mineralization, based only on SGH data. This is also not a recommendation for vertical drilling. Vertical drilling may not be the best approach to test the SGH anomaly in this area although SGH anomalies are very much a vertical projection of the target at depth regardless of the makeup of the overburden. Activation Laboratories Ltd. has no experience in actual exploration drilling techniques. Other geological, geochemical and/or geophysical information should also be considered.

It must be remembered that other SGH Class maps not shown in this report have also been reviewed to support the interpretation shown. To deduce the most scientifically sound interpretation of the SGH surveys, the client should use a combination of the SGH results shown in this report with additional geochemical, geophysical, and geological information to possibly obtain a more confident and precise target location. This is not a statement to convey some lower level of confidence in SGH results. This statement is made to recognize the proper use and interpretation of any scientific data. Whenever possible, multiple methods should always be employed so that any decisions do not rely on any one technique.

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In general, the number of samples was more than adequate to show what the author believes to be valuable information at the FLY MOTH SOUTH survey. Our recommendation states to use a minimum of 50 sample locations to be taken with at least 2 or 3 samples taken within 1 metre of a location as field duplicates. Survey designs that use a regular grid are very powerful tools although a 4:1 ratio as spacing between transects: spacing of samples along transects has also had excellent results with SGH. There is no recommendation for immediate infill sampling on this survey. Additional in-fill samples should be able to be easily added to the current data set without data leveling 90+% of the time. As the interpretation is difficult for surveys having less than 50 sample locations and the corresponding confidence is significantly lower, surveys with less than 50 sample locations may not be accepted and may be returned to the client at their expensive. We believe a survey with less than 50 sample locations is not beneficial or cost effective to the client.

GENERAL RECOMMENDATIONS FOR ADDITIONAL OR IN-FILL SAMPLING FOR SGH ANALYSIS

In general, if the client decides that in-fill sampling may be warranted, to obtain the best results from additional sampling for SGH it is usually recommended that sample locations from the original survey within, or bordering, the area of interest be re-sampled rather than just combining new sample results with the sample data from the initial survey. Although several SGH surveys have previously been easily and directly, combined without data leveling, it cannot be guaranteed that data leveling will not be required. It has been found that data leveling is more apt to be required should the new samples be collected under significantly different environmental conditions than during the initial sample survey, i.e. summer collection versus winter collection

The process of data leveling adds a minimum of 3 to 5 days of work to conduct the additional data evaluation, develop additional plots of the results, conduct new interpretations, and additional report descriptions. Results from data leveling is also always considered "an approximation", thus the confidence in a combined interpretation will be lower than the interpretation from samples collected during one excursion to the field and submitted as one survey. An additional cost will be invoiced should data leveling operations be required if the client requests that two SGH data sets be interpreted and reported together. Thus re-sampling a few of the original sample locations will provide a faster turnaround time for results and provide more accurate and confident surveys for evaluation and aid in deciding specific drill targets.

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Date Received at Actlabs (Ancaster): August 10, 2021

Date Analysis Complete: September 9, 2021

Interpretation Report: October 8, 2021

TRILLIUM GOLD MINES INC.

1055 West Hastings Street

Suite 2250

Vancouver, BC

V6E 2E9

Attention: William Paterson

RE: Your Reference: FLY MOTH SOUTH Survey

Activation Laboratories Workorder: A21-15345

CERTIFICATE OF ANALYSIS

This Certificate applies to the associated Excel Spreadsheet of Hydrocarbon results combined with the discussion and SGH Pathfinder Class maps of the data shown in this report.

374 Samples were analyzed for this submission.

Sample preparation–Actlabs Ancaster – SGH-1: Drying at 40°C and Sieving with -80 mesh collected

Interpretation relative to Gold targets was requested.

The following analytical package was requested and analyzed at Actlabs Ancaster Canada:

Analysis Code SGH – Soil Gas Hydrocarbon Geochemistry using High Resolution Gas Chromatography/Mass Spectrometry (HRGC/MS)

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REPORT/WORKORDER: A21-15345

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Notes: The SGH – Soil Gas Hydrocarbon Geochemistry is a semi-quantitative analytical procedure to detect and measure 162 hydrocarbon compounds as the organic signature in the sample material collected from a survey area. It is not an assay of Mineralization but is a predictive geochemical tool used for exploration. This certificate pertains only to the SGH data presented in the associated Microsoft Excel spreadsheet of results.

Mr. Dale Sutherland, is the creator of the SGH and OSG organic geochemical methods. He is a Chartered Chemist (C.Chem.) and Forensic Scientist specializing in organic chemistry. He is a member of the Association of the Chemical Profession of Ontario, the Association of Applied Geochemists, the International Association of GeoChemistry, the Ontario Prospectors Association, the Association for Mineral Exploration British Columbia, the Geochemical Society Association, the Ontario Petroleum institute, the Chemical Institute of Canada, and the Canadian Society for Chemistry, as well as having memberships in several national and international Forensic associations. He is not a professional geologist.

CERTIFIED BY:

Jeff Brown

Organics Supervisor

Activation Laboratories Ltd.

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APPENDIX "A"

List of terms

1. **SGH** – "SOIL GAS HYDROCARBON" GEOCHEMISTRY – a Predictive Geochemistry, used for delineate buried inorganic mineral deposits and organic petroleum plays. This is the original name used to describe this geochemistry since inception in 1996. Code SGH is still used when submitting samples.
2. **3D-SGH**- "3D- SPATIAL TEMPORAL GEOCHEMICAL HYDROCARBONS - the method of interpreting SGH and OSG results based on the Redox/Electrochemical Cell model developed by Activation Laboratories Ltd. in 2011.
3. **Redox cell**- an area of oxidation-reduction reactions or exchange of electrons that is produced over geological bodies, mineralization and petroleum based plays.
4. **Electrochemical cell**- the effect of adjacent chemically reduced areas and chemically oxidized areas as a Redox cell produces a electrical gradient that obeys the physics of a typical Electrochemical cell.
5. **Anthropogenic contamination-** the introduction of impurities/compounds of the same type as those that are being analyzed by human actions that could lead to erroneous results.
6. **Background areas**- the area around a mineral deposit that is beyond the effect of the Redox cell formed over geological bodies or exploration targets. Sampling is required into background areas to produce data that has sufficient contrast to illustrate and differentiate anomalies associated with exploration targets.
7. **Background subtracted**- A sample taken some distances away as to not contain any elements of the target being analyzed.
8. **Biofilm**- a layer of microorganisms and microbe and their related secretions and decomposition products, in this case found to inhabit mineral deposits .
9. **Biomarker**- a compound used as an indicator of a biological state. In this case a biological substance used to indicate the presence of a mineral deposit.
10. **Blind mineralization** – buried mineralization that shows no physical indication of its existence at the surface
11. **Compound** – used synonymously with the term hydrocarbon in this report
12. **Compound chemical class** – a group of hydrocarbons that are similar in size, structure, and molecular weight such that their chemical characteristics, such as water solubility, partition coefficients, vapour pressures, etc. are similar
13. **Cultural activities** – human initiated processes that may affect the physical and chemical characteristics at the earth's surface
14. **Delineating targets**- indicate the position or outlines of an exploration target as a vertical projection of the target at depth.
15. **Geochemical anomalies** – inorganic element or organic hydrocarbon measurements that are significantly different than the average low level measurements or background in a survey i.e. the needle in a haystack is an anomaly
16. **Dispersion patterns** – the movement/ spreading of something. In this context the spatial arrangements of hydrocarbons caused by their movements to the surface from some depth.

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17. **Exploration tool** – a geological, geophysical or geochemical method that attempts to illustrate data in exploration activities that may indicate the presence of mineralization or petroleum plays.
18. **Fit for purpose**- this method is ideal for its intended use.
19. **Forensic signature**- a grouping or pattern found to identify a substance having multiple characteristics with a high degree of specificity.
20. **High specificity**- as in being very specific to the mineralization.
21. **Anomalies**- this is the spatial representation of data that illustrates a high or low response as well as the combined spatial shape of anomalous data from several neighbouring samples in a survey that can form anomalies described as Rabbit-Ear, Halo, Segmented-halo, nested-halo, etc.
22. **Inorganic geochemistry** – the measurement of inorganic elements in a survey of near surface samples as a tool for exploration
23. **Data leveling** – a technique that attempts to normalize the data sets obtained between two or more sampling programs. The results of data leveling is always considered as an approximation.
24. **Lithologies-** the characteristics and classifications of rock.
25. **Locations-** the physical/ geographical position or coordinates of samples in a survey.
26. **Noise-** interference in a measurement which is independent of the data signal.
27. **Nugget effect-** Anomalously high precious metal assays resulting from the analysis of samples that may not adequately represent the composition of the bulk material tested due to non-uniform distribution of high-grade nuggets in the material to be sampled. (Webster's online dictionary)
28. **Organic geochemistry-** the Soil Gas Hydrocarbon geochemistry (SGH), or now more accurately named as Spatiotemporal Geochemical Hydrocarbons, is the analysis to detect specific organic, or carbon based, hydrocarbon compounds in a sample. The Organo-Sulphur Geochemistry (OSG) is the analysis to detect specific organic compounds that have sulphur joined to carbon in its molecular structure.
29. **Percent Coefficient of Variation (%CV)** – a measure of data variability
30. **Project maintenance** – an activity where the associated cost is applied to the exploration, advancement, and/or operation of activities associated with a particular claim
31. **Rating-** a value given to the overall confidence in the SGH results
32. **Real (in relation to data)-** any rational or irrational number
33. **Reporting Limit –** minimum concentration of an analyte that can be accurately measured for a given analytical method.
34. **Sample matrix-** the components of a sample other than the analyte.
35. **Sample type** – soil, till, humus, lake bottom sediment, sand, snow, etc.
36. **Semi-quantitative-** yielding an approximation of the quantity or amount of a substance
37. **SGH anomalies** ("Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo")
38. **SGH Pathfinder** (class map/compounds)
39. **SGH template** – a set of hydrocarbon classes that together form a geochemical signature that has been associated with the presence of a particular type of mineralization the majority of the time
40. **Surficial bound hydrocarbons** –
41. **Surficial samples-** a sample from near the earth's surface.
42. **Survey-** the area, position, or boundaries of a region to be analyzed, as set out by the client.

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43. **Project-** a planned undertaking
44. **Transect-** A straight line or narrow section through an object or across a section of land.
45. **Target-** Target refers to the ore body of interest

    Target signature: the unique characteristics that identify the target.

    Target type:

    i.e. Gold, Nickel, Copper, Uranium, SEDEX, VMS, Lithium Pegmatites, IOCG, Silver, Ni-Cu-PGE, Tungsten, Polymetallic, Kimberlite as well as Coal, Oil and Gas.
46. **Threshold-** level or point at which data is accepted as significant or true.
47. **Total measurement error-** An estimate of the error in a measurement. Based on either limitation of the measuring instruments or from statistical fluctuations in the quantity being measured.
48. **Visible (in terms of signature**)- the portion shown in a chart or map

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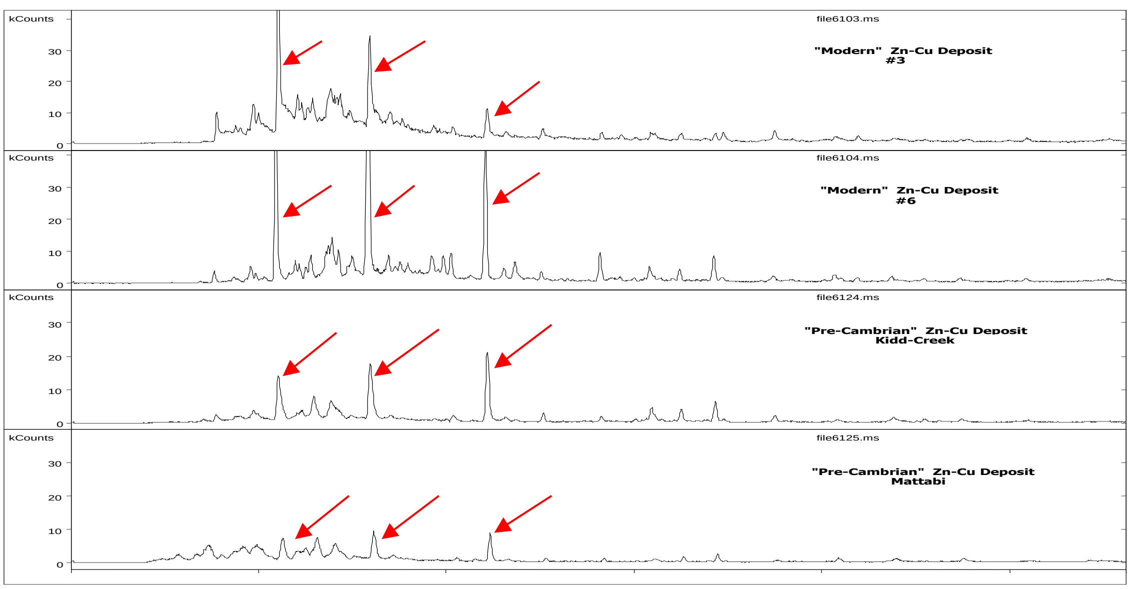
APPENDIX "B"

EXAMPLE OF AN SGH FORENSIC GEOCHEMICAL SIGNATURE EXAMPLE SHOWN FOR A VMS TARGET

The following analyses examine the Volcanic Massive Sulphide (VMS) deposit in various known locations. These analyses show how the gas chromatography indicates the reality of deposits. For all the profiles in this section, the red arrows indicate the signature of the VMS, which have all been found by organic geochemistry. These forensic geochemical signatures are shown to be consistent for similar target areas; therefore, the analyses are reliable indicators for the presence of VMS.

One of the first experiments in 1996 in the development of the SGH analysis was to observe if an SGH response could be obtained directly from an ore sample. From office shelf specimens, small rock chips were obtained which were then crushed and milled. The fine pulp obtained was then subjected to the SGH analysis. These shelf specimen samples were from well known VMS deposits of the Mattabi deposit from the Archean Sturgeon Lake Camp in Northwestern Ontario and from the Kidd Creek Archean volcanic-hosted copper-zinc deposit. Even these specimen samples contain a geochemical record of the hydrocarbons produced by the bacteria that had been feeding on these deposits at depth. As a comparison, SGH analysis were similarly conducted on modern-day VMS ore samples taken from a "black smoker" hydrothermal volcanic vent from the deep sea bed of the Juan de Fuca Ridge where high concentrations of microbial growth was also known to exist. The raw data profiles as GC/MS Total Ion Chromatograms are shown below to illustrate the *"visible"* portion of the VMS signature obtained from the SGH analysis.



The above profiles are:

- First profile: Samples from modern day "black smokers"
- Second profile: Samples from modern day "black smokers"
- Third profile: Samples from Pre-Cambrian Zn-Cu Kidd Creek deposit
- Fourth profile: Samples from Mattabi deposit

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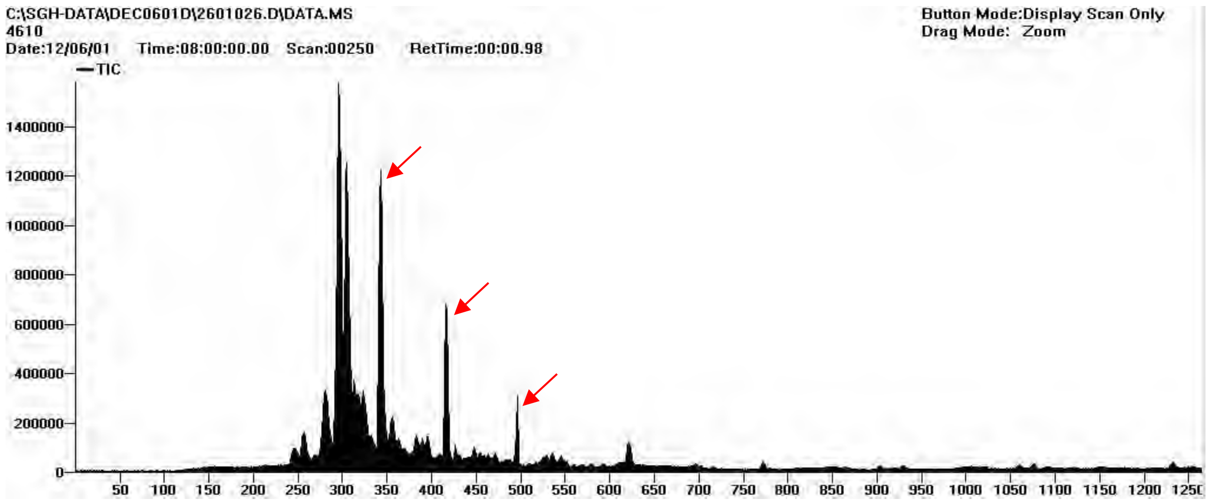
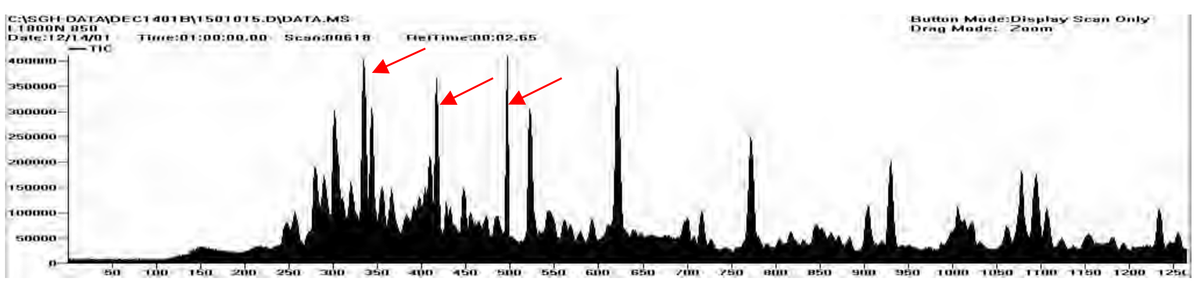
The red arrows point to three compounds that are a *portion* of the SGH signature for VMS type deposits. This visible portion of the VMS signature of hydrocarbons can easily be seen in the analysis of each of these four samples.

The next question in our early objectives was to see if this SGH signature could also be observed in *surficial soil samples* that had been taken over VMS deposits. Through our research projects, soil samples were obtained from over the Ruttan Cu-Zn VMS deposit near Leaf Rapids, Manitoba and located in the Paleoproterozoic Rusty Lake greenstone belt. The profile obtained, as observed in the raw GC/MS chromatogram, is shown in this next image below:



The three compounds indicated by the red arrows represent the same *visible portion* of the VMS signature observed from the modern day black smoker samples and the ore samples taken from the Mattabi and Kidd Creek, even though this soil was taken from over a different VMS deposit in a geographically different area. Is this coincidence?

Another soil sample was obtained from Noranda's Gilmour South base-metal occurrence in the Bathurst Mining camp in northern New Brunswick. As shown below, this sample contained a very complex SGH signature, however the visible portion of the VMS signature as indicated by the red arrows is still observed as in the black smoker, Mattabi and Kidd Creek ore samples.



In research conducted by the Ontario Geological Survey, this same portion of the SGH signature was also observed over the VMS deposit at Cross Lake in Ontario. **Note that the visible signature shown as the three compounds indicated by the red arrows is only a small portion of the**

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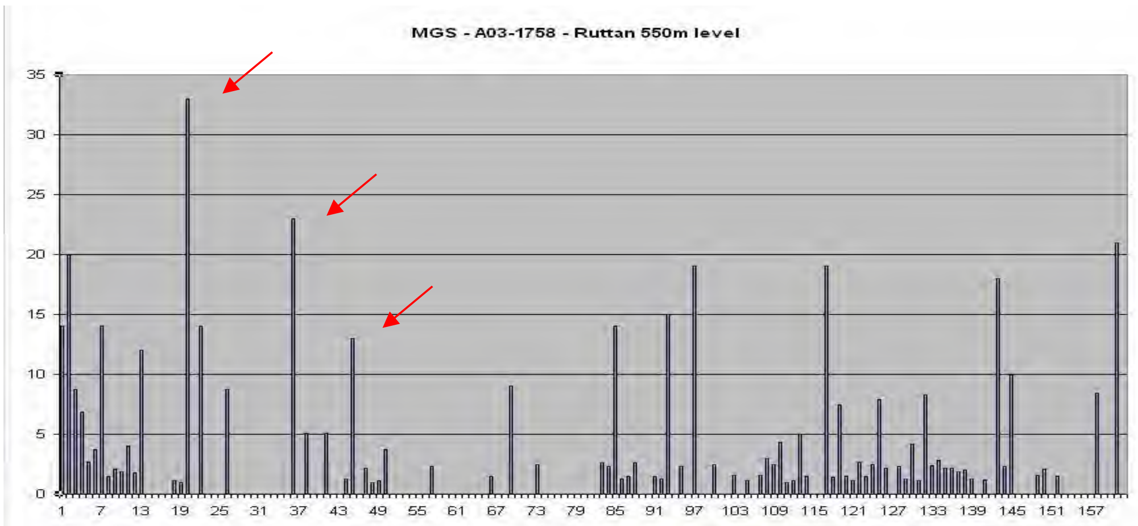
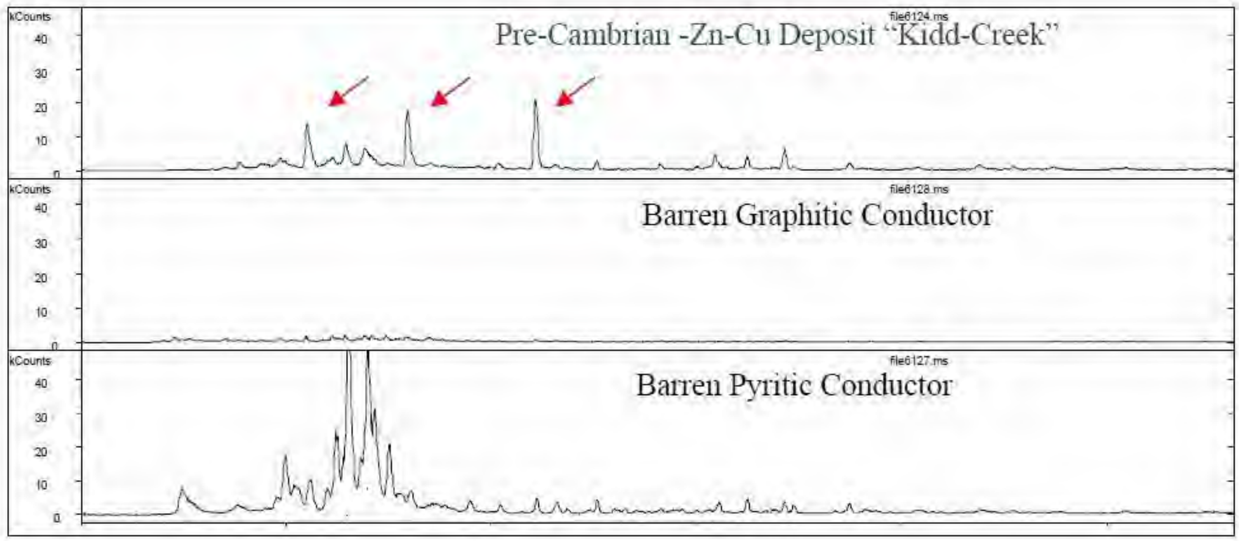
complete SGH VMS signature. The full VMS signature is made up of at least three groups, as three organic chemical classes, that together contain at least 35 of the individual SGH hydrocarbons.

The chromatograms shown on the preceding page from the GC/MS analysis are not used directly in the interpretation of SGH data. As we are only interested in a specific list of 162 hydrocarbons, the mass spectrometer and associated software programs specifically identifies the hydrocarbons of interest, runs calculations using relative responses to a short list of hydrocarbons used as standards, and develops an Excel spreadsheet of semi-quantitative concentration data to represent the sample. Thus the SGH results for a sample, like that observed in ore from the Ruttan, are filtered to obtain the concentrations for the specific 162 hydrocarbons. A simple bar graph drawn from the Excel spreadsheet of the hydrocarbons and their concentrations results in a DNA like *forensic SGH signature* as shown below. The portion discussed hear as the "visible" SGH VMS signature in the GC/MS chromatograms, is again shown by the red arrows.



Through the work done in the SGH CAMIRO research projects, it was observed that the hydrocarbon signature produced by the SGH technique appeared to also be able to be used to differentiate barren from ore-bearing conductors. This was explored further through the submission and analysis of specific specimen samples that represented a barren pyritic conductor and a barren graphitic conductor.

The GC/MS chromatograms from these two specimens are compared to that obtained from the Kidd-Creek ore as shown below. This diagram conclusively shows that the SGH signatures obtained from the two types of barren conductors are completely different than that obtained by SGH over VMS type ore. SGH is thus able to differentiate between ore-bearing conductors and barren conductors as **the Forensic SGH Geochemical signature is different**.



SGH has been described by the Ontario Geological Survey of Canada (OGS) as a "REDOX cell locator". Many SGH surveys for Gold and other mineral targets can result in multiple types of anomalies, depending on the class of SGH compounds, even over the same target and in the same set of samples. Thus "Apical", "Nested-Halo", and "Rabbit-Ear" or "Halo" type SGH anomalies are all typically observed from the effect of REDOX cells that have developed over deposits. REDOX cells are also related to the presence of bacteriological activity.

The VMS template of SGH Pathfinder Classes uses low and medium weight classes of hydrocarbon compounds. Again, at least three Pathfinder Class group maps, associated with the SGH signature for VMS, must be present to begin to be considered for assignment of a good rating. The Pathfinder Class anomalies in these maps must logically concur and support a consistent interpretation in relation to the expected geochromatographic characteristics of the Pathfinder Class, for a specific area.

The interpretation development history for VMS SGH Pathfinder Class map(s) shown in this report is similar to the development history for other target types. The reader should not draw a conclusion that SGH is used only for sulphide based mineralization as some of the most intense SGH anomaly has been associated with Kimberlites where sulphides are essentially not present.

APPENDIX "C"

SOIL GAS HYDROCARBON SURVEY DESIGN AND SAMPLING

Sample Type and Survey Design: It is highly recommended that a ***minimum*** of 50 sample "locations" is preferred to obtain enough samples into background areas on both sides of *small* suspected targets (wet gas plays, Kimberlite pipes, Uranium Breccia pipes, veins, etc.). SGH is not interpreted in the same way as inorganic based geochemical method. SGH must have enough samples over both the target and background areas in order to fully study the dispersion patterns or geochromatography of the SGH classes of compounds. Based on our minimum recommendation of at least 50 sample locations we further suggest that all samples be *evenly spaced* with about one-third of the samples over the target and one-third on each side of the target in order for SGH to be used for exploration. Targets other than gas plays, pipes, dykes or veins usually require additional samples to represent both the target and background areas.

SGH has been shown to be very robust to the use of different sample types even "within" the same survey or transect. Research has illustrated that it is far more important to the ultimate interpretation of the results to take a complete sample transect or grid than to skip samples due to different sample media. The most ideal natural sample is still believed to be soil from the "Upper B-Horizon", however excellent results can also be obtained from other soil horizons, humus, peat, lake-bottom sediments, and even snow. The sampling design is suggested to use evenly spaced samples from 15 metres to 200 metres and line spacing from 50 metres to 500 metres depending on the size and type of target. A 4:1 ratio is suggested, however, larger orientation surveys have also been successful. Ideally even large grids should have one-third of the samples over the target and two-thirds of the samples into anticipated background areas. This will allow the proper assessment of the SGH geochromatographic vectoring and background site signature levels with minimal bias. Individual samples taken at significant distances from the main survey area to represent background are not of value in the SGH interpretation as SGH results are not background subtracted. Samples can be drip dried in the field and do not need special preservation for shipping and has been specifically designed to avoid common contaminants from sample handling and shipping. SGH has also been shown to be robust to cultural activities even to the point that successful results and interpretation has been obtained from roadside right-of-ways. In conclusion, the conditions for the sample type and survey design include:

- Fist sized samples are retrieved from a shallow dug hole in the 15-40 cm range of depth.
- Different sample types can be taken even "within" the same survey or transect, data leveling is rarely ever required. SGH is highly effective is areas of very difficult terrain. The Golden Rule is to always take a sample.
- Samples should be evenly spaced in a grid or a series of transects with sample lines spaced at a ratio of up to 4:1 (line spacing: sample spacing).
- A minimum of 50 sample "locations" is recommended with one-third over the target and one-third on each side of the target into background if this can be predicted. This provides the opportunity of optimal data contrast.
- If very wet, samples can be drip dried in the field.
- No special preservation is required for shipping.

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APPENDIX "D"
SAMPLE PREPARATION AND ANALYSIS

Upon receipt at Activation Laboratories the samples are air-dried in isolated and dedicated environmentally controlled rooms set to 40°C. The dried samples are then sieved. In the sieving process, it is important that compressed air is not used to clean the sieves between samples as trace amounts of compressor oils "may" poison the samples and significantly affect some target signatures. Solvents such as Acetone, Methanol, and Hexane cannot be used at any time for cleaning sample containers or sampling apparatus ie. Cleaning sieves between samples. The use of solvents at this time severely reduces the response of the hydrocarbons measured. At Activation Laboratories a vacuum is used to clean the sieve between each sample. The -80 mesh sieve fraction (<177 microns, although different mesh sizes can be used at the preference of the exploration geologist) is collected and packaged in a Kraft paper envelope and transferred from our sample preparation department to our Organics Geochemical department also in our World Headquarters in Ancaster, Ontario, Canada. Each sample is then extracted, separated by gas chromatography and analyzed by mass spectrometry using customized parameters enabling the highly specific detection of the 162 targeted hydrocarbons at a *reporting limit* of one part-per-trillion (ppt). This trace level limit of reporting is critical to the detection of these hydrocarbons that, through research, have been found to be related at least in part to the breakdown and release of hydrocarbons from the death phase of microbes directly interacting with a deposit at depth. The hydrocarbon signatures are directly linked to the deposit type, which is used as a food source. The hydrocarbons that are mobilized and metabolized by the microbes are released in the death phase of each successive generation. Very few of the hydrocarbons measured are actually due to microbe cell structure, or hydrocarbons present or formed in the genesis of the deposit or from anthropogenic contamination. The results of the SGH analysis is reported in raw data form in an Excel spreadsheet as "semi-quantitative" concentrations without any additional statistical modification.

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APPENDIX "E"
SGH DATA QUALITY
Reporting Limit

The SGH Excel spreadsheet of results contains the raw unaltered concentrations of the individual SGH compounds in units of "part-per-trillion" (ppt). The reporting of these ultra low levels is vital to the measurement of the small amounts of hydrocarbons now known to be leached/metabolized and subsequently released by dead bacteria that have been interacting with the ore at depth. To ensure that the data has a high level of confidence, a "reporting limit" is used. The reporting limit of 1 ppt actually represents a level of confidence of approximately 5 standard deviations where SGH data is assured to be "real" and non-zero. Thus in SGH the use of a reporting limit automatically removes site variability, and there is no need to further background subtract any data as the reporting limit has already filtered out any site background effects. Thus we recommend that all data that is equal to or greater than 2 ppt should be used in any data review. It is important to review all SGH data as low values that may be the centre of halo anomalies and higher values as apical anomalies or as halo ridges are all important.

Laboratory Replicate Analysis

A laboratory replicate is a sample taken randomly from the submitted survey being analyzed and are not unrelated samples taken from some large stockpile of bulk material. In the Organics laboratory an equal portion of this sieved sample, or pulp, is taken and analyzed in the same manner using the Gas Chromatography/Mass Spectrometer. The comparison of laboratory replicate and field duplicate results for chemical tests in the parts-per-million or even parts-per-billion range has typically been done using an absolute "relative percent difference (RPD)" statistic which is an easy proxy for error estimation rather than a more complete analysis of precision as specified by Thompson and Howarth. An RPD statistic is not appropriate for SGH results as the reporting limit for SGH is *1 part-per-trillion*. Further, *SGH is a semi-quantitative technique* and was not designed to have the same level of precision as other less sensitive geochemistry's as it is only used as an exploration tool and not for any assay work. SGH is also designed to cover a wide range of organic compounds with an unprecedented 162 compounds being measured for each sample. In order to analyze such a wide molecular weight range of compounds, sacrifices were made to the variability especially in the low molecular weight range of the SGH analysis. The result is that the first fifteen SGH compounds in the Excel spreadsheet is expected to exhibit more imprecision than the other 147 compounds. An SGH laboratory replicate is a large set of data for comparison even for just a few pairs of analyses. Precision calculations using a Thompson and Howarth approach should only be used for estimating error in individual measurements, and not for describing the average error in a larger data set. In geochemical exploration geochemists seek concentration patterns to interpret and thus rigorous precision in individual samples is not required because the concentrations of many samples are interpreted collectively. For these reasons recent and independent research at Acadia University in Canada promote that a percent Coefficient of Variation (%CV) should be used as a universal measurement of relative error in all geochemical applications. As SGH results are a relatively large data set for nearly all submissions, %CV is a better statistic for use with SGH. By using %CV, the concentration of duplicate pairs is irrelevant because the units of concentration cancel out in the formation of the coefficient of variation ratio. For SGH, the %CV is calculated on all values ≥ 2 ppt. These values are averaged and represent a value for each pair of replicate analysis of the sample. All of the %CV values for the replicates are then averaged to

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report one %CV value to represent the overall estimate of the relative error in the laboratory sub-sampling from the prepared samples, and any instrumental variability, in the SGH data set for the survey. Actlabs' has successfully addressed the analytical challenge to minimize analytical variability for such a large list of compounds. Thus as SGH is also interpreted as a signature and is solely used for exploration and not assay measurement, the data from SGH is *"fit for purpose"* as a geochemical exploration tool.

Historical SGH Precision

In the general history of geochemistry, studies indicate that a large component of total measurement error is introduced during the collection of the initial sample and in sub-sampling, and that only a subordinate amount of error in the result is introduced during preparation and analysis. A historical record encompassing many projects for SGH, including a wide variety of sample types, geology and geography, shows that the consistency and precision for the analysis of SGH *is excellent* with an overall precision of 6.8% Coefficient of Variation (%CV). When last calculated, this number had a range of a maximum of 12.4% CV, a minimum of 3.0% CV, with a standard deviation of 1.6%, in a population made up of over 400 targets (over 45,000 samples) interpreted since June of 2004. Again the precision of 6.8% CV included all of the sample types as soil from different horizons, peat, till, humus, lake-bottom sediments, ocean-bottom sediments, and even snow. When field duplicates have been revealed to us, we have found that the precision of the field duplicates are in the range of about 9 to 12 %CV. As SGH is interpreted using a combination of compounds as a chemical "class" or signature, the affect of a few concentrations that may be imprecise in a direct comparison of duplicates is not significant. Further, projects that have been re-sampled at different times or seasons are expected to have different SGH concentrations. The SGH anomalies may not be in exactly the same position or of the same intensity due to variable conditions that may have affected the dispersion of different pathfinder classes. However, the SGH "signature" as to the presence of the specific mix of SGH pathfinder classes will definitely still exist, and will retain the ability to identify the deposit type and vector to the same target location.

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APPENDIX "F"
SGH DATA INTERPRETATION

SGH Interpretation Report

All SGH submissions must be accompanied by relative or UTM coordinates so that we may ensure that the sample survey design is appropriate for use with SGH, and to provide an SGH interpretation with the results. In our interpretation procedure, we separate the results into 19 SGH sub-classes. These classes include specific alkanes, alkenes, thiophenes, aromatic, and polyaromatic compounds. Note that none of the SGH hydrocarbons are "gaseous" at room temperature and pressure. The classes are then evaluated in terms of their geochromatography and for coincident compound class anomalies that are unique to different types of mineralization. Actlabs uses a six point scale in assigning a subjective rating of similarity of the SGH signatures found in the submitted survey to signatures previously reviewed and researched from known case studies over the same commodity type. Also factored into this rating is the appropriateness of the survey and amount of data/sample locations that is available for interpretation. This rating scale is described in detail in the following section.

SGH PATHFINDER CLASS MAGNITUDE

The magnitude of any individual concentration or that of a hydrocarbon class *does not imply* that the data is of more importance or that mineralization is of higher quantity or grade. SGH interpretation must use the review of the combination of specific hydrocarbon classes to make any interpretation.

GEOCHEMICAL ANOMALY THRESHOLD VALUE

In the interpretation of "inorganic" geochemical data one of the determinations to be made is to calculate a "Threshold" value above which data is considered anomalous. This is done on an element by element basis. In the interpretation of this "organic" geochemical data this determination is done differently. The determination of a threshold value is not calculated for each hydrocarbon compound. The determination of a threshold value is also a concentration below which geochemical data is considered as "noise" for the purposes of geochemical interpretation. As discussed, SGH uses a "Reporting Limit" instead of some type of Detection Limit. The amount of noise that is already eliminated in the data, as below the Reporting Limit of 1 part-per-trillion (shown in the data spreadsheet as "-1" as "not-detected at a Reporting Limit of 1 ppt") is equivalent to approximately 5 standard deviations of variability. *To thus calculate an additional Threshold Value is a loss of real and valuable data.* Further, in the interpretation of SGH data, individual compounds are not considered (unless explicitly mentioned in the report). The interpretation of SGH data is exclusively conducted by "compound chemical class" which is the sum of four to fourteen individual hydrocarbons in the same organic chemical class as these compounds naturally have the same chemical properties that ultimately define their spatial dispersion characteristics in their rise from a mineral target through the overburden. This combined class is more reliable than the measurement of any one compound. SGH also eliminates the need for a Threshold value determination above the Reporting Limit due to the "high specificity" of the specific hydrocarbons and the classes they form. Each of the hydrocarbons has been hand selected due to their lower probability of being found in general surface soils. Further, only those classes where the majority of the compounds are detected above the Reporting Limit are considered in the interpretation. This defines the SGH geochemistry as having less geochemical noise due to the use of a reporting limit and as having higher confidence in the use of groups (classes) of data instead of

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individual compounds. However the most important aspect of interpretation is the use of a forensic signature. At least three specific "Pathfinder" classes, based on the combinations or template of classes we have developed, must be present to define the hydrocarbon signature to confidently predict the presence of a specific type of mineral target. *Do not calculate another Threshold value*. **Fact:** It has been proven many times that important SGH anomalies that depict mineralization at depth can exist even with data at 3 ppt.

Mobilized Inorganic Geochemical Anomalies

It is important to note that SGH is essentially "blind" to any inorganic content in samples as only *organic* compounds as hydrocarbons are measured. Thus inorganic geochemical surface anomalies that have migrated away from the mineral source, and thus may be interpreted and found to be a false target location, is not detected and does not affect SGH results. This fact is of great advantage when comparing the SGH results to inorganic geochemical results. If there is agreement in the location of the anomalies between the organic and inorganic technique, such as Actlabs' Enzyme Leach, a significant increase in confidence in the target location can be realized. If there is no agreement or a shift in the location of the anomalies between the techniques, the inorganic anomaly may have been mobilized in the surficial environment.

The Nugget Effect

As SGH is "blind" to the inorganic content in the survey samples, any concern of a "nugget effect" will not be encountered with SGH data. A "nugget effect" may be of a concern for other inorganic geochemical methods from surveys over copper, gold, lead, nickel, etc. type targets.

SGH DATA LEVELING

The combination of SGH data from different field sampling events has rarely required leveling in order to combine survey grids. The only circumstances that have occasionally required leveling has been the combination of samples that are very fine in texture, thus having a combined large surface area to samples of peat that may be in nearby areas. Even after maceration of the peat and in using the maximum size of sample amenable to this test method, peat samples have a significantly lower surface area. Peat samples have only required leveling in one survey in the last 500 SGH interpretations.

In only the last year it has been observed that SGH data *may* require leveling when different field sampling events have significantly different soil temperature. It has been documented that only when "soil" samples are taken from "frozen" ground that data leveling may be required as frozen sample act as a frozen cap to the hydrocarbon flux and may collect a higher concentration of hydrocarbon compounds compared to sampling during seasons where the samples are not frozen. Only two surveys have required leveling in the last 500 SGH interpretations.

The author has taken introductory training in the leveling of geochemical data. If leveling is required, both data sets are reviewed in terms of maximum, minimum and average values for each SGH Pathfinder Class intended for use in the interpretation. Data is sectioned into quartiles and each section is assigned specific leveling factors that are then applied to one data set. It should be noted that any type of data leveling is an approximation.

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APPENDIX "G"
SGH RATING SYSTEM DESCRIPTION

To date SGH has been found to be successful in the depiction of buried mineralization for Gold, Nickel, VMS, SEDEX, Uranium, Cu-Ni-PGE, IOCG, Base Metal, Tungsten, Lithium, Polymetallic, and Copper, as well as for Kimberlites, Coal Seam, Wet Gas and Oil Plays. SGH data has developed into a dual exploration tool. From the interpretation, a vertical projection of the predicted location of the target can be made as well as a statement on the rating of the comparability of the identification of the anticipated target type to that from known case studies, as an example: if the client anticipates the target to be a Gold deposit, what is the rating or comparability that the target is similar to the SGH results over a Gold deposit in Nunavut, shear hosted and sediment hosted deposits in Nevada, or Paleochannel Gold mineralization in Western Australia.

- **A rating of "6"** is the highest or best rating, and means that the SGH classes most important to describing a Gold related hydrocarbon signature are all present and consistently vector to the same location with well defined anomalies. To obtain this rating there also needs to be other SGH classes that when mapped lend support to the predicted location.
- **A rating of "5"** means that the SGH classes most important to describing a Gold signature are all present and consistently describe the same location with well defined anomalies. The SGH signatures may not be strong enough to also develop additional supporting classes.
- **A rating of "4"** means that the SGH classes most important to describing a Gold signature are mostly present describing the location with <u>well</u> defined anomalies. Supporting classes may also be present.
- **A rating of "3"** means that the SGH classes most important to describing a Gold signature are mostly present and describe the same location with <u>fairly well</u> defined anomalies. Some supporting classes may or may not be present.
- **A rating of "2"** means that some of the SGH classes most important to describing a Gold signature are present but a predicted location is difficult to determine. Some supporting classes may be present
- **A rating of "1"** is the lowest rating, and means that one of the SGH classes most important to describing a Gold signature is present but a predicted location is difficult to determine. Supporting classes are also not helpful.

The SGH rating is directly and significantly affected by the survey design. Small data sets, especially if significantly <50 sample locations, or transects/surveys that are geographically too short *will automatically receive a lower rating no matter how impressive an SGH anomaly might be*. When there is not enough sample locations to adequately review the SGH class geochromatography, or when the sample spacing is inadequate, or if the spacing is highly variable such that it biases the interpretation of the results, then the confidence in the interpretation of any geochemistry is adversely affected. The SGH rating is not just a rating of the agreement between the SGH pathfinder classes for a particular target type; it is a rating of the overall confidence in the SGH results from this particular survey. The interpretation is only based on the SGH results without any information from other geochemical, geological or geophysical information unless otherwise specified.

HISTORY & UNDERSTANDING

The subjective SGH rating system has been used since 2004 when Activation Laboratories started providing an SGH Interpretation Report with every submission for SGH analysis to aid our clients in understanding this organic geochemistry and ensuring that they obtain the best results for their

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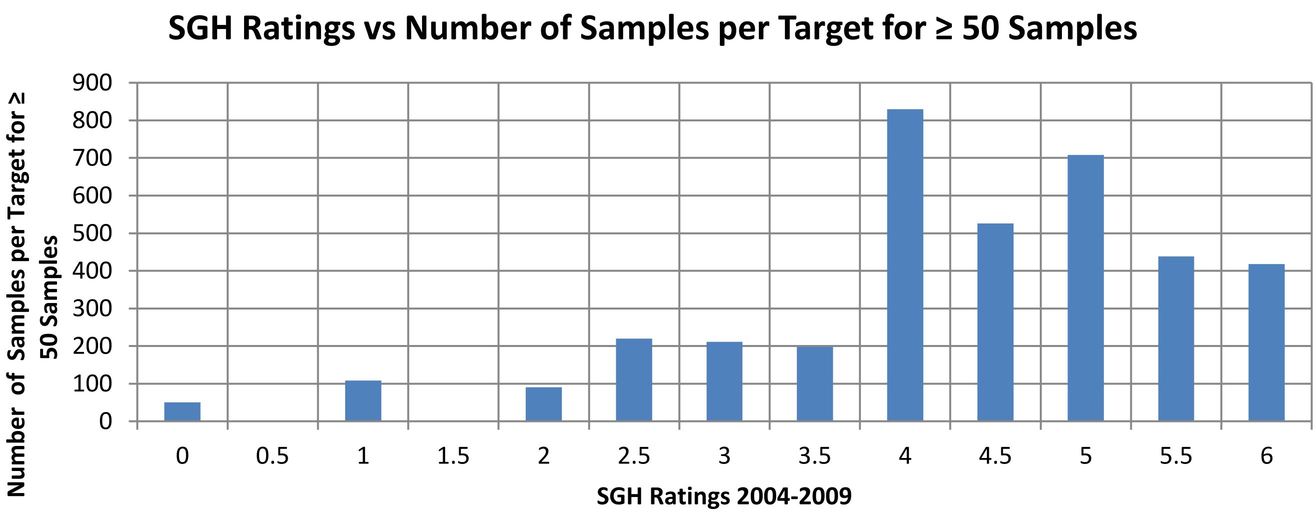
surveys. As explained in the previous section, the SGH rating is not just a rating of how definitive an SGH anomaly is, and it is not based just on the map(s) provided in this report. It is a rating of "confidence in the interpreted anomaly" from the combination of:

- (i) are the expected SGH Pathfinder Classes of compounds present from the template for this target type (one Pathfinder Class map is shown in the report, at least three must be present to adequately describe the correct signature for a particular target),
- (ii) how well do these SGH Pathfinder Classes agree in describing a particular area,
- (iii) how well does this agreement compare to SGH case studies over known targets of that type,
- (iv) how well is the interpreted anomaly defined by the survey (i.e. a single transect does not provide the same confidence as a complete grid of samples), and
- (v) is there at least a minimum of 50 sample locations in the survey so that there may be an adequate amount of data to observe the geochromatography of the different SGH Pathfinder Class of compounds.

The question often arises by clients as to the frequency of a rating, e.g. "how often is a rating of 5.0 given in an interpretation". To better understand this we present this review of the history of the SGH rating program since 2004 and some of the underlying situations that can affect the historical rating charts. Originally it was recommended that a minimum of 35 sample location be used for small target exploration, however it was quite quickly realized that this is often insufficient and at least 50 sample locations were required. In 2007 the rating scale was refined to include increments of 0.5 units rather than just integer values from 0 to 6.

A rating frequency may be biased high as most clients conduct an orientation study over a known target, thus several of these projects result in high ratings. Note that, at this time, the rating is not said to be linked to grade of a deposit or depth to the target. Even in exploration surveys clients tend to submit samples over more promising targets due to knowledge of the geology and prior geochemical or geophysical results. As shown in the following chart, projects with SGH data from 200 or more sample locations have a higher level of confidence in the interpretation as the geochromatography of the SGH Pathfinder Classes of compounds can be more completely observed and reviewed.



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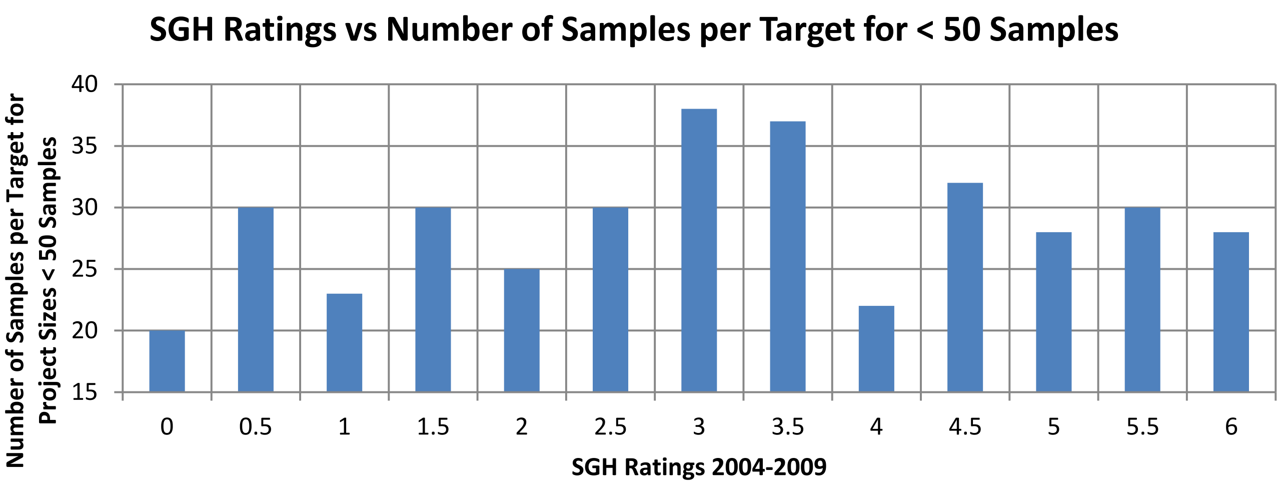
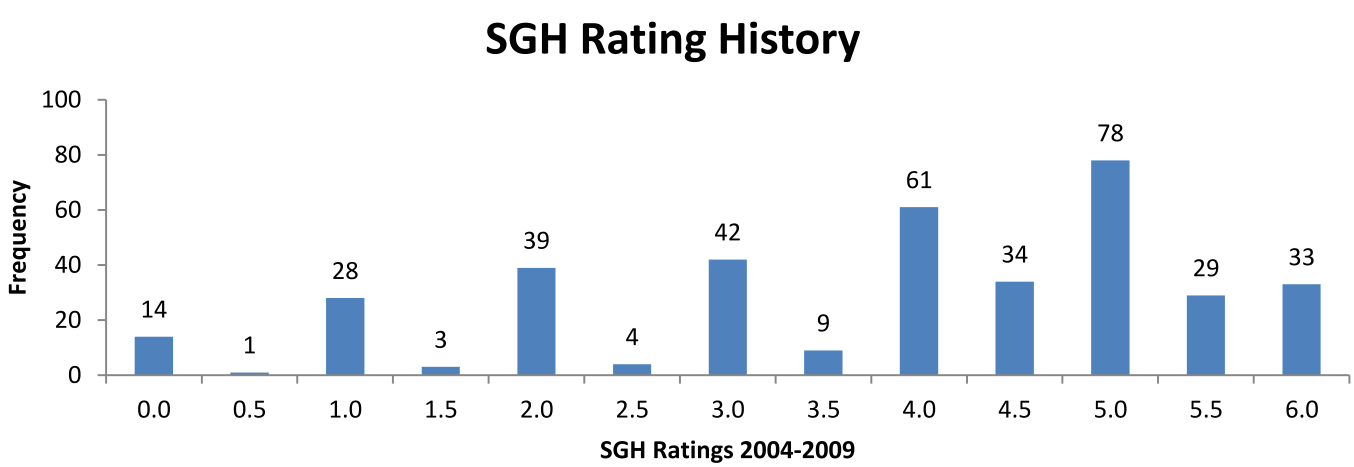
The rating frequency may be biased low as research projects often include a bare minimum of samples to reduce costs. Research projects may also be over targets known to be difficult to depict with geochemistry. Multiple targets in close vicinity in a survey may result in a low bias as the Pathfinder Class geochromatography is more difficult to deconvelute. Ratings may also be biased low if less than the recommended 50 sample locations are submitted as indicated by the following chart. This chart also illustrates that there is no interpretation bias to a particular rating value.



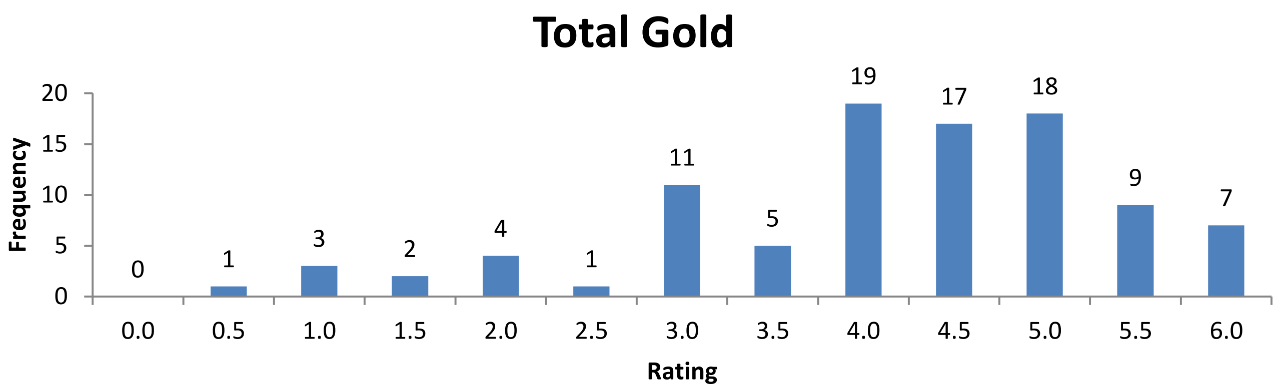
The overall rating frequency for over 400 targets from January 2004 to December 2009 is shown in the chart below illustrating that surveys over more promising targets are most often submitted for best use of research or exploration dollars. It also indicates that the 0.5 increments were less frequent as they started in 2007.



41 Bittern St. ● Ancaster, ON ● L9G 4V5 ● CANADA ● Tel: (905) 648-9611 ● Fax: (905) 648-9613 ● Toll Free: 1-888-ACTLABS

E-mail: SGH@actlabs.com ● Web Site: www.actlabs.com

More specific for SGH interpretation for Gold targets, the overall rating frequency for 97 targets from January 2004 to December 2009 is shown in the chart below that also illustrates that surveys over more promising Gold targets are most often submitted for best use of research or exploration dollars.



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APPENDIX "H"

NOTE: THERE IS NEW PRICING FOR THE SGH GEOCHEMISTRY

SAMPLE PREPARATION: CODE SGH-1 - $4.25 per sample

INTERPRETATION FOR ONE COMMODITY TARGETS: Included in the price of analysis of $48.00 per sample

INTERPRETATION FOR MULTI-COMMODITY TARGETS: i.e. VMS, SEDEX, Polymetallic, IOCG, IOCGU, Cu-Au-Porphyry, etc. – add additional price of $500 is applied to cover the additional time in interpretation.

"ADDITIONAL INTERPRETATIONS": ($ 500.00) - if within 60 days after delivery of the report.

The SGH data can be interpreted multiple times in comparison to a variety of SGH templates developed for exploration for different mineral targets or petroleum plays. The samples do not have to be reanalyzed. This can be addressed as a separate section of a report or as a separate report based on the client's wishes. The price is per survey area, e.g. if there are two projects in a submission, perhaps a North area and South area, and both survey areas are to be interpreted for say Gold and Copper, the first interpretation is included in the SGH analysis price, the second interpretation for each area would be priced at $1000 per area, thus a total of $2000.

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Trillium Gold Mines Inc. SGH Units – ppt (Parts-per-trillion)
Fly Moth South Survey

	SGH-Gold
660933	68.0
660934	33.9
660935	64.8
660936	128.9
660937	166.3
660937-R	171.0
660938	59.6
660939	80.5
660940DUP	63.6
660941	104.5
660942	74.5
660943	125.6
660944	47.7
660945	50.5
660946	88.4
660947	48.3
660948	93.6
660949	93.8
660950	257.5
660951	97.6
660952	97.5
660952-R	95.0
660953	162.8
660954	84.2
660955	68.4
660956	74.3
660957	89.8
660958	138.3
660959	162.8
660960DUP	122.7
660961	89.5
660962	208.7
660963	78.3
660964	221.5
660965	248.7
660966	115.9
660967	174.6
660967-R	173.4
660968	199.8
660969	52.9
660970	38.3
660971	67.9
660972	181.5
660973	280.2
660974	73.9
660159	82.1
660160DUP	60.0

660161	53.3
660162	124.2
660163	54.5
660164	40.4
660165	46.2
660166	57.5
660166-R	54.5
660167	53.4
660168	123.6
660169	41.5
660170	158.7
660171	55.9
660172	43.5
660173	37.5
660174	49.8
660175	54.3
660176	224.8
660177	45.8
660178	132.8
660179	37.8
660180DUP	37.4
660181	35.8
660181-R	33.1
660182	48.9
660183	100.1
660184	185.0
660185	172.6
660186	49.6
660187	44.7
660188	31.8
660189	70.8
660190	66.4
660191	108.6
660221	74.5
660222	69.2
660223	223.9
660224	154.8
660225	37.8
660225-R	33.4
660226	208.0
660227	127.5
660228	40.8
660229	37.8
660230	32.0
660231	32.8
660232	138.6
660233	147.9
660234	114.2
660235	78.2
660236	62.1
660237	123.9

660238	99.0
660239	73.7
660240DUP	76.2
660240DUP-R	75.9
660241	83.3
660242	74.4
660243	45.6
660244	46.4
660245	25.3
660246	30.8
660247	41.9
660248	42.2
660249	56.3
660250	43.9
660251	47.1
660252	32.5
660253	42.7
660254	24.8
660255	63.4
660255-R	66.1
660256	50.5
660257	62.2
660258	58.9
660259	74.2
660260DUP	82.2
660261	80.4
660262	115.6
660263	62.6
660264	55.7
660265	146.1
660266	136.7
660267	54.1
660268	46.0
660269	44.6
660270	48.1
660270-R	44.6
660271	58.8
660272	59.5
660273	78.0
660274	75.3
660275	42.1
660276	50.0
660277	59.4
660278	29.5
660279	75.0
660280DUP	72.7
660281	36.0
660282	37.5
660283	33.2
660284	38.4
660285	49.8

660285-R	44.3
660286	80.4
660287	40.3
660288	28.2
660289	70.0
660290	164.0
660291	80.3
660292	35.9
660293	53.8
660294	103.1
660295	15.9
660296	45.4
660297	79.8
660298	63.3
660299	62.1
660300DUP	63.3
660300DUP-R	67.2
660301	69.8
660302	38.7
665365	70.3
665366	24.2
665367	105.8
665368	151.5
665369	124.8
665370	69.7
665371	112.9
665372	32.0
665373	65.9
665374	25.5
665375	27.8
665376	47.6
665377	64.4
665377-R	55.9
665378	47.5
665379	39.5
665380DUP	34.6
665381	27.5
665421	143.2
665422	118.4
665423	41.4
665424	48.0
665425	99.2
665426	53.3
665427	50.6
665428	76.4
665429	40.8
665430	29.1
665431	23.0
665431-R	27.2
665432	57.2
665433	39.2

665434	21.3
665435	19.8
665436	25.1
665437	70.9
665438	29.7
665439	24.6
665440DUP	20.9
665441	51.1
665442	24.3
665443	29.5
665444	37.1
665445	28.1
665446	27.3
665446-R	28.0
665447	80.3
665448	24.5
665449	28.3
665450	27.1
665451	24.3
665452	84.8
665453	34.3
665454	31.4
665455	34.9
665456	21.6
665457	46.0
665458	110.4
665459	90.6
665460DUP	129.0
665461	29.8
665461-R	35.8
665462	27.7
665463	30.9
665464	58.9
665465	70.0
665466	74.1
665467	182.6
665468	150.6
665469	88.2
665470	57.0
665471	23.1
665472	39.5
665473	33.0
665474	21.6
665475	84.5
665476	54.3
665476-R	64.1
665477	34.6
665478	160.9
665479	61.9
665480DUP	52.6
665481	35.4

665482	39.6
665483	81.0
665484	108.9
665485	52.3
665486	36.9
665487	73.5
665488	33.9
665489	189.2
665490	37.0
665491	41.1
665491-R	36.9
665492	26.4
665493	22.7
665494	60.7
665495	82.7
665496	49.1
665497	104.1
665498	96.2
665499	88.1
665500DUP	109.6
665611	34.4
665612	29.4
665613	32.2
665614	51.2
665615	26.6
665616	19.9
665616-R	26.8
665617	16.3
665618	19.7
665619	56.4
665620DUP	43.1
665621	39.1
665622	23.1
665623	50.3
665624	26.8
665625	25.5
665626	21.8
665627	19.9
665628	36.7
665629	25.7
665630	19.7
665631	114.7
665631-R	127.2
665632	61.0
665633	18.3
665634	31.8
665635	68.4
665636	82.6
665637	23.9
665638	20.3
665639	28.0

665640DUP	28.2
665641	29.7
665642	22.3
665643	24.8
665644	19.2
665645	31.9
665646	38.6
665646-R	36.3
665647	25.7
665648	19.9
665649	46.6
665650	20.8
665651	19.9
665652	16.4
665653	16.7
665654	28.3
665655	26.3
665656	56.2
665657	28.6
665658	26.6
665659	19.2
665660DUP	20.9
665661	20.1
665661-R	21.0
665662	27.5
665663	13.2
665664	29.1
666581	18.3
666582	16.5
666583	15.2
666584	24.2
666585	15.8
666586	16.0
666587	24.0
666588	30.2
666589	19.8
666590	55.2
666591	18.5
666592	18.1
666592-R	17.3
666593	30.4
666594	21.8
666595	22.7
666596	23.6
666597	16.4
666598	23.3
666599	22.5
666600DUP	24.3
666637	24.8
666638	35.4
666639	16.0

666640DUP	21.7
666641	13.7
666642	42.5
666643	20.2
666643-R	22.0
666644	23.4
666645	35.8
666646	19.4
666647	13.4
666648	12.5
666649	30.3
666650	26.6
666668	20.6
666669	14.2
666670	57.0
666671	23.4
666672	22.3
666673	32.6
666674	37.0
666675	46.2
666675-R	43.6
666676	17.1
666677	26.4
666739	70.5
666740DUP	77.7
666741	52.2
666742	39.2
666743	29.9
666744	26.1
666745	24.9
666746	28.5
666747	38.4
666748	21.4
666749	22.4
666750	52.6
666751	34.7
666751-R	37.3
666752	28.0
666753	22.5
666754	37.1
666755	25.1
666756	15.4
666757	24.5
666758	32.1
666759	18.4
666760DUP	21.5

APPENDIX III – SGH SAMPLE LOCATIONS & DESCRIPTIONS

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

SAMPLE	EASTING	NORTHING	DATE	WEATHER	SLOPE	SLOPE ASPECT	HORIZON	COLOUR	GROUND COVER	TREE COVER	TEXTURE	GRID	PROPERTY
660501	500808.51	5642503	6/6/2021	Clouds	Flat	N	A/B	Dark brown	Grasses	N/A	Organic	Magrum1	Copperlode West
660502	500792.63	5642536.47	6/6/2021	Sun	Flat	NE	A/B	Light grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660503	500766.62	5642594.74	6/6/2021	Sun	Flat	S	A/B	Light grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660504	500748.98	5642650	6/6/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660505	500720.51	5642664.79	6/6/2021	Sun	Flat	N	A/B	Dark brown |Grey	Grasses	Spruce	Organic	Magrum1	Copperlode West
660506	500697.39	5642705.04	6/6/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660507	500683.54	5642772.43	6/6/2021	Sun	Flat	N	A/B	Light grey|Grey		N/A	Clay	Magrum1	Copperlode West
660508	500666.46	5642808.56	6/6/2021	Sun	Flat	N	A/B	Grey		N/A	Clay	Magrum1	Copperlode West
660509	500643.34	5642863.16	6/6/2021	Sun	Flat	N	A/B	Grey|Dark grey	Grasses		Clay	Magrum1	Copperlode West
660510	500625.27	5642906.08	6/6/2021	Sun	Flat	N	A/B	Dark grey	Grasses	Spruce	Organic	Magrum1	Copperlode West
660511	500603.41	5642953.34	6/6/2021	Sun		N	A/B	Grey		Spruce	Clay	Magrum1	Copperlode West
660512	500582.19	5643009.94	6/6/2021	Sun	Flat	N	A/B	Dark brown	Grasses	N/A	Organic	Magrum1	Copperlode West
660513	500555.35	5643037.97	6/6/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
660514	500534.75	5643109.02	6/6/2021	Sun	Flat	SE	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
660515	500511.14	5643141.82	6/6/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
660516	500495.89	5643185.86	6/6/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
660517	500473.26	5643226.23	6/6/2021	Sun	Flat	N	A/B	Grey			Clay	Magrum1	Copperlode West
660518	500463.71	5643277.71	6/6/2021	Sun	Flat	N	A/B	Grey			Clay	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660519	500267.71	5644180.1	6/7/2021	Sun	Flat	SE	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660521	500284.22	5644139.63	6/7/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Rocky|Sandy	Magrum1	Copperlode West
660522	500301.29	5644086.47	6/7/2021	Sun	Gentle	S	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic|Rocky|Sa	Magrum1	Copperlode West
660523	500323.21	5644047	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum1	Copperlode West
660524	500344.43	5643993.73	6/7/2021	Sun	Pronounced	SE	A/B	Light brown|Light	Sphagnum moss <10cm	Spruce	Rocky|Sandy	Magrum1	Copperlode West
660525	500359.68	5643950.7	6/7/2021	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660526	500379	5643905.78	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660527	500412.66	5643862.63	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660528	500444.34	5643785.68	6/7/2021	Sun	Flat	N	A/B	Dark brown |Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660530	500476.94	5643734.75	6/7/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
660531	500495.63	5643687.38	6/7/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
660532	500509.62	5643638.45	6/7/2021	Sun	Flat	N	A/B	Dark brown |Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660533	500540.05	5643595.31	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660534	500555.37	5643549.5	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660535	500572.57	5643519.7	6/7/2021	Sun	Gentle	NW	A/B	Light brown	Sphagnum moss >10cm	Spruce	Rocky|Sandy	Magrum1	Copperlode West
660536	500598.86	5643470.44	6/7/2021	Sun	Steep	S	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay|Rocky|Sandy	Magrum1	Copperlode West
660537	500,621.70	5,643,423.74	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660538	500621.7	5643423.74	6/7/2021	Sun	Flat	N	A/B	Dark grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660539	500640.19	5643323.88	6/7/2021	Sun	Flat	N	A/B	Dark grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660541	500681.02	5643285.86	6/7/2021	Overcast	Flat	N	A/B	Light brown|Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
660542	500698.3	5643238.6	6/7/2021	Overcast	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660543	500,727.18	5,643,190.77	6/7/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660544	500740.26	5643150.74	6/7/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660545	500,774.62	5,643,089.37	6/7/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
660546	500771.32	5643060.9	6/7/2021	Sun	Flat	N	A/B	Dark grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
660547	500791.5	5643006.52	6/7/2021	Sun	Flat	N	A/B	Light brown|Light grey			Clay|Sandy	Magrum1	Copperlode West
660548	500830.15	5642972.28	6/7/2021									Magrum1	Copperlode West
661543	499871.51	5643545.69	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661544	499891.03	5643506.21	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661545	499907.4	5643471.3	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Poplar|Spruce	Clay	Magrum1	Copperlode West
661546	499925.95	5643415.69	6/7/2021	Sun	Flat	N	B	Grey	Grasses		Clay/Coarse	Magrum1	Copperlode West
661547	499955.25	5643369.32	6/7/2021	Sun|Wind	Flat	N	B	Grey			Clay	Magrum1	Copperlode West
661548	499976.33	5643323.28	6/7/2021	Sun|Wind	Flat	N	B	Grey			Clay	Magrum1	Copperlode West
661549	499993.68	5643274.8	6/7/2021	Sun|Wind	Flat	N	B	Grey			Clay	Magrum1	Copperlode West
661550	500013.42	5643231.32	6/7/2021	Sun|Wind	Flat	N	B	Grey			Clay	Magrum1	Copperlode West
661551	500078.75	5644083.91	6/7/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum1	Copperlode West
661552	500096.03	5644036.42	6/7/2021	Clouds	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661553	500131.58	5643982.6	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661554	500145.49	5643954.69	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661555	500159.54	5643893.53	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661556	500186.17	5643860.17	6/7/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
661557	500202.53	5643810.58	6/7/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
661558	500230.64	5643767.43	6/7/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
661559	500252.98	5643719.84	6/7/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
661560	500269.28	5643676.58	6/7/2021		Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
661561	500280.1	5643628.21	6/7/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum1	Copperlode West
661562	500311.65	5643579.62	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661563	500333.43	5643543.92	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661564	500348.89	5643485.87	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661565	500370.39	5643470.2	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661566	500387.82	5643413.04	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
661567	500417.12	5643359.33	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
661568	500434.83	5643331.42	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm		Clay	Magrum1	Copperlode West
664770	500318.36	5643089.88	6/5/2021	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664771	500332.13	5643040.51	6/5/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664772	500353.91	5642990.25	6/5/2021	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664773	500379.35	5642944.32	6/5/2021	Sun	Flat	N	A/B	Grey		Spruce	Clay|Sandy	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664774	500399.1	5642887.05	6/5/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
664775	500417.79	5642851.35	6/5/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
664776	500437.47	5642806.54	6/5/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
664777	500464.32	5642757.5	6/5/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
664778	500489.89	5642720.7	6/5/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
664779	500496.85	5642666.54	6/5/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664781	500517.02	5642627.85	6/5/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664782	500547.88	5642574.92	6/5/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Buck brush |Spruc	Clay|Sandy	Magrum1	Copperlode West
664783	500560.68	5642531.11	6/5/2021	Sun	Flat	N	A/B	Brown	Grasses	Buck brush |Spruc	Clay	Magrum1	Copperlode West
664784	500,583.66	5,642,493.30	6/5/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Buck brush |Spruc	Clay	Magrum1	Copperlode West
664785	500609.38	5642457.49	6/5/2021	Sun	Flat	N	A/B	Brown	Grasses	Buck brush	Clay	Magrum1	Copperlode West
664786	500637.14	5642403.12	6/5/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush |Spruc	Clay	Magrum1	Copperlode West
664787	500436.85	5644289.32	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664788	500461.09	5644245.06	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664789	500475.7	5644192.46	6/7/2021	Sun	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
664790	500490.67	5644151.77	6/7/2021	Sun	Gentle	NE	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
664791	500513.86	5644103.84	6/7/2021	Sun	Gentle	SW	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664792	500534.23	5644056.25	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664793	500561.91	5644023.67	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664794	500573.44	5643978.85	6/7/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Clay	Magrum1	Copperlode West
664795	500600.07	5643927.25	6/7/2021	Sun	Flat	N	A/B	Dark brown |Dark grey	Grasses	Spruce	Clay	Magrum1	Copperlode West
664796	500618.76	5643885	6/7/2021	Sun	Flat	N	A/B	Brown	Grasses	Buck brush |Spruc	Clay	Magrum1	Copperlode West
664797	500637.59	5643831.96	6/7/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
664798	500662.55	5643783.59	6/7/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664799	500681.23	5643740.78	6/7/2021	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664801	500701.82	5643699.3	6/7/2021	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
664802	500710.75	5643652.93	6/7/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
664803	500740.82	5643616.58	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664804	500774.84	5643556.42	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664805	500789.74	5643518.84	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664806	500817.57	5643459.79	6/7/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Buck brush	Clay	Magrum1	Copperlode West
664807	500824.18	5643415.53	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664808	500854.11	5643382.4	6/7/2021	Sun	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664809	500890.09	5643340.03	6/7/2021	Sun	Flat	N	A/B	Light brown			Clay|Sandy	Magrum1	Copperlode West
664810	500892.42	5643287.67	6/7/2021	Sun	Flat	N	A/B	Light brown|Grey		N/A	Clay	Magrum1	Copperlode West
664811	500915.26	5643235.63	6/7/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
664812	500939.93	5643204.49	6/7/2021	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
664813	500958.55	5643151.67	6/7/2021	Sun	Gentle	E	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664814	500964.4	5643104.52	6/7/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Spruce	Clay/Organic	Magrum1	Copperlode West
664815	500996.86	5643068.5	6/7/2021	Sun	Flat	N	A/B	Black	Grasses	Spruce	Organic	Magrum1	Copperlode West
664816	501018.3	5643025.58	6/7/2021	Sun	Flat	N	A/B	Light brown|Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
664817	501037.29	5642966.54	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum1	Copperlode West
664818	501063.78	5642930.18	6/7/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
664819	501077.49	5642882.37	6/7/2021	Sun	Flat	N	A/B	Grey		Spruce	Clay	Magrum1	Copperlode West
664821	501102.1	5642839.56	6/7/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Clay	Magrum1	Copperlode West
664822	501122.75	5642817.1	6/7/2021	Sun	Flat	N	A/B	Black	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
664823	501143.85	5642756.72	6/7/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic	Magrum1	Copperlode West
664824	501149.34	5642722.25	6/7/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic	Magrum1	Copperlode West
664825	500968.98	5642678.51	6/7/2021	Clouds	Flat	N	A	Brown	Grasses	N/A	Organic	Magrum1	Copperlode West
664826	500969.18	5642680.96	6/7/2021	Clouds	Flat	N	A	Brown	Grasses	N/A	Organic	Magrum1	Copperlode West
664827	500947.47	5642700.96	6/7/2021	Clouds	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664828	500928.7	5642726.43	6/7/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664829	500912.67	5642788.37	6/7/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
664830	500886.67	5642820.94	6/7/2021	Sun	Flat	N	A/B	Light brown|Light grey	Sphagnum moss <10cm	N/A	Clay|Sandy	Magrum1	Copperlode West
664831	500870.57	5642871.09	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
664832	500852.08	5642913.68	6/7/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	N/A	Clay	Magrum1	Copperlode West
666351	500046.86	5643177.61	6/7/2021	Sun		N	B	Light brown|Grey	Grasses	Buck brush	Clay	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666352	500064.64	5643140.47	6/7/2021	Sun	Flat	N	B	Grey	Grasses	Buck brush	Clay	Magrum1	Copperlode West
666353	500086.49	5643086.09	6/7/2021	Sun	Flat	N	B	Light brown|Grey	Grasses	Buck brush	Clay	Magrum1	Copperlode West
666354	500106.09	5643050.83	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666355	500130.61	5643014.14	6/7/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum1	Copperlode West
666356	500143.82	5642952.2	6/7/2021	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic	Magrum1	Copperlode West
666357	500164.91	5642911.28	6/7/2021	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666358	500195.62	5642866.13	6/7/2021	Clouds	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666359	500214.1	5642820.76	6/7/2021	Sun	Flat	N	B	Grey	Grasses	Spruce	Clay	Magrum1	Copperlode West
666360	500211.78	5642821.21	6/7/2021	Sun	Flat	N	B	Grey	Grasses	Spruce	Clay	Magrum1	Copperlode West
666361	500227.24	5642773.61	6/7/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
666362	500257.31	5642726.46	6/7/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
666363	500273.47	5642682.99	6/7/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush	Organic	Magrum1	Copperlode West
666364	500289.29	5642642.62	6/7/2021	Clouds	Flat	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum1	Copperlode West
666365	500317.75	5642595.59	6/7/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum1	Copperlode West
666366	500340.17	5642538.98	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666367	500363.15	5642504.84	6/7/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666368	500378.4	5642456.24	6/7/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666369	500400.26	5642405.65	6/7/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum1	Copperlode West
666370	500414.81	5642360.72	6/7/2021	Clouds	Flat	N	B	Brown|Grey	Grasses		Clay	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666371	500444.33	5642313.91	6/7/2021	Sun	Flat	N	B	Grey	Grasses		Clay	Magrum1	Copperlode West
666971	499848.89	5643595.51	6/4/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666972	499838.63	5643643.54	6/4/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666973	499811.65	5643689.25	6/4/2021	Sun	Flat	N	A/B	Brown|Red	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666974	499794.3	5643726.51	6/4/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Clay	Magrum1	Copperlode West
666975	499775.33	5643775	6/4/2021	Sun	Flat	N	A/B	Grey		Poplar|Spruce	Clay	Magrum1	Copperlode West
666976	499745.76	5643824.26	6/4/2021	Sun	Gentle	NE	A/B	Grey|Red	Caribou lichen	Spruce	Sandy	Magrum1	Copperlode West
666977	499727.43	5643864.29	6/4/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666978	499704.39	5643901.65	6/4/2021	Sun	Flat	N	A/B	Grey	Grasses	Buck brush	Clay	Magrum1	Copperlode West
666979	499904.32	5643984.49	6/4/2021	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666980	499916.4	5643944.57	6/4/2021	Sun	Flat	N	A/B	Grey		Spruce	Clay	Magrum1	Copperlode West
666981	499940.14	5643900.2	6/4/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666983	499952.16	5643844.04	6/4/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666984	499979.06	5643815.02	6/4/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum1	Copperlode West
666985	500004.43	5643758.42	6/4/2021	Sun	Gentle	NW	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666986	500019.88	5643710.38	6/4/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Poplar	Clay|Sandy	Magrum1	Copperlode West
666987	500044.89	5643662.23	6/4/2021	Sun	Flat	N	A/B	Black|Red	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666988	500063.3	5643625.42	6/4/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666989	500076.93	5643578.16	6/4/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666990	500110.93	5643546.46	6/4/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay	Magrum1	Copperlode West
666991	500116.76	5643483.2	6/4/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666992	500154.07	5643447.61	6/4/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666993	500160.04	5643383	6/4/2021	Sun	Flat	N	A/B	Dark brown		Spruce	Clay	Magrum1	Copperlode West
666994	500182.39	5643351.19	6/4/2021	Sun	Gentle	N	A/B	Light brown|Grey	Sphagnum moss <10cm	N/A	Clay|Sandy	Magrum1	Copperlode West
666995	500204.73	5643313.5	6/4/2021	Sun	Flat	N	A/B	Light brown|Grey		Poplar	Clay	Magrum1	Copperlode West
666996	500229.67	5643257.45	6/4/2021	Sun	Gentle	S	A/B	Grey		N/A	Clay|Sandy	Magrum1	Copperlode West
666997	500248.72	5643211.75	6/4/2021	Sun	Flat	N	A/B	Grey	Grasses	Poplar	Clay	Magrum1	Copperlode West
666998	500269.31	5643167.94	6/4/2021	Sun	Flat	N	A/B	Grey		Poplar|Spruce	Clay	Magrum1	Copperlode West
666999	500290.18	5643123.57	6/4/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum1	Copperlode West
666412	502556.87	5643938.86	11-Jun-21	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666413	502544.63	5643969.22	11-Jun-21	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666414	502525.64	5644025.25	11-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666415	502500.82	5644063.94	11-Jun-21	Clouds	Flat	N	A/B	Light brown	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
666416	502478.81	5644115.53	11-Jun-21	Clouds	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666417	502455.6	5644151.43	11-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666418	502415.55	5644178.43	11-Jun-21	Clouds	Flat	N	A/B	Dark brown	Grasses	N/A	Organic	Magrum2	Copperlode West
666419	502410.25	5644244.93	11-Jun-21	Clouds	Gentle	NE	A/B	Black	Grasses	N/A	Organic	Magrum2	Copperlode West
666421	502386.42	5644290.18	11-Jun-21	Clouds	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666422	502363.93	5644329.2	11-Jun-21	Clouds	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666423	502342.2	5644380.57	11-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666424	502311.55	5644424.81	11-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666425	502287.23	5644458.17	11-Jun-21	Clouds	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666426	502280.46	5644511.66	11-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666427	502253.55	5644553.34	11-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666428	502230.76	5644597.81	11-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666429	502206.58	5644653.41	11-Jun-21	Clouds	Flat	N	A/B	Light brown	Sphagnum moss >10cm	Spruce	Clay/Organic|San	Magrum2	Copperlode West
666430	502183.94	5644694.76	11-Jun-21	Clouds	Flat	N	A/B	Brown	Sphagnum moss <10cm	N/A	Clay/Organic	Magrum2	Copperlode West
666431	502929.37	5644112.32	12-Jun-21	Rain	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666432	502907.21	5644168.02	12-Jun-21	Rain	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666433	502880.44	5644192.91	12-Jun-21	Clouds	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666434	502862.78	5644245.39	12-Jun-21	Clouds	Gentle	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666435	502841.96	5644281.07	12-Jun-21	Rain	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666436	502672.45	5644162.78	12-Jun-21	Clouds	Gentle	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666437	502697.14	5644109.08	12-Jun-21	Clouds	Flat	N	A/B	Light brown	Sphagnum moss >10cm	Spruce	Clay/Organic|San	Magrum2	Copperlode West
666438	502714.24	5644057.71	12-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
666439	502747.83	5644023.7	12-Jun-21	Clouds	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce		Magrum2	Copperlode West
666440	502749.44	5644020.03	12-Jun-21	Clouds	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce		Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666441	502812.63	5644346.55	13-Jun-21	Sun	Flat	N	A/B	Dark brown		N/A	Organic	Magrum2	Copperlode West
666442	502783.76	5644367.45	13-Jun-21	Sun	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666443	502769.05	5644427.04	13-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666444	502748.43	5644475.29	13-Jun-21	Sun	Flat	N	B	Black|Grey	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
666445	502729.03	5644514.99	14-Jun-21	Clouds	Gentle	S	B	Black|Brown	Sphagnum moss >10cm	Spruce	Clay/Organic|San	Magrum2	Copperlode West
666446	502698.02	5644569.34	14-Jun-21	Clouds	Gentle	S	B	Black|Light brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666447	502679.24	5644616.03	14-Jun-21	Clouds	Gentle	S	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666448	502679.24	5644616.03	14-Jun-21	Clouds	Gentle	S	A/B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666449	502628.97	5644706.98	14-Jun-21	Sun	Gentle	S	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666450	502608.8	5644746.33	14-Jun-21	Sun	Flat	N	A/B	Black|Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy/C	Magrum2	Copperlode West
666451	502587	5644784.91	14-Jun-21	Clouds	Gentle	N	A/B	Black	Sphagnum moss <10cm	Spruce	Organic|Rocky	Magrum2	Copperlode West
666452	502557.28	5644822.14	14-Jun-21	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666453	502539.98	5644870.95	14-Jun-21	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666454	502541.15	5644896.31	14-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	N/A	Organic	Magrum2	Copperlode West
666455	502488.52	5644954.67	14-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666456	502471.08	5645002.15	14-Jun-21	Sun	Flat	N	B	Black|Grey	Sphagnum moss >10cm	Spruce	Clay|Organic	Magrum2	Copperlode West
666457	502452.45	5645046.4	14-Jun-21	Sun	Flat	N	B	Black|Light brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666458	502406.63	5645087.85	14-Jun-21	Sun	Flat	N	B	Brown|Light grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666459	502405.98	5645130	14-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666461	502378.15	5645175.91	14-Jun-21	Sun	Flat	N	B	Brown|Light grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666462	502353.19	5645228.16	14-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666463	502338.7	5645271.08	14-Jun-21	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666464	502316.27	5645322.11	14-Jun-21	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666465	502293.85	5645367.7	14-Jun-21	Sun	Flat	N	A/B	Light brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666466	502267.43	5645404.93	14-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
666467	502244.44	5645453.41	14-Jun-21	Clouds	Gentle	S	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666468	502073.83	5645357.26	14-Jun-21	Clouds	Flat	N	B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666469	502087.34	5645301.89	14-Jun-21	Clouds	Flat	N	B	Brown|Dark brow	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666470	502113.27	5645258.42	14-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666471	502137.58	5645227.07	14-Jun-21	Clouds	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666472	502167.73	5645185.05	14-Jun-21	Clouds	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666473	503295.47	5644271.66	15-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666474	503265.87	5644310.46	15-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666475	503252.49	5644359.94	15-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666476	503223.04	5644406.62	15-Jun-21	Sun	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666477	503208.4	5644446.87	15-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666478	503181.6	5644507.9	15-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666479	503148	5644541.91	15-Jun-21	Sun	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666481	503130.49	5644586.38	15-Jun-21	Sun	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666482	503092.88	5644630.06	15-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666483	503090.67	5644676.54	15-Jun-21	Sun	Gentle	S	A/B	Black	Sphagnum moss <10cm	N/A	Organic	Magrum2	Copperlode West
666484	503058.41	5644717.33	15-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
666485	503040.33	5644760.03	15-Jun-21	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666486	503026.05	5644797.6	15-Jun-21	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666487	502987.11	5644845.84	15-Jun-21	Sun	Gentle	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666488	502970.52	5644888.76	15-Jun-21	Sun	Gentle	N	A/B	Black|Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666489	502949.91	5644935	15-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666490	502934.7	5644991.27	15-Jun-21	Sun	Flat	N	B	Black|Dark brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666491	502915.23	5645034.07	15-Jun-21	Sun	Flat	N	B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666492	502895.54	5645076.53	15-Jun-21	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
666493	502864.33	5645116.33	15-Jun-21	Sun	Flat	N	B	Black	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
666494	502839.37	5645171.58	15-Jun-21	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666495	502824.23	5645235.96	15-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
666496	502789.88	5645248.51	15-Jun-21	Sun	Gentle	N	B	Black|Grey	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
666497	502772.71	5645308.77	15-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660578	502565.37	5644359.44	14-Jun-21	Clouds|Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660579	502559.88	5644378.33	14-Jun-21	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660581	502536.96	5644430.37	14-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660582	502516.43	5644474.28	14-Jun-21	Clouds|Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660584	502459.34	5644581.12	14-Jun-21	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
660585	502470	5644601.81	14-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
660586	502441.4	5644638.05	14-Jun-21	Clouds|Sun	Flat	SW	B	Light brown	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum2	Copperlode West
660587	502394.8	5644704.42	14-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
660588	502379.19	5644732.77	14-Jun-21	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660589	502355.22	5644779.9	14-Jun-21	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660590	502334.34	5644826.6	14-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Buck brush	Organic	Magrum2	Copperlode West
660591	502311.42	5644889.42	14-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660592	502283.38	5644908.1	14-Jun-21	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
660593	502274.37	5644958.79	14-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660594	502248.35	5645024.28	14-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660595	502228.46	5645068.86	14-Jun-21	Clouds	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
660596	502203.02	5645100.77	14-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
660597	502170.55	5645143.46	14-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660598	502775.67	5645692.32	14-Jun-21	Sun	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
660599	502804.98	5645638.73	14-Jun-21	Sun	Gentle	NW	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
660601	502824.18	5645593.93	14-Jun-21	Sun	Gentle	SE	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660602	502857.14	5645550.68	14-Jun-21	Sun	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
660603	502873.6	5645496.76	14-Jun-21	Sun	Pronounced	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
660604	502907.13	5645450.62	14-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
660605	502905.53	5645423.16	14-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
660606	502745.03	5645336.78	14-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
660607	502720.98	5645384.92	14-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660608	502705.44	5645428.39	14-Jun-21	Sun	Pronounced	SW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum2	Copperlode West
660609	502687.37	5645477.2	14-Jun-21	Sun	Pronounced	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum2	Copperlode West
660610	502645.7	5645513.98	14-Jun-21	Sun	Steep	SW	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
660611	502626.37	5645555.12	14-Jun-21	Sun	Pronounced	SW	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Rocky/Organic	Magrum2	Copperlode West
660612	502621.22	5645597.05	14-Jun-21	Sun	Steep	NW	B	Brown	Sphagnum moss >10cm	Spruce	Rocky/Organic	Magrum2	Copperlode West
664894	501894.14	5645269.12	11-Jun-21	Overcast	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum2	Copperlode West
664895	501914.95	5645218.64	11-Jun-21	Overcast	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
664896	501938.99	5645178.4	11-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
664897	501972.36	5645137.04	11-Jun-21	Overcast	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay/Coarse	Magrum2	Copperlode West
664898	501987.89	5645095.79	11-Jun-21	Overcast	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay/Coarse	Magrum2	Copperlode West
664899	502008.42	5645049.54	11-Jun-21	Overcast	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664901	502029.51	5645001.96	11-Jun-21	Overcast	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664902	502057.41	5644951.7	11-Jun-21	Sun	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664903	502068.73	5644914.89	11-Jun-21	Overcast	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664904	502094.39	5644866.97	11-Jun-21	Overcast	Flat	N	A	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664905	502115.13	5644820.5	11-Jun-21	Overcast	Flat	N	A	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664906	502139.24	5644783.93	11-Jun-21	Overcast	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664907	502166.79	5644733.01	11-Jun-21	Overcast	Flat	N	A	Dark brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664908	502434.03	5645524.22	13-Jun-21	Clouds|Sun	Flat	N	A	Light brown	Sphagnum moss >10cm		organic	Magrum2	Copperlode West
664909	502452.94	5645475.75	13-Jun-21	Clouds|Sun	Flat	N	A	Light brown	Sphagnum moss >10cm		organic	Magrum2	Copperlode West
664910	502476.63	5645429.94	13-Jun-21	Clouds|Sun	Flat	N	A	Light brown	Sphagnum moss >10cm		organic	Magrum2	Copperlode West
664911	502498.78	5645385.48	13-Jun-21	Clouds|Sun	Flat	N	A	Light brown	Sphagnum moss >10cm		organic	Magrum2	Copperlode West
664912	502514.39	5645335.55	13-Jun-21	Clouds|Sun	Flat	N	A	Light brown	Sphagnum moss >10cm		organic	Magrum2	Copperlode West
664913	502543	5645288.53	14-Jun-21	Clouds|Sun	Gentle	N	A	Light brown|Oran	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
664914	502560.71	5645257.28	14-Jun-21	Clouds|Sun	Gentle	N	A	Brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664915	502594.66	5645196.59	14-Jun-21	Clouds|Sun	Gentle	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay|Rocky/Organ	Magrum2	Copperlode West
664916	502618.35	5645160.34	14-Jun-21	Clouds|Sun	Pronounced	N	A	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Organic	Magrum2	Copperlode West
664917	502630.74	5645110.2	14-Jun-21	Clouds|Sun	Gentle	N	A	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664918	502660.32	5645070.18	14-Jun-21	Clouds	Flat	N	A	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664919	502685	5645028.16	14-Jun-21	Clouds	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664921	502712.07	5644976.57	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664922	502732.38	5644941.78	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664923	502749.68	5644895.86	14-Jun-21	Clouds	Flat	N	A	Brown|Dark brow	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664924	502772.61	5644853.62	14-Jun-21	Clouds|Sun	Flat	N	A	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664925	502791.17	5644809.82	14-Jun-21	Clouds|Sun	Flat	N	A	Brown|Orange	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
664926	502818.38	5644763.45	14-Jun-21	Clouds|Sun	Flat	N	A	Black|Brown	Sphagnum moss >10cm	Spruce	Rocky/Organic	Magrum2	Copperlode West
664927	502840.11	5644717.43	14-Jun-21	Clouds|Sun	Gentle	N	A	Brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664928	502863.66	5644676.3	14-Jun-21	Clouds|Sun	Gentle	N	A	Black|Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum2	Copperlode West
664929	502885.88	5644629.6	14-Jun-21	Clouds|Sun	Pronounced	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664930	502906.42	5644584.69	14-Jun-21	Clouds|Sun	Gentle	N	A	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664931	502932.08	5644536.78	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum2	Copperlode West
664932	502951.01	5644491.42	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664933	502981.09	5644449.96	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664934	502999.52	5644406.71	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Poplar	Organic	Magrum2	Copperlode West
664935	503025.53	5644363.69	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Poplar	Organic	Magrum2	Copperlode West
664936	503043.12	5644323.33	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Poplar	Organic	Magrum2	Copperlode West
664937	503069.14	5644264.75	14-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664938	503087.08	5644231.61	14-Jun-21	Clouds|Sun	Flat	N	A	Brown|Grey	Sphagnum moss >10cm	Spruce		Magrum2	Copperlode West
664939	503111.06	5644184.37	14-Jun-21	Clouds|Sun	Flat	N	A	Light grey	Sphagnum moss >10cm	Spruce	Clay	Magrum2	Copperlode West
664941	503465.76	5644345.73	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664942	503449.5	5644395.31	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664943	503421.38	5644435.77	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664944	503401.06	5644478.9	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664945	503372.58	5644521.03	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664946	503355.69	5644565.17	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664947	503335.08	5644613.87	13-Jun-21	Sun	Flat	N	A	Brown|Grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664948	503308.71	5644655.88	13-Jun-21	Sun	Flat	N	A	Brown|Light grey	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
664949	503286.83	5644700.46	13-Jun-21	Sun	Gentle	S	A	Brown|Light grey	Sphagnum moss >10cm	Spruce	Organic|Rocky	Magrum2	Copperlode West
664950	503267.56	5644745.71	13-Jun-21	Sun	Flat	S	A	Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664951	503240.21	5644786.83	13-Jun-21	Sun	Flat	N	A	Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664952	503214.48	5644833.19	13-Jun-21	Sun	Gentle	E	A	Brown|Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664953	503196.47	5644878.55	13-Jun-21	Sun	Gentle	E	A	Brown|Orange	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum2	Copperlode West
664954	503173.83	5644923.01	13-Jun-21	Sun	Gentle	E	A	Brown	Sphagnum moss >10cm	Spruce		Magrum2	Copperlode West
664955	503149.22	5644965.81	13-Jun-21	Sun	Gentle	E	A	Light grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664956	503127.21	5645009.94	13-Jun-21	Sun	Flat	N	A	Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664957	503101.83	5645054.97	13-Jun-21	Sun	Flat	N	A	Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664958	503080.87	5645100.55	13-Jun-21	Sun	Flat	E	A	Grey	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664959	503059.77	5645148.69	13-Jun-21	Sun	Flat	N	A	Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664961	503038.12	5645193.94	13-Jun-21	Sun	Gentle	NW	A	Orange	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664962	503017.22	5645247.53	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664963	502995.36	5645281.65	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum2	Copperlode West
664964	502961.69	5645335.79	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
664965	502949.59	5645379.48	13-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum2	Copperlode West
660549	503483.05	5643804.74	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660550	503500.44	5643770.28	8-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum3	Copperlode West
660551	503539.73	5643724.82	8-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum3	Copperlode West
660552	503554.59	5643668.01	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660553	503579.92	5643628.11	8-Jun-21	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660555	503618.61	5643537.38	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660556	503639.72	5643497.92	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660557	503656.83	5643447.11	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660558	503678.84	5643414.88	8-Jun-21	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660559	503705.65	5643361.64	8-Jun-21	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660561	503729.98	5643323.51	8-Jun-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum3	Copperlode West
660562	503751.11	5643262.81	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660563	503771.87	5643210.56	8-Jun-21	Sun	Flat	E	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
660564	503797.04	5643185.23	8-Jun-21	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660565	503821.68	5643127.08	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660566	503842.7	5643095.74	8-Jun-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660567	503866.64	5643034.27	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660568	503889.99	5643011.04	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660569	503913.13	5642967.35	8-Jun-21	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660570	503934.32	5642911.65	8-Jun-21	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
660571	503951.43	5642866.41	8-Jun-21	Sun	Flat	N	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
660572	503987.92	5642835.75	8-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum3	Copperlode West
660573	503999.78	5642772.04	8-Jun-21	Sun	Flat	N	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum3	Copperlode West
660574	504017.58	5642738.47	8-Jun-21	Sun	Flat	N	A	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
660576	503876.11	5642590.8	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
660576	504049.3	5642710.8	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
660577	503837.48	5642656.04	8-Jun-21	Clear	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum3	Copperlode West
661569	503678.3	5643887.27	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661570	503694.41	5643844.02	8-Jun-21	Sun	Flat	N	B	Light green grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
661571	503735.05	5643800.46	8-Jun-21	Sun	Gentle	SW	B	Brown	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum3	Copperlode West
661572	503744.5	5643746.42	8-Jun-21	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Sandy/Coarse	Magrum3	Copperlode West
661573	503773.83	5643710.08	8-Jun-21	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum3	Copperlode West
661574	503791.92	5643662.39	8-Jun-21	Sun	Flat	N	A	Light brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661575	503806.69	5643626.26	8-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661576	503833.15	5643579.02	8-Jun-21	Sun	Flat	N	A	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661577	503858.54	5643542.67	8-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661578	503884.71	5643485.31	8-Jun-21	Sun	Gentle	NE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum3	Copperlode West
661579	503888.04	5643445.72	8-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
661581	503922.52	5643388.37	8-Jun-21	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
661582	503955.07	5643351.14	8-Jun-21	Sun	Flat	N	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
661583	503968.3	5643314.46	8-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum3	Copperlode West
661584	503987.1	5643272.77	8-Jun-21	Sun	Flat	N	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum3	Copperlode West
661585	504017.77	5643217.19	8-Jun-21	Sun	Flat	N	A	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
661586	504035.23	5643173.17	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661587	504058.51	5643137.83	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661588	504086.17	5643080.47	8-Jun-21	Clear	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum3	Copperlode West
661589	504097.88	5643028.44	8-Jun-21	Sun	Gentle	S	A	Grey	Sphagnum moss <10cm	Buck brush |Spruc	Clay	Magrum3	Copperlode West
661590	504125.51	5643000.87	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661591	504148.39	5642950.85	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661592	504176.39	5642903.72	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661593	504196.38	5642854.14	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661594	504217.91	5642815.8	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Buck brush |Spruc	Organic	Magrum3	Copperlode West
661595	504253.92	5642784.36	8-Jun-21	Sun	Gentle	S	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum3	Copperlode West
661596	504426.06	5642877.8	8-Jun-21	Sun	Flat	N	A/B	Black|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum3	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661597	504398.33	5642926.93	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661598	504371.17	5642972.83	8-Jun-21	Sun	Gentle	NE	A/B	Light brown|Light	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum3	Copperlode West
661599	504352.59	5643012.07	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661601	504336.98	5643034.08	8-Jun-21	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
661602	504305.65	5643099.55	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
661603	504282.78	5643137.23	8-Jun-21	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
661604	504263.01	5643175.02	8-Jun-21	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Poplar|Spruce	Clay	Magrum3	Copperlode West
661605	504237.75	5643228.05	8-Jun-21	Sun	Flat	N	A	Black	Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
664833	504597.11	5642926.55	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664834	504564.03	5642984.01	8-Jun-21	Sun	Gentle	E	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664835	504550.93	5643018.47	8-Jun-21	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664836	504522.93	5643067.04	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664837	504498.93	5643106.61	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664838	504476.55	5643155.18	8-Jun-21	Sun	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664839	504471.17	5643199.99	8-Jun-21	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664841	504434.38	5643253.12	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664842	504425.63	5643297.81	8-Jun-21	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664843	504408.1	5643334.95	8-Jun-21	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664844	504384.94	5643389.3	8-Jun-21	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664845	504348.31	5643418.85	8-Jun-21	Sun	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664846	504340.13	5643467.66	8-Jun-21	Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum3	Copperlode West
664847	504319.72	5643509.12	8-Jun-21	Sun	Flat	N	A/B	Grey		Spruce	Clay	Magrum3	Copperlode West
664848	504287.07	5643560.25	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic|San	Magrum3	Copperlode West
664849	504272.28	5643607.39	8-Jun-21	Sun	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
664850	504251.59	5643647.96	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic	Magrum3	Copperlode West
664851	504228.72	5643696.31	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic	Magrum3	Copperlode West
664852	504208.23	5643748.67	8-Jun-21	Sun	Gentle	SW	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664853	504191.35	5643782.24	8-Jun-21	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664854	504171.5	5643833.04	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664855	504141.89	5643876.84	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664856	504121.54	5643934.75	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664857	504106.41	5643966.77	8-Jun-21	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664858	504072.16	5644015.01	8-Jun-21	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Clay	Magrum3	Copperlode West
664859	504062.93	5644053.14	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664861	503854.97	5643987.93	8-Jun-21	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664862	503885.85	5643939.91	8-Jun-21	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
664863	503906.82	5643881.43	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664864	503926.75	5643827.63	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664865	503946.87	5643786.61	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664866	503974.64	5643763.17	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
664867	503998	5643710.03	8-Jun-21	Sun	Pronounced	NW	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
664868	504015.74	5643661	8-Jun-21	Sun	Steep	S	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664869	504031.94	5643614.87	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
664870	504068.43	5643582.43	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic	Magrum3	Copperlode West
664871	504076.18	5643535.94	8-Jun-21	Sun	Flat	N	A/B	Light brown|Light	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664872	504121.32	5643499.28	8-Jun-21	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
664873	504126.34	5643455.81	8-Jun-21	Sun	Flat	N	A/B	Light brown|Light	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664874	504147.11	5643403.89	8-Jun-21	Sun	Flat	N	A/B	Light brown|Light grey		Buck brush |Spruc	Clay	Magrum3	Copperlode West
664875	504171.33	5643348.64	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664876	504189.13	5643308.4	8-Jun-21	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
664877	504220.07	5643268.95	8-Jun-21	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum3	Copperlode West
666372	503288.3	5643718.32	8-Jun-21	Sun	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
666373	503299.71	5643668.95	8-Jun-21	Sun	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum3	Copperlode West
666374	503341.32	5643639.84	8-Jun-21	Sun	Flat	N	A/B	Brown|Light grey	Sphagnum moss >10cm	Spruce	Clay	Magrum3	Copperlode West
666375	503360.12	5643587.14	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum3	Copperlode West
666376	503383.54	5643545.01	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666378	503422.52	5643459.19	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666379	503463.23	5643406.62	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666381	503469.52	5643349.79	8-Jun-21	Sun	Flat	N	A/B	Light brown|Light	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
666382	503494.91	5643307	8-Jun-21	Sun		S	A/B	Light brown|Light	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum3	Copperlode West
666383	503522.68	5643277.78	8-Jun-21	Sun	Gentle	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum3	Copperlode West
666384	503540.37	5643210.51	8-Jun-21	Sun	Flat	N	A/B	Dark brown |Light	Sphagnum moss >10cm	Spruce	Clay|Organic	Magrum3	Copperlode West
666385	503571.23	5643192.29	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Clay|Organic	Magrum3	Copperlode West
666386	503581.81	5643120.8	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666388	503642.57	5643049.33	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum3	Copperlode West
666389	503650.87	5643026.99	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666390	503677.95	5642983.86	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666391	503697.17	5642927.27	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666392	503717.45	5642872.58	8-Jun-21	Sun	Flat	N	A/B	Light brown	Sphagnum moss >10cm	Spruce	Clay|Rocky	Magrum3	Copperlode West
666393	503749.81	5642821	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666394	503763.82	5642793.66	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666395	503796.3	5642750.97	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
666396	503826.15	5642690.06	8-Jun-21	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum3	Copperlode West
665051	505019.59	5645615.49	18-Jun-21	Clouds|Wind	Flat	N	A	Brown|Grey	Sphagnum moss <10cm	N/A	Clay/Organic	Magrum4	Block 7
665052	505000.79	5645668.85	18-Jun-21	Clouds|Wind	Flat	N	A	Grey	Sphagnum moss <10cm	N/A	Clay/Organic	Magrum4	Block 7
665053	504978.55	5645719.65	18-Jun-21	Clouds|Wind	Flat	N	A	Brown|Grey	Sphagnum moss <10cm	N/A	Clay/Organic	Magrum4	Block 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665054	504955.41	5645762.66	18-Jun-21	Clouds|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	N/A	Organic	Magrum4	Block 7
665055	504927.91	5645808.56	18-Jun-21	Clouds|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	N/A	Organic	Magrum4	Block 7
665056	504904.41	5645849.13	18-Jun-21	Clouds|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	N/A	Organic	Magrum4	Block 7
665057	504710.13	5646197.68	18-Jun-21	Clouds|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum4	Block 7
665058	504686.58	5646242.7	18-Jun-21	Clouds	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum4	Block 7
665059	504662.24	5646283.05	18-Jun-21	Clouds	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum4	Block 7
665061	504637.41	5646327.17	18-Jun-21	Clouds	Gentle	N	A	Dark grey	Sphagnum moss <10cm	Spruce	Clay	Magrum4	Block 7
665062	504615.33	5646371.52	18-Jun-21	Clouds|Wind	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum4	Block 7
665063	504588.75	5646409.75	18-Jun-21	Clouds	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
665064	504569.25	5646467.67	18-Jun-21	Clouds|Wind	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum4	Block 7
665065	504547.3	5646509.69	18-Jun-21	Clouds	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum4	Block 7
665066	504517.21	5646554.58	18-Jun-21	Clouds|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum4	Block 7
665067	504497.6	5646592.04	18-Jun-21	Clouds|Wind	Flat	N	A	Grey	Sphagnum moss <10cm	N/A	Clay	Magrum4	Block 7
665068	504475.93	5646642.84	18-Jun-21	Clouds	Flat	N	A	Grey	Sphagnum moss <10cm	N/A	Clay	Magrum4	Block 7
665069	504449.7	5646682.29	18-Jun-21	Clouds	Flat	N	A	Dark brown	Sphagnum moss <10cm	N/A	Organic	Magrum4	Block 7
660613	504721.81	5647027.71	18-Jun-21	Clouds|Wind	Gentle	N	B		Sphagnum moss >10cm	Spruce	Organic	Magrum4	Block 7
660614	504745.16	5646982.36	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum4	Block 7
660615	504775.26	5646929.9	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum4	Block 7
660616	504801.13	5646893.01	18-Jun-21	Clouds|Wind	Gentle	SE	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum4	Block 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660617	504822.24	5646838.09	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum4	Block 7
660618	504833.79	5646801.41	18-Jun-21	Clouds|Wind	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay/Organic	Magrum4	Block 7
660619	504869.15	5646748.62	18-Jun-21	Clouds|Wind	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum4	Block 7
660621	504883.5	5646727.06	18-Jun-21	Clouds|Wind	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay/Organic|San	Magrum4	Block 7
660622	504909.88	5646675.71	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum4	Block 7
660623	504931.55	5646623.58	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar	Sandy	Magrum4	Block 7
660624	504952.37	5646589.34	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Poplar|Spruce	Sandy	Magrum4	Block 7
660625	504986.13	5646526.44	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Grasses	Spruce	Sandy	Magrum4	Block 7
660626	504811.17	5646440.42	18-Jun-21	Clouds|Wind	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum4	Block 7
660627	504780.81	5646468.2	18-Jun-21	Clouds|Wind	Pronounced	SE	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Magrum4	Block 7
660628	504764.34	5646510.21	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Magrum4	Block 7
660629	504732.56	5646558.45	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum4	Block 7
660630	504707.73	5646599.23	18-Jun-21	Clouds|Wind	Flat	SW	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum4	Block 7
660631	504688.6	5646642.36	18-Jun-21	Clouds|Wind	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum4	Block 7
660632	504658.58	5646681.14	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum4	Block 7
660633	504636.77	5646731.61	18-Jun-21	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum4	Block 7
666498	504898.77	5646250.12	18-Jun-21	Overcast	Gentle	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666499	504925.33	5646223.8	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666501	504939.01	5646176.21	18-Jun-21	Clouds	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum4	Block 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666502	504974.03	5646109.86	18-Jun-21	Clouds	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666503	505002.99	5646080.64	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666504	505016.18	5646028.39	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666505	505052.38	5645991.5	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666506	505064.35	5645955.37	18-Jun-21	Clouds	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666507	505088.27	5645910.36	18-Jun-21	Clouds	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666508	505103.98	5645855.1	18-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum4	Block 7
666509	505128.61	5645804.53	18-Jun-21	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666510	505158.98	5645770.53	18-Jun-21	Clouds|Wind	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666511	505184.18	5645716.4	18-Jun-21	Clouds	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666512	505206.62	5645681.29	18-Jun-21	Clouds	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666513	505263.72	5645947.89	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666514	505238.24	5646004.36	18-Jun-21	Clouds	Flat	N	B	Grey		Spruce	Clay|Sandy	Magrum4	Block 7
666515	505216.64	5646041.03	18-Jun-21	Clouds	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666516	505196.88	5646077.72	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666517	505165.3	5646122.61	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666518	505150.71	5646176.09	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666519	505130.87	5646213.99	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666521	505097.67	5646271.45	18-Jun-21	Clouds	Gentle	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum4	Block 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666522	505078.75	5646305.79	18-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum4	Block 7
666523	505068.53	5646348.92	18-Jun-21	Clouds	Pronounced	N	A/B	Black|Grey	Sphagnum moss >10cm	Spruce	Organic|Sandy	Magrum4	Block 7
665070	506069.13	5643937.11	19-Jun-21	Clouds|Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
665071	506084.35	5643896.43	19-Jun-21	Clouds|Sun	Gentle	E	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
665072	506119.32	5643853.44	19-Jun-21	Clouds|Sun	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
665073	506152.82	5643806.55	19-Jun-21	Clouds|Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
665074	506172.6	5643770.32	19-Jun-21	Clouds|Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665075	506205.81	5643729.55	19-Jun-21	Clouds|Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665076	506227.84	5643694.99	19-Jun-21	Clouds|Sun	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665077	506267.44	5643655.79	19-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665078	506283.1	5643600.2	19-Jun-21	Clouds	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665079	506319.47	5643558.32	19-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665081	506341.44	5643519.88	19-Jun-21	Clouds	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665082	506373.59	5643479.33	19-Jun-21	Sun	Pronounced	N	A	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum5	Copperlode West
665083	506400.36	5643426.87	19-Jun-21	Clouds|Sun	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665084	506429.19	5643400.99	19-Jun-21	Clouds	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665085	506457.62	5643368	19-Jun-21	Clouds|Sun	Pronounced	S	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665086	506480.47	5643302.09	19-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665087	506505.25	5643263.31	19-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665088	506530.44	5643223.98	19-Jun-21	Clouds|Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
660634	506747.21	5642890.76	19-Jun-21	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660635	506725.28	5642952.44	19-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
660636	506698.19	5642979.55	19-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
660637	506669.54	5643020.21	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660638	506644.2	5643057.76	19-Jun-21	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660639	506618.21	5643110.55	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660641	506588.09	5643144.42	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660642	506554.88	5643183.53	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660643	506780.53	5643199.83	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660644	506807.01	5643155.72	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660645	506837.43	5643100.49	19-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660646	506854.89	5643071.27	19-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
660647	506886.07	5643036.17	19-Jun-21	Clouds	Flat	SW	B	Dark brown	Grasses	Spruce	Organic	Magrum5	Copperlode West
660648	506912.4	5642993.61	19-Jun-21	Clouds	Flat	N	B	Dark brown	Grasses	Spruce	Organic|Sandy	Magrum5	Copperlode West
660649	506938.95	5642947.38	19-Jun-21	Clouds	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
660650	506968.37	5642909.28	19-Jun-21	Clouds	Flat	N	B	Grey	Grasses	Spruce	Clay	Magrum5	Copperlode West
666524	506299.87	5643969.42	19-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666525	506332.53	5643910.3	19-Jun-21	Sun|Wind	Flat	N	B	Light grey|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666526	506358.09	5643863.29	19-Jun-21	Clouds|Wind	Flat	N	B	Light grey|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666527	506390.79	5643832.08	19-Jun-21	Clouds|Wind	Flat	N	B	Black|Brown	Sphagnum moss >10cm	Spruce	Clay|Organic	Magrum5	Copperlode West
666528	506411.23	5643784.73	19-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
666529	506437.8	5643764.64	19-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666530	506470.18	5643716.86	19-Jun-21	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666531	506488.87	5643661.84	19-Jun-21	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666532	506513.99	5643628.63	19-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666533	506543.79	5643565.72	19-Jun-21	Sun	Gentle	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666534	506560.28	5643527.16	19-Jun-21	Clouds	Gentle	S	A/B	Black	Sphagnum moss >10cm	Spruce	Organic|Rocky	Magrum5	Copperlode West
666535	506592.84	5643497.06	19-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
666536	506633.44	5643443.28	19-Jun-21	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666537	506649.65	5643409.5	19-Jun-21	Sun	Flat	N	B	Black|Grey	Sphagnum moss >10cm	Spruce	Clay|Organic	Magrum5	Copperlode West
666538	506669.65	5643373.72	19-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666539	506697.94	5643332.39	19-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666541	506721.41	5643281.49	19-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666542	506756.5	5643251.62	19-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
665089	505605.8	5643911.24	21-Jun-21	Clouds|Rain	Pronounced	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
665090	505615.96	5643873.33	21-Jun-21	Clouds	Pronounced	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665091	505648.18	5643822.55	21-Jun-21	Clouds	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665092	505677.37	5643787.43	21-Jun-21	Clouds	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665093	505703.27	5643747.43	21-Jun-21	Clouds	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665094	505732.69	5643695.75	21-Jun-21	Clouds	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665095	505763.01	5643658.54	21-Jun-21	Clouds	Flat	N	A	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665096	505788.34	5643621.31	21-Jun-21	Clouds|Rain	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665097	505813.47	5643581.09	21-Jun-21	Clouds|Rain	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665098	505841.97	5643534.18	21-Jun-21	Clouds|Rain	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum5	Copperlode West
665099	505872.1	5643492.85	21-Jun-21	Clouds|Rain	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665101	505899.54	5643452.74	21-Jun-21	Clouds|Rain	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665102	505927.69	5643410.52	21-Jun-21	Clouds|Rain	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665103	505957.11	5643367.52	21-Jun-21	Clouds|Rain	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665104	505987.57	5643327.97	21-Jun-21	Clouds|Sun|Rain	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
665105	506014.25	5643282.52	21-Jun-21	Clouds|Sun|Rain	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum5	Copperlode West
665106	506037.49	5643239.39	21-Jun-21	Clouds|Sun|Rain	Flat	N	A	Orange	Sphagnum moss <10cm	Spruce	Sandy	Magrum5	Copperlode West
660651	506275.64	5642917.41	21-Jun-21	Clouds|Rain|Wind	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660652	506238.2	5642968.63	21-Jun-21	Clouds|Rain|Wind	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660653	506208.15	5643009.07	21-Jun-21	Clouds|Rain|Wind	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
660654	506180.99	5643038.62	21-Jun-21	Clouds|Rain|Wind	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
660655	506146.14	5643095.17	21-Jun-21	Clouds|Rain|Wind	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660656	506126.72	5643121.29	21-Jun-21	Clouds|Rain|Wind	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660657	506094.64	5643157.61	21-Jun-21	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660658	506072.03	5643209.52	21-Jun-21	Sun	Gentle	E	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
660659	506322.45	5643188.36	21-Jun-21	Clouds|Wind	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
660661	506352.64	5643147.91	21-Jun-21	Clouds|Wind	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
660662	506384.31	5643105.69	21-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660663	506412.68	5643063.36	21-Jun-21	Clouds|Wind	Flat	N	B	Grey|Dark grey	Sphagnum moss >10cm	Spruce	Clay	Magrum5	Copperlode West
660664	506440.05	5643029.37	21-Jun-21	Clouds|Wind	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660665	506460.07	5642980.02	21-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660666	506495.75	5642936.7	21-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
660667	506516.51	5642907.81	21-Jun-21	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666543	505852.46	5643899.28	21-Jun-21	Sun	Pronounced	E	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666544	505885.74	5643844.05	21-Jun-21	Sun	Gentle	W	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666545	505904.82	5643810.82	21-Jun-21	Clouds	Flat	N	B	Brown|Dark grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666546	505943.5	5643777.18	21-Jun-21	Sun	Pronounced	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666547	505968.34	5643736.27	21-Jun-21	Clouds	Pronounced	NW	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666548	505995.73	5643693.05	21-Jun-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666549	506018.74	5643653.15	21-Jun-21	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666550	506048.52	5643598.59	21-Jun-21	Clouds	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666551	506065.77	5643568.48	21-Jun-21	Rain	Flat	N	A/B	Black|Light brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666552	506104.18	5643527.04	21-Jun-21	Rain	Flat	N	A/B	Black	Sphagnum moss >10cm	N/A	Organic	Magrum5	Copperlode West
666553	506137.26	5643479.04	21-Jun-21	Rain	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666554	506160.92	5643436.36	21-Jun-21	Sun|Rain	Flat	N	A/B	Black|Brown	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666555	506186.11	5643396.8	21-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666556	506213.34	5643358.47	21-Jun-21	Clouds	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Magrum5	Copperlode West
666557	506240.03	5643315.03	21-Jun-21	Clouds|Wind	Gentle	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666558	506277.26	5643263.81	21-Jun-21	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy	Magrum5	Copperlode West
666559	506311.1	5643223.59	21-Jun-21	Clouds	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Magrum5	Copperlode West
664878	510067.61	5645451.81	10-Jun-21	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664879	510020.93	5645477.19	10-Jun-21	Overcast	Flat	N	A/B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Clay/Coarse	Magrum6	Block B
664881	510002.51	5645486.49	10-Jun-21	Overcast	Pronounced	SW	A/B	Light brown|Grey	Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy	Magrum6	Block B
664882	509927.5	5645524.6	10-Jun-21	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664883	509884.68	5645553.32	10-Jun-21	Overcast	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664884	509839.97	5645577.37	10-Jun-21	Clouds	Pronounced	NE	A/B	Light brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum6	Block B
664885	509790.79	5645587.95	10-Jun-21	Overcast	Gentle	W	A/B	Light brown|Grey	Caribou lichen	Spruce	Clay|Sandy	Magrum6	Block B
664886	509744.67	5645617.11	10-Jun-21	Sun	Gentle	W	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum6	Block B
664887	509701.56	5645648.27	10-Jun-21	Overcast	Pronounced	W	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664888	509865.06	5645787.26	10-Jun-21	Overcast	Gentle	W	A/B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Clay	Magrum6	Block B

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664889	509896.28	5645764.3	10-Jun-21	Overcast	Gentle	W	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664890	509944.14	5645748.7	10-Jun-21	Overcast	Gentle	W	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664891	509994	5645714.89	10-Jun-21	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
664892	510044.31	5645696.63	10-Jun-21	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy	Magrum6	Block B
664893	510082.14	5645671.13	10-Jun-21	Overcast	Flat	N	A/B	Light brown|Light	Sphagnum moss <10cm	Poplar|Spruce	Clay	Magrum6	Block B
666397	509661.24	5645204.06	10-Jun-21	Overcast	Flat		A/B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy	Magrum6	Block B
666398	509617.02	5645224.54	10-Jun-21	Overcast	Flat		A/B	Light brown|Brow	Sphagnum moss <10cm	Spruce|N/A	Clay|Organic|San	Magrum6	Block B
666399	509571.2	5645242.26	10-Jun-21	Overcast	Flat		A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
666401	509552.37	5645245.45	10-Jun-21	Overcast	Flat		A/B	Brown|Grey	Grasses	Spruce	Clay	Magrum6	Block B
666402	509641.14	5645433.21	10-Jun-21	Overcast	Gentle		A/B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Clay	Magrum6	Block B
666403	509671.5	5645420.59	10-Jun-21	Overcast	Gentle		A/B	Light brown|Grey	Sphagnum moss <10cm	N/A	Clay|Organic	Magrum6	Block B
666404	509718.87	5645406.99	10-Jun-21	Overcast	Flat		A/B	Dark brown	Sphagnum moss <10cm	N/A	Organic|Sandy	Magrum6	Block B
666405	509768.72	5645375.4	10-Jun-21	Overcast	Flat		A/B	Brown|Light grey	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy	Magrum6	Block B
666406	509808.52	5645348.12	10-Jun-21	Overcast	Flat		A/B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy	Magrum6	Block B
666407	509849.78	5645331.96	10-Jun-21	Overcast	Flat		A/B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy	Magrum6	Block B
666408	509897.58	5645307.69	10-Jun-21	Overcast	Flat		A/B	Dark brown	Grasses	Spruce|N/A	Organic	Magrum6	Block B
666409	509932.66	5645285.64	10-Jun-21	Overcast	Flat		A/B	Brown|Light grey	Sphagnum moss <10cm	Spruce|N/A	Clay	Magrum6	Block B
666410	509987.35	5645262.61	10-Jun-21	Overcast	Pronounced		A/B	Dark brown	Sphagnum moss <10cm	Spruce|N/A	Clay|Organic	Magrum6	Block B
666411	510030.31	5645238.34	10-Jun-21	Overcast	Flat		A/B	Light grey	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy	Magrum6	Block B

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665131	509483.55	5645282.35	6/23/2021	Clouds|Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
665132	509429.48	5645313.94	6/23/2021	Clouds|Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665133	509389.28	5645329.99	6/23/2021	Clouds|Sun	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665134	509345.77	5645349.94	6/23/2021	Clouds|Sun	Steep	E	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665135	509298.31	5645379.32	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665136	509262.81	5645394.04	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
665137	509208.13	5645422.41	6/23/2021	Clouds|Sun|Wind	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665138	509167.98	5645448.37	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
665139	509121.6	5645464.63	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
665141	509079.64	5645485.68	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
665142	509034.86	5645512.29	6/23/2021	Clouds|Sun|Wind	Gentle	W	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665143	508990.92	5645535.46	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665144	508944.39	5645556.28	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665145	508897.65	5645578	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665146	508850.91	5645604.05	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665147	508809.93	5645630.34	6/23/2021	Clouds|Sun|Wind	Gentle	W	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665148	508764.94	5645647.94	6/23/2021	Clouds|Sun|Wind	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665149	508909.42	5645799.87	6/23/2021	Clouds|Sun|Wind	Pronounced	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665150	508963.18	5645784.73	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665151	508997.69	5645762.55	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665152	509043.11	5645730.16	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665153	509093.78	5645709.22	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665154	509140.3	5645688.4	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum6	Block B
665155	509182.28	5645663.45	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665156	509224.38	5645645.19	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Orange	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
665157	509273.85	5645625.59	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum6	Block B
665158	509315.32	5645605.86	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
665159	509366.77	5645580.94	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665161	509402.9	5645560.43	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Brown	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665162	509453.51	5645534.73	6/23/2021	Clouds|Sun|Wind	Pronounced	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665163	509493.94	5645511.55	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
665164	509539.71	5645484.51	6/23/2021	Clouds|Sun|Wind	Gentle	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Magrum6	Block B
665165	509583.13	5645470.8	6/23/2021	Clouds|Sun|Wind	Flat	N	A	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
660668	509818.11	5645810.18	6/23/2021	Sun	Flat	N	A	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
660669	509754.87	5645831.09	6/23/2021	Sun	Gentle	S	A/B	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660670	509718.79	5645859.82	6/23/2021	Sun	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660671	509670.71	5645884.75	6/23/2021	Sun	Gentle	SW	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660672	509626.37	5645898.12	6/23/2021	Sun	Gentle	W	A/B	Brown	Grasses	Poplar|Spruce	Clay	Magrum6	Block B

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660673	509589.65	5645933.75	6/23/2021	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660674	509550.71	5645954.8	6/23/2021	Sun	Pronounced	SE	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum6	Block B
660675	509496.34	5645961.49	6/23/2021	Sun	Gentle	SE	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660676	509455.77	5645993.66	6/23/2021	Sun	Pronounced	E	A	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
660677	509409.17	5646017.27	6/23/2021	Sun	Gentle	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay/Coarse	Magrum6	Block B
660678	509365.17	5646038.21	6/23/2021	Sun	Flat	N	A/B	Brown		Spruce	Clay	Magrum6	Block B
660679	509321.59	5646061.48	6/23/2021	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660681	509271.12	5646094.52	6/23/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660682	509232.35	5646094.9	6/23/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum6	Block B
660683	509188.6	5646138.3	6/23/2021	Sun	Gentle	NE	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660684	508946.77	5646013.89	6/23/2021	Sun	Flat	N	A	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
660685	508983.03	5645996.27	6/23/2021	Sun	Flat	N	A	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay/Organic	Magrum6	Block B
660686	509034.9	5645969.67	6/23/2021	Sun	Gentle	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum6	Block B
660687	509089.72	5645939.08	6/23/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660688	509114.75	5645923.78	6/23/2021	Sun	Pronounced	NW	A	Brown	Sphagnum moss <10cm	Spruce	Rocky/Organic	Magrum6	Block B
660689	509178.83	5645903.65	6/23/2021	Sun	Gentle	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Clay	Magrum6	Block B
660690	509228.25	5645878.94	6/23/2021	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Magrum6	Block B
660691	509257.63	5645862.09	6/23/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
660692	509299.8	5645837.37	6/23/2021	Sun	Flat	N	A	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660693	509358.35	5645810	6/23/2021	Sun	Flat	N	A	Dark brown |Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	Magrum6	Block B
660694	509393.63	5645793.5	6/23/2021	Sun	Gentle	E	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
660695	509445.01	5645768.79	6/23/2021	Sun	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660696	509485.99	5645752.18	6/23/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Organic	Magrum6	Block B
660697	509526.84	5645720.12	6/23/2021	Sun	Gentle	S	A/B	Brown	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660698	509563.55	5645694.73	6/23/2021	Sun	Gentle	SW	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Magrum6	Block B
660699	509619.89	5645681.26	6/23/2021	Sun	Pronounced	SW	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Magrum6	Block B
660701	509657.66	5645655.86	6/23/2021	Sun	Flat	N	A/B	Brown	Grasses	Buck brush	Clay	Magrum6	Block B
660060	489350.69	5640805.02	5/31/2021	Sun	Flat	E	A	Brown		N/A	organic	Gerry-JoyA	Joy
660061	489345.11	5640825.16	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660062	489341.5	5640849.41	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660063	489330.17	5640876.68	5/31/2021	Sun	Flat	E	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660064	489321.09	5640900.49	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660065	489314.3	5640918.3	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660066	489306.99	5640951.01	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660067	489302.47	5640973.82	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660068	489293.38	5640998.08	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660069	489293.35	5641016.76	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660070	489286.03	5641045.13	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660071	489278.97	5641064.61	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660072	489268.76	5641089.87	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660073	489261.57	5641113.91	5/31/2021	Sun	Flat	N	A	Brown		Spruce|N/A	organic	Gerry-JoyA	Joy
660074	489254.86	5641132.49	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660075	489250.55	5641158.97	5/31/2021	Sun	Flat	E	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660076	489232.12	5641185.13	5/31/2021	Sun	Flat	N	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660077	489226.19	5641206.17	5/31/2021	Sun	Flat	N	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660078	489224.99	5641237.64	5/31/2021	Sun	Flat	E	A/B	Light brown|Brown		Spruce	mineral	Gerry-JoyA	Joy
660079	489218.14	5641252.55	5/31/2021	Sun	Flat	E	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660080	489212.23	5641281.81	5/31/2021	Sun	Flat	E	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660081	489298.03	5641310.33	5/31/2021	Sun	Flat	E	A|A/B	Brown		Spruce	mineral	Gerry-JoyA	Joy
660082	489313.87	5641291.61	5/31/2021	Sun	Flat	N	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660083	489321.7	5641268.36	5/31/2021	Sun	Flat	N	A	Brown		N/A	mineral	Gerry-JoyA	Joy
660084	489325.8	5641245.55	5/31/2021	Sun	Flat	E	A	Brown		N/A	organic	Gerry-JoyA	Joy
660085	489337.34	5641215.61	5/31/2021	Sun	Flat	N	A	Brown		N/A	mineral	Gerry-JoyA	Joy
660086	489343.13	5641196.69	5/31/2021	Sun	Flat	E	A	Brown		N/A	organic	Gerry-JoyA	Joy
660087	489349.4	5641170.11	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660088	489356.39	5641147.63	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660089	489364.56	5641123.04	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660090	489367.11	5641097.34	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660091	489372.47	5641073.54	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660092	489381.56	5641049.94	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660093	489388.12	5641027.36	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660094	489401.77	5641003.08	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660095	489408.06	5640979.27	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660096	489414.61	5640954.57	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660097	489422.92	5640930.75	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660098	489428.64	5640906.28	5/31/2021	Sun	Flat	N	A	Brown		Spruce	mineral	Gerry-JoyA	Joy
660099	489437.72	5640881.57	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660100	489443.59	5640859.32	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660101	489449.8	5640836.51	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660102	489549.67	5640864.78	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660103	489540.08	5640887.37	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660104	489533.18	5640912.63	5/31/2021	Sun	Flat	E	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660105	489525.77	5640936.33	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660106	489518.23	5640958.25	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660107	489512.3	5640983.73	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660108	489503.78	5641009.88	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660109	489492.51	5641034.03	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660110	489490.31	5641057.5	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
660111	489481.85	5641079.09	5/31/2021	Sun	Flat	N	A	Brown		Spruce	organic	Gerry-JoyA	Joy
664738	489479.31	5641106.56	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664737	489468.55	5641139.17	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664736	489462.26	5641158.2	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664735	489463.27	5641172.21	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664734	489443.09	5641204.83	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664733	489436.75	5641230.86	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664732	489426.31	5641248.45	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664731	489418.98	5641272.49	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664730	489412.83	5641288.85	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664729	489415.7	5641314.98	5/31/2021	Sun	Flat	N	A/B	Grey	Grasses	Poplar|Spruce	Sandy	Gerry-JoyA	Joy
664728	489405.76	5641333.9	5/31/2021	Sun	Flat	N	A/B	Light brown|Grey	Grasses	Poplar|Spruce	Sandy	Gerry-JoyA	Joy
664727	489508.99	5641362.72	5/31/2021	Sun	Flat	N	A/B	Dark brown |Grey	Grasses	Spruce|Willows	Organic|Sandy	Gerry-JoyA	Joy
664726	489506.14	5641341.81	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664725	489521.77	5641319.44	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664724	489505.12	5641323.69	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664723	489533.24	5641296.5	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664722	489532.07	5641271.93	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664721	489549.8	5641243.98	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664720	489552.24	5641236.41	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664719	489554.98	5641199.26	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664718	489560.72	5641186.13	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664717	489559.67	5641156.22	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664716	489585.08	5641135.37	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664715	489600.86	5641118.33	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664714	489592.25	5641104.45	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush	Organic	Gerry-JoyA	Joy
664713	489607.89	5641052.48	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664712	489610.85	5641050.59	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664711	489623.45	5641029.87	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664710	489632.18	5641001.39	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush	Organic	Gerry-JoyA	Joy
664709	489628.32	5640967.82	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush	Organic	Gerry-JoyA	Joy
664708	489640.37	5640946.66	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664707	489644.23	5640911.85	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664706	489644.13	5640896.06	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664705	489742.44	5640919.33	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664703	489736.81	5640949.47	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664702	489729.52	5640960.17	5/31/2021	Sun	Flat	N	A/B	Brown	Grasses	Buck brush	Organic	Gerry-JoyA	Joy
664701	489723.57	5641004.55	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush	Organic	Gerry-JoyA	Joy
664700	489712.96	5641012.02	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664699	489704.44	5641034.27	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664698	489705.24	5641053.96	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyA	Joy
664697	489692.31	5641086.56	5/31/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush	Organic	Gerry-JoyA	Joy
664696	489690.9	5641118.49	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664695	489676.99	5641127.29	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664694	489664.31	5641145.56	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664693	489663.41	5641184.03	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664692	489661.82	5641201.28	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664691	489649.07	5641225.76	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664690	489638.85	5641243.24	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664689	489638.07	5641272.39	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664688	489627.79	5641300.98	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664687	489621.58	5641325.56	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664686	489620.14	5641339.47	5/31/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyA	Joy
664684	489601.71	5641367.2	5/31/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyA	Joy
664683	489594.37	5641390.9	5/31/2021	Sun	Pronounced	SW	A/B	Brown		Poplar|Spruce	Sandy	Gerry-JoyA	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660001	490432.59	5641315.56	5/28/2021	Sun	Flat	E	A|B	Brown|Grey			mineral	Gerry-JoyB	Joy
660002	490433.45	5641290.98	5/28/2021	Sun	Flat	E	A|B	Brown|Grey			mineral	Gerry-JoyB	Joy
660003	490448.24	5641265.6	5/28/2021	Sun	Flat	E	A	Brown|Dark brown			organic	Gerry-JoyB	Joy
660004	490454.8	5641240.9	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660005	490459.25	5641217.21	5/28/2021	Sun	Flat	E	A	Dark brown			organic	Gerry-JoyB	Joy
660006	490467.01	5641194.84	5/28/2021	Sun	Flat	E	A	Dark brown				Gerry-JoyB	Joy
660007	490477.58	5641170.47	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660008	490480.35	5641148.11	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660009	490493.52	5641122.07	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660010	490501.07	5641098.14	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660011	490506.08	5641070.34	5/28/2021	Sun	Flat	N	A	Brown			organic	Gerry-JoyB	Joy
660012	490505.97	5641049.31	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660013	490517.39	5641025.61	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660014	490527.39	5640999.35	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660015	490528.54	5640976.89	5/28/2021	Sun	Flat	N	A	Brown			organic	Gerry-JoyB	Joy
660016	490540.72	5640950.17	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660017	490545.93	5640917.36	5/28/2021	Sun	Flat	E	A	Brown			mineral	Gerry-JoyB	Joy
660018	490632.68	5640957.9	5/28/2021	Sun	Flat	E	A	Brown			mineral	Gerry-JoyB	Joy
660019	490633.56	5640981.02	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660020	490615.04	5641002.3	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660021	490616.01	5641032.99	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660022	490609.43	5641048.01	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660023	490605.91	5641078.49	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660024	490600.82	5641105.97	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660025	490587.86	5641125.57	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660026	490580.1	5641156.27	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660027	490575.84	5641168.62	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660028	490566.59	5641183.42	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660029	490565.6	5641219.46	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660030	490552.72	5641245.28	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660031	490548.68	5641268.76	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660032	490544.56	5641286.55	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660033	490532.25	5641316.05	5/28/2021	Sun	Flat	E	A	Brown			mineral	Gerry-JoyB	Joy
660034	490530.04	5641336.84	5/28/2021	Sun	Flat	E	A|B	Brown			mineral	Gerry-JoyB	Joy
660035	490627.7	5641356.24	5/28/2021	Sun	Flat	E	A|B	Brown			mineral	Gerry-JoyB	Joy
660036	490634.06	5641332.09	5/28/2021	Sun	Flat	E	A|B	Grey			mineral	Gerry-JoyB	Joy
660037	490642.94	5641307.06	5/28/2021	Sun	Flat	E	C	Grey			mineral	Gerry-JoyB	Joy
660038	490647.81	5641282.47	5/28/2021	Sun	Flat	E	C	Grey			mineral	Gerry-JoyB	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660039	490651.28	5641257.34	5/28/2021	Sun	Flat	E	A	Brown			mineral	Gerry-JoyB	Joy
660040	490662.13	5641234.74	5/28/2021	Sun	Flat	N	A	Brown			mineral	Gerry-JoyB	Joy
660041	490670.04	5641213.71	5/28/2021	Sun	Flat	E	A	Brown			organic	Gerry-JoyB	Joy
660042	490671.33	5641189.24	5/28/2021	Sun	Flat	E	A	Brown			mineral	Gerry-JoyB	Joy
664665	490679.8	5641169.66	5/28/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyB	Joy
664664	490689.88	5641149.95	5/28/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664663	490701.05	5641103.9	5/28/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664662	490695.88	5641087.11	5/28/2021	Sun	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664661	490704.72	5641073.54	5/28/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664660	490717.1	5641041.04	5/28/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664659	490724.19	5641034.79	5/28/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664658	490720	5641012.68	5/28/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664657	490715.71	5641008.35	5/28/2021	Sun	Flat	N	A/B	Light brown|Light	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664656	490729	5640970.52	5/28/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss >10cm	Spruce	Sandy	Gerry-JoyB	Joy
664655	490844.43	5640984.54	5/28/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664654	490829.67	5641022.6	5/28/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyB	Joy
664653	490815.94	5641043.86	5/28/2021	Sun	Gentle	NE	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664652	490804.09	5641059.34	5/28/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyB	Joy
664651	490802.51	5641087.37	5/28/2021	Sun	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664650	490804.61	5641116.84	5/28/2021	Sun	Flat	N	A/B	Dark brown |Grey	Grasses	Spruce	Organic	Gerry-JoyB	Joy
664649	490801.47	5641134.18	5/28/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Spruce	Organic	Gerry-JoyB	Joy
664648	490782.19	5641155.91	5/28/2021	Sun	Flat	N	A/B	Dark brown		Spruce	Organic	Gerry-JoyB	Joy
664647	490766.16	5641193.96	5/28/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664646	490771.26	5641217.53	5/28/2021	Sun	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664645	490766.64	5641232.44	5/28/2021	Sun	Flat	N	A	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic	Gerry-JoyB	Joy
664644	490754.11	5641256.04	5/28/2021	Sun	Gentle	SE	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyB	Joy
664643	490752.81	5641282.28	5/28/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664642	490749.91	5641308.65	5/28/2021	Sun	Flat	N	A/B	Brown		Poplar|Spruce	Sandy	Gerry-JoyB	Joy
664641	490745.22	5641318.44	5/28/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664639	490728.4	5641342.93	5/28/2021	Sun	Flat	N	A/B	Grey		Spruce	Sandy	Gerry-JoyB	Joy
664638	490723.83	5641383.08	5/28/2021	Sun	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyB	Joy
664637	490832.82	5641411.14	5/28/2021	Sun	Gentle	SE	A/B	Brown	Grasses	Poplar	Sandy	Gerry-JoyB	Joy
664636	490824.55	5641385.24	5/28/2021	Sun	Flat	N	A/B	Brown		Poplar	Organic	Gerry-JoyB	Joy
664635	490837.23	5641364.87	5/28/2021	Sun	Flat	N	A/B	Grey			Sandy	Gerry-JoyB	Joy
664634	490842.87	5641336.39	5/28/2021	Sun	Flat	N	A/B	Grey		Poplar	Sandy	Gerry-JoyB	Joy
664633	490848.69	5641320.48	5/28/2021	Sun	Flat	N	A/B	Grey		Poplar	Sandy	Gerry-JoyB	Joy
664632	490863.82	5641294.1	5/28/2021	Sun	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyB	Joy
664631	490864.54	5641269.08	5/28/2021	Sun	Gentle	S	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyB	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664630	490871.95	5641242.48	5/28/2021	Sun	Flat	N	A	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyB	Joy
664629	490884.29	5641219.23	5/28/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyB	Joy
664628	490885.85	5641192.86	5/28/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyB	Joy
664627	490894.6	5641172.39	5/28/2021	Sun	Flat	N	A	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush	Organic	Gerry-JoyB	Joy
664626	490901.73	5641146.46	5/28/2021	Sun	Flat	N	A	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush	Organic	Gerry-JoyB	Joy
664625	490913.98	5641118.2	5/28/2021	Sun	Flat	N	A	Brown	Grasses	Buck brush	Organic	Gerry-JoyB	Joy
664624	490911.06	5641096.29	5/28/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush	Organic	Gerry-JoyB	Joy
664600	490920.85	5641068.04	5/28/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush	Organic	Gerry-JoyB	Joy
664599	490927.42	5641046.34	5/28/2021	Sun	Gentle	E	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyB	Joy
664598	490942.63	5641025.3	5/28/2021	Sun	Flat	N	A/B	Brown		Buck brush	Sandy	Gerry-JoyB	Joy
664501	491691.35	5640890.48	5/26/2021	Clouds	Pronounced	S	A	Brown|Light grey			Organic	Gerry-JoyC	Joy
664502	491690.93	5640898.49	5/26/2021	Clouds	Gentle	S	A/B	Grey		N/A	Sandy	Gerry-JoyC	Joy
664503	491670.62	5640937.33	5/26/2021	Overcast	Gentle	S	A	Grey			Organic	Gerry-JoyC	Joy
664504	491676.62	5640956.68	5/26/2021	Overcast	Gentle	S	A/B	Light grey	Sphagnum moss <10cm		Clay	Gerry-JoyC	Joy
664505	491665.57	5640991.72	5/26/2021	Overcast	Flat|Gentle	N	A/B	Grey			Sandy	Gerry-JoyC	Joy
664506	491659.98	5641009.3	5/26/2021	Overcast	Flat	N	A/B	Grey			Sandy	Gerry-JoyC	Joy
664507	491647.22	5641030.22	5/26/2021	Clouds	Flat	N	A/B	Light grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664508	491635.47	5641065.28	5/26/2021	Overcast	Flat	N	A/B	Light grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664509	491634.36	5641078.39	5/26/2021	Overcast	Gentle	NE	A/B	Grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664510	491623.3	5641104.55	5/26/2021	Overcast	Gentle	NE	A/B	Grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664511	491615.96	5641127.35	5/26/2021	Overcast	Gentle	NE	A/B	Grey	Sphagnum moss >10cm		Sandy	Gerry-JoyC	Joy
664512	491616.57	5641155.71	5/26/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664513	491603.26	5641182.42	5/26/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664514	491592.67	5641201.9	5/26/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664515	491587.01	5641222.49	5/26/2021	Overcast	Flat	N	A/B	Grey	Sphagnum moss <10cm		Sandy	Gerry-JoyC	Joy
664516	491585.72	5641249.84	5/26/2021	Overcast	Gentle	NE	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664517	491572.53	5641267.21	5/26/2021	Overcast	Flat	N	A/B	Dark brown			Organic	Gerry-JoyC	Joy
664518	491673.61	5641316.09	5/26/2021	Overcast	Flat	N	A	Dark brown	Grasses	Willows	Organic	Gerry-JoyC	Joy
664519	491685.37	5641284.04	5/26/2021	Overcast	Gentle	NE	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664521	491694.25	5641256.01	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664522	491692.53	5641233.87	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyC	Joy
664523	491707.11	5641213.73	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyC	Joy
664524	491713.54	5641185.02	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Willows	Sandy	Gerry-JoyC	Joy
664525	491718.07	5641165.23	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664526	491726.04	5641132.07	5/26/2021	Sun	Gentle	NE	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664527	491732.19	5641114.94	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664528	491742.6	5641078.22	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyC	Joy
664529	491744.41	5641061.21	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664530	491756.19	5641044.06	5/26/2021	Clear|Sun	Flat	N	A/B	Grey	Grasses	Spruce|Willows	Sandy	Gerry-JoyC	Joy
664531	491760.51	5641016.04	5/26/2021	Sun	Flat	N	A/B	Dark grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664532	491763.14	5640990.67	5/26/2021	Clear	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664533	491776.02	5640959.08	5/26/2021	Clear	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664534	491778.18	5640949.06	5/26/2021	Sun	Gentle	S	A/B	Grey		Spruce	Sandy	Gerry-JoyC	Joy
664535	491794.66	5640924.35	5/26/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664536	491886.64	5640949.89	5/26/2021	Sun	Gentle	S	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664537	491884.22	5640975.92	5/26/2021	Clear	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664538	491875.75	5640999.62	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664539	491864.54	5641021.99	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664541	491861.69	5641040.78	5/26/2021	Clear	Flat	N	A/B	Brown|Grey	Grasses|Sphagnum moss <10cm	Spruce|Willows	Sandy	Gerry-JoyC	Joy
664542	491852.81	5641073.27	5/26/2021	Clear	Flat	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyC	Joy
664543	491846.44	5641093.74	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664544	491843.33	5641122.11	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664545	491830.57	5641142.14	5/26/2021	Sun	Flat	N	A/B	Light grey	Grasses	N/A	Sandy	Gerry-JoyC	Joy
664546	491829.75	5641157.6	5/27/2021	Sun	Flat	N	A/B	Grey		Spruce	Sandy	Gerry-JoyC	Joy
664547	491823.33	5641186.96	5/27/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664548	491805.87	5641211.01	5/27/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664549	491796.98	5641236.6	5/27/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664550	491789.36	5641261.42	5/27/2021	Sun	Flat	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664601	491782.3	5641285.89	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664602	491,784.01	5,641,305.24	5/26/2021	Sun		N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664603	491,773.93	5,641,328.49	5/26/2021	Sun	Flat	N	A	Dark brown	Grasses	Buck brush |Spruce	Organic	Gerry-JoyC	Joy
664604	491852.18	5641387.86	5/26/2021	Sun	Flat	N	A	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Willows	Organic	Gerry-JoyC	Joy
664605	491865.58	5641371.17	5/26/2021	Sun	Flat	N	A	Dark brown	Sphagnum moss >10cm	Buck brush |Willows	Organic	Gerry-JoyC	Joy
664606	491868.14	5641342.91	5/26/2021	Sun	Flat	N	A/B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic|Sandy	Gerry-JoyC	Joy
664607	491874.22	5641321.56	5/26/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664608	491886.67	5641289.39	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664609	491895.01	5641269.81	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyC	Joy
664610	491901.15	5641245.33	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce|Willows	Sandy	Gerry-JoyC	Joy
664611	491910.33	5641222.31	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce|Willows	Sandy	Gerry-JoyC	Joy
664612	491915.86	5641206.62	5/26/2021	Sun	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664613	491927.9	5641176.34	5/26/2021	Sun	Gentle	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664614	491937.49	5641152.42	5/26/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664616	491940.2	5641131.29	5/26/2021	Sun	Flat	N	A/B	Grey		Spruce	Sandy	Gerry-JoyC	Joy
664617	491947.75	5641103.59	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyC	Joy
664618	491958.75	5641081.66	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Spruce|Willows	Sandy	Gerry-JoyC	Joy
664619	491964.48	5641061.87	5/26/2021	Sun	Flat	SE	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyC	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664620	491976.11	5641033.04	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyC	Joy
664621	491979.74	5641018.14	5/26/2021	Sun	Flat	N	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyC	Joy
664622	491986.99	5640985.65	5/26/2021	Sun	Flat	N	A	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyC	Joy
664623	491995.98	5640978.2	5/26/2021	Sun	Gentle	SE	A/B	Grey		Spruce	Sandy	Gerry-JoyC	Joy
664589	492113	5640919.63	5/27/2021	Sun	Gentle	W	A|B	Grey			Clay	Gerry-JoyC	Joy
664590	492109.24	5640945.1	5/27/2021	Sun	Gentle	E	A|B	Grey			Clay	Gerry-JoyC	Joy
664591	492096.76	5640968.59	5/27/2021	Sun	Gentle	E	C	Grey			Clay	Gerry-JoyC	Joy
664592	492090.55	5640998.28	5/27/2021	Sun	Gentle	E	C	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664593	492084.05	5641019.54	5/27/2021	Sun	Gentle	E	A|B	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664594	492078.18	5641041.34	5/27/2021	Sun	Flat	W	A|B	Brown|Grey			Clay/Coarse|Clay /Organic	Gerry-JoyC	Joy
664595	492072.04	5641070.82	5/27/2021	Sun	Flat	W	A|B	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664596	492064.68	5641086.06	5/27/2021	Sun	Flat	W	A|B	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664597	492056.42	5641112.32	5/27/2021	Sun	Flat	W	A|B	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664577	492040.93	5641135.8	5/26/2021	Sun	Flat	W	A|B	Light grey			Clay	Gerry-JoyC	Joy
664576	492040.82	5641160.5	5/26/2021	Sun	Flat	N	A|B	Brown|Light grey			Clay/Organic	Gerry-JoyC	Joy
664575	492033.13	5641183.85	5/26/2021	Sun	Flat	W	A|B	Light grey			Clay	Gerry-JoyC	Joy
664574	492023.46	5641207.12	5/26/2021	Sun	Flat	W	A|B	Light grey			Clay	Gerry-JoyC	Joy
664573	492015.49	5641233.14	5/26/2021	Sun	Flat	W	A|B	Brown|Light grey			Clay|Organic	Gerry-JoyC	Joy
664572	492012.43	5641251.61	5/26/2021	Sun	Gentle	W	B/C	Light grey|Grey			Clay	Gerry-JoyC	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664571	492004.67	5641279.53	5/26/2021	Clouds|Sun	Gentle	W	B/C	Light grey			Clay	Gerry-JoyC	Joy
664570	491994.93	5641303.02	5/26/2021	Clouds|Sun	Flat	W	A/B	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664569	491985.28	5641328.27	5/26/2021	Clouds|Sun	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664568	491981.94	5641353.74	5/26/2021	Clouds	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664567	491968.83	5641370.12	5/26/2021	Clouds	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
665001	491969.21	5641391.13	2/6/2021	Sun	Flat	N	A/B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruce	Organic	Gerry-JoyC	Joy
664566	491953.74	5641430.74	5/26/2021	Clouds|Sun	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664565	491949.2	5641453.1	5/26/2021	Clouds|Sun	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664564	491944.53	5641476.34	5/26/2021	Clouds|Sun	Flat	W	A/B	Brown			Organic	Gerry-JoyC	Joy
664563	492043.07	5641478.19	5/26/2021	Clouds	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664562	492050.28	5641458.95	5/26/2021	Clouds	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664561	492059.66	5641438.91	5/26/2021	Clouds|Sun	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664560	492068.97	5641409.1	5/26/2021	Clouds|Sun	Flat	W		Brown			Organic	Gerry-JoyC	Joy
664559	492073.44	5641392.19	5/26/2021	Clouds|Sun	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664558	492088.3	5641365.04	5/26/2021	Clouds	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664557	492090.09	5641343.12	5/26/2021	Clouds	Flat	W	A	Dark brown			Organic	Gerry-JoyC	Joy
664556	492101.29	5641310.53	5/26/2021	Clouds	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664555	492103.43	5641289.28	5/26/2021	Clouds	Flat	W	A/B	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664554	492111.27	5641268.48	5/26/2021	Clouds	Flat	W	A/B	Brown			Organic	Gerry-JoyC	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664553	492118.34	5641243.22	5/26/2021	Clouds|Snow	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664552	492127.09	5641221.97	5/26/2021	Clouds|Snow	Flat	W	A	Brown			Organic	Gerry-JoyC	Joy
664551	492135.91	5641201.49	5/27/2021	Clouds|Snow	Flat	W	A	Brown|Grey			Clay/Organic	Gerry-JoyC	Joy
664578	492141.85	5641175.25	5/27/2021	Sun	Flat	W	A|B	Grey			Clay	Gerry-JoyC	Joy
664579	492154.88	5641147.75	5/27/2021	Sun	Gentle	W	A	Brown			Organic	Gerry-JoyC	Joy
664580	492160.26	5641125.51	5/27/2021	Sun	Gentle	W	A|B	Grey			Clay/Organic	Gerry-JoyC	Joy
664581	492167.11	5641094.91	5/27/2021	Sun	Flat	W	C	Grey			Clay	Gerry-JoyC	Joy
664582	492178.11	5641075.78	5/27/2021	Sun	Flat	W	C	Grey			Clay	Gerry-JoyC	Joy
664583	492189.32	5641054.4	5/27/2021	Sun	Flat	W	C	Grey			Clay	Gerry-JoyC	Joy
664584	492191.66	5641023.27	5/27/2021	Sun	Gentle	W	C	Grey			Clay	Gerry-JoyC	Joy
664585	492192.76	5641003.36	5/27/2021	Sun	Flat	W	C	Grey			Clay	Gerry-JoyC	Joy
664586	492202.79	5640983.88	5/27/2021	Sun	Flat	W	C	Grey			Clay	Gerry-JoyC	Joy
664587	492210.26	5640954.73	5/27/2021	Sun	Flat	W	C	Grey			Clay	Gerry-JoyC	Joy
664588	492219.23	5640933.03	5/27/2021	Sun	Gentle	W	C	Grey			Clay	Gerry-JoyC	Joy
660043	493365.65	5643726.3	5/29/2021	Sun	Flat	E	A|B	Grey		Poplar	Clay	Gerry-JoyD	Joy
660044	493387.86	5643674.45	5/29/2021	Sun	Flat	E	A|B	Brown|Grey		Poplar	Clay|Organic	Gerry-JoyD	Joy
660045	493410.98	5643626.16	5/29/2021	Sun	Flat	E	A|B	Brown|Grey		Poplar	Clay|Organic	Gerry-JoyD	Joy
660046	493419.56	5643581.67	5/29/2021	Clouds|Sun	Flat	E	A|B	Brown|Grey		Poplar	Clay/Organic	Gerry-JoyD	Joy
660047	493445.07	5643531.71	5/29/2021	Clouds|Sun	Flat	E	A|B	Brown|Grey		Poplar	Clay/Organic	Gerry-JoyD	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660048	493461.16	5643480.87	5/29/2021	Clouds|Sun|Wind	Flat	E	A|B	Brown|Grey		Poplar	Clay/Organic	Gerry-JoyD	Joy
660049	493481.84	5643439.69	5/29/2021	Clouds|Sun|Wind	Flat	E	A|B	Brown|Grey		Poplar	Clay/Organic	Gerry-JoyD	Joy
660050	493496.17	5643386.85	5/29/2021	Clouds|Sun|Wind	Gentle	E	A|B	Brown|Grey		Poplar	Clay/Organic	Gerry-JoyD	Joy
660051	493515.22	5643335.57	5/29/2021	Clouds|Sun|Wind	Flat	N	C	Grey		Poplar	Clay	Gerry-JoyD	Joy
660052	493535.69	5643294.95	5/29/2021	Clouds|Sun|Wind	Gentle	E	A|B	Brown|Grey		Poplar	Clay/Organic	Gerry-JoyD	Joy
660053	493551.87	5643256.79	5/29/2021	Clouds|Sun|Wind	Gentle	N	A	Light brown		N/A	Sandy	Gerry-JoyD	Joy
660054	493574.22	5643208.28	5/29/2021	Clouds|Sun|Wind	Gentle	E	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660055	493592.71	5643160.66	5/29/2021	Clouds|Sun|Wind	Flat|Gentle	E	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660056	493608.6	5643118.16	5/29/2021	Clouds|Sun|Wind	Flat	E	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660057	493625.12	5643063.76	5/29/2021	Clouds|Sun|Rain	Gentle	E	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660058	493646.15	5643019.48	5/29/2021	Clouds|Sun|Wind	Gentle	N	C	Grey		N/A	Clay	Gerry-JoyD	Joy
660059	493663.93	5642974.31	5/29/2021	Clouds|Sun|Wind	Flat	E	B	Grey			Clay	Gerry-JoyD	Joy
660112	492908.72	5643565.77	6/1/2021	Clouds|Sun	Gentle	E	C	Grey		N/A	Clay|Sandy	Gerry-JoyD	Joy
660113	492931.56	5643521.93	6/1/2021	Clouds|Sun	Flat	N	A|B	Brown|Grey		N/A	Clay|Sandy	Gerry-JoyD	Joy
660114	492938.37	5643468.21	6/1/2021	Clouds	Flat	N	A|B	Brown|Grey		N/A	Clay/Organic|San	Gerry-JoyD	Joy
660115	492956.94	5643425.59	6/1/2021	Clouds|Sun	Flat	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660116	492983.37	5643386.96	6/1/2021	Clouds|Sun	Flat	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660117	493010.43	5643339.22	6/1/2021	Clouds|Sun	Flat	N	A	Brown		N/A	Organic	Gerry-JoyD	Joy
660118	493019.98	5643285.06	6/1/2021	Clouds	Flat	N	A	Brown		N/A	Organic	Gerry-JoyD	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660119	493042.12	5643245.55	6/1/2021	Clouds	Flat	N	A	Brown		N/A	Organic	Gerry-JoyD	Joy
660120	493063.71	5643207.49	6/1/2021	Clouds	Flat	N	A/B	Light brown|Brown		N/A	Organic	Gerry-JoyD	Joy
660121	493081.48	5643151.64	6/1/2021	Clouds	Flat	N	A	Brown		N/A	Organic	Gerry-JoyD	Joy
660122	493105.81	5643104.35	6/1/2021	Clouds	Flat	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660123	493108.55	5643059.64	6/1/2021	Clouds	Flat	N	A|B	Brown		N/A	Clay/Organic	Gerry-JoyD	Joy
660124	493133.57	5643007.78	6/1/2021	Clouds	Gentle	N	C	Grey		N/A	Clay	Gerry-JoyD	Joy
660125	493146.22	5642957.84	6/1/2021	Clouds	Gentle	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660126	493167.95	5642915.11	6/1/2021	Clouds	Gentle	N	C	Grey		N/A	Clay	Gerry-JoyD	Joy
660127	493186.58	5642872.38	6/1/2021	Clouds	Gentle	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660128	493204.71	5642821.65	6/1/2021	Clouds	Gentle	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660129	493009.21	5642757.74	6/1/2021	Clouds	Gentle	N	C	Grey		N/A	Clay/Coarse	Gerry-JoyD	Joy
660130	492989.82	5642807.59	6/1/2021	Clouds	Flat	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660131	492976.68	5642859.32	6/1/2021	Clouds	Pronounced	N	A|B	Brown|Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
660132	492959.86	5642892.37	6/1/2021	Clouds	Pronounced	N	A|B	Dark brown |Grey		N/A	Clay/Organic	Gerry-JoyD	Joy
664666	493177.43	5643660.16	5/29/2021	Overcast|Wind	Gentle	S	A/B	Brown		Buck brush	Sandy	Gerry-JoyD	Joy
664667	493192.17	5643601.87	5/29/2021	Overcast|Wind	Gentle	N	A/B	Grey	Grasses|Sphagnum moss <10cm	Poplar|Willows	Sandy	Gerry-JoyD	Joy
664668	493216	5643554.35	5/29/2021	Overcast|Wind	Flat	N	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyD	Joy
664669	493230.34	5643509.41	5/29/2021	Overcast|Wind	Flat	N	A/B	Grey	Grasses	Spruce	Sandy	Gerry-JoyD	Joy
664670	493254.72	5643456.11	5/29/2021	Overcast|Wind	Flat	N	A/B	Grey		Poplar	Sandy	Gerry-JoyD	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664671	493268.44	5643417.62	5/29/2021	Overcast|Wind	Gentle	SW	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664672	493282.93	5643374.23	5/29/2021	Sun|Wind	Flat	N	A/B	Grey	Grasses	Buck brush |Poplar	Sandy	Gerry-JoyD	Joy
664673	493300.37	5643331.06	5/29/2021	Sun|Wind	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Buck brush |Spruce	Organic|Sandy	Gerry-JoyD	Joy
664674	493325.59	5643280.43	5/29/2021	Sun|Wind	Flat	N	A/B	Grey	Grasses	Buck brush |Spruce	Sandy	Gerry-JoyD	Joy
664675	493341.76	5643228.48	5/29/2021	Sun|Wind	Flat	N	A/B	Brown	Grasses	Buck brush	Organic	Gerry-JoyD	Joy
664676	493354.34	5643181.98	5/29/2021	Sun|Wind	Flat	N	A/B	Brown	Grasses	Buck brush	Organic|Sandy	Gerry-JoyD	Joy
664677	493387.1	5643145.23	5/29/2021	Sun|Wind	Gentle	W	A/B	Grey		Buck brush |Poplar	Sandy	Gerry-JoyD	Joy
664678	493398.14	5643090.41	5/29/2021	Sun|Wind	Flat	N	A/B	Grey		Buck brush |Spruce	Sandy	Gerry-JoyD	Joy
664679	493433.08	5643044.98	5/29/2021	Sun|Wind	Gentle	S	A/B	Grey	Grasses	Buck brush |Poplar	Sandy	Gerry-JoyD	Joy
664680	493435.49	5643011.4	5/29/2021	Sun|Wind	Flat	N	A/B	Light brown|Light grey		Spruce	Sandy	Gerry-JoyD	Joy
664681	493460.3	5642958.88	5/29/2021	Sun|Wind	Flat	N	A/B	Grey	Grasses	Buck brush |Poplar	Sandy	Gerry-JoyD	Joy
664682	493482.8	5642917.48	5/29/2021	Sun|Wind	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyD	Joy
664739	492814.85	5642697.97	6/1/2021	Clouds	Gentle	NE	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664740	492795.33	5642755.7	6/1/2021	Sun	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664741	492788.35	5642788.74	6/1/2021	Clouds	Flat	N	A/B	Light brown	Grasses	Spruce|Willows	Sandy	Gerry-JoyD	Joy
664742	492762.14	5642844.05	6/1/2021	Clouds	Flat	N	A/B	Light brown	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyD	Joy
664743	492750.06	5642894	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyD	Joy
664745	492715.33	5642980.23	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyD	Joy
664745	492722.15	5642936.85	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyD	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664746	492695.44	5643027.29	6/1/2021	Clouds	Flat	N	A/B	Light brown|Light grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyD	Joy
664747	492674.62	5643062.24	6/1/2021	Clouds	Flat	NE	A/B	Brown|Grey		Poplar|Spruce	Sandy	Gerry-JoyD	Joy
664748	492658.33	5643116.86	6/1/2021	Clouds	Flat	N	A/B	Brown|Grey		Poplar	Sandy	Gerry-JoyD	Joy
664749	492636.61	5643160.26	6/1/2021	Clouds	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664750	492628.69	5643225.44	6/1/2021	Clouds	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664751	492604.37	5643266.17	6/1/2021	Clouds	Flat	N	A/B	Brown	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664752	492591.51	5643313.79	6/1/2021	Clouds	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Poplar	Sandy	Gerry-JoyD	Joy
664753	492570.71	5643360.74	6/1/2021	Clouds	Gentle	W	A/B	Light grey		Buck brush	Sandy	Gerry-JoyD	Joy
664754	492560.02	5643403.46	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Buck brush |Spruce	Sandy	Gerry-JoyD	Joy
664755	492544.36	5643457.53	6/1/2021	Clouds	Flat	N	A/B	Grey		Poplar	Sandy	Gerry-JoyD	Joy
664756	492737.7	5643505.96	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyD	Joy
664757	492743.88	5643450.9	6/1/2021	Clouds	Flat	N	A/B	Dark brown |Grey		Poplar	Sandy	Gerry-JoyD	Joy
664758	492757.74	5643413.97	6/1/2021	Clouds	Flat	N	A/B	Brown|Grey	Grasses|Sphagnum moss <10cm	Poplar	Organic|Sandy	Gerry-JoyD	Joy
664760	492779.31	5643365.67	6/1/2021	Clouds	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664761	492799.34	5643320.83	6/1/2021	Clouds	Gentle	N	A/B	Grey		Poplar|Spruce	Sandy	Gerry-JoyD	Joy
664762	492821.12	5643265.87	6/1/2021	Clouds	Flat	N	A/B	Light brown	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyD	Joy
664763	492837.71	5643223.03	6/1/2021	Clouds	Flat	N	A/B	Light grey		Poplar	Sandy	Gerry-JoyD	Joy
664764	492847.82	5643164.52	6/1/2021	Clouds	Flat	N	A/B	Grey	Grasses	Poplar	Sandy	Gerry-JoyD	Joy
664765	492865.69	5643132.81	6/1/2021	Clouds	Flat	N	A/B	Grey	Grasses	Buck brush	Sandy	Gerry-JoyD	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

664766	492886.56	5643082.96	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Buck brush |Spruce	Sandy	Gerry-JoyD	Joy
664767	492906.43	5643025	6/1/2021	Clouds	Flat	N	A/B	Grey	Sphagnum moss <10cm	Buck brush |Spruce	Sandy	Gerry-JoyD	Joy
664768	492918.99	5643010.97	6/1/2021	Clouds	Gentle	NE	A/B	Grey		Poplar	Sandy	Gerry-JoyD	Joy
664769	492939	5642950.66	6/1/2021	Clouds	Gentle	NE	A/B	Grey		Poplar	Sandy	Gerry-JoyD	Joy
661501	496285.46	5644975.08	6/3/2021	Sun	Flat	N	B	Light brown	Grasses|Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
661502	496275.38	5645010.9	6/3/2021	Sun	Pronounced	SW	B	Light brown	Grasses|Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
661503	496255.68	5645064.51	6/3/2021	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	N/A	Clay	Gerry-JoyE	Joy
661504	496230.64	5645118.02	6/3/2021	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyE	Joy
661505	496205.46	5645159.51	6/3/2021	Sun	Flat	N	A/B	Black	Grasses	Spruce	Organic	Gerry-JoyE	Joy
661506	496191.45	5645210.79	6/3/2021	Sun	Flat	N	A/B	Black	Grasses	Buck brush	Organic	Gerry-JoyE	Joy
661507	496175.12	5645249.95	6/3/2021	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Buck brush	Organic	Gerry-JoyE	Joy
661508	496155.13	5645292.45	6/3/2021	Sun	Flat	N	A/B	Black|Brown	Grasses	Spruce	Organic|Sandy	Gerry-JoyE	Joy
661509	496135.01	5645341.95	6/3/2021	Sun	Gentle	S	B	Grey	Grasses	N/A	Clay|Sandy	Gerry-JoyE	Joy
661510	496109.68	5645383.44	6/3/2021	Sun	Flat	N	B	Light grey	Grasses	Spruce	Sandy	Gerry-JoyE	Joy
661511	495925.92	5645319.42	6/3/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
661512	495943.99	5645266.36	6/3/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
661513	495961.02	5645212.52	6/3/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss >10cm	Spruce	Organic|Sandy	Gerry-JoyE	Joy
661514	495983.33	5645174.14	6/3/2021	Sun	Flat	N	B	Grey	Grasses	Spruce	Sandy	Gerry-JoyE	Joy
661515	496009.07	5645131.75	6/3/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661516	496020.77	5645100.28	6/3/2021	Sun	Flat	N	A/B	Black	Grasses|Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
661517	496039.41	5645034.87	6/3/2021	Sun	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Clay	Gerry-JoyE	Joy
661518	496055.47	5645009.39	6/3/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	Gerry-JoyE	Joy
661519	496077.13	5644953.56	6/3/2021	Sun	Pronounced	W	B	Light brown	Grasses	Poplar	Sandy	Gerry-JoyE	Joy
661520	496086.79	5644904.62	6/3/2021	Sun	Pronounced	NE	B	Light grey	Grasses	Buck brush |Popla	Clay	Gerry-JoyE	Joy
661521	496108.86	5644842.77	6/3/2021	Sun	Flat	N	B	Light brown|Grey	Grasses|Sphagnum moss <10cm	Poplar	Clay	Gerry-JoyE	Joy
661522	496119.93	5644809.52	6/3/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Sandy	Gerry-JoyE	Joy
661523	496152.9	5644752.33	6/3/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	Gerry-JoyE	Joy
661525	496805.77	5644758.79	6/3/2021	Sun	Flat	N	B	Brown|Red	Grasses|Sphagnum moss <10cm		Sandy	Gerry-JoyE	Joy
661526	496820.34	5644699.84	6/3/2021	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
661527	496847.44	5644667.68	6/3/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Sandy	Gerry-JoyE	Joy
661528	496871.3	5644623.4	6/3/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
661529	496884.18	5644565.02	6/3/2021	Clouds	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
661530	496902.14	5644526.75	6/3/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay/Organic	Gerry-JoyE	Joy
661531	496922.83	5644473.36	6/3/2021	Sun	Flat	N	B	Dark brown |Light	Sphagnum moss >10cm	Spruce	Clay/Organic	Gerry-JoyE	Joy
661532	496952.86	5644408.41	6/3/2021	Clouds	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
661533	496946.17	5644382.94	6/3/2021	Clouds	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy/Coarse	Gerry-JoyE	Joy
661534	496974.59	5644334.88	6/3/2021	Rain	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
661535	496999.58	5644299.62	6/3/2021	Rain	Flat	N	B	Black	Sphagnum moss >10cm	Spruce	Sandy	Gerry-JoyE	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661536	497018.44	5644250.01	6/3/2021	Rain	Flat	N	B	Brown|Red	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyE	Joy	
661537	497028.88	5644196.74	6/3/2021	Sun	Pronounced	NW	B	Black|Grey	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy	Gerry-JoyE	Joy	
661538	497059.06	5644154.58	6/3/2021	Clouds	Gentle|Pronounced	NW	B	Brown|Grey	Sphagnum moss >10cm		Sandy	Gerry-JoyE	Joy	
661539	496868.23	5644084.52	6/3/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Poplar	Sandy	Gerry-JoyE	Joy	
661541	496861.58	5644123.44	6/3/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy	
661542	496835.9	5644171.17	6/3/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy	
666851	497255.44	5644219.64	5/25/2021	Sun	Pronounced	SW	A/B	Brown	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyE	Joy	
666852	497228.84	5644267.69	5/25/2021	Sun	Gentle	SW	A/B	Brown	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyE	Joy	
666853	497200.63	5644313.3	5/25/2021	Sun	Gentle	N	A/B	Brown		N/A	Sandy	Gerry-JoyE	Joy	
666854	497186.31	5644354.9	5/25/2021	Sun	Gentle	N	A/B	Brown		N/A	Sandy	Gerry-JoyE	Joy	
666855	497159.64	5644389.94	5/25/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	N/A	Sandy	Gerry-JoyE	Joy	
666856	497150.48	5644450.77	5/25/2021	Sun	Gentle	S	A/B	Brown		N/A	Organic	Gerry-JoyE	Joy	
666857	497131.67	5644498.38	5/25/2021	Sun	Gentle	W	A/B	Brown		N/A	Organic	Gerry-JoyE	Joy	
666858	497115.13	5644551.21	5/25/2021	Sun	Gentle	W	A/B	Brown		N/A	Organic	Gerry-JoyE	Joy	
666859	497088.18	5644589.14	5/25/2021	Sun	Flat	W	A/B	Brown		N/A	Organic	Gerry-JoyE	Joy	
666860	497074.29	5644630.18	5/25/2021	Sun	Flat	W	A/B	Brown		N/A	Organic	Gerry-JoyE	Joy	
666861	497046.58	5644682.69	5/25/2021	Clouds|Sun	Flat	W	A/B	Light brown|Brow	Sphagnum moss <10cm	N/A	Organic|Sandy	Gerry-JoyE	Joy	
666862	497033.82	5644726.84	5/25/2021	Sun	Flat	W	A	Brown	Sphagnum moss >10cm	N/A	Organic	Gerry-JoyE	Joy	
666863	497013.06	5644774.22	5/25/2021	Sun	Flat	W	A	Brown	Sphagnum moss >10cm		Organic	Gerry-JoyE	Joy	

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666864	496994.47	5644830.17	5/25/2021	Sun	Flat	W	A	Brown	Sphagnum moss >10cm		Organic	Gerry-JoyE	Joy
666865	496977.63	5644861.65	5/25/2021	Sun	Flat	W	A	Brown	Sphagnum moss >10cm		Organic	Gerry-JoyE	Joy
666866	496958.5	5644922.49	5/25/2021	Sun	Flat	W	A	Brown	Sphagnum moss >10cm		Organic	Gerry-JoyE	Joy
666867	496950.65	5644952.64	5/25/2021	Sun	Flat	W	A	Brown	Sphagnum moss >10cm		Organic	Gerry-JoyE	Joy
666869	496920.27	5645005.92	6/2/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	Gerry-JoyE	Joy
666870	496902.66	5645052.64	6/2/2021	Sun	Flat	N	A/B	Brown	Grasses	Spruce	Sandy	Gerry-JoyE	Joy
666871	496880.36	5645091.12	6/2/2021	Sun	Flat	N	A/B	Brown	Grasses	Spruce	Sandy	Gerry-JoyE	Joy
666872	496855.38	5645143.85	6/2/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Spruce	Organic	Gerry-JoyE	Joy
666873	496845.09	5645193.34	6/2/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666874	496823.21	5645249.51	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666875	496800.98	5645290.45	6/2/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Spruce	Sandy	Gerry-JoyE	Joy
666876	496776.13	5645324.71	6/2/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666877	496760.22	5645365.75	6/2/2021	Sun	Flat	N	A/B	Brown|Grey		Spruce	Organic|Sandy	Gerry-JoyE	Joy
666878	496742.21	5645429.6	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666879	496718.15	5645474.09	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666880	496697.79	5645500.46	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666881	496684.71	5645562.96	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666882	496670.75	5645589.67	6/2/2021	Sun	Flat	N	A/B	Black	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666883	496480.39	5645534.97	6/2/2021	Sun	Flat	N	A/B	Brown	Grasses	Spruce	Sandy	Gerry-JoyE	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666884	496499.61	5645506.15	6/2/2021	Sun	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666885	496518.89	5645452.2	6/2/2021	Sun	Flat	N	A/B	Dark brown	Grasses	Buck brush |Spruc	Organic	Gerry-JoyE	Joy
666886	496537.69	5645404.48	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666887	496559.15	5645371.33	6/2/2021	Sun	Flat	N	A/B	Black	Grasses	Buck brush	Organic	Gerry-JoyE	Joy
666888	496591.84	5645308.48	6/2/2021	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666889	496593.85	5645263.33	6/2/2021	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666891	496606.68	5645236.75	6/2/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666892	496633.75	5645172.68	6/2/2021	Sun	Flat	N	A/B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666893	496649.03	5645122.74	6/2/2021	Sun	Flat	N	A/B	Grey|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666894	496676.31	5645070.56	6/2/2021	Sun	Flat	N	A	Brown		Spruce	Sandy/Coarse	Gerry-JoyE	Joy
666895	496704.52	5645024.84	6/2/2021	Sun	Flat	N	A/B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666896	496706.95	5644981.92	6/2/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666897	496739.65	5644935.52	6/2/2021	Sun	Flat	N	A/B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666898	496750.44	5644890.93	6/2/2021	Sun	Flat	N	A/B	Grey|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666899	496762.91	5644846.33	6/2/2021	Sun	Flat	N	A/B	Brown|Red		Spruce	Sandy	Gerry-JoyE	Joy
666900	496790.98	5644807.06	6/2/2021	Sun	Flat	N	A/B	Light brown		Spruce	Sandy	Gerry-JoyE	Joy
666901	496308.12	5644932.81	6/3/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666902	496331.89	5644876.86	6/3/2021	Sun	Gentle	N	A/B	Light grey	Grasses	Spruce	Clay	Gerry-JoyE	Joy
666903	496356.08	5644820.01	6/3/2021	Sun	Flat	N	A/B	Brown|Grey	Grasses	Poplar|Spruce	Clay|Sandy	Gerry-JoyE	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666904	496371.65	5644784.98	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Grasses	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666905	496395.07	5644740.7	6/3/2021	Sun	Gentle	W	A/B	Light brown|Brow	Grasses	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666906	496393.57	5644698	6/3/2021	Sun	Flat	N	A/B	Light brown	Grasses	Spruce	Clay	Gerry-JoyE	Joy
666907	496444.03	5644633.02	6/3/2021	Sun	Flat	N	A/B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Clay	Gerry-JoyE	Joy
666908	496451.87	5644596.55	6/3/2021	Sun	Flat	S	A/B	Light brown|Brow	Sphagnum moss >10cm	Buck brush	Clay|Sandy	Gerry-JoyE	Joy
666909	496464.48	5644547.27	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss >10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666910	496480.12	5644512.35	6/3/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666911	496494.42	5644471.07	6/3/2021	Sun	Flat	N	A/B	Light grey|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666912	496507.09	5644407.8	6/3/2021	Sun	Flat	N	A/B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666913	496528.63	5644365.19	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss >10cm	N/A	Clay|Sandy	Gerry-JoyE	Joy
666914	496557.48	5644323.35	6/3/2021	Sun	Gentle	W	A/B	Light brown|Brown		Buck brush	Clay|Sandy	Gerry-JoyE	Joy
666915	496571.57	5644282.76	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brown		Poplar|Spruce	Clay|Sandy	Gerry-JoyE	Joy
666916	496605.74	5644225.91	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brown		Buck brush |N/A	Sandy	Gerry-JoyE	Joy
666917	496613.65	5644187.43	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brown		Buck brush	Clay|Sandy	Gerry-JoyE	Joy
666918	496622.75	5644134.94	6/3/2021	Sun	Flat	N	A/B	Brown|Red		Spruce	Clay|Sandy	Gerry-JoyE	Joy
666919	496649.42	5644099.45	6/3/2021	Sun	Flat	N	A/B	Light brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666920	496671.16	5644050.06	6/3/2021	Sun	Flat	N	A/B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666922	496683.56	5644003.46	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyE	Joy
666923	496482.94	5643909.62	6/3/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	Gerry-JoyE	Joy

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666924	496466.67	5643952.11	6/3/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666925	496446.35	5644013.18	6/3/2021	Sun	Flat	N	A/B	Grey|Dark grey	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666926	496424.88	5644059.34	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666927	496404.6	5644092.72	6/3/2021	Sun	Flat	N	A/B	Brown		Spruce	Clay|Sandy	Gerry-JoyE	Joy
666928	496395.65	5644156.78	6/3/2021	Sun	Flat	N	A/B	Light brown		Buck brush |Spruc	Sandy	Gerry-JoyE	Joy
666929	496373.71	5644213.4	6/3/2021	Sun	Flat	N	A/B	Brown|Light grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666930	496346.97	5644252.67	6/3/2021	Sun	Flat	N	A/B	Brown|Light grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666931	496332.73	5644292.26	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss <10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666932	496321.4	5644346.54	6/3/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666933	496295.45	5644405.72	6/3/2021	Sun	Flat	N	A/B	Light grey|Grey	Sphagnum moss >10cm	Spruce	Clay	Gerry-JoyE	Joy
666934	496277.35	5644431.97	6/3/2021	Sun	Flat	N	A/B	Light grey|Grey	Sphagnum moss >10cm	Spruce	Clay	Gerry-JoyE	Joy
666935	496256.39	5644486.92	6/3/2021	Sun	Flat	N	A/B	Brown|Dark brow	Sphagnum moss <10cm	Spruce	Organic	Gerry-JoyE	Joy
666936	496235.2	5644537.09	6/3/2021	Sun	Flat	N	A/B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666937	496220.28	5644579.14	6/3/2021	Sun	Flat	N	A/B	Brown|Light grey	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666938	496199.6	5644635.75	6/3/2021	Sun	Flat	N	A/B	Light grey	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666939	496191.74	5644650	6/3/2021	Sun	Flat	N	A/B	Grey|Dark grey	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666940	496167.35	5644715.17	6/3/2021	Sun	Flat	N	A/B	Grey|Dark grey	Sphagnum moss <10cm	Spruce	Clay	Gerry-JoyE	Joy
666941	496298.24	5645462.03	6/4/2021	Sun	Flat	N	A/B	Light grey|Grey				Gerry-JoyE	Joy
666943	496321.52	5645408.75	6/4/2021	Sun	Flat	N	A/B	Grey	Grasses	Poplar|Willows	Clay|Sandy	Gerry-JoyE	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666944	496341.09	5645369.7	6/4/2021	Sun	Gentle	SW	A/B	Light brown|Grey	Grasses	Poplar	Clay|Sandy	Gerry-JoyE	Joy
666945	496369.7	5645315.75	6/4/2021	Sun	Gentle	SW	A/B	Light brown	Grasses	N/A	Sandy	Gerry-JoyE	Joy
666946	496377.4	5645277.71	6/4/2021	Sun	Flat	N	A/B	Light brown|Grey	Grasses	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666947	496398.5	5645228.66	6/4/2021	Sun	Flat	N	A/B	Black		Spruce	Organic	Gerry-JoyE	Joy
666948	496413.86	5645187.62	6/4/2021	Sun	Flat	N	A/B	Black|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	Gerry-JoyE	Joy
666949	496436.37	5645141.34	6/4/2021	Sun	Flat	N	A/B	Dark brown |Grey	Grasses	Buck brush	Clay/Organic	Gerry-JoyE	Joy
666950	496455	5645092	6/4/2021	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666951	496473.24	5645042.23	6/4/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666952	496483.69	5645008.86	6/4/2021	Sun	Flat	N	A/B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666953	496509.07	5644949.8	6/4/2021	Sun	Flat	N	A/B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	Gerry-JoyE	Joy
666954	496527.45	5644910.41	6/4/2021	Sun	Flat	N	A/B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666955	496550.17	5644857.36	6/4/2021	Sun	Flat	N	A/B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666956	496565.31	5644804.87	6/4/2021	Sun	Flat	N	A/B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666957	496587.97	5644762.59	6/4/2021	Sun	Flat	N	A/B	Grey|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666958	496613.43	5644720.87	6/4/2021	Clouds	Flat	N	A/B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666959	496621.27	5644677.72	6/4/2021	Clouds	Flat	N	A/B	Light brown|Red		N/A	Sandy	Gerry-JoyE	Joy
666960	496649.48	5644634	6/4/2021	Clouds	Flat	SE	A/B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy	Gerry-JoyE	Joy
666961	496663.78	5644581.83	6/4/2021	Sun	Flat	N	A/B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666963	496691.98	5644532.55	6/4/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666964	496698.56	5644491.96	6/4/2021	Sun	Flat	N	A/B	Brown	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666965	496721.63	5644438.46	6/4/2021	Sun	Flat	N	A/B	Black	Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
666966	496743.72	5644378.84	6/4/2021	Sun	Gentle	NE	A/B	Grey		Spruce	Clay|Sandy	Gerry-JoyE	Joy
666967	496760.5	5644360.48	6/4/2021	Sun	Flat	N	A/B	Light brown|Red		Spruce	Sandy	Gerry-JoyE	Joy
666968	496780.69	5644300.09	6/4/2021	Sun	Pronounced	SW	A/B	Light brown		Poplar	Sandy/Coarse	Gerry-JoyE	Joy
666969	496797.73	5644254.26	6/4/2021	Sun	Gentle	SE	A	Light brown|Light grey		Poplar	Sandy/Coarse	Gerry-JoyE	Joy
666970	496817.73	5644216.44	6/4/2021	Sun	Flat	N	A/B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Organic	Gerry-JoyE	Joy
665166	510552.72	5650632.1	6/25/2021	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 1
665167	510514.27	5650669.82	6/25/2021	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 1
665168	510484.64	5650716.36	6/25/2021	Clouds|Sun	Gentle	W	B	Light brown|Oran	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665169	510462.38	5650757.24	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
665170	510427.09	5650792.53	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Grasses	N/A	Organic		Block 1
665171	510407.21	5650840.65	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
665172	510371.99	5650880.61	6/25/2021	Clouds|Sun	Gentle	E	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665173	510349.66	5650924.49	6/25/2021	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
665174	510315.7	5650960.89	6/25/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665175	510288.12	5651003.31	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665176	510264.67	5651044.87	6/25/2021	Clouds|Sun	Flat	N	B	Black	Sphagnum moss >10cm	Spruce	Clay/Organic		Block 1
665177	510237.08	5651087.51	6/25/2021	Clouds|Sun	Flat	N	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665178	510201.24	5651123.25	6/25/2021	Clouds|Sun	Flat	N	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665179	510173.93	5651170.01	6/25/2021	Clouds|Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 1
665181	510146.97	5651213.88	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665182	510113.72	5651252.85	6/25/2021	Clouds|Sun	Flat	N	B	Red	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665183	510089.72	5651289.17	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665184	510061.58	5651332.04	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665185	510031.83	5651371.35	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665186	510003.27	5651411.55	6/25/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665187	509975.42	5651452.64	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Grasses	N/A	Organic		Block 1
665188	510137.29	5651573.06	6/25/2021	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665189	510167.82	5651528.08	6/25/2021	Clouds|Sun	Flat	N	B	Yellow	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665190	510193.57	5651491.44	6/25/2021	Clouds|Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665191	510221.23	5651443.34	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665192	510248.67	5651403.46	6/25/2021	Clouds|Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665193	510281.58	5651361.38	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665194	510305.65	5651323.96	6/25/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665195	510335.34	5651277.42	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665196	510366.63	5651240.79	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665197	510388.54	5651200.01	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665198	510417.59	5651154.03	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665199	510453.38	5651114.52	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665201	510484.82	5651076.33	6/25/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665202	510510.1	5651032.68	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 1
665203	510535.43	5650991.81	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665204	510563.01	5650954.38	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665205	510598.03	5650912.2	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Organic|Sandy		Block 1
665206	510626.53	5650870	6/25/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665207	510656.79	5650824.36	6/25/2021	Sun	Steep	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
665208	510682.33	5650787.16	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665209	510710.06	5650747.52	6/25/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
660702	510217.62	5650399.23	6/25/2021	Sun	Pronounced	SW	B	Dark brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660703	510195.34	5650447.34	6/25/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	soil		Block 1
660704	510158.64	5650488.19	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660705	510131.98	5650523.61	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660706	510102.44	5650562.36	6/25/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	organic		Block 1
660707	510076.11	5650609.34	6/25/2021	Sun	Flat	N	B	Brown	Grasses	N/A	organic		Block 1
660708	510051.19	5650648.89	6/25/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |N/A	organic		Block 1
660709	510018.56	5650688.08	6/25/2021	Sun	Flat	N	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660710	509986.48	5650731.39	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660711	509963.12	5650769.49	6/25/2021	Sun	Flat	N	B	Light brown|Grey	Grasses|Sphagnum moss <10cm	Spruce	soil		Block 1
660712	509932.23	5650818.13	6/25/2021	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660713	509904.31	5650849.11	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660714	509879.54	5650894.99	6/25/2021	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660715	509852.85	5650944.87	6/25/2021	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660716	509823.67	5650978.4	6/25/2021	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660717	509792.51	5651024.49	6/25/2021	Sun	Flat	N	B	Grey|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660718	509762.96	5651067.02	6/25/2021	Sun	Gentle	NW	B	Light brown|Grey		Buck brush |Spruc	soil		Block 1
660719	509738.28	5651100.11	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660721	509711.51	5651158.22	6/25/2021	Sun	Flat	N	B	Grey|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660722	509680.49	5651203.76	6/25/2021	Sun	Gentle	NW	B	Light brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660723	509646.41	5651235.39	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660724	509815	5651335.01	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic		Block 1
660725	509831.48	5651301.57	6/25/2021	Sun	Flat	N	B	Light brown|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660726	509870.9	5651262.72	6/25/2021	Sun	Flat	N	B	Light brown|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660727	509894.63	5651219.18	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	soil		Block 1
660728	509926.29	5651172.2	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660729	509954.63	5651135.89	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	soil		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660730	509984.72	5651100.91	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	soil		Block 1
660731	510020.19	5651046.61	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660732	510039.62	5651009.17	6/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660733	510065.28	5650978.42	6/25/2021	Sun	Gentle	SE	B	Light brown|Red	Sphagnum moss <10cm	Spruce	soil		Block 1
660734	510098.14	5650929.88	6/25/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	soil		Block 1
660735	510126.8	5650878.45	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic		Block 1
660736	510153.87	5650841.7	6/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic		Block 1
660737	510184.12	5650804.17	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660738	510202.24	5650761.28	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660739	510235.55	5650730.65	6/25/2021	Sun	Flat	N	B	Dark brown	Grasses	N/A	organic		Block 1
660741	510253.9	5650675.31	6/25/2021	Sun	Gentle	NW	B	Dark brown	Grasses	N/A	soil		Block 1
660742	510295.01	5650641.03	6/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660743	510328.98	5650600.73	6/25/2021	Sun	Steep	N	B	Dark brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660744	510354.05	5650552.41	6/25/2021	Sun	Gentle	W	B	Brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660745	510384.29	5650518.21	6/25/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660774	510633.67	5651903.88	6/27/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Buck brush |Spruc	soil		Block 1
660775	510655.33	5651873.68	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Popla	soil		Block 1
660776	510680.67	5651831.15	6/27/2021	Sun	Flat	N	B	Brown		Buck brush |Spruc	soil		Block 1
660777	510714.31	5651776.95	6/27/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Buck brush	soil		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660778	510750.28	5651752.22	6/27/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660779	510769.21	5651721.35	6/27/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660781	510802.2	5651677.49	6/27/2021	Sun	Flat	N	B	Brown	Grasses	N/A	organic		Block 1
660782	510823.93	5651650.84	6/27/2021	Sun	Flat	N	B	Brown	Grasses	N/A	organic		Block 1
660783	510857.51	5651592.42	6/27/2021	Sun	Flat	N	B	Brown	Grasses	N/A	organic		Block 1
660784	510886.3	5651547.44	6/27/2021	Sun	Flat	N	B	Brown	Grasses	N/A	organic		Block 1
660785	510907.36	5651506.9	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660786	510950.4	5651452.27	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660787	510965.59	5651435.08	6/27/2021	Sun	Flat	N	B	Dark brown	Grasses	Buck brush |Popla	organic		Block 1
660788	510992.49	5651382.64	6/27/2021	Sun	Flat	N	B	Dark brown	Grasses	Buck brush	soil		Block 1
660789	511028.23	5651337.91	6/27/2021	Sun	Flat|Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660790	511062.59	5651309.06	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660791	511090.62	5651258.86	6/27/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660792	511112.66	5651218.54	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660793	511136.14	5651166.32	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660794	511166.84	5651142.59	6/27/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	organic		Block 1
660795	511209.12	5651088.86	6/27/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660796	511038.88	5650983.52	6/27/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660797	511002.95	5651020.58	6/27/2021	Sun	Gentle	W	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660798	510983.22	5651063.68	6/27/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660799	510948.76	5651101.86	6/27/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
660801	510930.43	5651146.43	6/27/2021	Clouds	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660802	510897.29	5651191.28	6/27/2021	Clouds	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	soil		Block 1
660803	510869.72	5651223.69	6/27/2021	Clouds	Flat	N	B	Dark brown	Grasses	Buck brush	organic		Block 1
666561	510845.52	5651956.59	6/27/2021	Sun	Pronounced	NE	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
666562	510886.25	5651903.96	6/27/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
666563	510902.68	5651861.19	6/27/2021	Sun	Flat	S	B	Light brown	Sphagnum moss <10cm	Spruce	soil		Block 1
666564	510933.13	5651824.89	6/27/2021	Overcast	Gentle	SE	B	Black	Sphagnum moss >10cm	Spruce	organic		Block 1
666565	510965.83	5651784.59	6/27/2021	Overcast	Flat	NE	B	Brown	Sphagnum moss >10cm	Spruce	soil		Block 1
666566	511007.61	5651732.64	6/27/2021	Overcast	Gentle	SE	B	Brown	Sphagnum moss >10cm	Spruce	soil		Block 1
666567	511028.59	5651697.09	6/27/2021	Overcast	Flat	N	B	Black	Sphagnum moss >10cm	Spruce	organic swamp		Block 1
666568	511051.53	5651660.22	6/27/2021	Rain	Flat	S	B	Black	Sphagnum moss >10cm	Spruce	organic swamp		Block 1
666569	511079.61	5651618.03	6/28/2021	Rain	Flat	S	B	Brown	Sphagnum moss <10cm	Buck brush	soil some organics		Block 1
666570	511110.28	5651576.72	6/28/2021	Rain	Flat	SE	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	soil		Block 1
666571	511135.83	5651534.75	6/28/2021	Rain	Flat	N	B	Black	Sphagnum moss >10cm	Spruce	organic		Block 1
666572	511166.57	5651495.21	6/28/2021	Rain	Gentle	NW	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
666573	511193.18	5651453.13	6/28/2021	Rain|Wind	Gentle	NW	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	soil		Block 1
666574	511223.29	5651411.05	6/28/2021	Clouds|Rain	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666575	511253.9	5651371.64	6/28/2021	Clouds|Wind	Flat	S	B	Dark green grey	Sphagnum moss <10cm	Spruce	soil		Block 1
666576	511280.36	5651330.44	6/28/2021	Clouds|Wind|Sto	Flat	W	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
666577	511307.46	5651290.69	6/28/2021	Clouds|Storm	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	soil		Block 1
666578	511338.35	5651247.94	6/28/2021	Clouds|Wind|Sto	Gentle	E	B	Brown	Sphagnum moss >10cm	Spruce	soil		Block 1
666579	511366.15	5651208.41	6/28/2021	Storm	Gentle	SW	B	Brown	Sphagnum moss >10cm	Spruce	soil		Block 1
665210	510874.91	5650859.17	6/27/2021	Clouds|Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
665211	510840.85	5650904.36	6/27/2021	Clouds|Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665212	510816	5650946.46	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 1
665213	510786.88	5650982.87	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Grasses	N/A	Organic		Block 1
665214	510755.29	5651031.18	6/27/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665215	510726.66	5651068.26	6/27/2021	Clouds|Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 1
665216	510700.62	5651103.24	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665217	510675	5651149.33	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665218	510647.83	5651190.21	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665219	510614.98	5651232.62	6/27/2021	Clouds|Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665221	510582.41	5651276.48	6/27/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665222	510557.01	5651315.79	6/27/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665223	510526.19	5651362.99	6/27/2021	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665224	510498.34	5651398.18	6/27/2021	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665225	510464.72	5651440.49	6/27/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665226	510449.49	5651479.93	6/27/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665227	510415.95	5651519.12	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665228	510389.15	5651559.21	6/27/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665229	510353.21	5651602.73	6/27/2021	Clouds|Sun	Flat	N	B	Orange|Red	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665230	510325.63	5651646.15	6/27/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 1
665231	510301.71	5651681.47	6/27/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665232	510463.94	5651792.11	6/27/2021	Clouds|Sun	Pronounced	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665233	510492.69	5651761.92	6/27/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 1
665234	510524.62	5651718.95	6/27/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665235	510545.69	5651672.4	6/27/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665236	510576.99	5651630.99	6/27/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 1
665237	510610.46	5651591.24	6/27/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 1
665238	510634.25	5651552.03	6/27/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665239	510664.56	5651511.62	6/27/2021	Clouds	Gentle	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665241	510692.78	5651470.98	6/27/2021	Clouds	Flat	N	B	Black	Sphagnum moss <10cm	Spruce	Sandy		Block 1
665242	510722.33	5651430.12	6/27/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665243	510751.81	5651387.7	6/27/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 1
665244	510780.3	5651345.49	6/27/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 1

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665245	510812.45	5651304.3	6/27/2021	Clouds|Rain|Stor	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 1
665665	517655.85	5658839.99	7/20/2021	Sun|Wind	Pronounced	S	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665666	517629.29	5658866.58	7/20/2021	Sun|Wind	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665667	517593.47	5658912.05	7/20/2021	Sun|Wind	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 2
665668	517552.43	5658949.73	7/20/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
665669	517524.41	5658993.67	7/20/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 2
665670	517488.36	5659029.47	7/20/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay/Organic		Block 2
665671	517460.44	5659060.73	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665672	517425	5659120.44	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 2
665673	517402.51	5659144.95	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665674	517371.83	5659188.1	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665675	517325.7	5659220.19	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665676	517306.53	5659254.16	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665677	517260.38	5659292.37	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665678	517232.32	5659326.19	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy/Coarse		Block 2
665679	517198.6	5659356.44	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665681	517158.88	5659404.23	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665682	517130.39	5659439.84	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665683	517096.36	5659477.87	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665684	517064.21	5659521.8	7/20/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 2
665685	517033.18	5659562.29	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665686	517003.38	5659593.78	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665687	516973.25	5659641.83	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665688	516938.98	5659670.63	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665689	516775.86	5659543.66	7/20/2021	Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	Clay		Block 2
665690	516817.41	5659494.75	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665691	516847.28	5659461.81	7/20/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay		Block 2
665692	516875.62	5659427.55	7/20/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 2
665693	516921.31	5659358.75	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665694	516942.9	5659330.91	7/20/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic		Block 2
665695	517085.38	5659198.49	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665696	517111.13	5659162.98	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665697	517148.75	5659120.85	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665698	517186.91	5659080.83	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665699	517208.13	5659042.65	7/20/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 2
665701	517240.47	5659007.51	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665702	517284.18	5658964.83	7/20/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 2
665703	517303.1	5658919.64	7/20/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665704	517336.29	5658902.29	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665705	517368.24	5658859.81	7/20/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665706	517396.18	5658818.97	7/20/2021	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665707	517446.11	5658783.22	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665708	517467.54	5658741.15	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665709	517504.15	5658710.03	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665710	517529.58	5658669.3	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665711	517594.34	5658597.01	7/20/2021	Sun	Pronounced	N	B	Brown	Grasses	Spruce	Organic		Block 2
665712	517602	5658592	7/20/2021	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic		Block 2
665713	517455.83	5658457.2	7/23/2021	Sun	Pronounced	S	B	Brown	Grasses	Spruce	Organic		Block 2
665714	517431.95	5658496.04	7/23/2021	Overcast	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665715	517385.78	5658539.48	7/23/2021	Overcast	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665716	517354.78	5658569.84	7/23/2021	Overcast	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665717	517325.19	5658601.44	7/23/2021	Overcast	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
665718	517290.63	5658648.03	7/23/2021	Overcast	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665719	517255.06	5658687.06	7/23/2021	Overcast	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665721	517219.76	5658726.08	7/23/2021	Overcast	Flat	N	B	Dark brown	Grasses	Buck brush	Organic		Block 2
665722	517190.92	5658762.13	7/23/2021	Overcast	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 2
665723	517163.41	5658796.96	7/23/2021	Overcast	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665724	517126.13	5658844.32	7/23/2021	Overcast	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665725	517088.4	5658879.67	7/23/2021	Overcast	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665726	517059.82	5658922.05	7/23/2021	Overcast	Steep	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665727	517017.16	5658966.84	7/23/2021	Overcast	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665728	516995.44	5658985.23	7/23/2021	Overcast	Flat	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay		Block 2
665729	516958.66	5659032.04	7/23/2021	Overcast	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665730	516931.26	5659079.88	7/23/2021	Overcast	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665731	516906.66	5659104.49	7/23/2021	Overcast	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665732	516870.11	5659142.51	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665733	516836.65	5659181.54	7/23/2021	Rain	Flat	N	B	Light brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 2
665734	516799.62	5659235.25	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665735	516767.47	5659257.82	7/23/2021	Rain	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665736	516729.76	5659307.86	7/23/2021	Rain	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665737	516698.27	5659344.79	7/23/2021	Rain	Gentle	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Block 2
665738	516662.1	5659376.59	7/23/2021	Rain	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665739	516632.01	5659410.29	7/23/2021	Rain	Pronounced	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Block 2
665741	516629.88	5659113.37	7/23/2021	Rain	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665742	516666.41	5659059.66	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665743	516704.65	5659019.97	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665744	516738.88	5658981.61	7/23/2021	Rain	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665745	516767.59	5658941.56	7/23/2021	Rain	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665746	516802.94	5658906.54	7/23/2021	Rain	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665747	516833.16	5658876.05	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665748	516866.07	5658834.45	7/23/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665749	516899.34	5658794.31	7/23/2021	Rain	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665750	516928.59	5658759.38	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665751	516967.19	5658719.24	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665752	517001.84	5658680.99	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665753	517031.31	5658646.06	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665754	517063.03	5658605.91	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665755	517096.93	5658565.88	7/23/2021	Rain	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665756	517127.61	5658527.05	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665757	517161.92	5658488.58	7/23/2021	Rain	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay		Block 2
665758	517198.41	5658450.11	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665759	517227.01	5658421.51	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665761	517258.74	5658380.58	7/23/2021	Rain	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665762	517292.43	5658342.66	7/23/2021	Overcast	Flat	N	B	Light grey|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665763	517325.4	5658307.08	7/23/2021	Clouds	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665764	517357.69	5658268.05	7/23/2021	Clouds	Pronounced	S	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 2
665765	517223.01	5658108.46	7/24/2021	Sun	Pronounced	S	B	Light brown|Light	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665766	517185.49	5658163.94	7/24/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665767	517164.74	5658187.55	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665768	517129.2	5658216.79	7/24/2021	Sun	Flat	N	B	Dark brown |Dark	Grasses|Sphagnum moss >10cm	Spruce	Clay		Block 2
665769	517102.14	5658265.3	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay		Block 2
665770	517061.21	5658310.54	7/24/2021	Sun	Gentle	SW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665771	517030.6	5658350.47	7/24/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665772	516986.14	5658387.02	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665773	516969.16	5658416.1	7/24/2021	Sun	Gentle	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665774	516933.83	5658465.47	7/24/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic		Block 2
665775	516892.76	5658494.25	7/24/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay/Organic		Block 2
665776	516866.39	5658545.1	7/24/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665777	516834.39	5658581.69	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Popla	Organic		Block 2
665778	516801.33	5658604.05	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665779	516766.42	5658655.42	7/24/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Block 2
665781	516733.23	5658695.12	7/24/2021	Sun	Gentle	E	B	Brown	Grasses	Poplar|Spruce	Organic		Block 2
665782	516707.07	5658723.73	7/24/2021	Sun	Gentle	NE	B	Brown	Grasses	Poplar|Spruce	Sandy		Block 2
665783	516665.44	5658753.07	7/24/2021	Sun	Gentle	NE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665784	516636.98	5658802.69	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665785	516631.88	5658491.51	7/24/2021	Sun	Gentle	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665786	516663.66	5658459.48	7/24/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665787	516693.5	5658416.98	7/24/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Clay		Block 2
665788	516729.19	5658384.84	7/24/2021	Sun	Flat	N	B	Brown|Dark brow	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
665789	516767.27	5658349.16	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665790	516808.83	5658301.7	7/24/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665791	516841.69	5658256.32	7/24/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
665792	516872.05	5658228.06	7/24/2021	Sun	Pronounced	SE	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665793	516900.18	5658195.24	7/24/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 2
665794	516936.11	5658154.43	7/24/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 2
665795	516953.27	5658112.35	7/24/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 2
665796	517002.52	5658072.03	7/24/2021	Sun	Gentle	NW	B	Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665797	517022.64	5658027.05	7/24/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Block 2
665798	517051.67	5657996.57	7/24/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665799	516783.65	5657707.11	7/24/2021	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Sandy		Block 2
665801	516754	5657734.59	7/24/2021	Sun	Flat	N	B	Brown	Grasses	Buck brush |Spruc	Organic		Block 2
665802	516718.99	5657789.3	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665803	516688.15	5657815.01	7/24/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665804	516653.83	5657859.6	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665805	516618.06	5657889.95	7/24/2021	Sun	Gentle	N	B	Grey|Red	Caribou lichen|Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665806	516584.83	5657918.87	7/24/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 2
665807	516561.98	5657967.06	7/24/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665808	516526.76	5658004.76	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 2
665809	516496.61	5658031.9	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665810	516457.1	5658076.48	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665811	516423.26	5658121.53	7/24/2021	Sun	Pronounced	SE	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Block 2
665812	516392.71	5658167.36	7/24/2021	Sun	Pronounced	E	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Block 2
665813	516364.8	5658195.85	7/24/2021	Sun	Gentle	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Block 2
665814	516627.12	5658189.68	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665815	516658.1	5658162.65	7/24/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665816	516692.39	5658107.82	7/25/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665817	516730.18	5658077.58	7/25/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665818	516754.63	5658034.07	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665819	516795	5658007.74	7/25/2021	Sun	Pronounced	NE	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665821	516838.5	5657968.18	7/25/2021	Sun	Gentle	SE	B	Brown	Caribou lichen	Spruce	Sandy		Block 2
665822	516861.53	5657932	7/25/2021	Sun	Flat	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Block 2
665823	516885.59	5657879.26	7/25/2021	Sun	Gentle	SE	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665824	516927.6	5657846.59	7/25/2021	Sun	Gentle	S	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic		Block 2
665825	516535.75	5657385.15	7/25/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665826	516511.51	5657427	7/25/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665827	516477	5657460.36	7/25/2021	Sun	Gentle	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665828	516434.36	5657493.02	7/25/2021	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665829	516410.64	5657529.43	7/25/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay/Organic		Block 2
665830	516373.64	5657574.79	7/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665831	516338.82	5657619.5	7/25/2021	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Block 2
665832	516312.74	5657645.77	7/25/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665833	516278.72	5657677.81	7/25/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665834	516245.81	5657718.62	7/25/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665835	516214.08	5657762.23	7/25/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy		Block 2
665836	516173.02	5657806.13	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665837	516149.45	5657836.53	7/25/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665838	516103.04	5657870.64	7/25/2021	Sun	Flat	N	B	Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Clay		Block 2
665839	516072.49	5657916.7	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665841	516041.34	5657950.4	7/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665842	516015.28	5657994.02	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665843	515984.78	5658025.18	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665844	515940.02	5658068.97	7/25/2021	Sun	Gentle	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665845	515911.88	5658106.58	7/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665846	515874.94	5658135.38	7/25/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665847	515849.68	5658171.45	7/25/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 2
665848	516109.58	5658174.03	7/25/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 2
665849	516154.28	5658131.35	7/25/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665850	516182.82	5658097.64	7/25/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665851	516218.03	5658064.5	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665852	516247.73	5658020.22	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665853	516282.19	5657979.95	7/25/2021	Sun	Gentle	S	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665854	516322.82	5657935.49	7/25/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
665855	516353.55	5657901.45	7/25/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665856	516382.35	5657875.97	7/25/2021	Sun	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
665857	516403.65	5657831.88	7/25/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 2
665858	516439.71	5657797.08	7/25/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665859	516472.62	5657758.49	7/25/2021	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665861	516498.41	5657711.42	7/25/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665862	516541.95	5657679.64	7/25/2021	Sun	Pronounced	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665863	516579.21	5657641.5	7/25/2021	Sun	Flat	N	B	Brown|Grey		Poplar|Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665864	516603.3	5657598.54	7/25/2021	Sun	Flat	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy		Block 2
665865	516648.76	5657563.66	7/25/2021	Sun	Flat	N	B	Grey		Poplar|Spruce	Sandy		Block 2
665866	516677.2	5657521.16	7/25/2021	Sun	Flat	N	B	Brown|Grey		Poplar|Spruce	Sandy		Block 2
665867	516700.98	5657488.98	7/25/2021	Sun	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665934	516401.85	5657252.94	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665935	516356.72	5657298.17	7/31/2021	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665936	516339.58	5657333.59	7/31/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665937	516298.2	5657389.95	7/31/2021	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665938	515999.94	5657722.97	7/31/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665939	516223.64	5657460.44	7/31/2021	Sun	Gentle	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665941	516199.1	5657487.16	7/31/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665942	516165.62	5657528.43	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Clay		Block 2
665943	516139.92	5657569.28	7/31/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665944	516097.35	5657605.73	7/31/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665945	516067.86	5657646.67	7/31/2021	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665946	516043.12	5657670.06	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665947	516000.08	5657723.31	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665948	515967.18	5657759.45	7/31/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665949	515939.27	5657789.95	7/31/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665950	515906.91	5657833.99	7/31/2021	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Block 2
665951	515871.69	5657869.59	7/31/2021	Sun	Flat	N	B	Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665952	515830.17	5657907.38	7/31/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665953	515811.25	5657954.59	7/31/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Poplar|Spruce	Organic|Sandy		Block 2
665954	515778.71	5657989.4	7/31/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665955	515742.1	5658023.88	7/31/2021	Sun	Gentle	S	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 2
665956	515704.52	5658056.13	7/31/2021	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665957	515667.61	5658100.49	7/31/2021	Sun	Flat	N	B	Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665958	515634.79	5658133.2	7/31/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665959	515608.29	5658161.7	7/31/2021	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665961	515339.92	5658181.02	7/31/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665962	515356.15	5658141.15	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665963	515394.06	5658112.8	7/31/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665964	515426.75	5658073.97	7/31/2021	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665965	515456.18	5658025.91	7/31/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665966	515491.81	5657990.98	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665967	515522.87	5657961.38	7/31/2021	Sun	Flat	N	B	Light brown|Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665968	515548.77	5657920.43	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665969	515580.84	5657878.27	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665970	515623.55	5657842.47	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665971	515653.92	5657808.32	7/31/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 2
665972	515676.21	5657760.56	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
665973	515714.29	5657724.21	7/31/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665974	515754.3	5657699.08	7/31/2021	Sun	Pronounced	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
665975	515789.96	5657654.26	7/31/2021	Sun	Gentle	S	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665976	515819.83	5657624	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665977	515846.61	5657574.26	7/31/2021	Sun	Gentle	S	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Clay		Block 2
665978	515893	5657527.03	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Clay		Block 2
665979	515904.73	5657517.17	7/31/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic		Block 2
665981	515937.23	5657476.12	7/31/2021	Sun	Gentle	N	B	Red	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Block 2
665982	515977.38	5657429.1	7/31/2021	Sun	Flat	N	B	Brown	Grasses	Buck brush |Spruc	Organic		Block 2
665983	516011	5657389.27	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665984	516036.26	5657352.87	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665985	516072.24	5657320.63	7/31/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
665986	516109.77	5657286.05	7/31/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
665987	516137.79	5657240.87	7/31/2021	Sun	Gentle	E	B	Brown|Grey	Grasses	Poplar|Spruce	Organic|Sandy		Block 2
665988	516173.64	5657205.96	7/31/2021	Sun	Flat	N	B	Grey	Grasses	Poplar|Spruce	Clay|Sandy		Block 2
665989	516211.02	5657170.38	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665990	516238.34	5657130.88	7/31/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
665991	516280.86	5657089.87	7/31/2021	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Clay/Organic		Block 2
665992	516306.9	5657055.8	7/31/2021	Sun	Pronounced	S	B	Brown|Red	Caribou lichen	Buck brush |Spruc	Sandy		Block 2
660303	517831.92	5658931	7/20/2021	Sun	Gentle	SE	B	Light brown	Sphagnum moss <10cm	Poplar|Spruce|N/	Organic		Block 2
660304	517804.28	5658962.04	7/20/2021	Sun	Gentle	SE	B	Light brown|Brow	Sphagnum moss <10cm	Spruce|N/A	Organic		Block 2
660305	517778.39	5659013.44	7/20/2021	Sun	Gentle	SE	B	Grey	Sphagnum moss <10cm	Spruce|Subalpine	Clay|Sandy		Block 2
660306	517749.43	5659044.82	7/20/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy		Block 2
660307	517710.14	5659084.27	7/20/2021	Sun	Gentle	S	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	Organic		Block 2
660308	517677.23	5659124.08	7/20/2021	Sun	Gentle	S	B	Light brown|Brow	Sphagnum moss <10cm	Spruce|N/A	Organic|Sandy		Block 2
660309	517650.9	5659161.13	7/20/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce|N/A	Organic		Block 2
660310	517602.37	5659199.34	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	Organic		Block 2
660311	517578.71	5659235.62	7/20/2021	Sun	Gentle	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
660312	517550.47	5659279.89	7/20/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Sandy		Block 2
660313	517502.84	5659302.42	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660314	517471.88	5659342.68	7/20/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660315	517439.08	5659392.17	7/20/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660316	517410.59	5659427.77	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660317	517380.21	5659464.14	7/20/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660318	517351.71	5659504.41	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660319	517318.38	5659543.45	7/20/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 2
660321	517280.71	5659581.8	7/20/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
660322	517247.27	5659612.27	7/20/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
660323	517215.06	5659653.19	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
660324	517182.58	5659686.9	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660325	517159.68	5659728.41	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660326	517122.88	5659780.44	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660327	517086.2	5659796.44	7/20/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660328	517243.19	5659930.42	7/20/2021	Sun	Gentle	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
660329	517270.94	5659886.36	7/20/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660330	517300.68	5659850.76	7/20/2021	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660331	517337.75	5659824.09	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660332	517381.86	5659783.76	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660333	517409.79	5659747.26	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660334	517436.29	5659698.86	7/20/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Sandy		Block 2
660335	517468.38	5659672.73	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 2
660336	517501.59	5659627.8	7/20/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660337	517532.26	5659591.1	7/20/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660338	517567.06	5659550.51	7/20/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660339	517595.4	5659517.58	7/20/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic		Block 2
660341	517620.15	5659468.29	7/20/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660342	517677.33	5659441.02	7/20/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic		Block 2
660343	517696.45	5659399.72	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
660344	517721.91	5659348.99	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660345	517768.65	5659323.12	7/20/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
660346	517792.7	5659294.52	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660347	517823.25	5659250.47	7/20/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce|N/A	Organic		Block 2
660348	517864.78	5659212.58	7/20/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660349	517890.12	5659175.19	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
660350	517926.94	5659142.18	7/20/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce|N/	Organic		Block 2
660351	517962.03	5659102.72	7/20/2021	Sun	Gentle	S	B	Light brown|Brow	Sphagnum moss <10cm	Poplar|Spruce|N/	Organic		Block 2
660352	515859.56	5656962.89	7/31/2021	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic		Block 2
660353	515823.42	5657001.47	7/31/2021	Sun	Gentle	W	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
660354	515791.51	5657034.52	7/31/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 2
660355	515758.8	5657076.79	7/31/2021	Sun	Gentle	N	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660356	515731.78	5657112.85	7/31/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	N/A	Organic		Block 2
660357	515694.74	5657149.21	7/31/2021	Sun	Flat	N	B	Grey	Grasses	Spruce	Clay		Block 2
660358	515664.21	5657187.71	7/31/2021	Sun	Gentle	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	Organic		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660359	515626.2	5657242.63	7/31/2021	Sun	Gentle	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660361	515598.75	5657264.57	7/31/2021	Sun	Gentle	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660362	515565.07	5657302.28	7/31/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 2
660363	515531.81	5657340.99	7/31/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660364	515500.03	5657376.6	7/31/2021	Sun	Flat	N	B	Black	Sphagnum moss <10cm	Spruce	Organic		Block 2
660365	515467.89	5657414.75	7/31/2021	Sun	Gentle	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 2
660366	515434.99	5657453.13	7/31/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660367	515399.56	5657491.61	7/31/2021	Sun	Gentle	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
660368	515367.36	5657528.66	7/31/2021	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660369	515336.27	5657567.82	7/31/2021	Sun|Wind	Gentle	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660370	515303.45	5657604.09	7/31/2021	Clouds|Sun|Wind	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660371	515270.34	5657640.69	7/31/2021	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660372	515236.38	5657679.4	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660373	515204.4	5657715.78	7/31/2021	Clouds|Sun|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660374	515327.63	5657883.73	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660375	515353.65	5657848.56	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660376	515390.06	5657811.64	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660377	515419.8	5657774.25	7/31/2021	Sun	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660378	515452.08	5657737.42	7/31/2021	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss >10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660379	515487.08	5657698.27	7/31/2021	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660381	515519.28	5657661.12	7/31/2021	Clouds|Sun	Flat	N	B	Dark brown |Oran	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660382	515555.62	5657623.75	7/31/2021	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	N/A	Organic		Block 2
660383	515583.84	5657583.92	7/31/2021	Clouds|Sun	Flat	N	B	Black	Sphagnum moss <10cm	Spruce	Organic		Block 2
660384	515617.37	5657545.87	7/31/2021	Clouds|Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic		Block 2
660385	515650.91	5657508.16	7/31/2021	Clouds|Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660386	515683.19	5657468.45	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660387	515715.95	5657432.07	7/31/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss >10cm	Spruce	Sandy		Block 2
660388	515748.92	5657395.69	7/31/2021	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 2
660389	515780.71	5657357.54	7/31/2021	Clouds|Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660390	515817.05	5657319.51	7/31/2021	Clouds|Sun	Steep	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660391	515911.3	5657203.25	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660392	515945.25	5657168.44	7/31/2021	Clouds|Sun	Pronounced	N	B	Light brown|Oran	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660393	515972.69	5657134.94	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 2
660394	516011.36	5657091.58	7/31/2021	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660395	516047.41	5657057.55	7/31/2021	Clouds|Sun	Pronounced	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660396	516074.43	5657021.16	7/31/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 2
660397	516095.96	5656994.54	7/31/2021	Clouds|Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 2
660398	516497.07	5657143.92	7/31/2021	Clouds|Sun	Gentle	N	B	Light yellow	Sphagnum moss <10cm	Spruce	Sandy		Block 2

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660192	521656.44	5648306.22	7/9/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
660193	521612.92	5648323.17	7/9/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
660194	521575.14	5648360.15	7/9/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic		Block 3
660195	521532.72	5648383.45	7/9/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
660196	521489.15	5648413.17	7/9/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
660197	521458.91	5648426.73	7/9/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
660198	521403.96	5648459.64	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Buck brush |Spruc	Clay|Sandy		Block 3
660199	521365.18	5648484.06	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
660201	521320.34	5648517.01	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
660202	521284.78	5648544	7/9/2021	Sun	Gentle	E	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660203	521233.23	5648568.7	7/9/2021	Sun	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660204	521197.96	5648593.69	7/9/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay		Block 3
660205	521157.84	5648623.32	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
660206	521115.76	5648649.28	7/9/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660207	521213.94	5648807.04	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
660208	521265.21	5648781.12	7/9/2021	Sun		N	B	Dark grey	Grasses	Buck brush |Spruc	Clay		Block 3
660209	521301.38	5648756.47	7/9/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay		Block 3
660210	521344.27	5648738.97	7/9/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 3
660211	521381.8	5648692.31	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660212	521429.87	5648676.27	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
660213	521476.65	5648651.43	7/9/2021	Sun	Flat	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660214	521518.93	5648643.6	7/9/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
660215	521720.96	5648488.99	7/9/2021	Sun	Flat	N	B	Grey	Grasses	Spruce	Clay		Block 3
660216	521765.56	5648464.15	7/9/2021	Sun	Flat	N	B	Grey	Grasses	Buck brush |Spruc	Sandy		Block 3
660217	521807.36	5648437.09	7/9/2021	Sun	Flat	N	B	Black	Grasses	Buck brush |Spruc	Clay		Block 3
660218	521854.18	5648404.14	7/9/2021	Sun	Flat	N	B	Black	Sphagnum moss <10cm	Spruce	Clay		Block 3
660219	521892.53	5648381.95	7/9/2021	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Sandy		Block 3
660975	520796.5	5648120.77	7/4/2021	Overcast	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
660976	520825.18	5648108.43	7/4/2021	Overcast	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660977	520875.04	5648086.5	7/4/2021	Sun	Flat	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660978	520913.7	5648053.96	7/4/2021	Clouds	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660979	520960.63	5648028.8	7/4/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Clay		Block 3
660981	521007.6	5647992.96	7/4/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Block 3
660982	521039.77	5647969.18	7/4/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
660983	521087.79	5647951.36	7/4/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
660984	521129.38	5647925.84	7/4/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
660985	521165.61	5647888.62	7/4/2021	Overcast	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660986	521213	5647872.36	7/4/2021	Sun	Flat	N	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660987	521258.95	5647843.97	7/4/2021	Overcast	Flat	N	B	Grey|Yellow	Sphagnum moss <10cm	Poplar|Spruce	Sandy		Block 3
660988	521297.4	5647813.43	7/4/2021	Overcast	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660989	521336.56	5647782.23	7/4/2021	Sun	Flat	N	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Block 3
660990	521379.92	5647755.73	7/4/2021	Overcast	Flat	N	B	Orange		Spruce	Sandy		Block 3
660991	521422.55	5647733.44	7/4/2021	Sun	Flat	N	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Block 3
660992	521466.54	5647705.6	7/4/2021	Overcast	Flat	N	B	Dark brown |Grey	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
660993	521506.64	5647684.97	7/4/2021	Sun	Flat	N	B	Grey|Yellow	Grasses	Spruce	Clay|Sandy		Block 3
660994	521550.64	5647653.57	7/4/2021	Sun	Gentle	N	B	Brown|Grey|Orar	Sphagnum moss <10cm	Spruce	Sandy		Block 3
660995	521595.89	5647626.29	7/4/2021	Sun	Flat	N	B	Grey	Grasses	Spruce	Sandy		Block 3
660996	521629.51	5647612.19	7/4/2021	Overcast	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
661606	521866.51	5649356.67	7/14/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
661607	521895.01	5649337.54	7/14/2021	Clouds	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
661608	521950.31	5649304.53	7/14/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
661609	521983.54	5649277.65	7/14/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
661610	522025.2	5649252.8	7/14/2021	Clouds	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
661611	522070.46	5649222.86	7/14/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 3
661612	522112.03	5649199.46	7/14/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
661613	522155.18	5649168.85	7/14/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
661614	522197.17	5649146.78	7/14/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661615	522238.01	5649114.82	7/14/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
661616	522277.2	5649092.19	7/14/2021	Sun	Gentle	S	B	Light grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
661617	522333.04	5649049.84	7/14/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
661618	522369	5649041.65	7/14/2021	Clouds	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
661619	522404.36	5649013.23	7/14/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
661621	522441.62	5648984.37	7/14/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
661622	522489.01	5648962.11	7/14/2021	Sun	Gentle	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
661623	522531.6	5648931.6	7/14/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
661624	522572.45	5648900.42	7/14/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
661625	522613.19	5648876.69	7/14/2021	Clouds	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
661626	522667.68	5648838.45	7/14/2021	Clouds	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
661627	522701.01	5648824.14	7/14/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm		Sandy		Block 3
661628	522747.11	5648794.31	7/14/2021	Clouds	Flat	N	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
661629	522961.7	5649136.21	7/14/2021	Clouds	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Sandy		Block 3
661630	522918.93	5649158.16	7/14/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	Organic|Sandy		Block 3
661631	522871.03	5649182.31	7/14/2021	Clouds	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
661632	522830.56	5649209.81	7/14/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
661633	522787.14	5649237.31	7/14/2021	Sun	Flat	N	B	Brown|Dark grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
661634	522757.76	5649262.76	7/14/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661635	522704.99	5649293.11	7/14/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic				Block 3
661636	522669.24	5649316.86	7/14/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce|N/A	Organic				Block 3
661637	522622.02	5649344.79	7/14/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce|N/A	Organic				Block 3
661638	522577.07	5649368.28	7/14/2021	Sun	Flat	N	B	Brown|Dark brow	Sphagnum moss >10cm	Spruce	Organic				Block 3
661639	522537.35	5649400.8	7/14/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay				Block 3
661641	522491.28	5649424.51	7/14/2021	Sun	Flat	N	B	Brown/Grey	Sphagnum moss >10cm	Spruce	Clay				Block 3
661642	522457.38	5649459.28	7/14/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy				Block 3
661643	521761.62	5649666.82	7/15/2021	Sun	Steep	E	B	Light brown	Sphagnum moss <10cm	Spruce	mineral				Block 3
661644	521804.46	5649642.76	7/15/2021	Clouds	Gentle	W	B	Brown	Sphagnum moss >10cm	Spruce	mineral				Block 3
661645	521841	5649603	7/15/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	organic				Block 3
661646	521882	5649575	7/15/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	organic				Block 3
661647	521922.14	5649543.61	7/15/2021	Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	mineral				Block 3
661648	521970.17	5649536.25	7/15/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	mineral				Block 3
661649	522013.87	5649506.42	7/15/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	organic				Block 3
661650	522055.88	5649481.01	7/15/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce|N/A	mineral				Block 3
661651	522093.11	5649456.6	7/15/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce|N/A	mineral				Block 3
661652	522140.45	5649428.12	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic				Block 3
661653	522184.09	5649382.37	7/15/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	mineral				Block 3
661654	522224.32	5649361.08	7/15/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	mineral				Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661655	522259.43	5649341.43	7/15/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce|N/A	mineral		Block 3
661656	522307.14	5649309.28	7/15/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	mineral		Block 3
661657	522347.47	5649284.54	7/15/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	mineral		Block 3
661658	522385.51	5649250.12	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic		Block 3
661659	522430.64	5649232.2	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce|N/A	organic		Block 3
661661	522468.69	5649198.33	7/15/2021	Clouds	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	organic		Block 3
661662	522514.31	5649179.41	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic		Block 3
661663	522554.47	5649160.56	7/15/2021	Rain	Flat	N	B	Brown	Sphagnum moss >10cm	Poplar|Spruce	mineral		Block 3
661664	522592.36	5649131.48	7/15/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	organic		Block 3
661665	522642.03	5649101.89	7/15/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	organic		Block 3
661666	522695.98	5649058.87	7/15/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	mineral		Block 3
661667	522727	5649044.32	7/15/2021	Clouds	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	mineral		Block 3
661668	522772.19	5649011.39	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	mineral		Block 3
661669	522802.59	5648979.05	7/15/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	mineral		Block 3
661670	522849.01	5648956.01	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	mineral		Block 3
661671	523067.14	5649303.16	7/15/2021	Clouds	Gentle	E	B	Grey	Sphagnum moss >10cm	Spruce	mineral		Block 3
661672	523023.4	5649323.32	7/15/2021	Sun	Flat	N	B	Light brown|Grey	Sphagnum moss <10cm	Spruce|N/A	mineral		Block 3
661673	522980.45	5649354.49	7/15/2021	Clouds	Gentle	S	B	Light brown	Sphagnum moss <10cm	Spruce	mineral		Block 3
661674	522939.85	5649377.89	7/15/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce|N/A	mineral		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

661675	522906.09	5649410.98	7/15/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	mineral		Block 3
661676	522852.89	5649429.1	7/15/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	mineral		Block 3
661677	522810.86	5649458.38	7/15/2021	Clouds	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	mineral		Block 3
661678	522775.72	5649486.47	7/15/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	mineral		Block 3
661679	522731.25	5649513.64	7/15/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	mineral		Block 3
661680	522688.76	5649537.02	7/15/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	organic		Block 3
665382	520892.36	5648318.43	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665383	520945.08	5648280.73	7/5/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665384	520974.6	5648252.93	7/5/2021	Clouds	Flat	N	B	Brown|Grey	Grasses	Spruce	Sandy		Block 3
665385	521022.9	5648234.11	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665386	521075.9	5648198.86	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665387	521102.76	5648172.05	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665388	521144.42	5648143.2	7/5/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665389	521193.45	5648119.26	7/5/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
665390	521225.91	5648094.49	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665391	521272.23	5648063.54	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665404	522098.63	5647784.54	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665405	522052.79	5647817.15	7/5/2021	Sun	Gentle	NW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665406	522012.36	5647849.01	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665407	521971.53	5647859.51	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665408	521940.5	5647893.3	7/5/2021	Sun|Wind	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Sandy		Block 3
665409	521895.12	5647917.34	7/5/2021	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy		Block 3
665410	521845.82	5647956.39	7/5/2021	Sun	Flat	N	B	Brown	Grasses	Poplar	Sandy		Block 3
665411	521803.84	5647972.12	7/5/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Sandy		Block 3
665412	521760.87	5647992.85	7/5/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	N/A	Sandy		Block 3
665413	521717.55	5648027.91	7/5/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
665414	521678.97	5648055.33	7/5/2021	Sun	Flat	N	B	Brown	Grasses	Poplar|Spruce	Sandy		Block 3
665415	521632.83	5648076.04	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Sandy		Block 3
665416	521586.33	5648100.43	7/5/2021	Sun	Pronounced	E	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665417	521549.44	5648127.63	7/5/2021	Sun	Pronounced	NW	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
665418	521514.52	5648152.83	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665419	521469.91	5648194.92	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665501	523137.53	5649962.04	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665502	523095.04	5649983.64	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665503	523050.05	5650018.7	7/5/2021	Sun	Gentle	W	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665504	523010.91	5650046.66	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665505	522969.96	5650071.49	7/5/2021	Sun	Flat	N	B	Red	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
665506	522926.36	5650095.77	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665507	522883.55	5650110.82	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
665508	522840	5650149	7/5/2021	Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665509	522794.81	5650185.7	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665510	522763.08	5650221.37	7/5/2021	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Spruce	Clay		Block 3
665511	522717.26	5650238.08	7/5/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Sandy		Block 3
665512	522678.22	5650259.59	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665513	522632.3	5650283.07	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665514	522587.82	5650314.46	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665515	522547.3	5650338.86	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665516	522501.55	5650372.91	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665517	522458.17	5650409.21	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665518	522418.64	5650413.81	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665519	522378.37	5650445.56	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665521	522328.06	5650478.81	7/5/2021	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic		Block 3
665522	522293.59	5650500.57	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
665523	522188.07	5650336.86	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665524	522228.38	5650311.24	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665525	522264.98	5650270.8	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665526	522308.42	5650249.53	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665527	522026.92	5648784.2	7/5/2021	Sun|Wind	Pronounced	SE	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
665528	522064.48	5648748.65	7/5/2021	Sun|Wind	Flat	N	B	Dark grey	Grasses	Spruce	Clay/Coarse		Block 3
665529	522104.58	5648725.59	7/5/2021	Sun|Wind	Flat	N	B	Brown|Dark grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665530	522153.52	5648688.43	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665531	522193.63	5648663.91	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665532	522236.55	5648654.2	7/5/2021	Sun|Wind	Gentle	NW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665533	522273.88	5648623.89	7/5/2021	Sun|Wind	Gentle	NW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665534	522319.52	5648587.95	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665535	522359.91	5648565.32	7/5/2021	Sun|Wind	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
665536	522401.11	5648530.81	7/5/2021	Sun|Wind	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
665537	522441.34	5648513.41	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665538	522493.29	5648478.16	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665539	522527.02	5648453.51	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665541	522426.14	5648279.04	7/5/2021	Sun|Wind	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665542	522378.45	5648318.86	7/5/2021	Sun|Wind	Flat	N	B	Dark grey	Grasses	Spruce	Clay		Block 3
665543	522339.72	5648330.93	7/5/2021	Sun|Wind	Flat	N	B	Dark grey	Grasses	Spruce	Clay		Block 3
665544	522297.45	5648368.33	7/5/2021	Sun|Wind	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665545	522253.8	5648380.93	7/5/2021	Sun|Wind	Flat	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665546	522210.15	5648413.33	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665547	522159.4	5648444.92	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665548	522121.7	5648465.77	7/5/2021	Sun|Wind	Flat	N	B	Brown	Grasses	Spruce	Sandy		Block 3
665549	522096.31	5648492.36	7/5/2021	Sun|Wind	Flat	N	B	Brown	Grasses	N/A	Sandy		Block 3
665550	522040.49	5648530.48	7/5/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665551	522001.12	5648545.1	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665552	522630.84	5648611.76	7/5/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665553	522592.73	5648643.28	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665554	522546.01	5648671.22	7/5/2021	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665555	522503.85	5648698.5	7/5/2021	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665556	522468.05	5648730.6	7/5/2021	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
665557	522423.39	5648752.75	7/5/2021	Clouds|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665558	522379.45	5648785.27	7/5/2021	Clouds|Sun|Wind	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665559	522339.95	5648816.34	7/5/2021	Clouds|Wind	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665561	522294.3	5648837.5	7/5/2021	Clouds|Wind	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665562	522262.02	5648868.27	7/5/2021	Clouds|Wind	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665563	522210.12	5648908.52	7/5/2021	Clouds|Wind	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665564	522174.52	5648929.84	7/5/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665565	522129.45	5648947.88	7/5/2021	Sun|Wind	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
665566	522092.36	5648990.31	7/5/2021	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665567	521862.3	5649838.83	7/5/2021	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665568	521908.35	5649799.55	7/5/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665569	521962.89	5649762.75	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665570	521998.16	5649753.78	7/5/2021	Clouds	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665571	522027.53	5649728.66	7/5/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665572	522076.13	5649702.74	7/5/2021	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665573	522109.34	5649664.29	7/5/2021	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665574	522154.39	5649648.91	7/5/2021	Clouds	Flat	N	B	Dark grey	Grasses|Sphagnum moss <10cm	Spruce	Clay		Block 3
665575	522203.32	5649611.87	7/5/2021	Clouds	Flat	N	B	Dark grey	Grasses|Sphagnum moss <10cm	Spruce	Clay		Block 3
665576	522239.96	5649592.68	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
665577	522269.73	5649556.11	7/5/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
665578	522328.01	5649531.33	7/5/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
665579	522371.12	5649509.17	7/5/2021	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
665581	522410.23	5649473.76	7/5/2021	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay		Block 3
665582	522354.34	5650245.39	7/5/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665583	522391.64	5650201.3	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665584	522431.57	5650167.32	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665585	522478.31	5650149.63	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665586	522520.41	5650102.88	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665587	522553.42	5650077.78	7/5/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665588	522595.96	5650059.73	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665589	522648.68	5650035.82	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665590	522690.43	5650005.32	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665591	522732.07	5649982.14	7/5/2021	Sun	Gentle	SE	B	Dark brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665592	522740.56	5649981.07	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665593	522558.32	5649614.08	7/5/2021	Sun	Pronounced	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665594	522651.1	5649562.44	7/5/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665595	522601.34	5649596.58	7/5/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	Clay		Block 3
665596	522510.54	5649645.45	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665597	522479.99	5649682.9	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
665598	522427.11	5649706.92	7/5/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
665599	522398.17	5649714.13	7/5/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
665601	522348.81	5649753.06	7/5/2021	Sun	Flat	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665602	522308.6	5649786.47	7/5/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
665603	522259.59	5649809.28	7/5/2021	Sun	Flat	N	B	Dark grey	Grasses|Sphagnum moss <10cm	Spruce	Clay		Block 3
665604	522228.25	5649836.94	7/5/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
665605	522188.18	5649868.47	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665606	522142.2	5649888.95	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665607	522098.1	5649915.46	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665608	522053.52	5649935.5	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665609	522013.2	5649962.92	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
665610	521971.46	5649992.76	7/5/2021				B						Block 3
666626	521423.38	5648210.73	7/6/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666627	521380.84	5648244.92	7/6/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666628	521340.62	5648261.77	7/6/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666629	521282.36	5648295.34	7/6/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666630	521257.89	5648322.59	7/6/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666631	521210.18	5648351.19	7/6/2021	Sun	Gentle	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666632	521158.88	5648367.67	7/6/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666633	521132.69	5648404.48	7/6/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666634	521085.28	5648430.42	7/6/2021	Sun		N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666635	521043.16	5648446.71	7/6/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
666636	521002.26	5648478.24	7/6/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666651	521984.26	5647623.03	7/6/2021		Flat	N	B	Light brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666652	521947.28	5647636.77	7/6/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666653	521906.41	5647671.41	7/6/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666654	521864.89	5647697.59	7/6/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666655	521822.17	5647721.98	7/6/2021	Clouds	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666656	521776.64	5647748.26	7/6/2021	Clouds	Flat	N	B	Light grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666657	521733.43	5647772.76	7/6/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666658	521699.25	5647804.21	7/6/2021	Sun	Flat	N	B	Light brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
666659	521655.84	5647830.16	7/5/2021	Sun	Flat	N	B	Grey|Red	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666661	521612.08	5647852	7/5/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Sandy		Block 3
666662	521570.63	5647878.17	7/5/2021	Clouds	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	N/A	Sandy		Block 3
666663	521527.7	5647903.58	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	N/A	Sandy		Block 3
666664	521489.03	5647934.88	7/5/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	N/A	Sandy		Block 3
666665	521434.88	5647958.23	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Sandy		Block 3
666666	521397.55	5647988.66	7/5/2021	Sun	Pronounced	NW	B	Light brown	Sphagnum moss >10cm	N/A	Sandy		Block 3
666667	521361.23	5648012.08	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay|Organic		Block 3
666678	522595.74	5650783.12	7/5/2021	Sun	Flat	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	N/A	Clay|Sandy		Block 3
666679	522635.61	5650745.71	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce|N/A	Organic|Sandy		Block 3
666681	522675.66	5650733.32	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce|N/A	Sandy		Block 3
666682	522716.96	5650704.48	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666683	522767.47	5650675.33	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Clay/Organic|Sandy		Block 3
666684	522811.35	5650652.4	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666685	522849.89	5650616.42	7/5/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce|N/A	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666686	522892.34	5650599.27	7/5/2021	Sun	Gentle	SW	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666687	522931.76	5650570.41	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Clay|Sandy		Block 3
666688	522975.44	5650545.26	7/5/2021	Sun	Gentle	S	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666689	523017.85	5650507.75	7/5/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	N/A	Sandy		Block 3
666690	523062.13	5650488.7	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666691	523104.06	5650463.86	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666692	523140.56	5650428.44	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay/Coarse		Block 3
666693	523190.16	5650398.98	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Clay/Coarse		Block 3
666694	523229.94	5650384.7	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666695	523271.26	5650355.2	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666696	523247.44	5650142.79	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666697	523201.59	5650166.38	7/5/2021	Sun	Gentle	W	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666698	523165.47	5650193.25	7/5/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666699	523121.5	5650218.51	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666701	523063.96	5650235.83	7/5/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666702	523033.18	5650276.84	7/5/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666703	522991.64	5650294.56	7/5/2021	Sun	Gentle	S	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666704	522946.82	5650337.95	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666705	522908.66	5650352.24	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	N/A	Organic		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666706	522868.67	5650383.09	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	N/A	Organic		Block 3
666707	522824.22	5650406.03	7/5/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	N/A	Organic		Block 3
666708	522775.65	5650426.38	7/5/2021	Sun	Flat	N	B	Dark grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666709	522744.95	5650451.94	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666710	522692.07	5650478.61	7/5/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666711	522648.22	5650511.11	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666712	522616.9	5650531.44	7/5/2021	Sun	Gentle	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666713	522561.64	5650558.78	7/5/2021	Sun	Flat	N	B	Light brown|Light	Sphagnum moss >10cm	Spruce|N/A	Sandy		Block 3
666714	522518.02	5650585.39	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Sandy		Block 3
666715	522483.78	5650618.15	7/5/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666716	521697.88	5648267.25	7/9/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
666717	521740	5648249.2	7/9/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
666718	521780.64	5648216.56	7/9/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666719	521833.33	5648188.76	7/9/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Organic|Sandy		Block 3
666721	521870.04	5648156.1	7/9/2021	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy		Block 3
666722	521909.95	5648128.92	7/9/2021	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	N/A	Sandy		Block 3
666723	521949.49	5648108.73	7/9/2021	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666724	521996.79	5648078.8	7/9/2021	Clouds	Flat	N	B	Light grey	Sphagnum moss <10cm	N/A	Sandy		Block 3
666725	522040.8	5648060.3	7/9/2021	Clouds	Flat	N	B	Brown	Grasses	N/A	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666726	522079.13	5648028	7/9/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Sandy		Block 3
666727	522117.8	5647997.25	7/9/2021	Sun	Flat	N	B	Grey	Grasses	N/A	Sandy		Block 3
666728	522150.22	5647966.47	7/9/2021	Sun	Flat	N	B	Brown	Grasses	N/A	Clay|Sandy		Block 3
666729	522211.14	5647953.39	7/9/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666730	522298.92	5648123.35	7/9/2021	Sun	Flat	N	B	Dark grey	Grasses	N/A	Clay		Block 3
666731	522269.68	5648133.35	7/9/2021	Sun	Pronounced	S	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy		Block 3
666732	522239.28	5648182.82	7/9/2021	Sun	Gentle	S	B	Brown	Grasses	Poplar	Sandy		Block 3
666733	522185.02	5648198.04	7/9/2021	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Sandy		Block 3
666734	522144.02	5648219.21	7/9/2021	Sun	Gentle	NW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy/Coarse		Block 3
666735	522104.28	5648252.51	7/9/2021	Sun	Flat	N	B	Grey	Grasses	N/A	Sandy		Block 3
666736	522064.72	5648280.93	7/9/2021	Sun	Flat	N	B	Light grey	Grasses	N/A	Clay		Block 3
666737	522019.19	5648306.42	7/9/2021	Sun	Flat	N	B	Grey	Grasses	Poplar	Clay		Block 3
666738	521977.53	5648333.27	7/9/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	N/A	Clay/Organic		Block 3
666761	522075.22	5650161.13	7/11/2021	Clouds	Flat	N	B	Light brown	Sphagnum moss >10cm	N/A	Organic		Block 3
666762	522133.36	5650134.57	7/11/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 3
666763	522167.99	5650111.26	7/11/2021	Clouds	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic		Block 3
666764	522208.05	5650076.84	7/11/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666765	522257.99	5650049.81	7/11/2021	Clouds	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Organic|Sandy		Block 3
666766	522286.77	5650033.03	7/11/2021		Gentle	NW	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666767	522336.95	5650012.9	7/11/2021	Clouds	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666768	522376.97	5649974.92	7/11/2021	Clouds	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy		Block 3
666769	522415.36	5649941.4	7/11/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy		Block 3
666770	522459.25	5649917.24	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666771	522502.77	5649898.52	7/11/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
666772	522554.75	5649868.83	7/11/2021	Clouds	Flat	N	B	Brown|Dark brow	Sphagnum moss >10cm	Spruce	Organic		Block 3
666773	522590.74	5649855.64	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666774	522625.25	5649809.53	7/11/2021	Clouds	Gentle	NW	B	Light brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
666775	522681.16	5649782.31	7/11/2021	Sun	Gentle	E	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
666776	522710.7	5649764.98	7/11/2021	Sun	Gentle	E	B	Light brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
666777	522753.43	5649735.92	7/11/2021	Sun	Gentle	NE	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666778	522796.63	5649709.98	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Sandy		Block 3
666779	522840.82	5649683.7	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666781	522877.61	5649662.85	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666782	522926.68	5649625.71	7/11/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666783	522968.28	5649598.53	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666784	523007.13	5649587.47	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666785	523045.16	5649558.62	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Sandy		Block 3
666786	523089.74	5649537.46	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666787	523141.04	5649490.43	7/11/2021	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
666788	523169.59	5649475.33	7/11/2021	Sun	Flat	N	B	Dark grey	Grasses|Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy		Block 3
666789	523243.71	5649661.15	7/11/2021	Sun	Flat	N	B	Light brown|Light	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
666790	523196.96	5649694.74	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666791	523164.56	5649721.29	7/11/2021	Sun	Gentle	S	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666792	523107.79	5649753.28	7/11/2021	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666793	523064.86	5649765.99	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666794	523023.97	5649792.83	7/11/2021	Sun	Gentle	S	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666795	522984.19	5649822.24	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666796	522930.88	5649849.91	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666797	522905.97	5649882.49	7/11/2021	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
666798	522856.92	5649898.29	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666799	522814.55	5649926.24	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666801	521982.29	5648814.59	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 3
666802	521942.83	5648835.88	7/11/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666803	521893.68	5648855.47	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666804	521857.08	5648897.57	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666805	521816.81	5648911.3	7/11/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic		Block 3
666806	521770.54	5648947.91	7/11/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666807	521732.38	5648960.43	7/11/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay		Block 3
666808	521684.5	5648995.92	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666809	521644.8	5649025.68	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666810	521604.99	5649045.3	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666811	521553.29	5649072.78	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666812	521520.4	5649100.77	7/11/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666813	521473.33	5649130.05	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Block 3
666814	521433.16	5649152.9	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Block 3
666815	521331.6	5648986.46	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666816	521368.58	5648954.13	7/11/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666817	521411.69	5648931.74	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666818	521450.5	5648898.87	7/11/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666819	521493.09	5648883.82	7/11/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm|Sphagnum moss >10cm	Spruce	Sandy		Block 3
666821	521535.13	5648850.4	7/11/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
666822	521578.48	5648822.67	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666823	521620.33	5648800.6	7/11/2021	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Block 3
666824	521660.46	5648772.86	7/11/2021	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic		Block 3
666825	521702.8	5648751.46	7/11/2021	Sun|Wind	Flat	N	B	Brown	Grasses	N/A	Organic		Block 3
666826	521742.81	5648716.05	7/11/2021	Sun|Wind	Flat	N	B	Brown	Grasses	N/A	Organic		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666827	521791.94	5648684.23	7/11/2021	Sun	Flat	N	B	Brown	Grasses	N/A	Organic		Block 3
666828	521829.02	5648661.58	7/11/2021	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce|N/A	Clay		Block 3
666829	521879.63	5648626.99	7/11/2021	Sun	Flat	N	B	Grey|Dark grey	Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy		Block 3
666830	521916.01	5648603.57	7/11/2021	Sun|Wind	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	Sandy		Block 3
666831	521956.25	5648582.5	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce|N/A	Organic|Sandy		Block 3
666832	521538.82	5649311.92	7/11/2021	Clouds	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666833	521581.73	5649287.3	7/11/2021	Clouds|Sun	Gentle	S	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666834	521622.78	5649273.24	7/11/2021	Sun	Gentle	S	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy		Block 3
666835	521665.3	5649241.61	7/11/2021	Clouds	Gentle	W	B	Light grey	Sphagnum moss >10cm	Spruce	Sandy		Block 3
666836	521709.24	5649222.45	7/11/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666837	521756.61	5649189.5	7/11/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
666838	521797.54	5649152.09	7/12/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666839	521837.16	5649125.13	7/12/2021	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
666841	521882.43	5649128.1	7/12/2021	Clouds	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
666842	521923.28	5649076.12	7/12/2021	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666843	521963.2	5649060.6	7/12/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic		Block 3
666844	521997.61	5649024.39	7/12/2021	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666845	522042.69	5649002	7/12/2021	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay		Block 3
666846	521659.7	5649490.46	7/12/2021	Sun	Gentle	SE	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666847	521692.49	5649468.48	7/12/2021	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Block 3
666848	521730.36	5649442.16	7/12/2021	Clouds	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce|N/A	Clay|Sandy		Block 3
666849	521769.86	5649409.19	7/12/2021	Clouds	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Block 3
666850	521823.81	5649380.39	7/12/2021	Clouds	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy		Block 3
665868	512402.65	5651201.67	28-Jul-21	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Lucky 7
665869	512405.35	5651158.31	28-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Lucky 7
665870	512443.47	5651115.81	28-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Lucky 7
665871	512471.43	5651071.06	28-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Lucky 7
665872	512491.79	5651031.75	28-Jul-21	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss >10cm	Spruce	Organic		Lucky 7
665873	512523.96	5650987.79	28-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Lucky 7
665874	512537.39	5650948.01	28-Jul-21	Sun	Gentle	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665875	512765.66	5650950.69	28-Jul-21	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665876	512738.16	5651009.99	28-Jul-21	Sun	Pronounced	NW	B	Light brown	Grasses	Poplar|Spruce	Sandy		Lucky 7
665877	512719.96	5651053.43	28-Jul-21	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665878	512700.84	5651092.2	28-Jul-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Buck brush |Spruc	Clay|Sandy		Lucky 7
665879	512673.95	5651132.83	28-Jul-21	Sun	Gentle	N	B	Brown|Red	Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Lucky 7
665881	512642.41	5651178.35	28-Jul-21	Sun	Pronounced	S	B	Brown|Red	Caribou lichen|Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Lucky 7
665882	512611.89	5651210.19	28-Jul-21	Sun	Flat	N	B	Dark grey	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Clay		Lucky 7
665883	512845.59	5651226.11	28-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665884	512871.71	5651188.59	28-Jul-21	Sun	Gentle	NW	B	Brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Lucky 7
665885	512899.4	5651138.73	28-Jul-21	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665886	512915.35	5651100.73	28-Jul-21	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665887	512938.57	5651044.53	28-Jul-21	Sun	Flat	N	B	Light brown|Brow	Grasses	Poplar|Spruce	Sandy		Lucky 7
665888	512977.18	5651007.92	28-Jul-21	Sun	Pronounced	S	B	Brown|Red	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665889	513076.89	5651223.24	28-Jul-21	Sun	Pronounced	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665890	513112.19	5651188.31	28-Jul-21	Sun	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665891	513140.88	5651134.44	28-Jul-21	Sun	Flat	N	B	Brown	Grasses	N/A	Organic		Lucky 7
665892	513156.22	5651089.67	28-Jul-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665893	513189.31	5651042.49	28-Jul-21	Sun	Flat	N	B	Light brown|Oran	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665894	513210.67	5651003.06	28-Jul-21	Sun	Gentle	N	B	Brown|Grey	Grasses	Spruce	Sandy		Lucky 7
665895	513233.99	5650963.09	28-Jul-21	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Buck brush	Clay		Lucky 7
665896	513258.6	5650914.11	28-Jul-21	Sun	Flat	N	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665897	513284.25	5650867.58	28-Jul-21	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665898	513307.11	5650819.15	28-Jul-21	Sun	Flat	N	B	Light brown|Grey	Grasses	Poplar|Spruce	Sandy		Lucky 7
665899	513336.8	5650786.21	28-Jul-21	Sun	Flat	N	B	Brown	Grasses	Buck brush |Spruc	Sandy		Lucky 7
665901	514966.95	5651159.64	29-Jul-21	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665902	514957.76	5651180.75	29-Jul-21	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Lucky 7
665903	514923.41	5651222.68	29-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Lucky 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665904	514700.38	5651206.92	29-Jul-21	Sun	Flat	N	B	Black	Grasses|Sphagnum moss >10cm	Buck brush |Spruc	Organic		Lucky 7
665905	514723.37	5651163.17	29-Jul-21	Sun	Gentle	E	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665906	514747.28	5651116.2	29-Jul-21	Sun	Gentle	SW	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665907	514787.03	5651079.06	29-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665908	514798.07	5651041.28	29-Jul-21	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Clay/Organic		Lucky 7
665909	514602.72	5650984.35	29-Jul-21	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665910	514587.66	5651027.45	29-Jul-21	Sun	Gentle	W	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665911	514560.92	5651056.06	29-Jul-21	Sun	Flat	N	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665912	514526.69	5651105.01	29-Jul-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay		Lucky 7
665913	514505.09	5651150.87	29-Jul-21	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Poplar|Spruce	Organic		Lucky 7
665914	514480.49	5651190.62	29-Jul-21	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665915	514448.72	5651237.46	29-Jul-21	Sun	Gentle	S	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665916	514363.77	5651011.03	29-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665917	514326.97	5651050.62	29-Jul-21	Sun	Flat	N	B	Brown	Grasses	Buck brush	Clay		Lucky 7
665918	514299.84	5651094.71	29-Jul-21	Sun	Gentle	S	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665919	514279.8	5651135.57	29-Jul-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665921	514251.05	5651182.53	29-Jul-21	Sun	Gentle	S	B	Grey|Orange	Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665922	514224.39	5651236.17	29-Jul-21	Sun	Flat	N	B	Brown|Grey	Caribou lichen	Spruce	Organic|Sandy		Lucky 7
665923	513570.5	5650784.92	29-Jul-21	Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665924	513539.52	5650826.99	29-Jul-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Buck brush |Spruc	Sandy		Lucky 7
665925	513506.37	5650868.05	29-Jul-21	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Organic|Sandy		Lucky 7
665926	513479.07	5650923.47	29-Jul-21	Sun	Flat	N	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665927	513466.82	5650969.14	29-Jul-21	Sun	Flat	N	B	Brown		Poplar|Spruce	Sandy		Lucky 7
665928	513440.64	5651002.76	29-Jul-21	Sun	Gentle	NW	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic		Lucky 7
665929	513415.05	5651047.19	29-Jul-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665930	513390.8	5651093.05	29-Jul-21	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665931	513348.29	5651119.85	29-Jul-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665932	513343.64	5651182.56	29-Jul-21	Sun	Flat	N	B	Light brown		Buck brush |Subal	Sandy		Lucky 7
665933	513315.53	5651226.3	29-Jul-21	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665993	514008.25	5651208.44	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665994	514034.86	5651151.24	1-Aug-21	Sun	Gentle	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Poplar|Spruce	Organic		Lucky 7
665995	514053.82	5651116.94	1-Aug-21	Sun	Gentle	S	B	Light grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665996	514083.38	5651079.88	1-Aug-21	Sun	Flat	N	B	Light brown|Grey	Grasses	Buck brush |Spruc	Sandy		Lucky 7
665997	514111.38	5651027.35	1-Aug-21	Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665998	514121.73	5650986.68	1-Aug-21	Sun	Gentle	S	B	Red	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665999	514168.65	5650964.9	1-Aug-21	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Clay/Organic		Lucky 7
666001	514187.59	5650916.46	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
666002	514208.08	5650866.37	1-Aug-21	Sun	Steep	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Clay		Lucky 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666003	514048.99	5650725.59	1-Aug-21	Sun	Gentle	S	B	Brown	Grasses	Spruce	Sandy		Lucky 7
666004	514038.69	5650773.27	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy		Lucky 7
666005	514024.51	5650803.93	1-Aug-21	Sun	Gentle	S	B	Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
666006	513980.51	5650859.07	1-Aug-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
666007	513956.17	5650906.16	1-Aug-21	Sun	Pronounced	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
666008	513933.56	5650939.35	1-Aug-21	Sun	Gentle	S	B	Light brown|Oran	Sphagnum moss <10cm	Buck brush |Spruc	Clay|Sandy		Lucky 7
666009	513916.61	5650983.34	1-Aug-21	Sun	Flat	N	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
666010	513886.87	5651035.53	1-Aug-21	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Poplar|Spruce	Sandy		Lucky 7
665107	512182.91	5650790.59	22-Jun-21	Clouds|Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665108	512157.94	5650820.66	22-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665109	512126.76	5650862.4	22-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665110	512099	5650915.16	22-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce			Lucky 7
665111	512081.84	5650959.6	22-Jun-21	Clouds|Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665112	512056.14	5651000.36	22-Jun-21	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce			Lucky 7
665113	512032.9	5651043.45	22-Jun-21	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665114	512008.51	5651091.1	22-Jun-21	Clouds|Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665115	511984.29	5651129.63	22-Jun-21	Clouds	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665116	511957.75	5651167.27	22-Jun-21	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665117	511933.09	5651214.92	22-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665118	512165.79	5651213.79	22-Jun-21	Clouds	Gentle	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay		Lucky 7
665119	512188.76	5651169.7	22-Jun-21	Clouds|Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665121	512216.09	5651123.83	22-Jun-21	Clouds|Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665122	512236.17	5651083.74	22-Jun-21	Clouds|Sun	Pronounced	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
665123	512264.84	5651035.88	22-Jun-21	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665124	512287.24	5650997.79	22-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
665125	512317.44	5650953.26	22-Jun-21	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
660399	513889.13	5650612.95	1-Aug-21	Sun	Gentle	E	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660401	513865.02	5650652.6	1-Aug-21	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660402	513840.45	5650711.91	1-Aug-21	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660403	513811.18	5650768.54	1-Aug-21	Sun	Steep	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660404	513787.54	5650793.84	1-Aug-21	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660405	513763.99	5650837.48	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660406	513682.28	5650962.81	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
660407	513662.23	5651011.24	1-Aug-21	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic		Lucky 7
660408	513641.13	5651055.11	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic		Lucky 7
660409	513609.1	5651100.84	1-Aug-21	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660410	513584.01	5651142.26	1-Aug-21	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7
660411	513559.36	5651181.56	1-Aug-21	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic		Lucky 7

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660412	513536.15	5651230.99	1-Aug-21	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660413	513768.42	5651231.49	1-Aug-21	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	N/A	Organic|Sandy		Lucky 7
660414	513782.13	5651192.27	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy		Lucky 7
660415	513813.52	5651152.43	1-Aug-21	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic		Lucky 7
660416	513834.42	5651101.66	1-Aug-21	Sun	Gentle	N	B	Light brown|Light	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660417	513856.64	5651059.46	1-Aug-21	Sun	Gentle	N	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Sandy		Lucky 7
660933	522142.38	5656425.65	44379	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660934	522181.76	5656396.24	44379	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660935	522222.27	5656362.49	44379	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660936	522261.99	5656334.86	44379	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660937	522302.69	5656305.57	44379	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	South	Fly-Moth
660938	522338.5	5656274.03	44379	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic	South	Fly-Moth
660939	522380.19	5656228.72	44379	Sun	Flat	N	B	Brown|Grey		Poplar|Spruce	Sandy	South	Fly-Moth
660941	522419.82	5656203.54	44379	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660942	522464.36	5656180.16	44379	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy/Coarse	South	Fly-Moth
660943	522493.57	5656150.04	44379	Sun	Pronounced	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660944	522540.68	5656116.32	44379	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660945	522557.33	5656091.15	44379	Sun	Pronounced	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660946	521731.25	5655220.43	44379	Sun	Gentle	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660947	521691.02	5655250.84	44380	Sun	Pronounced	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660948	521652.58	5655290.37	44380	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660949	521618.2	5655313.48	44380	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660950	521567.83	5655357.52	44380	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660951	521536.02	5655388.19	44380	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660952	521487.69	5655414.35	44380	Sun	Gentle	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660953	521439.78	5655439.17	44380	Sun	Gentle	W	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660954	521403.19	5655471.94	44380	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
660955	521368.17	5655500.93	44380	Sun	Gentle	N	B	Brown|Grey		Spruce	Sandy	South	Fly-Moth
660956	521332.73	5655526.8	44380	Sun	Gentle	S	B	Brown|Grey	Grasses	Spruce	Sandy	South	Fly-Moth
660957	521296.35	5655560.69	44380	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660958	521246.75	5655607.19	44380	Sun	Gentle	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
660959	521383.96	5655764.33	44380	Sun	Gentle	N	B	Brown	Grasses	Buck brush |Spruc	Sandy	South	Fly-Moth
660961	521417.86	5655721.43	44380	Sun	Gentle	NE	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660962	521463.5	5655684.14	44380	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660963	521491.23	5655658.02	44380	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660964	521537.18	5655630.29	44380	Sun	Gentle	E	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660965	521573.77	5655597.87	44380	Sun	Gentle	E	B	Brown	Caribou lichen	Spruce	Organic	South	Fly-Moth
660966	521622.6	5655569.16	44380	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660967	521651.67	5655541.59	44380	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Poplar	Sandy	South	Fly-Moth
660968	521685.48	5655501.7	44380	Sun	Gentle	SE	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660969	521739.57	5655473.89	44380	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660970	521768.91	5655447.33	44380	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660971	521823.72	5655414.98	44380	Sun	Gentle	S	B	Grey	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660972	521849.04	5655378.72	44380	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660973	521893.6	5655350.44	44380	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Poplar	Organic	South	Fly-Moth
660974	521933.46	5655324.15	44380	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660159	520886.11	5654866.3	44380	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660161	520850.33	5654888.73	44384	Sun	Steep	SE	B	Light brown	Grasses	Spruce	Sandy	South	Fly-Moth
660162	520805.32	5654941.26	44384	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Sandy	South	Fly-Moth
660163	520767.94	5654961.91	44384	Sun	Pronounced	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660164	521083.64	5654714.09	44384	Sun	Gentle	NW	B	Light brown	Grasses	Spruce	Sandy	South	Fly-Moth
660165	521122.76	5654697.45	44384	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush |Spruc	Clay	South	Fly-Moth
660166	521164.45	5654650.58	44384	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660167	521202.85	5654619.94	44384	Sun	Flat	N	B	Brown		Spruce	Sandy	South	Fly-Moth
660168	521043.59	5655010.84	44384	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	South	Fly-Moth
660169	521011.05	5655033.17	44384	Sun	Gentle	SE	B	Brown		Spruce	Organic	South	Fly-Moth
660170	520966.49	5655062.46	44384	Sun	Gentle	SE	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660171	520926.47	5655093.66	44384	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660172	520891.75	5655132.88	44384	Sun	Gentle	SE	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
660173	521125.1	5654433.46	44384	Sun	Gentle	NW	B	Grey|Red	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660174	521087.75	5654463.33	44384	Sun	Gentle	SE	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660175	521613	5654564.26	44384	Sun	Gentle	NE	B	Brown|Grey|Oran	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660176	521686.38	5654502.06	44384	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660178	521642.08	5654532.13	44384	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660177	521569.83	5654340.78	44385	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660179	521526.44	5654389.86	44385	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660181	521484.44	5654408.58	44385	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660182	521443.54	5654432	44385	Sun	Flat	N	B	Grey|Orange	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660183	521404.88	5654474.09	44385	Sun	Gentle	NW	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660184	520639.85	5654791.25	44385	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660185	520681.92	5654770.85	44385	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660186	520727.25	5654726.1	44385	Sun	Flat	SW	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay	South	Fly-Moth
660187	520769.96	5654704.47	44385	Sun	Flat	N	B	Light grey		Spruce	Clay|Sandy	South	Fly-Moth
660188	520807.31	5654674.71	44385	Sun	Flat	N	B	Grey	Grasses	Spruce	Clay|Sandy	South	Fly-Moth
660189	520849.96	5654634.07	44385	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660190	520880.9	5654609.95	44385	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660191	520920.19	5654583.2	44385	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660221	521070.08	5653708.17	44385	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660222	521025.82	5653744.14	44385	Sun	Gentle	NW	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660223	520993.51	5653777.7	44387	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660224	520958.57	5653800.02	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	South	Fly-Moth
660225	520913.86	5653844.21	44387	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic	South	Fly-Moth
660226	520875	5653867.18	44387	Sun	Gentle	NW	B	Brown	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660227	520831.56	5653893.37	44387	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	South	Fly-Moth
660228	520798.49	5653920.03	44387	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	South	Fly-Moth
660229	520754.96	5653953.88	44387	Sun	Gentle	S	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay	South	Fly-Moth
660230	520714.24	5653986.2	44387	Sun	Gentle	E	B	Grey|Orange	Grasses	Buck brush |Spruc	Sandy	South	Fly-Moth
660231	520684.07	5654024.11	44387	Sun	Gentle	N	B	Light grey|Orange		Spruce	Sandy	South	Fly-Moth
660232	520631.87	5654050.47	44387	Sun	Flat	N	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660233	520594.7	5654072.46	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
660234	520436.68	5654209.17	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
660235	520159.6	5654173.83	44387	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660236	520190.82	5654129.91	44387	Sun	Gentle	SW	B	Brown|Light grey	Grasses	Poplar|Spruce	Sandy	South	Fly-Moth
660237	520239.21	5654093.41	44387	Sun	Gentle	SE	B	Brown|Grey	Grasses	Poplar	Sandy	South	Fly-Moth
660238	520274.49	5654072.64	44387	Sun	Flat	N	B	Dark brown	Grasses	Buck brush |Spruc	Organic	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660239	520322.25	5654052.02	44387	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush |Spruc	Clay	South	Fly-Moth
660241	520357.09	5654014.8	44387	Sun	Flat	N	B	Brown	Grasses	Buck brush	Clay	South	Fly-Moth
660242	520399.6	5653975.71	44387	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush	Clay	South	Fly-Moth
660243	520432.01	5653953.37	44387	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Clay	South	Fly-Moth
660244	520480.67	5653934.55	44387	Sun	Gentle	NW	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660245	520517.47	5653904.45	44387	Sun	Flat	N	B	Brown	Grasses	Poplar|Spruce	Sandy	South	Fly-Moth
660246	520550.63	5653868.33	44387	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush |Spruc	Sandy	South	Fly-Moth
660247	520588.44	5653829.45	44387	Sun	Gentle	N	B	Brown|Grey	Grasses	Buck brush	Sandy	South	Fly-Moth
660248	520631.49	5653811.93	44387	Sun	Gentle	N	B	Brown|Grey	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Sandy	South	Fly-Moth
660249	520681.09	5653770.65	44387	Sun	Gentle	NE	B	Brown|Light grey	Grasses	Buck brush	Sandy	South	Fly-Moth
660250	520709.31	5653744.97	44387	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush	Sandy	South	Fly-Moth
660251	520758.13	5653705.79	44387	Sun	Flat	N	B	Light brown|Grey	Grasses	Buck brush	Sandy	South	Fly-Moth
660252	520790.19	5653684.58	44387	Sun	Flat	N	B	Light brown|Grey	Grasses	Buck brush	Sandy	South	Fly-Moth
660253	520827.62	5653652.93	44387	Sun	Gentle	S	B	Brown|Grey	Grasses	Buck brush |Spruc	Sandy	South	Fly-Moth
660254	520864.45	5653631.83	44387	Sun	Gentle	S	B	Brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Sandy	South	Fly-Moth
660255	520920.62	5653594.8	44387	Sun	Flat	N	B	Brown|Light grey		Buck brush |Spruc	Clay|Sandy	South	Fly-Moth
660256	520951.19	5653561.23	44387	Sun	Gentle	SE	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660257	520880.32	5654370.86	44388	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Clay	South	Fly-Moth
660258	520927.43	5654338.91	44388	Sun	Flat	N	B	Dark brown |Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660259	520955.18	5654306.88	44388	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
660261	520995.98	5654272.46	44388	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
660262	521032.21	5654242.59	44388	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660263	521124.86	5654183.69	44388	Sun	Gentle	NE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660264	521164.15	5654143.93	44388	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660265	521193.71	5654115.69	44388	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Buck brush	Organic	South	Fly-Moth
660266	521238.57	5654101.75	44388	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Buck brush |Spruc	Organic	South	Fly-Moth
660267	521269.87	5654061.18	44388	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660268	521309.07	5654042	44388	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660269	519553.26	5653361.8	44394	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy	South	Fly-Moth
660270	519599.32	5653344.41	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660271	519634.58	5653310.08	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic|Sandy	South	Fly-Moth
660272	519671.38	5653279.52	44394	Sun	Flat	W	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic|Sandy	South	Fly-Moth
660273	519706.27	5653250.74	44394	Sun		N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic	South	Fly-Moth
660274	519748.81	5653219.54	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
660275	519787.21	5653191.11	44394	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660276	519824.21	5653162.68	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Sandy	South	Fly-Moth
660277	519869.43	5653129.04	44394	Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	Spruce	Sandy/Coarse	South	Fly-Moth
660278	519909.67	5653096.28	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660279	519945.67	5653069.83	44394	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660281	519987.32	5653034.41	44394	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660282	520021.82	5652999.29	44394	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660283	520066.88	5652971.22	44394	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660284	520111.99	5652949.05	44394	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660285	520150.83	5652915.28	44394	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660286	520191.16	5652878.62	44394	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660287	520225.9	5652852.85	44394	Sun	Gentle	S	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
660288	520260.73	5652823.74	44394	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
660289	520309.9	5652786.68	44394	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660290	520346.06	5652757.02	44394	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660291	520473	5652917.22	44394	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
660292	520428.68	5652952.62	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660293	520389.84	5652984.61	44394	Sun	Gentle	E	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660294	520353.84	5653009.71	44394	Sun	Gentle	NW	B	Light brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660295	520311.2	5653044.57	44394	Sun	Gentle	W	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660296	520256.95	5653073.6	44394	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
660297	520228.42	5653103.74	44394	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660298	520191.97	5653137.29	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660299	520168.05	5653156.78	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660301	520106.18	5653199.01	44394	Sun	Flat	N	B	Black|Dark brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
660302	520066.09	5653230.1	44394	Sun	Flat	N	B	Light brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665365	522131.37	5655431.74	44380	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
665366	522086.52	5655462.03	44380	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665367	522048.62	5655490.11	44380	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665368	522014.73	5655514.66	44380	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665369	521973.19	5655541.5	44380	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665370	521924.82	5655575.65	44380	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665371	521909.79	5655599.95	44380	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665372	521866.26	5655647.03	44380	Sun	Gentle	NE	B	Light brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy	South	Fly-Moth
665373	521817.79	5655673.73	44380	Sun	Gentle	E	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Organic	South	Fly-Moth
665374	521774.56	5655702.24	44380	Sun	Flat	N	B	Brown	Grasses	Poplar	Sandy	South	Fly-Moth
665375	521735.58	5655723.09	44380	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar	Sandy	South	Fly-Moth
665376	521695.11	5655761.74	44380	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665377	521650.87	5655799.14	44380	Sun	Gentle	SE	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
665378	521616.79	5655817.23	44380	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Organic|Sandy	South	Fly-Moth
665379	521575.85	5655853.09	44380	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Sandy	South	Fly-Moth
665381	521536.56	5655881.17	44380	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665421	522328.09	5655520.9	44381	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665422	522292.8	5655544.76	44384	Sun	Gentle	SE	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665423	522246.45	5655581.59	44384	Sun	Flat	N	B	Brown	Grasses	Poplar|Spruce	Sandy	South	Fly-Moth
665424	522202.22	5655613.77	44384	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665425	522176.32	5655640.56	44384	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665426	522133.49	5655673.18	44384	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665427	522092.65	5655699.37	44384	Sun	Flat	N	B	Brown	Grasses	Poplar|Spruce	Sandy	South	Fly-Moth
665428	522058.87	5655732.36	44384	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic	South	Fly-Moth
665429	522016.54	5655762.21	44384	Sun	Gentle	NW	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665430	521975.37	5655786.27	44384	Sun	Flat	N	B	Brown	Grasses	Poplar	Sandy	South	Fly-Moth
665431	521940.66	5655823.04	44384	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665432	521898.75	5655854.23	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
665433	521856.58	5655883.63	44384	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665434	521819.07	5655917.72	44384	Sun	Flat	N	B	Dark grey	Grasses	Buck brush	Clay	South	Fly-Moth
665435	521778.78	5655948.69	44384	Sun	Flat	N	B	Grey	Grasses	Buck brush	Clay	South	Fly-Moth
665436	521737.58	5655980.32	44384	Sun	Pronounced	NE	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665437	521692.85	5656016.83	44384	Sun	Pronounced	NE	B	Brown	Grasses	Spruce	Organic	South	Fly-Moth
665438	521662.48	5656038.61	44384	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665439	521615.07	5656078.11	44384	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665441	521579.84	5656090.98	44384	Sun	Pronounced	NW	B	Brown|Grey	Sphagnum moss <10cm	N/A	Clay/Organic	South	Fly-Moth
665442	521501.48	5655907.17	44384	Sun	Flat	N	B	Brown	Grasses	Poplar	Sandy	South	Fly-Moth
665443	521467.09	5655951.84	44384	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Sandy	South	Fly-Moth
665444	521420.02	5655979.44	44384	Sun	Pronounced	NW	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665445	521801.36	5654667.58	44385	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Poplar|Spruce	Clay|Sandy	South	Fly-Moth
665446	521762.56	5654693.77	44385	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665447	521724.28	5654726.42	44385	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665448	521685.39	5654755.5	44385	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665449	521641.97	5654794.24	44385	Clouds|Sun	Pronounced	W	B	Brown	Grasses	Poplar|Spruce	Sandy	South	Fly-Moth
665450	521601.76	5654820.99	44385	Clouds	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
665451	521572.51	5654842.43	44385	Clouds|Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar	Sandy	South	Fly-Moth
665452	521523.23	5654874.59	44385	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
665453	521493.98	5654912.06	44385	Sun	Steep	W	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Sandy	South	Fly-Moth
665454	521442.77	5654939.2	44385	Sun	Steep	W	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665455	521126.88	5655438.88	44385	Clouds|Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665456	521170.23	5655394.58	44385	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665457	521207.42	5655369.16	44385	Clouds|Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665458	521248.87	5655344.97	44385	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665459	521297.5	5655317.93	44385	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665461	521336.83	5655297.73	44385	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665462	521367.33	5655261.5	44385	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665463	521402.45	5655211.27	44385	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665464	521451.3	5655195.9	44385	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665465	521487.14	5655157.46	44385	Sun	Pronounced	SW	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	South	Fly-Moth
665466	521530.78	5655132.62	44385	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665467	521564.63	5655099.4	44385	Sun	Pronounced	E	B	Brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665468	521604.89	5655079.88	44385	Sun	Steep	S	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665469	521646.92	5655034.24	44385	Clouds|Sun	Steep	S	B	Brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665470	521687.77	5655006.5	44385	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665471	521720.85	5654991.07	44385	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665472	521769.72	5654954.8	44385	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665473	521812.76	5654921.4	44385	Clouds	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665474	521846.67	5654894.29	44385	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665475	521886.66	5654855.43	44385	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665476	521922.74	5654826.12	44385	Clouds|Sun	Gentle	NE	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
665477	521188.03	5653860.45	44387	Clouds	Pronounced	NW	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665478	521168.42	5653904.51	44387	Clouds	Steep	E	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665479	521113.63	5653944.56	44387	Clouds	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665481	521071.63	5653963.06	44387	Clouds	Pronounced	W	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
665482	521024.12	5653989.78	44387	Clouds|Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665483	521003.31	5654020.83	44387	Sun	Flat	N	B	Dark brown	Grasses	N/A	Organic	South	Fly-Moth
665484	520958.78	5654059.91	44387	Sun	Flat	N	B	Dark brown |Grey	Grasses	N/A	Clay/Organic	South	Fly-Moth
665485	520915.96	5654087.54	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	N/A	Sandy	South	Fly-Moth
665486	520874.18	5654120.73	44387	Sun	Pronounced	W	B	Brown	Sphagnum moss >10cm	Spruce	Sandy/Coarse	South	Fly-Moth
665487	520835.08	5654150.48	44387	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665488	520789.74	5654180.22	44387	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665489	520443.53	5654462.97	44387	Sun	Pronounced	E	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665490	520395.18	5654491.57	44387	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665491	520518.57	5654631.86	44387	Sun	Pronounced	W	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665492	520554.16	5654620.32	44387	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665493	520602.82	5654584.93	44387	Sun	Pronounced	S	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665494	520630.28	5654555.45	44387	Sun	Pronounced	E	B	Dark brown	Grasses|Sphagnum moss <10cm	N/A	Organic	South	Fly-Moth
665495	520683.54	5654525.42	44387	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic	South	Fly-Moth
665496	520720.36	5654485.31	44387	Sun	Flat	N	B	Dark brown	Grasses	N/A	Organic	South	Fly-Moth
665497	520758.12	5654458.1	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665498	520795.89	5654429.57	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665499	520833.63	5654406.92	44387	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665611	520034.7	5654000.52	44393	Sun|Wind	Flat	N	B	Dark brown	Grasses	Spruce	Clay|Sandy	South	Fly-Moth
665612	520071.17	5653979.43	44393	Sun|Wind	Flat	N	B	Light grey	Grasses	Poplar	Clay|Sandy	South	Fly-Moth
665613	520117.63	5653950.02	44393	Sun	Flat	N	B	Light grey	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy	South	Fly-Moth
665614	520149.5	5653905	44393	Sun	Flat	N	B	Dark grey	Grasses	N/A	Clay/Organic	South	Fly-Moth
665615	520189.79	5653875.25	44393	Sun	Flat	N	B	Dark grey	Grasses	N/A	Sandy	South	Fly-Moth
665616	520239.14	5653824.73	44393	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Sandy	South	Fly-Moth
665617	520259.71	5653817.36	44393	Sun	Flat	N	B	Brown	Grasses	Poplar	Sandy	South	Fly-Moth
665618	520319.55	5653791.46	44393	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665619	520346.21	5653753.31	44393	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
665621	520393.97	5653733.26	44393	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
665622	520433.35	5653685.93	44393	Sun	Flat	N	B	Light brown	Grasses	Spruce	Sandy	South	Fly-Moth
665623	520470.42	5653673.29	44393	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665624	520513.28	5653635.87	44393	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665625	520554.89	5653608.12	44393	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic|Sandy	South	Fly-Moth
665626	520592.97	5653588.93	44393	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665627	520642.26	5653539.19	44393	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665628	520671.25	5653512.84	44393	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic	South	Fly-Moth
665629	520715.96	5653485.66	44393	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
665630	520748.81	5653458.99	44393	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665631	520789.27	5653425.79	44393	Sun	Flat	N	B	Dark brown	Grasses	N/A	Organic	South	Fly-Moth
665632	520828.3	5653396.93	44393	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic|Sandy	South	Fly-Moth
665633	520546.37	5653124.79	44394	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665634	520514.62	5653138.23	44394	Sun	Pronounced	S	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665635	520472.78	5653165.42	44394	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	South	Fly-Moth
665636	520434.24	5653193.74	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665637	520386.98	5653228.13	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665638	520344.58	5653259.78	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665639	520308.71	5653285.65	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665641	520267.8	5653310.84	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665642	520234.11	5653353.31	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665643	520183.52	5653381.13	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665644	520142.54	5653423.79	44394	Sun	Flat	N	B	Light grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
665645	520112.93	5653447.03	44394	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	South	Fly-Moth
665646	520068.53	5653484.66	44394	Sun	Steep	N	B	Dark brown |Grey	Sphagnum moss <10cm	Spruce	Clay|Organic	South	Fly-Moth
665647	520045.94	5653504.82	44394	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Sandy	South	Fly-Moth
665648	519989	5653542.74	44394	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Sandy	South	Fly-Moth
665649	519955.23	5653571.63	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic	South	Fly-Moth
665650	519918.72	5653602.41	44394	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665651	519873.88	5653629.26	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665652	519828.06	5653654.11	44394	Sun	Flat	N	B	Light grey	Grasses	Spruce	Sandy	South	Fly-Moth
665653	519791.21	5653685.55	44394	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	South	Fly-Moth
665654	519672.04	5653526.51	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665655	519710.08	5653499.86	44394	Sun	Flat	N	B	Dark grey	Grasses	Spruce	Clay	South	Fly-Moth
665656	519749.18	5653471.09	44394	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
665657	519782.55	5653473.44	44394	Sun	Flat	N	B	Dark brown	Grasses	Spruce	Organic	South	Fly-Moth
665658	519829.71	5653408.9	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic	South	Fly-Moth
665659	519871.25	5653384.93	44394	Sun	Gentle	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665661	519912.12	5653349.84	44394	Sun	Gentle	N	B	Brown	Grasses	Spruce	Organic	South	Fly-Moth
665662	519943.21	5653307.48	44394	Sun	Flat	N	B	Dark brown	Grasses	N/A	Organic	South	Fly-Moth
665663	519988.64	5653290.08	44394	Sun	Gentle	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
665664	520023.32	5653246.62	44394	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	South	Fly-Moth
666581	522454.55	5655680.02	44380	Sun	Gentle	S	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
666582	522408.63	5655714.74	44380	Sun	Gentle	S	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
666583	522365.96	5655743.36	44380	Sun	Pronounced	S	B	Light brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
666584	522333.48	5655780.8	44380	Sun	Flat	N	B	Dark brown	Grasses	N/A	Clay	South	Fly-Moth
666585	522289.66	5655816.86	44380	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth
666586	522253.36	5655833.84	44380	Sun	Flat	N	B	Brown	Grasses	N/A	Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666587	522216.57	5655862.04	44380	Sun	Gentle	S	B	Brown|Grey		N/A	Organic|Sandy	South	Fly-Moth
666588	522182.66	5655909.16	44380	Sun	Flat	N	B	Brown		N/A	Clay|Sandy	South	Fly-Moth
666589	522137.8	5655926.86	44380	Sun	Flat	N	B	Dark brown	Grasses	N/A	Clay	South	Fly-Moth
666590	522094.23	5655953.93	44380	Sun	Flat	N	B	Dark brown		N/A	Organic	South	Fly-Moth
666591	522054.53	5655992.57	44380	Sun	Gentle	SW	B	Light brown|Red	Sphagnum moss <10cm	N/A	Sandy	South	Fly-Moth
666592	522014.83	5656016.86	44380	Sun	Flat	N	B	Light brown|Red		N/A	Sandy	South	Fly-Moth
666593	521980.44	5656044.3	44380	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	South	Fly-Moth
666594	521934.77	5656071.57	44380	Sun	Gentle	E	B	Light brown|Brow	Sphagnum moss >10cm	Spruce|N/A	Organic|Sandy	South	Fly-Moth
666595	521901.67	5656108.35	44380	Sun	Gentle	E	B	Light brown		N/A	Organic	South	Fly-Moth
666596	521856.85	5656134.18	44380	Sun	Pronounced	NW	B	Light brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
666597	521820.97	5656165.83	44380	Sun	Flat	N	B	Dark brown |Yello	Sphagnum moss >10cm	Spruce	Clay|Sandy	South	Fly-Moth
666598	521929.77	5656339.44	44380	Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	Spruce|N/A	Organic|Sandy	South	Fly-Moth
666599	521979.49	5656301.63	44380	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce|N/A	Clay	South	Fly-Moth
666637	522017.06	5656266.19	44384	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	South	Fly-Moth
666638	522057.41	5656236.57	44384	Sun	Gentle	W	B	Brown	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
666639	522093.52	5656201.69	44384	Sun	Gentle	NW	B	Light grey	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
666641	522142.31	5656181.1	44384	Sun	Gentle	NW	B	Light brown	Sphagnum moss >10cm	N/A	Sandy	South	Fly-Moth
666642	522180.65	5656146.91	44384	Sun	Gentle	NE	B	Grey	Sphagnum moss >10cm	N/A	Organic|Sandy	South	Fly-Moth
666643	522222.73	5656109.72	44384	Sun	Gentle	NE	B	Grey	Sphagnum moss <10cm	N/A	Organic|Sandy	South	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666644	522261.34	5656079.53	44384	Sun		NE	B	Grey	Sphagnum moss >10cm	N/A	Sandy	South	Fly-Moth
666645	522299.09	5656053.11	44384	Sun	Gentle	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
666646	522337.9	5656023.14	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
666647	522390.11	5655991.68	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Sandy	South	Fly-Moth
666648	522420.49	5655953.67	44384	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	South	Fly-Moth
666649	522453.57	5655937.13	44384	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	South	Fly-Moth
666650	521008.42	5655283.26	44384	Sun	Gentle	N	B	Light brown|Light	Sphagnum moss >10cm	Spruce	Sandy	South	Fly-Moth
666668	521050.93	5655241.18	44384	Sun	Gentle	SE	B	Light brown	Sphagnum moss >10cm	N/A	Sandy	South	Fly-Moth
666669	521089.79	5655216.88	44384	Sun	Flat	N	B	Light brown	Sphagnum moss >10cm	N/A	Organic|Sandy	South	Fly-Moth
666670	521128.34	5655185.67	44384	Sun	Pronounced	SE	B	Light brown|Brow	Sphagnum moss <10cm	Poplar|Spruce	Organic	South	Fly-Moth
666671	521166.24	5655171.37	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	South	Fly-Moth
666672	521202.14	5655136.71	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
666673	521240.6	5655091.05	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Poplar|N/A	Clay/Organic	South	Fly-Moth
666674	521278.29	5655063.85	44384	Sun	Gentle	W	B	Brown	Sphagnum moss >10cm	Spruce	Organic|Sandy	South	Fly-Moth
666675	521324.32	5655034.57	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce|N/A	Clay/Organic|San	South	Fly-Moth
666676	521362.59	5655000.59	44384	Sun	Flat	N	B	Light brown|Brow	Sphagnum moss >10cm	Spruce|N/A	Sandy	South	Fly-Moth
666677	521412.11	5654962.54	44384	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic|Sandy	South	Fly-Moth
660133	518640.42	5654522.98	44382	Sun	Flat	N	B	Brown|Grey		Spruce	Sandy	North	Fly-Moth
660134	518668.74	5654501.84	44382	Sun	Flat	N	B	Grey	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Clay	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660135	518720.24	5654472	44382	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660136	518755.13	5654438.66	44382	Sun	Gentle	N	B	Dark brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660137	518804.24	5654410.7	44382	Sun	Gentle	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660138	518833.2	5654370.77	44382	Sun	Flat	N	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660139	518875.48	5654351.91	44382	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660141	518913	5654310.34	44382	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660142	518957.95	5654269.03	44382	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660143	518998.51	5654241.05	44382	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660144	519044.08	5654221.2	44382	Sun	Pronounced	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
660145	519073.73	5654183.72	44382	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660146	519083.42	5654179.97	44382	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	North	Fly-Moth
660147	519210.38	5654335.69	44382	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Spruce	Organic	North	Fly-Moth
660148	519209.27	5654350.47	44382	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	North	Fly-Moth
660149	519152.73	5654377.84	44382	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	North	Fly-Moth
660150	519113.85	5654408.61	44382	Sun	Gentle	S	B	Brown		Spruce	Sandy	North	Fly-Moth
660151	519082.67	5654440.63	44382	Sun	Gentle	S	B	Brown		Spruce	Sandy	North	Fly-Moth
660152	519027.08	5654477.58	44382	Sun	Gentle	S	B	Brown|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660153	518994.09	5654508.37	44382	Sun	Gentle	N	B	Black|Grey	Caribou lichen|Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660154	518951.14	5654539.01	44382	Sun	Gentle	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660155	518910.49	5654572.89	44382	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660156	518879.91	5654596.69	44382	Sun	Gentle	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660157	518836.49	5654622.11	44382	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660158	518792.33	5654660.76	44382	Sun	Gentle	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660746	521505.87	5657626.88	44373	Sun	Pronounced	E	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660747	521539.3	5657591.98	44373	Sun	Flat	N	B	Brown|Grey	Grasses	Poplar	Clay|Sandy	North	Fly-Moth
660748	521577.22	5657554.67	44373	Sun	Flat	N	B	Brown|Grey		Spruce	Clay|Sandy	North	Fly-Moth
660749	521635.62	5657531.01	44373	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660750	521654.48	5657494.94	44373	Sun	Pronounced	N	B	Brown		Spruce	Clay	North	Fly-Moth
660751	521694.51	5657472.54	44373	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Organic	North	Fly-Moth
660752	521740.12	5657440.03	44373	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660753	521775.58	5657406.04	44373	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660754	521815.27	5657379.97	44373	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy	North	Fly-Moth
660755	521851.42	5657349.53	44373	Sun	Flat	N	B	Brown		Spruce	Sandy	North	Fly-Moth
660756	521901.37	5657317.61	44373	Sun	Flat	N	B	Brown|Red		Poplar|Spruce	Sandy	North	Fly-Moth
660757	521756.37	5657158.3	44373	Sun	Flat	N	B	Brown		Buck brush |Spruc	Sandy	North	Fly-Moth
660758	521735.97	5657194.58	44373	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660759	521695.76	5657223.77	44373	Sun	Flat	N	B	Grey	Grasses	Buck brush |Spruc	Clay|Sandy	North	Fly-Moth
660761	521660.18	5657253.42	44373	Sun	Flat	N	B	Brown	Caribou lichen	Poplar|Spruce	Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660762	521618.64	5657284.95	44373	Sun	Pronounced	W	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660763	521579.34	5657315.58	44373	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660764	521536.26	5657347.21	44373	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Buck brush |Spruc	Clay	North	Fly-Moth
660765	521502.84	5657379.99	44373	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Buck brush |Spruc	Clay	North	Fly-Moth
660766	521465.24	5657406.74	44373	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660767	521289.85	5657274.68	44373	Sun	Flat	N	B	Grey		Poplar	Clay|Sandy	North	Fly-Moth
660768	521321.62	5657250.57	44373	Sun	Flat	N	B	Grey	Grasses	Buck brush	Clay	North	Fly-Moth
660769	521493.75	5657122.62	44373	Sun	Flat	N	B	Dark brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660770	521534.83	5657102.55	44373	Sun	Flat	N	B	Dark brown	Sphagnum moss >10cm	Buck brush	Organic	North	Fly-Moth
660771	521569.45	5657066.44	44373	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Buck brush	Clay/Organic	North	Fly-Moth
660772	521604.33	5657037.34	44373	Sun	Flat	N	B	Light brown		Spruce	Clay|Sandy	North	Fly-Moth
660773	521652.81	5657005.62	44373	Sun	Steep	W	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660804	520966.48	5657272.69	44375	Sun	Pronounced	SW	B	Dark brown	Sphagnum moss <10cm	Buck brush |Popla	Organic	North	Fly-Moth
660805	521005.1	5657235.26	44375	Sun	Pronounced	W	B	Brown		Buck brush |Popla	Sandy	North	Fly-Moth
660806	521044.94	5657207.73	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Sandy	North	Fly-Moth
660807	521088.86	5657176.11	44375	Sun	Flat	N	B	Dark brown	Grasses	N/A	Organic	North	Fly-Moth
660808	521117.5	5657148.31	44375	Sun	Flat	N	B	Brown		Poplar	Sandy	North	Fly-Moth
660809	521166.93	5657122.82	44375	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660810	521210.18	5657086.31	44375	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660811	521234.62	5657074.39	44375	Sun	Pronounced	S	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660812	521293.24	5656790.62	44375	Sun	Flat	N	B	Brown|Grey	Grasses	N/A	Clay|Organic	North	Fly-Moth
660813	521266.93	5656798.4	44375	Sun	Flat	N	B	Brown	Grasses	N/A	Organic	North	Fly-Moth
660814	521223.03	5656841.26	44375	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660815	521191.82	5656864.92	44375	Sun	Gentle	E	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660816	521149.75	5656887.22	44375	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660817	521105.3	5656925.62	44375	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Buck brush |Spruc	Clay	North	Fly-Moth
660818	521067.66	5656946.48	44375	Sun	Flat	N	B	Dark brown	Grasses	Buck brush	Organic	North	Fly-Moth
660819	521029.33	5656980.59	44375	Sun	Flat	N	B	Brown		Poplar	Sandy	North	Fly-Moth
660821	520986.37	5657016.66	44375	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660822	520953.41	5657040.11	44375	Sun	Gentle	W	B	Brown	Grasses	Poplar	Clay	North	Fly-Moth
660823	520905.19	5657077.39	44375	Sun	Flat	N	B	Light brown|Grey		Spruce	Sandy	North	Fly-Moth
660824	520860.43	5657107.67	44375	Sun	Gentle	W	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660825	520827.9	5657130.34	44375	Sun	Gentle	NE	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660826	520782.69	5657166.97	44375	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660827	520747.77	5657190.3	44375	Sun	Flat	N	B	Dark brown	Grasses	Buck brush	Organic	North	Fly-Moth
660828	520713.27	5657212.95	44375	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660829	520674.81	5657248.93	44375	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660830	520546.76	5657343.06	44375	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660831	520513.15	5657391.75	44375	Sun	Gentle	E	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660832	520314.1	5657278.98	44375	Sun	Gentle	N	B	Brown		Buck brush |Popla	Organic	North	Fly-Moth
660833	520366.13	5657233.37	44375	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660834	520409.07	5657203.28	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660835	520433.71	5657173.03	44375	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660836	520483.72	5657141.76	44375	Sun	Pronounced	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660837	520526.03	5657112.67	44375	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660838	520565.01	5657087.59	44375	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660839	520605.23	5657055.16	44375	Sun	Flat	N	B	Brown|Grey	Grasses	Spruce	Clay|Sandy	North	Fly-Moth
660841	520641.15	5657026.73	44375	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush |Spruc	Clay|Sandy	North	Fly-Moth
660842	520684.53	5656990.54	44375	Sun	Gentle	S	B	Brown		Buck brush	Organic	North	Fly-Moth
660843	520722.38	5656971.45	44375	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Buck brush |Spruc	Clay|Organic	North	Fly-Moth
660844	520754.26	5656935.77	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
660845	520799.28	5656911.03	44375	Sun	Flat	N	B	Brown|Grey	Grasses	N/A	Clay|Organic	North	Fly-Moth
660846	520842.19	5656870.73	44375	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660847	520886.76	5656833.66	44375	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660848	520923.83	5656818.13	44375	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660849	520958.17	5656782.46	44375	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660850	521008.28	5656748.19	44375	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay/Organic	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660851	521045.61	5656716.2	44375	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660852	521076.62	5656692.53	44375	Sun	Gentle	SW	B	Brown|Grey		Spruce	Clay|Sandy	North	Fly-Moth
660853	520518.34	5655854.23	44376	Sun	Flat	N	B	Dark brown	Caribou lichen|Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660854	520469.81	5655897.85	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660855	520438.09	5655924.08	44376	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660856	520393.54	5655954.94	44376	Sun	Gentle	N	B	Brown|Grey	Grasses	Spruce	Sandy	North	Fly-Moth
660857	520190.06	5656102.82	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
660858	520156.05	5656141.05	44376	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660859	520115.75	5656178.37	44376	Sun	Flat	N	B	Brown		Buck brush |Popla	Clay	North	Fly-Moth
660861	520071.78	5656202.89	44376	Sun	Flat	N	B	Brown|Grey		Poplar|Spruce	Clay|Sandy	North	Fly-Moth
660862	520034.76	5656224.54	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
660863	520001.82	5656262.11	44376	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660864	519960.59	5656302.1	44376	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660865	519918.69	5656318.83	44376	Sun	Flat	N	B	Brown	Grasses	Buck brush	Sandy	North	Fly-Moth
660866	519874.09	5656343.58	44376	Sun	Gentle	S	B	Brown	Grasses	Buck brush |Spruc	Sandy	North	Fly-Moth
660867	519836.57	5656387.92	44376	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush |Spruc	Sandy	North	Fly-Moth
660868	519790.67	5656404.87	44376	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660869	519766.52	5656434.02	44376	Sun	Flat	N	B	Brown	Grasses	Poplar|Spruce	Organic	North	Fly-Moth
660870	519712.16	5656464.83	44376	Sun	Flat	N	B	Brown|Grey		Spruce	Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660871	519842.45	5656627.47	44376	Sun	Flat	N	B	Black	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660872	519880.13	5656596.15	44376	Sun	Flat	N	B	Dark brown	Grasses	Buck brush	Organic	North	Fly-Moth
660873	519912.53	5656571.36	44376	Sun	Pronounced	N	B	Brown		Buck brush	Sandy	North	Fly-Moth
660874	519959.43	5656530.84	44376	Sun	Flat	N	B	Light grey	Grasses	Poplar|Spruce	Clay	North	Fly-Moth
660875	519995.04	5656509.62	44376	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Clay|Sandy	North	Fly-Moth
660876	520041.76	5656478.89	44376	Sun	Flat	N	B	Brown|Red	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660877	520083.35	5656454.81	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660878	520122.17	5656418.71	44376	Sun	Flat	N	B	Grey	Grasses	Spruce	Clay	North	Fly-Moth
660879	520148.51	5656386.68	44376	Sun	Flat	N	B	Brown	Grasses	Spruce	Sandy	North	Fly-Moth
660881	520201.11	5656357.3	44376	Sun	Flat	N	B	Brown	Grasses	Buck brush |Spruc	Clay	North	Fly-Moth
660882	520228.68	5655831.62	44377	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660883	520272.08	5655794.32	44377	Sun	Gentle	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660884	520319.49	5655766.49	44377	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660885	520352	5655734.91	44377	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660886	520394.95	5655704.28	44377	Sun		N	B	Brown	Grasses|Sphagnum moss <10cm	Poplar|Spruce	Organic	North	Fly-Moth
660887	520259.93	5655548.62	44377	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660888	520224.32	5655585.51	44377	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660889	520189.37	5655614.18	44377	Sun	Gentle	N	B	Brown		Spruce	Sandy	North	Fly-Moth
660890	520149.31	5655641.37	44377	Sun	Gentle	N	B	Grey	Grasses|Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660891	520112.26	5655671.47	44377	Sun	Gentle	N	B	Brown	Grasses	Spruce	Sandy	North	Fly-Moth
660892	520058.84	5655455.75	44377	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660893	520111.13	5655421.6	44377	Sun	Gentle	E	B	Brown|Grey		Spruce	Sandy	North	Fly-Moth
660894	520140.5	5655384.34	44377	Sun	Gentle	N	B	Brown|Grey	Grasses	Poplar	Clay|Sandy	North	Fly-Moth
660895	520075.48	5655178.58	44377	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Buck brush |Spruc	Organic	North	Fly-Moth
660896	520050.22	5655205.06	44377	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660897	520010.92	5655249.39	44377	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660898	519961.56	5655273.56	44377	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660899	519932.85	5655301.13	44377	Sun	Pronounced	NW	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660901	519887.08	5655337.1	44377	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660902	519853.58	5655354.1	44377	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic	North	Fly-Moth
660903	519683.99	5655470.77	44377	Sun	Flat	N	B	Brown	Grasses	N/A	Organic	North	Fly-Moth
660904	519648.07	5655518.23	44377	Sun	Flat	N	B	Brown|Grey		Spruce	Sandy	North	Fly-Moth
660905	519609.58	5655553.89	44377	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
660906	519566.7	5655569.86	44377	Sun	Pronounced	E	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660907	519530.38	5655608.31	44377	Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660908	519489.31	5655645.62	44377	Sun	Flat	N	B	Grey	Sphagnum moss >10cm	Spruce	Clay	North	Fly-Moth
660909	519457.6	5655671.08	44377	Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
660910	519412.14	5655700.38	44377	Sun	Gentle	S	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660911	519368.92	5655732.02	44377	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660912	519333.54	5655763.37	44377	Sun	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Clay|Sandy	North	Fly-Moth
660913	519288.45	5655790.66	44377	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
660914	518866.48	5655354.51	44378	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660915	518910.34	5655321.2	44378	Sun	Steep	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660916	518953.61	5655299.23	44378	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660917	519003.51	5655261.27	44378	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660918	519022.94	5655239.98	44378	Sun	Gentle	S	B	Brown	Grasses	Spruce	Organic	North	Fly-Moth
660919	519124.89	5655422.3	44378	Sun	Flat	N	B	Brown|Grey		Spruce	Clay|Sandy	North	Fly-Moth
660921	519166.55	5655377.96	44378	Sun	Flat	N	B	Brown|Grey		Spruce	Clay	North	Fly-Moth
660922	519204.12	5655359.43	44378	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush	Clay|Sandy	North	Fly-Moth
660923	519249.18	5655324.46	44378	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660924	519290.17	5655291.8	44378	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Poplar|Spruce	Sandy	North	Fly-Moth
660925	519310.23	5655267.41	44378	Sun	Flat	N	B	Dark brown |Grey	Grasses	N/A	Clay/Organic	North	Fly-Moth
660926	519354.7	5655225.43	44378	Sun	Flat	N	B	Brown|Grey		Poplar|Spruce	Clay|Sandy	North	Fly-Moth
660927	519403.57	5655201.92	44378	Sun	Gentle	S	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
660928	519428.99	5655431.99	44378	Sun	Flat	N	B	Brown	Caribou lichen|Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
660929	519388.21	5655465.43	44378	Un	Flat	N	B	Brown|Grey	Sphagnum moss >10cm	Spruce	Sandy	North	Fly-Moth
660930	519346.2	5655491.51	44378	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss <10cm	Buck brush	Organic	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

660931	519296.76	5655517.13	44378	Sun	Flat	N	B	Dark brown	Grasses|Sphagnum moss >10cm	Buck brush	Organic	North	Fly-Moth
660932	519276.5823	5655551.189	44378	Sun	Flat	N	B	Dark Brown	Grasses	Buck brush	Clay	North	Fly-Moth
660997	518517.74	5654615.84	44382	Sun	Flat	N	B	Brown|Grey	Grasses	Buck brush	Clay	North	Fly-Moth
660998	518563.95	5654593.21	44382	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
660999	518597.5	5654561.86	44382	Sun	Pronounced	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665246	520885.15	5656591.45	44375	Sun	Gentle	N	B	Light brown|Brow	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665247	520918.35	5656561.77	44375	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665248	520962.77	5656529.7	44375	Sun	Flat	N	B	Grey	Grasses	N/A	Clay	North	Fly-Moth
665249	520874.45	5656341.85	44375	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay/Coarse	North	Fly-Moth
665250	520841.76	5656370.08	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665251	520801.47	5656402.17	44375	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665252	520759.37	5656430.35	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665253	520717.42	5656458.98	44375	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665254	520681.48	5656491.87	44375	Sun	Flat	N	B	Brown	Grasses	N/A	Organic	North	Fly-Moth
665255	520640.85	5656523.29	44375	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665256	520600.02	5656550.82	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665257	520559.88	5656582.24	44375	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665258	520522.32	5656615.23	44375	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665259	520474.63	5656644.74	44375	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665261	520439.05	5656673.51	44375	Sun	Flat	N	B	Brown	Grasses	N/A	Organic	North	Fly-Moth
665262	520402.35	5656703.83	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665263	520361.78	5656737.81	44375	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665264	520319.42	5656765.56	44375	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665265	520281.31	5656797.11	44375	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665266	520240.55	5656825.19	44375	Sun	Pronounced	N	B	Brown|Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665267	520202.6	5656855.62	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665268	520163.79	5656885.94	44375	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
665269	520124.5	5656917.92	44375	Sun	Steep	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665270	520085.21	5656947.9	44375	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665271	520206.77	5657113.97	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Clay|Organic	North	Fly-Moth
665272	520244.4	5657079.65	44375	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665273	520287.27	5657047.34	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665274	520319.14	5657014.88	44375	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665275	520362.63	5656985.03	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665276	520405.14	5656956.06	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665277	520440.5	5656927.51	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665278	520479.35	5656900.63	44375	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665279	520524.05	5656867.12	44375	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665281	520563.02	5656833.58	44375	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665282	520600.41	5656805.03	44375	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665283	520639.65	5656770.72	44375	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665284	520683.2	5656744.88	44375	Clouds|Sun	Flat	N	B	Light brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665285	520722.99	5656713.22	44375	Clouds|Sun	Flat	N	B	Black	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665286	520762.77	5656683.59	44375	Clouds|Sun	Steep	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665287	520803.98	5656650.17	44375	Clouds|Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665288	520835.75	5656626.61	44375	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665289	519960.96	5656787.52	44376	Sun	Pronounced	E	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665290	519994.56	5656758.39	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665291	520040.45	5656726.21	44376	Sun	Gentle	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay	North	Fly-Moth
665292	520080.16	5656696.12	44376	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	N/A	Clay	North	Fly-Moth
665293	520118.19	5656665.35	44376	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665294	520156.56	5656638.59	44376	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
665295	520196.5	5656605.93	44376	Sun	Flat	N	B	Brown	Grasses	N/A	Organic|Sandy	North	Fly-Moth
665296	520239.37	5656573.97	44376	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665297	520274.87	5656546.98	44376	Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665298	520316.68	5656516.55	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665299	520358.02	5656484.69	44376	Sun	Gentle	N	B	Light brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665301	520394.08	5656456.03	44376	Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665302	520439.27	5656424.4	44376	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665303	520475.2	5656394.86	44376	Sun	Flat	N	B	Brown	Grasses	Spruce	Organic	North	Fly-Moth
665304	520517.79	5656364.55	44376	Sun	Flat	N	B	Light grey|Grey	Sphagnum moss <10cm	Spruce	Clay|Sandy	North	Fly-Moth
665305	520555.89	5656335.24	44376	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	North	Fly-Moth
665306	520595.61	5656304.04	44376	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665307	520635.84	5656270.05	44376	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665308	520676.31	5656242.19	44376	Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665309	520717.02	5656210.55	44376	Clouds	Flat	N	B	Brown	Grasses	N/A	Organic	North	Fly-Moth
665310	520756.09	5656183.35	44376	Clouds	Steep	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665311	520630.59	5656021.26	44376	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665312	520590.23	5656053.91	44376	Clouds|Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665313	520556.54	5656084.25	44376	Clouds|Sun	Flat	N	B	Brown	Grasses|Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665314	520515.56	5656113.88	44376	Clouds|Sun	Flat	N	B	Dark grey	Sphagnum moss <10cm	N/A	Clay	North	Fly-Moth
665315	520475.76	5656147.65	44376	Clouds|Sun	Flat	N	B	Brown	Grasses	Spruce	Organic	North	Fly-Moth
665316	520436.68	5656173.84	44376	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665317	520400.12	5656204.4	44376	Clouds|Sun	Flat	N	B	Light brown|Brow	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665318	520312.54	5656269.88	44376	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665319	520276.89	5656300.11	44376	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	N/A	Clay	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665321	520235.43	5656325.63	44376	Clouds|Sun	Flat	N	B	Grey	Sphagnum moss <10cm	N/A	Clay|Sandy	North	Fly-Moth
665325	519591.97	5656318.25	44367	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665326	519636.17	5656286.62	44367	Sun	Flat	N	B	Brown	Grasses	N/A	Organic	North	Fly-Moth
665327	519676.58	5656255.75	44367	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665328	519713.71	5656223.19	44367	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665329	519751.89	5656191.76	44367	Sun	Flat	N	B	Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665330	519792.58	5656161.32	44367	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665331	519838.4	5656128.14	44367	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	Spruce	Organic	North	Fly-Moth
665332	519872.79	5656100.03	44367	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665333	519911.87	5656070.71	44367	Sun	Flat	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665334	519954.79	5656043.74	44367	Sun	Pronounced	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665335	519990.05	5656005.52	44367	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	N/A	Organic	North	Fly-Moth
665336	520029.15	5655974.08	44367	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665337	520076.14	5655946.02	44367	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	N/A	Clay|Sandy	North	Fly-Moth
665338	519956.48	5655790.42	44367	Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665339	519911.27	5655824.6	44367	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665341	519870.69	5655845.25	44367	Sun	Flat	N	B	Grey	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665342	519826.24	5655883.44	44367	Clouds|Sun	Flat	N	B	Dark brown	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665343	519790.47	5655907.33	44367	Clouds|Sun	Flat	N	B	Brown|Grey	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665344	519751.44	5655940.54	44367	Clouds|Sun	Gentle	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic	North	Fly-Moth
665345	519713.2	5655972.53	44367	Clouds|Sun	Gentle	N	B	Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665346	519678.74	5656002.54	44367	Clouds|Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665347	519637.27	5656032.4	44367	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665348	519596.16	5656062.27	44367	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665349	519552.36	5656099.25	44367	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665350	519516.92	5656129.14	44367	Clouds|Sun	Flat	N	B	Orange	Sphagnum moss <10cm	N/A	Sandy	North	Fly-Moth
665351	519473.83	5656163.23	44367	Clouds|Sun	Flat	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Sandy	North	Fly-Moth
665352	519357.53	5656002.66	44367	Sun	Flat	N	B	Brown|Orange	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665353	519386.68	5655967.62	44378	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	Spruce	Organic|Sandy	North	Fly-Moth
665354	519434.69	5655931.22	44378	Sun	Flat	N	B	Brown	Sphagnum moss <10cm	N/A	Organic|Sandy	North	Fly-Moth
665355	519477.28	5655899.24	44378	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665356	519517.06	5655871.47	44378	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665357	519550.86	5655848.48	44378	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665358	519592.2	5655813.27	44378	Sun	Flat	N	B	Brown	Sphagnum moss >10cm	N/A	Organic	North	Fly-Moth
665359	519629.68	5655782.16	44378	Sun	Flat	N	B	Brown	Good	Spruce	Sandy	North	Fly-Moth
665361	519672.27	5655751.19	44378	Sun	Flat	N	B	Brown	Poor	Spruce	Organic	North	Fly-Moth
665362	519711.22	5655718.52	44378	Sun	Flat	N	B	Brown	Poor	Spruce	Organic	North	Fly-Moth
665363	519748.2	5655690.98	44378	Sun	Flat	N	B	Brown	Poor	Spruce	Organic	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

665364	519792.11	5655662.57	44378	Sun	Flat	N	B	Brown	Poor	Spruce	Organic	North	Fly-Moth
665393	519654.76	5654752.15	44382	Sun	Flat	N	B	Grey	Excellent	Spruce	Clay	North	Fly-Moth
665394	519618.42	5654778.6	44382	Sun	Flat	N	B	Brown	Excellent	N/A	Sandy	North	Fly-Moth
665395	519579.5	5654817.37	44382	Sun|Wind	Flat	N	B	Brown	Excellent	N/A	Sandy	North	Fly-Moth
665396	519540.12	5654851.8	44382	Sun|Wind	Pronounced	NW	B	Brown	Excellent	Spruce	Sandy	North	Fly-Moth
665397	519459.38	5654903.43	44382	Sun	Flat	N	B	Grey	Excellent	Spruce	Clay	North	Fly-Moth
665398	519416.63	5654935.96	44382	Sun	Flat	N	B	Grey	Excellent	Spruce	Clay	North	Fly-Moth
665399	519392	5654942.66	44382	Sun	Flat	N	B	Brown	Excellent	Spruce	Sandy	North	Fly-Moth
665401	519338.1	5654997.17	44382	Sun	Flat	N	B	Brown	Excellent	Spruce	Sandy	North	Fly-Moth
665402	519306	5655031.74	44382	Sun	Gentle	N	B	Brown	Excellent	N/A	Sandy	North	Fly-Moth
665403	519261.79	5655062.61	44382	Sun	Flat	N	B	Brown	Excellent	Spruce	Sandy	North	Fly-Moth
666601	518997.96	5654752.03	44382	Sun	Gentle	NW	B	Poor	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth
666602	519042.71	5654726.07	44382	Sun	Gentle	NW	B	Poor	Spruce	Sphagnum moss >	Organic|Sandy	North	Fly-Moth
666603	519070.66	5654693.58	44382	Sun	Gentle	SW	B	Excellent	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth
666604	519126.8	5654660.99	44382	Sun	Gentle	SW	B	Poor	Spruce	Sphagnum moss >	Organic	North	Fly-Moth
666605	519160.88	5654637.64	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay|Sandy	North	Fly-Moth
666606	519188.27	5654606.05	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay|Sandy	North	Fly-Moth
666607	519221.99	5654568.59	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay	North	Fly-Moth
666608	519281.69	5654538.24	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay	North	Fly-Moth

APPENDIX III – SOIL SAMPLING DATA COLLECTION TABLES

666609	519333.98	5654523.31	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay|Organic|San	North	Fly-Moth
666610	519360.64	5654481.37	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay	North	Fly-Moth
666611	519395.5	5654458.48	44382	Sun	Flat	N	B	Good	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth
666612	519421.73	5654435.45	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay	North	Fly-Moth
666613	519541.42	5654598.7	44382	Sun	Gentle	SW	B	Poor	Spruce	Sphagnum moss >	Organic	North	Fly-Moth
666614	519516.92	5654609.07	44382	Sun	Gentle	SW	B	Poor	Spruce	Sphagnum moss >	Organic	North	Fly-Moth
666615	519478.13	5654652.73	44382	Sun	Gentle	NW	B	Poor	Spruce	Sphagnum moss >	Organic|Sandy	North	Fly-Moth
666616	519435.98	5654672.71	44382	Sun	Flat	N	B	Good	Spruce	Sphagnum moss >	Organic	North	Fly-Moth
666617	519396.47	5654704.58	44382	Sun	Flat	N	B	Good	Spruce	Sphagnum moss >	Organic	North	Fly-Moth
666618	519352.67	5654738.11	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay|Sandy	North	Fly-Moth
666619	519321.79	5654784.37	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth
666621	519278.08	5654793.21	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Clay|Sandy	North	Fly-Moth
666622	519247.99	5654833.47	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth
666623	519194.77	5654857.74	44382	Sun	Flat	N	B	Excellent	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth
666624	519159.28	5654881.97	44382	Sun	Gentle	N	B	Poor	Spruce	Sphagnum moss >	Organic	North	Fly-Moth
666625	519121.5	5654916.3	44382	Sun	Flat	N	B	Good	Spruce	Sphagnum moss >	Sandy	North	Fly-Moth