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# ASSESSMENT REPORT

GEOCHEMICAL SAMPLING AND MAPPING, SABIN PROPERTY

Patricia Mining Division, Ontario



COMMANDER RESOURCES LTD.  
1100 – 1111 Melville Street  
Vancouver, British Columbia  
V6E 3V6

LOCATED:  
3 km north-northeast of Savant Lake, Ont  
Patricia Mining Division  
50° 19'02" North Lat., 90° 43'46" West Long.  
Evans and Houghton Lake Townships

April 10<sup>th</sup>, 2022

Prepared By:



Stephen Wetherup, B.Sc., P.Geo.

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## 1.0 SUMMARY

Commander Resources Ltd. (“CMD”) completed two field seasons of geological mapping and geochemical rock sampling on its Sabin property 3 km north of the community of Savant Lake, Northwestern Ontario. Work in 2020 consisted of a crew of two who collected 48 rock samples and 159 mapping points throughout the property from September 10<sup>th</sup> to 16<sup>th</sup>, 2020. In 2021, 56 rocks samples and 106 mapping points were collected by a two-person crew from September 22<sup>nd</sup> to 25<sup>th</sup>, 2021. The results and details of the data and expenditures incurred from this work constitute the basis of this Assessment Report.

The Sabin property is located within the Savant Lake-Sturgeon Lake Greenstone Belt (“SLGB”) which are in the Neoproterozoic Wabigoon Subprovince of Northern Ontario. The Sabin property is completely underlain by bimodal volcanic rocks of the Four Bay Group which is tectonically and age correlative to the South Sturgeon sequence which hosts the VMS ore bodies of the Sturgeon Lake VMS deposit (Figures 5-1 and 5-2).

Several zones of mineralization have been documented on the Sabin Property (Figure 5-4). The Marchington Zone has by far had the most work completed with ~40 drill holes testing it and zones around it. It appears to be three separate horizons, the Marchington Zone, South Zone and Zinc Zone, but this may be due to fold duplication as the zone is intensely folded. Typical intercepts from the Marchington Zone are 3.2 m @ 4.8% Zn, 4.3% Cu, 177 g/t Ag (SA-69) from the west end of the detailed drilling and 6.0 m @ 3.5% Zn, 1.1% Cu, 1.2% pb and 63 g/t Ag from the discovery hole (SA-05). Outside the Marchington area, are additional significant VMS horizons with moderate to minor amounts of drill testing, the S-23 Zone, Kash Zone, South Evans, Golsil and Hadley Area.

The 2020 and 2021 rock sampling continued to advance rock sampling data and mapping southwest of Marchington, in the Golsil and Hadley areas. Another target area was investigated within the Patterson Lake Stock on the Northwest corner of the property, here named the “Quarry Zone. Samples collected in the Quarry Zone and within the shears in the Patterson Lake stock returned weakly to strongly anomalous Au-Ag-Cu-Zn-Pb assay values depending mainly on the sulphide content with the shears which vary from < 0.1% to 5%. Gold values vary greatly with 10 of the 28 samples collected returned greater than 250 ppb with a high of 1500 ppb. Elevated gold assays in this area are accompanied with elevated Cu-Zn-Ag-Pb with highs of 0.28% Cu, 0.89% Zn, 81.7 g/t Ag and 0.4% Pb.

The mineralization at the Hadley showing consists of a 30 to 50 cm zone of brecciated chert or felsic volcanic rocks within actinolite-sphalerite-tetrahedrite semi-massive sulphide matrix which only extends

for 1-2 m in outcrop before pinching out. Samples of the semi-massive sulphide returned 4.25 g/t Au, 10.4% Zn, 53.5 g/t Ag, 0.1% Cu and 4.7% Pb. Samples collected along strike in actinolite rich layers and lenses along Highway 599 returned anomalous Au, Zn and Ag. The Golsil showing which appears to be along strike and ~ 1.5 km to the NW of Hadley is also high in gold but is also anomalous in Cu in historical sampling. Sampling in 2020, around the Golsil showing returned a single 0.1% Cu sample.

The 2020 and 2021 exploration program on the Sabin property consisted of mapping and rock sampling to investigate the strike extents of VMS mineralized horizons (Marchington, Kash, Golsil, Hadley and South Evans) and polymetallic sheared quartz veins (Quarry Zone) and to discover additional zone, if possible. Work south of the Kash zone show that alteration in the Kash area is limited to ~ 100-200 m wide horizon of intense aluminosilicate alteration which stratigraphically overlies the Marchington horizon, suggesting two distinct VMS horizons on the property with an unaltered break between them consisting of intermediate to felsic volcanic rocks.

The Marchington horizon extends at least 1 km to the WSW of the main drilled deposit area and consists of 4 to 5 separate exhalative zones which may simply be due to complex tight to isoclinal folding ( $F_1$ ) which creates an over thickening of the VMS horizon and Marchington likely includes the S-23 zone. Tracking the zone to the NE ~ 1 to 1.5 km and then around the  $F_2$  fold hinge it becomes difficult to trace southward although the rocks in this area are commonly strongly altered. The next VMS mineralization noted is the Golsil showing which continues along strike to Highway 599 and the Hadley showing as well as altered rocks along outcrops on the highway which extend the strike another 1.5 km. VMS mineralization discovered in the South Evans area consists of at least 3 exhalative horizons which lie stratigraphically above the Golsil-Hadley horizon and suggest again a pair of VMS horizons similar to that seen the Kash-Marchington area and are likely time correlative.

Overall, the Sabin property contains significant VMS potential along two main horizons which are at least 9 km in strike length which is tightly folded across a major  $F_2$  fold.

The Quarry Zone represents a different style of mineralization in that it is structurally constrained within shears in the Patterson Lake stock. These shears are strongly aluminosilicate altered (sericite-garnet) with pyrite, quartz and minor carbonate and locally chalcopyrite-sphalerite-galena mineralization with strongly anomalous Au-Ag-Zn-Cu tenors. In the Quarry area these shears are stacked in an en-echelon array with shears 1-2 m apart, whereas elsewhere several isolated shears were observed and sampled. More work is required, and an IP survey would be highly successful in identifying addition vein/shear arrays such as those in the Quarry Zone.

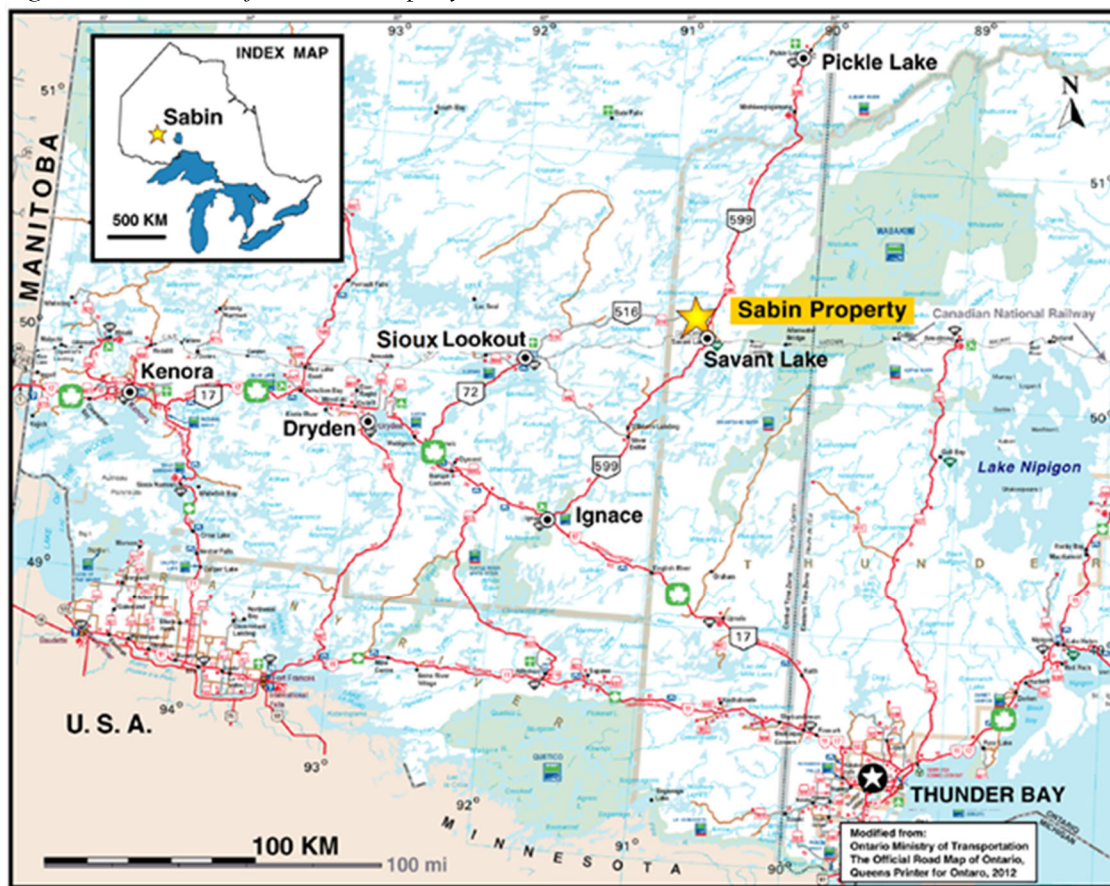
## 2.0 INTRODUCTION

Commander Resources Ltd. (“CMD”) completed two field seasons of geological mapping and geochemical rock sampling on its Sabin property 3 km north of the community of Savant Lake, Northwestern Ontario. Work in 2020 consisted of a crew of two who collected 48 rock samples and 159 mapping points throughout the property from September 10<sup>th</sup> to 16<sup>th</sup>, 2020. In 2021, 56 rocks samples and 106 mapping points were collected by a two-person crew from September 22<sup>nd</sup> to 25<sup>th</sup>, 2021. The results and details of the data and expenditures incurred from this work constitute the basis of this Assessment Report.

## 3.0 LOCATION AND PROPERTY DESCRIPTION

The Sabin property is in the Patricia Mining Division approximately 3 km north of the community of Savant Lake, Northwestern Ontario (Figure 3-1).

Figure 3-1. Location of the Sabin Property.



Property co-ordinates (approximate centre of claims) are 50° 19'02" North Latitude, 90° 43'46" West

Longitude or in UTM (NAD83), Zone 15N 660890E, 5576360N and it is within the Evans Lake and Houghton Lake Townships.

Access to the property is via paved, all-weather, provincial highway 599 which runs north-south on the eastern portion of the property and highway 516 which crosses east-west through the centre of the property. Highway 599 connects to the Trans-Canada Highway ~ 110 km south of the property at Ignace, Ontario and Highway 516 connects to Sioux Lookout, approximately 100 km away. A network of forestry roads and historical exploration trails occur throughout the property some of which are still active and passable by 4x4 vehicle or ATV but many have regrown with alder and spruce saplings.

The Sabin property is comprised of both patented (Mining Leases) and unpatented (Single Cell Mining Claims) mineral claims and covers a combined area of 49.51 km<sup>2</sup>. The claims are owned 100% by Commander Resources except for Mining Lease, LEA-108226, which is jointly owned between Commander Resources (58.5%) and Glencore Canada (41.5%). Tables 3-1 and 3-2 is a summary of all the claims that comprise the Sabin property and Figure 3-2 is a map of the claims.

*Table 3-1. Mineral tenure summary data for the Sabin Property (April 8, 2022).*

Mining Right No.	Mining Right Type	Pin	Client Ownership
LEA-107479	Lease	62504-1795(LT)	(163613) COMMANDER RESOURCES LTD.
LEA-108226	Lease	62504-2060(LT)	(130679) GLENORE CANADA CORPORATION, (163613) COMMANDER RESOURCES LTD.
LEA-108227	Lease	62504-1588(LT)	(163613) COMMANDER RESOURCES LTD.
LEA-108465	Lease	62504-2044(LT)	(163613) COMMANDER RESOURCES LTD.
LEA-108514	Lease	62504-1590(LT)	(163613) COMMANDER RESOURCES LTD.
LEA-108515	Lease	62504-1591(LT)	(163613) COMMANDER RESOURCES LTD.
LEA-108516	Lease	62504-2286(LT)	(163613) COMMANDER RESOURCES LTD.

*Table 3-2. Active Single Cell Mining Claims owned by Commander Resources and their due dates (April 6th, 2022)*

Tenure ID	Cell ID(s)	Tenure Type	Anniversary Date	Area (ha)	Township/Area
103804	52J07C116	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
110100	52J07C076	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
110407	52J07B129	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
110408	52J07B145	SCMC	4/12/2022	9.34	HOUGHTON LAKE AREA
110409	52J07B169	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
111717	52J07C053	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
112313	52J07C120	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
114366	52J07C036	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
123639	52J07C078	SCMC	4/12/2022	3.57	HOUGHTON LAKE AREA
123640	52J07C075	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
124314	52J07B167	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
125279	52J07B005	SCMC	4/12/2022	17.20	HOUGHTON LAKE AREA
128679	52J07C117	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
129444	52J07B225	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
131747	52J07C093	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA

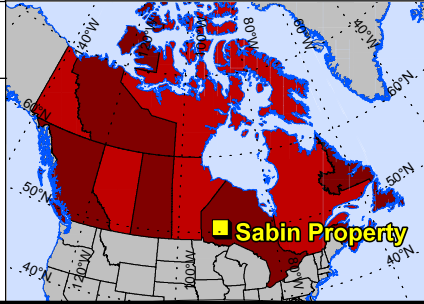


Tenure ID	Cell ID(s)	Tenure Type	Anniversary Date	Area (ha)	Township/Area
133197	52J07B186	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
135703	52J07B107	SCMC	4/12/2022	11.43	HOUGHTON LAKE AREA
135704	52J07B105	SCMC	4/12/2022	3.62	HOUGHTON LAKE AREA
135705	52J07B147	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
135706	52J07B166	SCMC	4/12/2022	19.98	HOUGHTON LAKE AREA
137238	52J07C140	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
139896	52J07B047	SCMC	4/12/2022	7.77	HOUGHTON LAKE AREA
140662	52J07C118	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
140663	52J07C178	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
141777	52J07B125	SCMC	4/12/2022	7.93	HOUGHTON LAKE AREA
141778	52J07B149	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
143216	52J07B142	SCMC	4/12/2022	2.52	HOUGHTON LAKE AREA
143217	52J07C160	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
143218	52J07B181	SCMC	4/12/2022	12.46	HOUGHTON LAKE AREA
145955	52J07B001	SCMC	4/12/2022	19.97	HOUGHTON LAKE AREA
146073	52J07C159	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
146938	52J07B207	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
147822	52J07C073	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
147972	52J07C015	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
151045	52J07C098	SCMC	4/12/2022	15.16	HOUGHTON LAKE AREA
151760	52J07C114	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
157295	52J07B121	SCMC	4/12/2022	16.94	HOUGHTON LAKE AREA
159388	52J07B007	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
159389	52J07B027	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
161439	52J07B204	SCMC	4/12/2022	16.09	HOUGHTON LAKE AREA
161440	52J07B202	SCMC	4/12/2022	17.65	HOUGHTON LAKE AREA
162014	52J07C037	SCMC	4/12/2022	17.17	HOUGHTON LAKE AREA
162629	52J07C158	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
164707	52J07B006	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
166762	52J07B244	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
166826	52J07F395	SCMC	4/12/2022	20.62	HOUGHTON LAKE AREA
167952	52J07B188	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
167953	52J07B187	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
175519	52J07B205	SCMC	4/12/2022	16.64	HOUGHTON LAKE AREA
180873	52J07B126	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
184427	52J07C052	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
187013	52J07C097	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
187363	52J07C136	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
189261	52J07B004	SCMC	4/12/2022	16.36	HOUGHTON LAKE AREA
194005	52J07B008	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
194006	52J07B026	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
195031	52J07B227	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
196047	52J07B203	SCMC	4/12/2022	16.94	HOUGHTON LAKE AREA
197920	52J07B189	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
200518	52J07B146	SCMC	4/12/2022	20.58	HOUGHTON LAKE AREA
201929	52J07B141	SCMC	4/12/2022	15.63	HOUGHTON LAKE AREA
201930	52J07C180	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
206518	52J07C096	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
206519	52J07C095	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
214479	52J07C094	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
214662	52J07C035	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
216185	52J07F397	SCMC	4/12/2022	20.62	HOUGHTON LAKE AREA

Tenure ID	Cell ID(s)	Tenure Type	Anniversary Date	Area (ha)	Township/Area
221917	52J07C138	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
221918	52J07C137	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
224703	52J07F398	SCMC	4/12/2022	20.62	HOUGHTON LAKE AREA
236990	52J07B109	SCMC	4/12/2022	18.31	HOUGHTON LAKE AREA
238682	52J07B003	SCMC	4/12/2022	15.86	HOUGHTON LAKE AREA
239890	52J07C099	SCMC	4/12/2022	10.36	HOUGHTON LAKE AREA
241616	52J07B245	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
242055	52J07C119	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
243145	52J07C055	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
243146	52J07C054	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
243147	52J07C074	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
248599	52J07B009	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
248600	52J07B028	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
248601	52J07B025	SCMC	4/12/2022	1.27	HOUGHTON LAKE AREA
248602	52J07B046	SCMC	4/12/2022	7.74	HOUGHTON LAKE AREA
248619	52J07B045	SCMC	4/12/2022	0.13	HOUGHTON LAKE AREA
248699	52J07C020	SCMC	4/12/2022	20.48	HOUGHTON LAKE AREA
249359	52J07C017	SCMC	4/12/2022	20.00	HOUGHTON LAKE AREA
249360	52J07C056	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
249620	52J07B246	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
255637	52J07B128	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
255638	52J07B148	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
255639	52J07B168	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
258076	52J07B081	SCMC	4/12/2022	3.65	HOUGHTON LAKE AREA
260060	52J07B049	SCMC	4/12/2022	13.71	HOUGHTON LAKE AREA
262053	52J07B223	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
263200	52J07C113	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
265176	52J07B165	SCMC	4/12/2022	0.72	HOUGHTON LAKE AREA
265177	52J07B185	SCMC	4/12/2022	1.99	HOUGHTON LAKE AREA
267125	52J07B108	SCMC	4/12/2022	11.10	HOUGHTON LAKE AREA
268089	52J07C040	SCMC	4/12/2022	0.00	HOUGHTON LAKE AREA
269916	52J07C072	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
272392	52J07C115	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
275903	52J07B122	SCMC	4/12/2022	5.03	HOUGHTON LAKE AREA
276544	52J07C100	SCMC	4/12/2022	12.12	HOUGHTON LAKE AREA
276545	52J07B101	SCMC	4/12/2022	6.97	HOUGHTON LAKE AREA
288749	52J07B206	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
292643	52J07B002	SCMC	4/12/2022	16.61	HOUGHTON LAKE AREA
296777	52J07B247	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
299836	52J07C092	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
299910	52J07C016	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
299911	52J07C057	SCMC	4/12/2022	17.70	HOUGHTON LAKE AREA
303702	52J07B106	SCMC	4/12/2022	11.77	HOUGHTON LAKE AREA
307875	52J07B029	SCMC	4/12/2022	20.63	HOUGHTON LAKE AREA
307876	52J07B048	SCMC	4/12/2022	7.88	HOUGHTON LAKE AREA
308483	52J07C018	SCMC	4/12/2022	17.95	HOUGHTON LAKE AREA
308748	52J07C139	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
308749	52J07C157	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
309931	52J07B224	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
311053	52J07B127	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
320327	52J07C077	SCMC	4/12/2022	19.85	HOUGHTON LAKE AREA
323874	52J07C179	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA

Tenure ID	Cell ID(s)	Tenure Type	Anniversary Date	Area (ha)	Township/Area
325247	52J07B161	SCMC	4/12/2022	13.12	HOUGHTON LAKE AREA
325248	52J07B201	SCMC	4/12/2022	19.57	HOUGHTON LAKE AREA
329959	52J07B222	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
332001	52J07C019	SCMC	4/12/2022	17.47	HOUGHTON LAKE AREA
332002	52J07C039	SCMC	4/12/2022	0.01	HOUGHTON LAKE AREA
332525	52J07F396	SCMC	4/12/2022	20.62	HOUGHTON LAKE AREA
337100	52J07B226	SCMC	4/12/2022	20.65	HOUGHTON LAKE AREA
342804	52J07C135	SCMC	4/12/2022	20.64	HOUGHTON LAKE AREA
105440	52J07B230	SCMC	4/21/2022	20.65	BOUCHER,HOUGHTON LAKE AREA
105441	52J07B250	SCMC	4/21/2022	20.65	BOUCHER,HOUGHTON LAKE AREA
105442	52J07B249	SCMC	4/21/2022	20.65	HOUGHTON LAKE AREA
137335	52J07B269	SCMC	4/21/2022	20.65	HOUGHTON LAKE AREA
153243	52J07B268	SCMC	4/21/2022	20.65	HOUGHTON LAKE AREA
189359	52J07B210	SCMC	4/21/2022	20.64	BOUCHER,HOUGHTON LAKE AREA
226634	52J07B231	SCMC	4/21/2022	20.65	BOUCHER
226635	52J07B251	SCMC	4/21/2022	20.65	BOUCHER
239276	52J07B248	SCMC	4/21/2022	20.65	HOUGHTON LAKE AREA
256005	52J07B229	SCMC	4/21/2022	20.65	HOUGHTON LAKE AREA
293258	52J07B208	SCMC	4/21/2022	20.64	HOUGHTON LAKE AREA
305389	52J07B209	SCMC	4/21/2022	20.64	HOUGHTON LAKE AREA
305390	52J07B271	SCMC	4/21/2022	20.65	BOUCHER
305391	52J07B270	SCMC	4/21/2022	20.65	BOUCHER,HOUGHTON LAKE AREA
321885	52J07B228	SCMC	4/21/2022	20.65	HOUGHTON LAKE AREA
620677	52J07F376	SCMC	11/26/2022	20.62	HOUGHTON LAKE AREA
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620679	52J07F374	SCMC	11/26/2022	20.62	HOUGHTON LAKE AREA
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620681	52J07F375	SCMC	11/26/2022	20.62	HOUGHTON LAKE AREA
540275	52J07B267	SCMC	1/30/2023	20.65	HOUGHTON LAKE AREA
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540278	52J07B288	SCMC	1/30/2023	20.65	HOUGHTON LAKE AREA
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540282	52J07B309	SCMC	1/30/2023	20.65	HOUGHTON LAKE AREA
540283	52J07B310	SCMC	1/30/2023	20.65	BOUCHER,HOUGHTON LAKE AREA
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540303	52J07C014	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540305	52J07C031	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA

Tenure ID	Cell ID(s)	Tenure Type	Anniversary Date	Area (ha)	Township/Area
540306	52J07F392	SCMC	1/30/2023	20.62	HOUGHTON LAKE AREA
540307	52J07F393	SCMC	1/30/2023	20.62	HOUGHTON LAKE AREA
540309	52J07C028	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540311	52J07C029	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540312	52J07C009	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540314	52J07C050	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540315	52J07C030	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540316	52J07C032	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540317	52J07C010	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540337	52J07C006	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540338	52J07C007	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540340	52J07C047	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540344	52J07C026	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540354	52J07C046	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540356	52J07C027	SCMC	1/30/2023	20.63	HOUGHTON LAKE AREA
540396	52J07B150	SCMC	1/30/2023	20.64	BOUCHER,HOUGHTON LAKE AREA
540399	52J07B050	SCMC	1/30/2023	20.63	BOUCHER,CONANT,HOUGHTON LAKE AREA
540403	52J07B190	SCMC	1/30/2023	20.64	BOUCHER,HOUGHTON LAKE AREA
540406	52J07B110	SCMC	1/30/2023	20.63	BOUCHER,HOUGHTON LAKE AREA
540407	52J07B070	SCMC	1/30/2023	20.63	BOUCHER,HOUGHTON LAKE AREA
540408	52J07B030	SCMC	1/30/2023	20.63	CONANT,HOUGHTON LAKE AREA
540412	52J07B010	SCMC	1/30/2023	20.63	CONANT,HOUGHTON LAKE AREA
540416	52J07B170	SCMC	1/30/2023	20.64	BOUCHER,HOUGHTON LAKE AREA
540417	52J07B130	SCMC	1/30/2023	20.64	BOUCHER,HOUGHTON LAKE AREA
540418	52J07B090	SCMC	1/30/2023	20.63	BOUCHER,HOUGHTON LAKE AREA
540432	52J07B089	SCMC	1/30/2023	13.25	HOUGHTON LAKE AREA
540433	52J07B069	SCMC	1/30/2023	8.72	HOUGHTON LAKE AREA
<b>198 claims</b>			<b>Total (ha)</b>	<b>3652.29</b>	



**Legend**

- Elevation contour
- Watercourse
- Waterbody
- Paved highway
- Road
- Property outline
- Mineral leases

Date:  
April 6, 2022

Drafted by:  
S. Wetherup

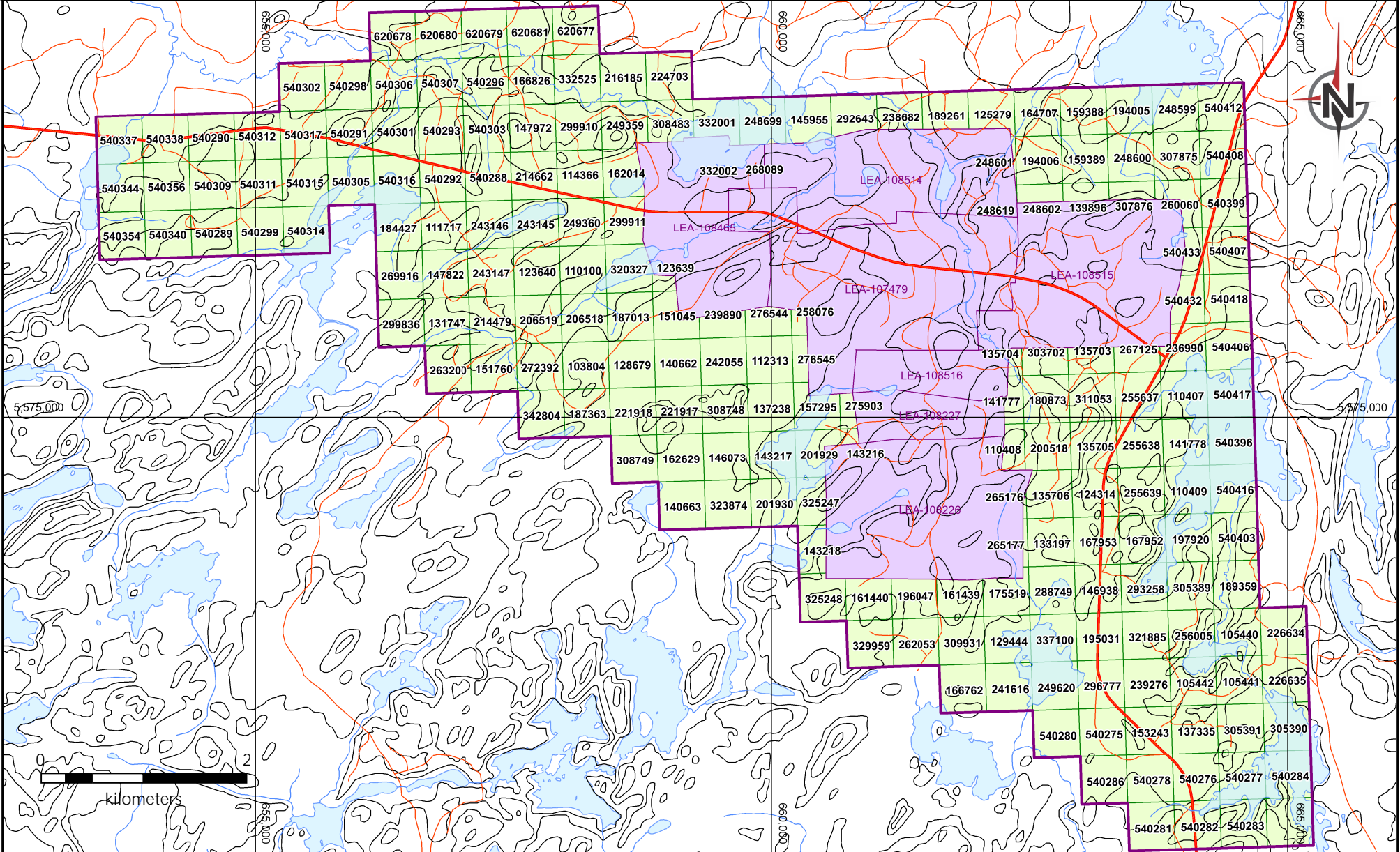
Figure:  
**3-2**

Sabin Property

Cell Claims and  
Leases

Ontario, Canada

UTM NAD83 Zone 15



## 4.0 EXPLORATION HISTORY

The Sabin property is a large claim block that encompasses several areas that have been the focus of exploration over the years (Table 4-1). The first recorded assessment work on the Sabin property began in 1953-1959 when Lun-Echo Gold Mines conducted ground magnetic and EM survey in the Golsil area at the south end of the property. Presumably prospecting work has occurred previous to this work which was not recorded for assessment. Additional work was completed in the Golsil area in 1963 by Golsil Mines. A hiatus of work in the area occurred until the late 1960's when airborne geophysical data prompted the drilling of a hole in the Hough Lake area by Canadian Nickel in 1968 and a hole in the Willow Lake area by Canex in 1970.

During the late 1960's and early 1970's a construction of the Pickle Lake highway (599) cut through a zone of pyritic rocks just north of the town of Savant Lake (Hadley showing) which was explored by a prospector E. Hadley and Cam Mines, during the early 1970's (Figure 4-1). Also, airborne EM conductors that run 1 to 2 km east of Hwy 599 and nearly parallel to the highway (Evans Lake area) were tested and explored by Nickel Rim Mines, Noranda, Cam Mines and Geophysical Engineering during the early 1970's. Noranda from 1974 to 1978 did sporadic work on small claim blocks it had east of Marchington and in the Golsil area.

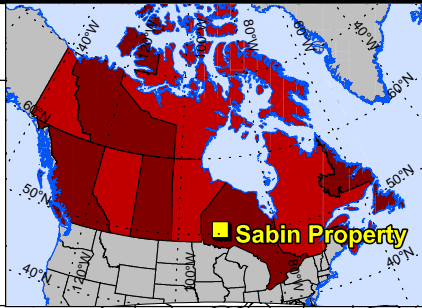
In 1976, UMEX staked the core claims to the Sabin property (mining leases) and began a regional program of airborne magnetic and EM surveys, prospecting and drill testing conductors. In 1977, UMEX drilled reconnaissance holes in the Hadley, Houghton Lake and a weak conductor beside the Marchington Road (now Hwy 516) which intersected the Marchington VMS horizon. This early success was followed by extensive step out drilling and definition of a small, inferred resource between 1978 and 1982 as well as regional minor regional exploration. Falconbridge Copper also funded drilling deeper holes into the Marchington area in 1982. Following the 1982 program UMEX focussed most of its efforts to more reconnaissance trenching, rock sampling and mapping in around and outbound of the Marchington area as well as in the Golsil area to the south of Marchington. UMEX concluded working in the area in 1987 and sold all of its Canadian assets and data to Major General Resources (now Commander Resources) in 1989.

During the UMEX work on the Sabin claims in the late 1970's and early 1980's, Falconbridge worked on a small claim block around Willow Lake (NE of Marchington) as well as its JV and assessment of Marchington in 1982. In 1984, Cumberland Resources staked and began exploring its Evans Lake Property which covered the eastern and southern portion of the current Sabin property and east of Hwy

Date:  
April 6, 2022  
Drafted by:  
S. Wetherup  
Figure:  
**4-1**

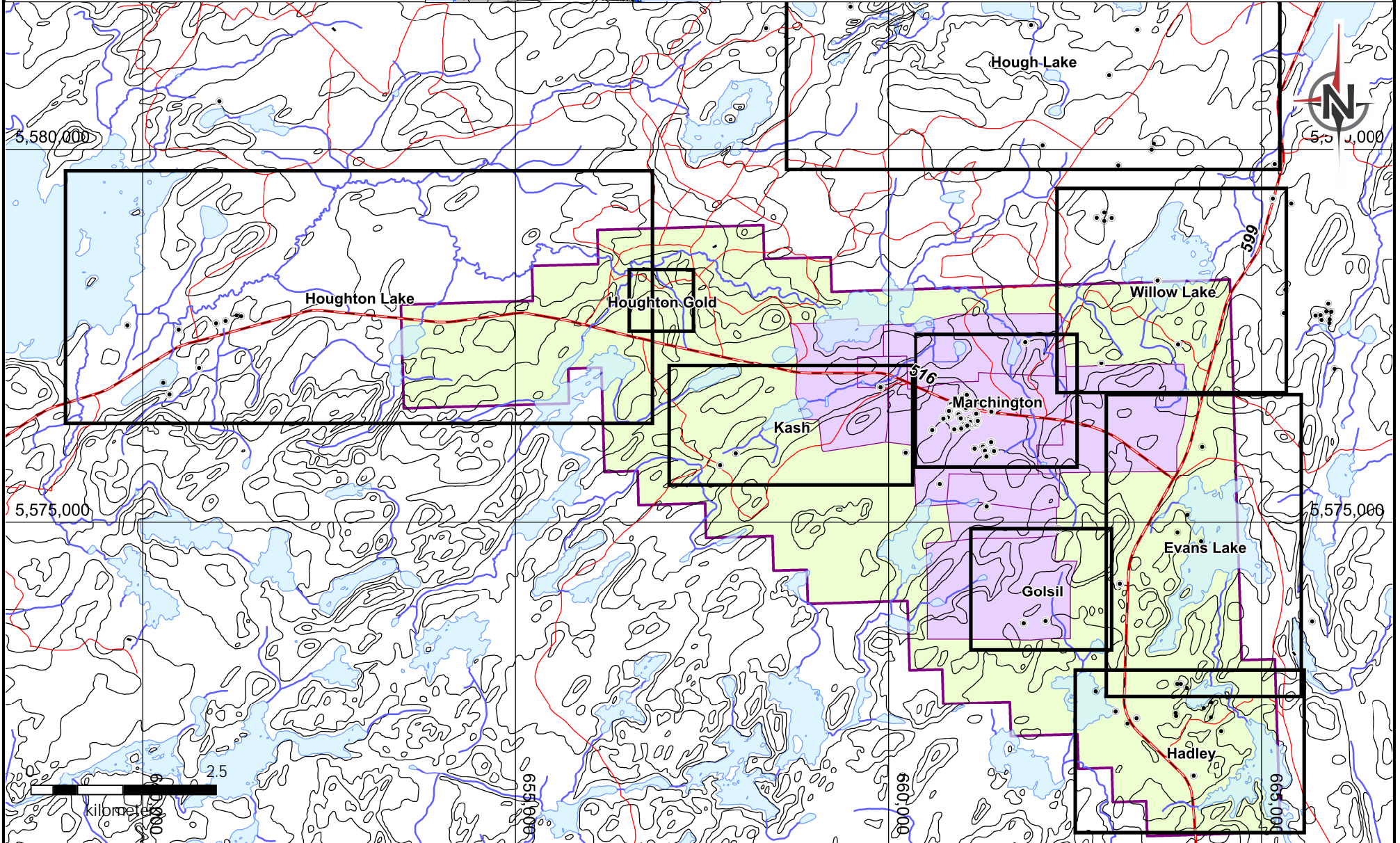
Sabin Property  
Areas of Historical Work  
Ontario, Canada

UTM NAD83 Zone 15



Legend

- Elevation contour
- Watercourse
- Waterbody
- Line
- Road
- Historical work area
- Historical DDH



599. In 1986, Cumberland drilled several of its EM and geological targets and intersected VMS mineralization (0.5 m @2.2% Zn, 1.7% Pb, 369.3 g/t Ag, within a larger alteration zone of anomalous Zn, Pb, Cu and Ag) at the south end of its property, south of Evans Lake and 2 km east of the original Hadley showing. Noranda in the same year partially funded the drill program and drilled below this original intercept, cutting more alteration and anomalous Zn, Pb, Cu, Ag and Au but not of sufficient grades to keep them interested.

In 1990 a small prospecting program identified a gold target just east of the core Sabin leases and now on the current Sabin property called the Houghton Creek gold occurrence. Two short exploration holes and minor channel sampling was completed by the prospector and by Noranda in 1991.

In 1992, Asarco completed 16 drill holes to test conductors in the Willow Lake area northeast of Marchington with limited results. In 1993, Granges conducted work on the Sabin property in the Golsil area, consisting of a small IP survey, trenching and sampling and a ground EM survey in the Marchington area. Noranda also compiled the data in the Marchington area in 1995 as well as conducting an IP survey over the Marchington area as well as drilling 3 drill holes to test deeper targets. Since, 1995 other than small prospecting and sampling programs no significant work has occurred on the Sabin property.

*Table 4-1. Summary of exploration work completed on the Sabin property and areas directly adjacent.*

<b>Year</b>	<b>Company</b>	<b>AFRI</b>	<b>Area</b>	<b>Work</b>
<b>1953-1959</b>	Lun-Echo Au Mines	52J07SE8787	Golsil	EM, MAG
<b>1963</b>	Golsil Mines	52J07SE8918	Golsil	8 DDH, 607.2 m
<b>1968</b>	Canadian Nickel	52J07SE8910	Hough Lake	1 DDH, 97.5 m
<b>1970</b>	Canex Aerial Expl	52J07SE9100	Willow Lake	1 DDH, 56.1 m
<b>1971</b>	Cam Mines	52J07SE9230	Hadley	GLCOMP
<b>1971</b>	Jorex	52J07SE8791	Golsil	MAG, VLF
<b>1971</b>	Nickel Rim Mines	52J07SE8772	SE Evans Lake	MAG, VLF
<b>1971</b>	Noranda	52J07SE8776	SE Evans Lake	EM, MAG
<b>1972</b>	Cam Mines	52J07SE8790	Evans Lake	EM, MAG
<b>1972</b>	E Hadley	52J07SE9101	Hadley	2 DDH, 182.9 m
<b>1972</b>	Mid-North Eng	52J07SE9070	Hough Lake	1 DDH, 91.4 m
<b>1973</b>	E Hadley	52J07SE0196	Hadley	PMECH
<b>1974</b>	Noranda	52J07SE0188	E Marchington	EM, MAG
<b>1975</b>	E Hadley	52J07SE0019	Hadley	PTRNCH
<b>1975</b>	Geophysical Eng	52J07SE9102	N Evans Lake	GCHEM, 1 DDH, 131.7 m
<b>1975</b>	Noranda	52J07SE0190	Golsil	GEOL
<b>1975</b>	Noranda	52J07SE0198	E Marchington	EM, MAG
<b>1975</b>	Noranda	52J07SE8766	Marchington	VLF
<b>1975</b>	Noranda	52J07SE9609	Marchington	GEOL
<b>1976</b>	Geophysical Eng	52J07SE9103	N Evans Lake	1 DDH, 61.6 m
<b>1977</b>	Umex Inc	52J07SE9104, 52J07SE9312, 52J07SW0037	Hadley, Houghton and Marchington	16 DDH, 1981.2 m; AMAG, 1392 line-km



Year	Company	AFRI	Area	Work
1978	Eric Hadley	20000005283	Hadley	1 DDH, 31.7 m
1978	Geophysical Eng	52J07NE9273	North Evans Lake	1 DDH, 128.3 m; mag
1978	Noranda	52J07SE8765	Golsil	EM
1978	Umex Inc	20000005279, 20000005279, 20000005282, 52J07SE0050, 52J07SE0185, 52J07SE9106, 52J07SE9107, 52J07SE9204, 52J07SE9303, 52J07SE9313, 52J07SE9315, 52J07SE9316, 52J07SW0027, 52J07SW0028, 52J07SW0030, 52J07SW0035, 52J07SW0040	Houghton Lake, Sabin	AMAG, AVLF, 798 line-km; 27 DDH, 4494.6 m
1979	E Hadley	52J07SE0195	S. Evans Lake	MAG, VLF, 1.9 line-km
1979	Falconbridge	52J07NE0024, 52J07SE8768	Exploration to Willow Lake	MAG, VLF 241 line-km
1979	Umex Inc	52J07SE0189, 52J07SE9299, 52J07SE9311, 52J07SW0029, 52J07SW0034	Houghton Lake to Marchington	MAG, VLF, 85.7 line-km; 5 DDH, 1522.8 m
1980	Falconbridge	52J07SE9300	Hough Lake	3 DDH, 776.6 m
1980	Preussag Canada	52J07SW0023, 52J07SW9319	N Exploration Lake	EM, MAG, 22.5 line-km; GEOL
1980	Umex Inc	52J07SE0197, 52J07SE9071, 52J07SE9205, 52J07SE9301, 52J07SE9302, 52J07SW0046	Marchington, Evans Lake, Houghton	21 DDH, 1735.5 m
1981-1982	Falconbridge	52J07NE0022, 52J07SE0199, 52J07SE9297, 52J07SE8788, 52J07SW0018, 52J07SW0019, 52J07SW0025	Houghton Lake, Marchington, Willow Lake	EM, 20 line-km, MAG 80.1 line-km, GEOL; 15 DDH, 2448.3 m
1984	Cumberland Res	52J07NE0010	Houghton, Hough and Evans Lake	AEM, AGR, AMAG, 248 line-km
1984	Umex Inc	52J07SE0036, 52J07SE0191, 52J07SE8774, 52J07SE8775, 52J07SE9271, 52J07SE9296, 52J07SW0011, 52J07SW0012, 52J07SW0014, 52J07SW0015	Golsil, Houghton Lake and Sabin	2 DDH, 252 m; EM, MAG, VLF, 5.1 line-km; 97 Whole rock, 211 GCHEM rock, 1107 GCHEM soil
1985	Cumberland Res	52J07SE8783, 52J07SE8786	Evans Lake/ Hadley	EM, MAG, 50 line-km; PROSP, GEOL
1985	Umex Inc	52J07SE9620, 52J07SW0008, 52J07SW0009	Sabin, Houghton	1 DDH. 130.1 m; GCHEM 666 rocks
1985	Umex Inc	52J07SW0008	Sabin	GCHEM, GEOL, 666 samples
1986	Cumberland Res	52J07SE0174, 52J07SE0194, 52J07SE8753, 52J07SE8779, 52J07SE8780, 52J07SE8781, 52J07SE8784, 52J07SE9280, 52J07SE9610, 52J07SE9703	Hadley, Evans Lake	EM, 20 line-km, and borehole EM; GCHEM 192 soils; 12 DDH, 2841.7 m
1986	Noranda	52J07SE9702	Hadley	GCHEM, 1 DDH, 609.4 m
1987	Cumberland Res	52J07SE0187	Hadley	GEOL
1987	Umex Inc	52J07SE8751	Willow Lake	ACOMP, AMAG, AVLF, 29 line-km
1988	Cumberland Res	52J07SE8754	Hadley	GCHEM, OTHER
1988	Noranda	52J07SE8756	Hadley	GCHEM
1989	Geocanex	52J07SW0001	Houghton Lake	AGRAD, AMAG, AVLF, 225 line-km
1989	Noranda	52J07SE8757	Hadley	16.7 line-km UTEM

Year	Company	AFRI	Area	Work
1990	W Hollingsworth	52J07SW0002	Houghton gold	2 DDH, 39.3 m
1991	Asarco	52J07SE8778	S Hough	1 DDH, 119.1 m
1991	Noranda	52J07SW0003	Houghton gold	MAG, DDH, VLF
1991	Unknown	52J07SE8627	Hadley	ASSAY, DDH, PROSP, PSTRIP
1992	Asarco	52J07SE8777, 52J07SE0001	N Willow	ASSAY, PCOMP, 6 DDH
1993	Granges Inc	52J07SE0003, 52J07SE9700	Golsil, Sabin	GCHEM, GEOL, IP, 4.3 line-km, EM, 25.6 line-km
1995	Noranda	52J07SE0004	Marchington	GCHEM, IP, 13.4 line-km MAG, 3 DDH, 1012 m
1997-1999	R. De Carle	52J07SW2001	Island Lake	GCHEM, GEOL, GRAV, MAG, PROSP, VLF
2012	Commander Res	20000008688	Houghton Lake Area	ASSAY, GCHEM 665 soils
2012	Fairmont Res	20000007512	Houghton gold	ASSAY, PROSP

## 5.0 GEOLOGICAL SETTING

### 5.1 Regional Geology

The Sabin property is located within the Savant Lake-Sturgeon Lake Greenstone Belt (“SLGB”) which are in the Neoproterozoic Wabigoon Subprovince of Northern Ontario. The greenstone belt is comprised of three main successions of rocks:

- (1) The oldest package is comprised of the Jutten sedimentary sequence, Vanessa Lake sequence and Vista Lake sequence which are on the east and north margins of the belt. These sequences of quartz-rich siliciclastic sedimentary rocks are ~2950 Ma and are thought to be derived from a continental source and are overlain by a thin polymictic conglomerate and ultramafic schist.
- (2) Overlying this older sedimentary package are Jutten Group and Fourbay Lake sequence tholeiitic basalt flows which are dated to be ~2850 Ma and appear to form the base of a volcanic island arc.
- (3) The youngest rocks in this greenstone belt are the Handy Lake Group bimodal volcanic and the Beckington sequence, Six Mile Lake sequence, Central Sturgeon sequence and South Sturgeon Sequence. These are island arc affinity volcanic rocks between the ages of 2745 and 2718 Ma. Above the volcanic sequences locally are turbiditic wacke and rare oxide facies iron formations of the Quest Lake, Savant and Post Lake sedimentary sequences (Sanborne-Barrie and Skulski, 1999).

The Sabin property is completely underlain by bimodal volcanic rocks of the Four Bay Group which is tectonically and age correlative to the South Sturgeon sequence which hosts the VMS ore bodies of the



COMMANDER RESOURCES LTD.

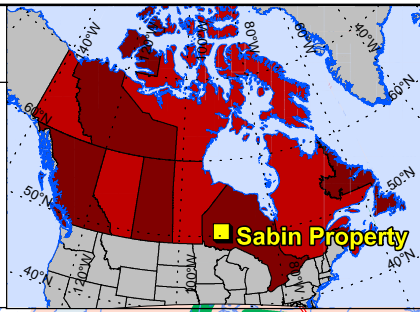
Date:  
April 6, 2022

Drafted by:  
S. Wetherup

Figure:  
5-1

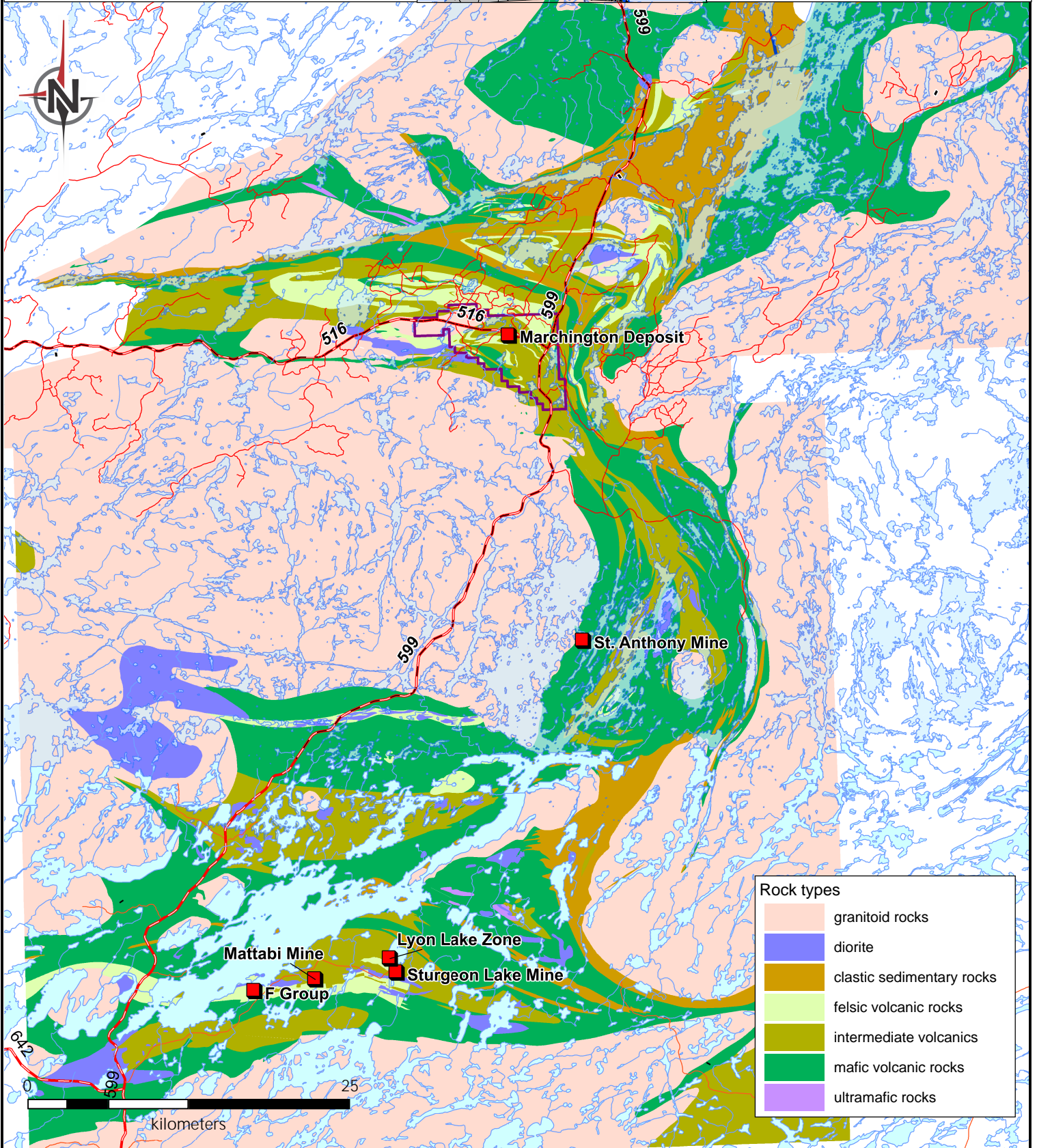
Sabin Property  
Regional Geology of the Savant-  
Sturgeon Lake Greenstone Belt  
Ontario, Canada

UTM NAD83 Zone 15



Legend

- Elevation contour
- Watercourse
- Waterbody
- Line
- Road



- Rock types
- granitoid rocks
  - diorite
  - clastic sedimentary rocks
  - felsic volcanic rocks
  - intermediate volcanics
  - mafic volcanic rocks
  - ultramafic rocks

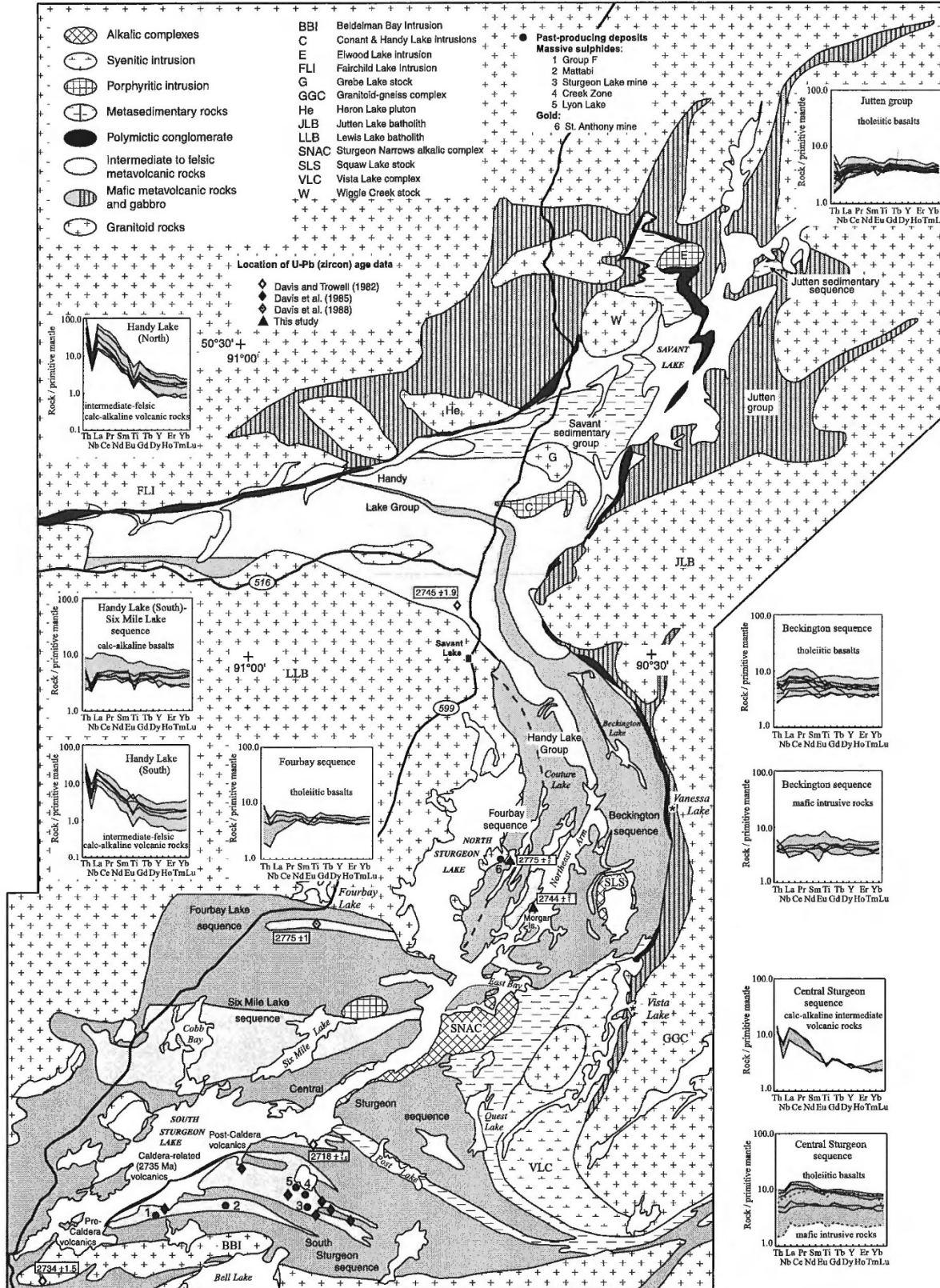


Figure 5-2. Geological groups and formations in the Savant Lake-Sturgeon Lake Greenstone Belt (after Sanborne-Barrie and Skulski, 1999).

Sturgeon Lake VMS deposit (Figures 5-1 and 5-2).

All of the rocks in the SLGB have been poly-deformed and subjected to greenschist facies metamorphism and have been folded by at least two major deformation events.  $D_1$  deformation results in the near layer parallel axial planar isoclinal foliation of the rocks within the belt with shallow plunges (Sanborne-Barrie and Skulski, 1998 and 1999).  $D_2$  is defined by 050 to 070 axial planar closed folds which are strongly developed on the Sabin property which is in the centre of a large scale  $F_2$  anticline.

## 5.2 Property Geology

The Sabin property is underlain by bimodal Handy Lake Group volcanic rocks which have been folded into a large anticline along a 070 axis. The lowest portion of the succession of volcanic (oldest) rocks are in the core of the anticline and at the southwest side of the property. These consist of some felsic flows and tuffs but dominantly more basalt flows and syn-volcanic diorite sills (Figures 5-3).

Directly overlying these basalts are a sequence of andesite, dacite and lesser rhyolite flows, tuffs and volcanic breccias (light green) which wrap around the basalt package to the north and east. These felsic volcanic rocks contain local zones of phyllite sedimentary rocks as determined by historical mapping by UMEX but mapping during this project suggests that some of these “sediments” are likely highly altered felsic tuff which have significant amounts of garnet and or staurolite porphyroblasts, such as the sedimentary body ENE of Marchington. This also appears to be the case ENE of the Kash Zone as well. Locally, there are also very fine-grained diorite sills injected along flow and tuff layering within the felsic volcanic package some of which do not appear to have been hydrothermally altered but locally these too can contain significant garnet contents suggesting aluminous alteration and hence these sills at least partially were emplaced during or before VMS alteration and mineralization.

Outcrop is very poor at the northern contact of the felsic volcanic rocks, but historical drilling suggests that it is conformably overlain by a mixed zone of andesite and basaltic flows as well as some coarse conglomerate and fine-grained sedimentary units before transitioning into massive, pillowed basalt flows at the north end of the Sabin property. The mixed transition zone folds around to the south and underlies some of the easternmost areas on the property around Evans Lake.

Late granitic stocks and plutons cut the Handy Lake Group volcanic rocks around Patterson Lake (the Patterson Lake stock) and to the south of the property.

### 5.2.1 Structure

The most prominent structure on the property is a large anticlinal fold with a 070 oriented axial plane, D<sub>2</sub> as described by Sanborne-Barrie and Skulski (1998 and 1999). Throughout the property 060 to 075 foliation is common and dominant especially within sericite schists where it is the dominant foliation. There are several 070 trending lineaments in the topography and within the airborne magnetic data which defines larger scale (100's m to km scale) fold zones and these can appear to be shears. In detail, the 070 foliation is axial planar to large scale and minor scale folds which have ~50-60° closures and often occurs along discrete zones or shears within more competent rocks or partitioned preferentially into the more micaceous schists (Figure 5-3). These 070 folds plunge shallowly 5-15° ENE (Figure 5-4).

In the more competent rocks, the 070 foliation is poorly developed, or along discrete zones as noted above. These rocks are also strongly foliated with a layer parallel foliation and locally isoclinal fold hinges are observed which are typically strongly attenuated and decapitated. This is interpreted to be the foliation and folding related to D<sub>1</sub> and is folded along 070 trending axial planes and axial planar foliation zones. On the north and west limb of the major anticline, the F<sub>1</sub> foliation generally strikes 110 to 080 and the isoclinal fold hinges plunge moderately to shallowly eastward. In these areas, small scale folds can be observed to have long E-W striking limbs and short ~345 or NNW striking limbs or kinks. Along Hwy 599 and in the Golsil area, F<sub>1</sub> foliation and layering typically strikes 330 to 350 with moderate easterly dips and here the small-scale folding shows the NNW limbs tend to be longer limb.

### 5.2.2 Metamorphism and Alteration

The Savant Lake Greenstone Belt is generally considered to be metamorphosed to greenschist facies and the rocks on the Sabin property are more specifically upper greenschist facies. Mafic volcanic rocks are typically chlorite<sup>±</sup>-actinolite schists, and andesite and dacite volcanic and volcanoclastic rocks are biotite-feldspar<sup>±</sup>-hornblende<sup>±</sup>-quartz eye schists. Locally however these schists interpreted to be volcanic in origin contain variable amounts of garnet, sericite, staurolite, or sillimanite/andalusite. In some locales, the rocks are purely quartz-sericite<sup>±</sup>-pyrite schists, or garnet-sericite-quartz schists. As mentioned above, where garnet contents are more than 5% some previous mappers have labelled the rocks as sedimentary (aluminous) but in many areas these have no remaining sedimentary layering or features and appear to be simply highly altered volcanic rocks. In one such location ENE of Marchington and along the Marchington trend basalt/diorite sills have injected and brecciated the felsic volcanic rocks and both rock types contain significant amounts of garnet suggesting aluminous alteration of both the basalt/diorite and felsic volcanic rocks.

### 5.2.3 Mineralization

Several zones of mineralization have been documented on the Sabin Property (Figure 5-4). The Marchington Zone has by far had the most work completed with ~40 drill holes testing it and zones around it. It appears to be three separate horizons, the Marchington Zone, South Zone and Zinc Zone, but this may be due to fold duplication as the zone is intensely folded. The Marchington Zone itself consists of a massive to semi-massive sulphide lens (or hinge) of sphalerite-tetrahedrite-chalcopyrite-galena which is about 2.5 to 6 m thick (true width) drilled to 40 m depth in detail with the a few deeper holes intersecting it ~ 100 m from surface. It has been detail drilled for approximately 180 m along strike but wider spaced drilling commonly with only one hole on section for 470 m along strike and it is open to E and W as well as to depth. Typical intercepts from the Marchington Zone are 3.2 m @ 4.8% Zn, 4.3% Cu, 177 g/t Ag (SA-69) from the west end of the detailed drilling and 6.0 m @ 3.5% Zn, 1.1% Cu, 1.2% pb and 63 g/t Ag from the discovery hole (SA-05). Sparse drilling has tested the other zones in the Marchington area.

Outside the Marchington area, are additional significant VMS horizons with moderate to minor amounts of drill testing, the S-23 Zone, Kash Zone, South Evans, Golsil and Hadley Area. The S-23 Zone is a minimum of 300 m long (open to E and W and depth), tested by 6 short drill holes below a beaver pond with significant intercepts of 7.3 m @ 1.0% Zn, 0.8% Cu and 18 g/t Ag (SA-24) and 3.4 m @ 1.7% Zn, 0.8% Cu and 22 g/t Ag (SA-33). The Kash Zone is a 2 km long weakly conductive zone with abundant garnet-sericite-pyrite alteration on its south side tested by one drill hole which returned 0.7 m @ 4.0% Zn (SA-43). Golsil has had several campaigns of mapping, rock sampling, trenching/stripping and geophysics as well as 10 short drill holes with descriptions of 15 to 32 ft of sph-cpy-gal mineralization. The Hadley Zone itself has only been peripherally tested with drilling as a prospector has held the ground for much of its history and is described and a sph-cpy-gal showing. An area east of it was drilled by Cumberland Resources and here is grouped with the Hadley showing as the Hadley Area. Cumberland intersected 0.5 m @ 2.2% Zn, 1.7% Pb and 369 g/t Ag and several other altered and weaker mineralized zones. Another hole tested the zone to depth but returned weaker assays although both areas were within much wider alteration zones.

Finally, a showing to the NW of the Kash area, here called the Houghton Gold Area, is located along Houghton Creek and is essentially a single stripped outcrop in a gravel pit of altered felsic volcanic rocks that has returned channel samples of 0.055 oz/t Au and 0.2% Zn over 2.5 feet, and 0.7% Zn over 13 feet. This area has had very little work done on it other than channel sampling and 2 short drill holes.

Date:  
April 6, 2022

Drafted by:  
S. Wetherup

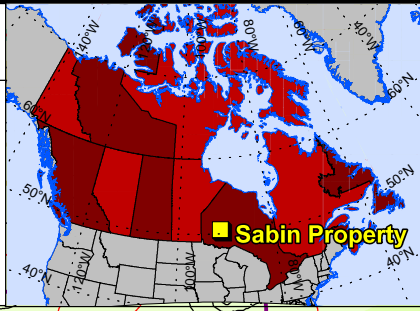
Figure:  
**5-3**

Sabin Property

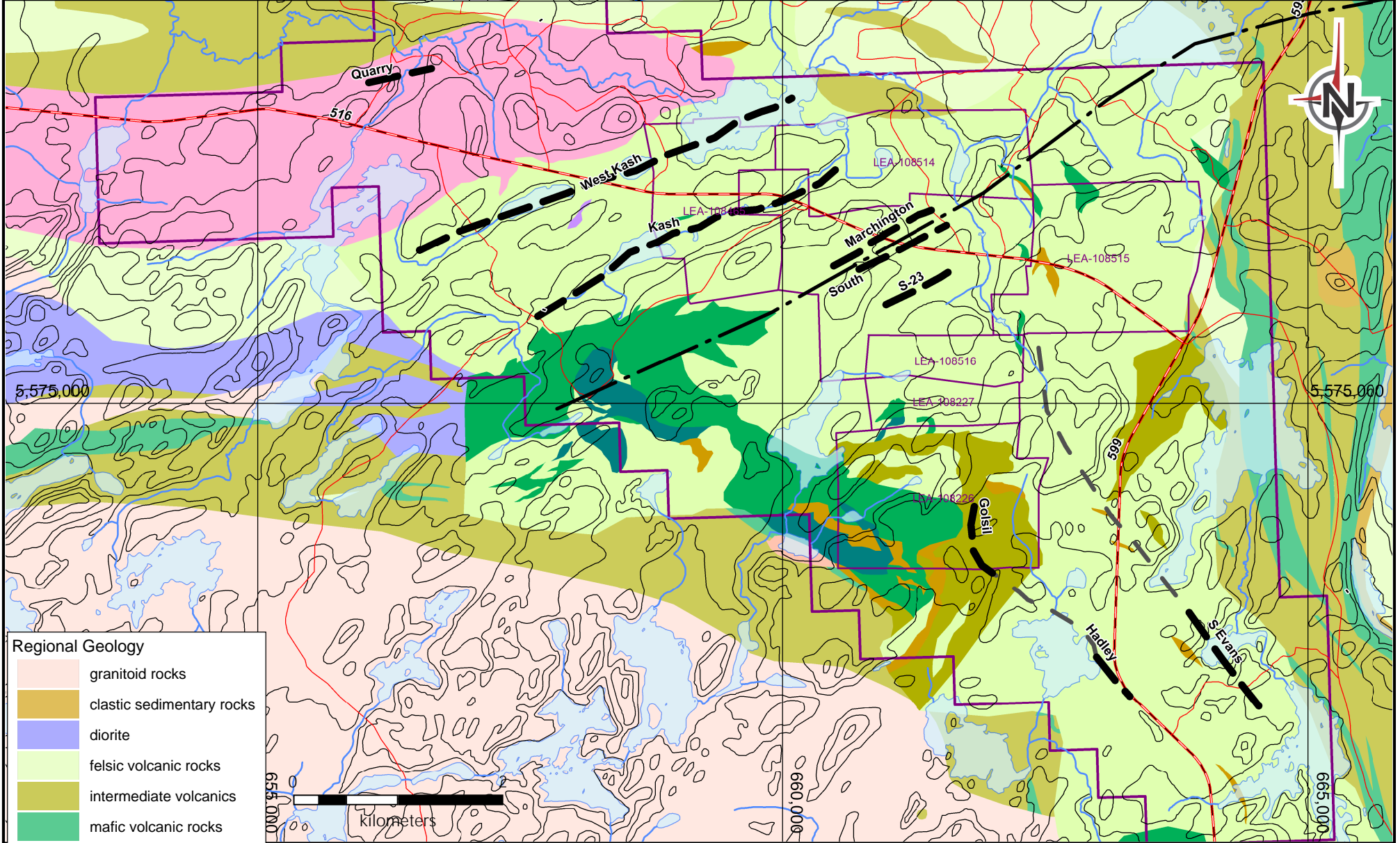
Property Geology and  
Regional Geology Mapping

Ontario, Canada

UTM NAD83 Zone 15



<b>Legend</b>		<b>Property Geology</b>		VMS horizon
Elevation contour	Watercourse	Granite	Mafic intrusive	Inferred VMS horizon
Waterbody	Line	Metasedimentary rocks	Felsic volcanic rocks	Anticline axis
Road		Intermediate volcanic rocks	Mafic volcanic rocks	





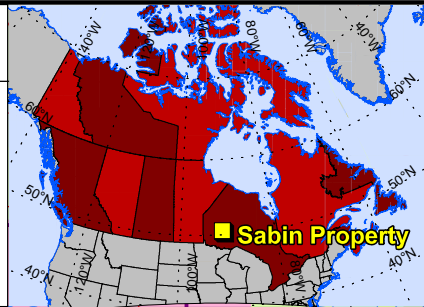
Date:  
April 6, 2022

Drafted by:  
S. Wetherup

Figure:  
5-4

Sabin Property  
Property Geology and  
Structural Measurements  
Ontario, Canada

UTM NAD83 Zone 15



Legend

- Elevation contour
- Watercourse
- Waterbody
- Line
- Road

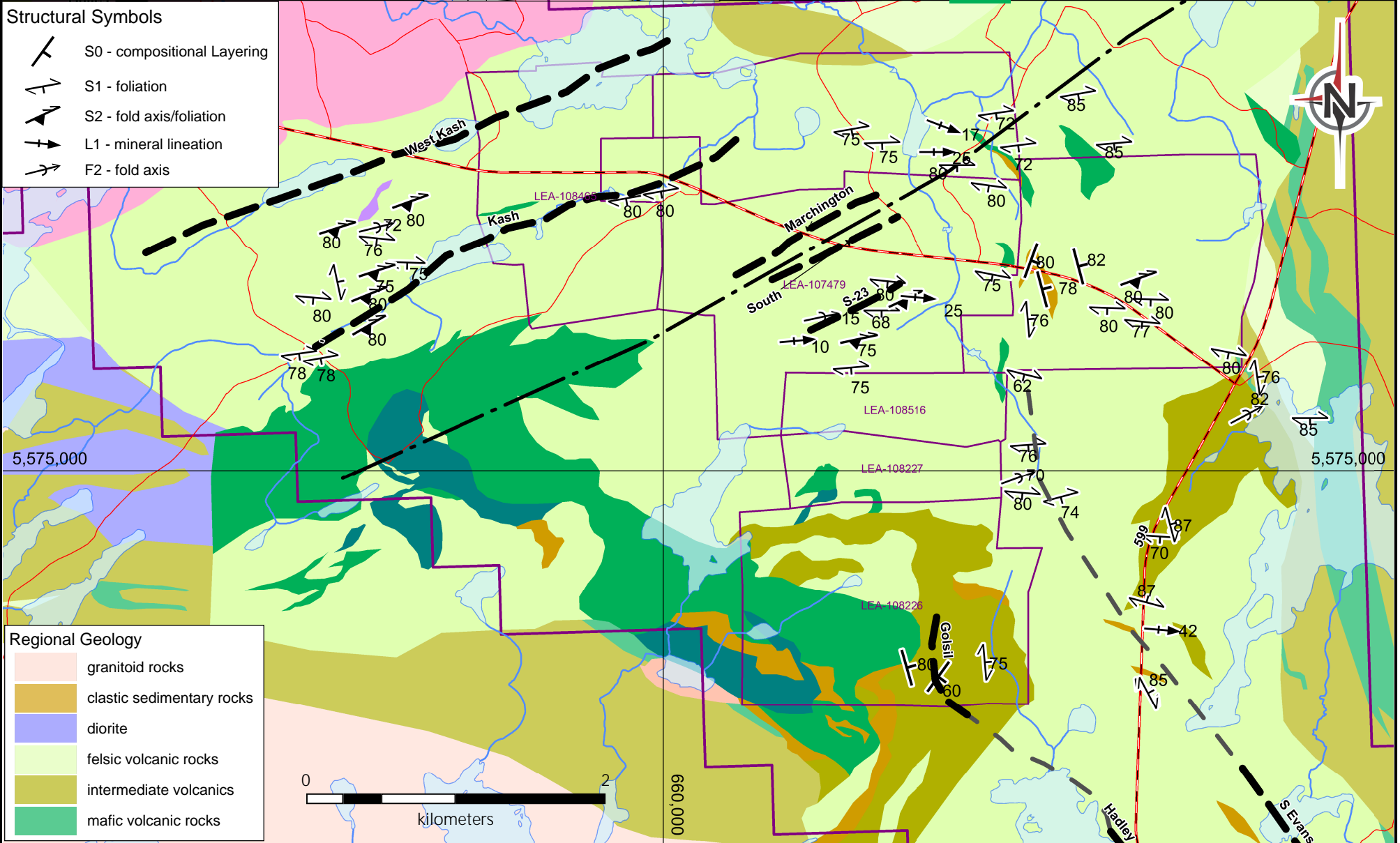
Property Geology

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

- VMS horizon
- Inferred VMS horizon
- Anticline axis

Structural Symbols

- S0 - compositional Layering
- S1 - foliation
- S2 - fold axis/foliation
- L1 - mineral lineation
- F2 - fold axis



Regional Geology

- granitoid rocks
- clastic sedimentary rocks
- diorite
- felsic volcanic rocks
- intermediate volcanics
- mafic volcanic rocks

## 6.0 EXPLORATION WORK

Exploration work completed on the Sabin property in 2020 and 2021 consisted of prospecting, rock sampling and geological mapping by a crew of two people. Geologists, Stephen Wetherup and Rory Krockner worked on the property between September 10<sup>th</sup> to 16<sup>th</sup>, 2020, collecting 48 rock samples for geochemical analysis and 159 geological data points, and Stephen Wetherup and Martin Kulla worked on the property from September 22<sup>nd</sup> to 26<sup>th</sup>, 2021 collecting 56 rock samples and 106 geological data points.

### 6.1 Geological Mapping and Rock Sampling

The geological map in Figure 6-1 depicts the location of all geological mapping points visited and documented during the 2020 and 2021 programs and their interpreted rock types. All data was recorded onto mobile devices into a georeferenced database where UTM and lat/long coordinates were collected for each site as well as rock types, structural data, mineralogical data and general descriptions as well as photos were recorded.

The mapping confirmed much of the historical geological mapping however, in general historical mapping tends to identify volcanic rocks as more felsic than the current mapping. Whole rock discrimination plots using immobile elements, from the 2019 program, confirmed that historical field mapping overestimated how felsic volcanic rocks are.

The central area of the Sabin property is dominated structurally by a large-scale anticlinal fold which has 70° to 80° closure and an axial plane which strikes 070 and dips approximately 75° SSE. The northern portion of the property is underlain by a limb of the fold which generally strikes 090 and dips 80° S. The property is dominated by volcanic rocks which have not only been poly-deformed, metamorphosed (greenschist facies) but also show complex facies variation which makes any detailed stratigraphy difficult and likely erroneous. Therefore, only a basic stratigraphy is presented here.

The lowest member of the volcanic rocks on the property is a series of mafic flows (locally pillowed) and injected fine grained to coarse grained dioritic sills at the southeastern portion of the claims. These areas were not visited in the 2019 program and descriptions are based off internal historical UMEX reports. Mapping suggests that this unit is about 1 km thick.

Directly, above the mafic units to the north and east is a complex of intermediate to felsic volcanic flows and volcanoclastic rocks (where textures are visible) which are generally biotite-feldspar+/-hornblende+/-quartz+/-sericite+/-garnet schists. This unit is at most 4.5 km thick on the northern portion of the property

however, there is likely significant structural thickening of this unit and it appears to be only 2 to 2.5 km thick on the eastern border of the property.

Within the intermediate to felsic volcanic package at least two separate major VMS horizons have been identified the Kash horizon and the Marchington horizon, on the northern limb of the anticline. The Marchington horizon appears to be the lowest in the section and is possibly duplicated structurally in the S-23 zone by isoclinal  $F_1$  folding. There are also numerous other mineralized zones between Marchington and S-23 with accompanying aluminous alteration and possible exhalative chert zones suggesting this is either intensely deformed and repeated zones or just a complex of VMS alteration and mineralization. The Kash zone is identified by a single drill hole near Hwy 516 and a small outcrop at the edge of a ENE trending swampy creek no more than 50 m south of Hwy 516. This ENE creek/lakes chain covers a weak conductive and magnetic trend and at its west end 2.6 km from the highway is also intensely sericite and silica altered (south side, footwall). Several point source conductors occur at the west end which were observed to coincide with massive to semi-massive pyrrhotite bodies with strong silicification and sericite contents in surrounding rocks. The alteration in the footwall of the Kash zone was traced north of Hwy 516 and sparse outcrop and mapping appears to trace it around the anticlinal nose and then southward to Golsil and Evans Lake.

On the southeastern limb of the anticline are the Golsil, Hadley and a series of exhalative outcrops along Highway 599 tracing SE of the Hadley showing which appear to represent the folded extent of the Marchington horizon to the north. The Evans Lake VMS showing at the SE corner of the property lies stratigraphically above the Hadley and Golsil horizon and is the likely continuation of the Kash Zone on the northern limb.

The 2020 and 2021 rock sampling continued to advance rock sampling data and mapping southwest of Marchington, in the Golsil and Hadley areas. Another target area was investigated within the Patterson Lake Stock on the Northwest corner of the property, here named the “Quarry Zone. The Patterson Lake Stock is comprised of a main granodiorite to quartz monzonite phase, with lesser diorite and monzo-syenite phases. Within the most felsic granodiorite to quartz monzonite phases are 070 to 060 striking shears where the intrusive rock is not only plastically deformed but also accompanied with aluminosilicate alteration resulting in garnet, sericite and pyrite assemblages. These shears can be narrow (1-2 cm) and isolated but, in the Quarry Zone, they are 10-30 cm wide and in an en-echelon array with 1 to 2 m separating them. Where mineralization is strongest the amount of garnet, sericite and disseminated pyrite increases and accompanied with chalcopyrite and sphalerite. Several other mineralized shears were observed and sampled beyond the gravel quarry area (Figures 6-2 to 4).

## 6.2 Rock Assays

A total of 104 rocks were collected for assay during the mapping programs. Rock samples were collected from outcrops where potential Cu-Pb-Zn-Ag-Au mineralization was suspected. Samples were taken directly from bedrock using rock hammers, placed into plastic sample bags with a sample tag with a unique sample number. All data was recorded into mobile devices and georeferenced with UTM coordinates along with a description of the outcrop, name of sampler and date the sample was collected. These samples were put into larger rice sacks which were palletted and shipped to Bureau Veritas' analytical laboratory in Vancouver, BC.

All samples were digested with a 4-acid digest and analyzed by ICP-MS. A traditional gold fire-assay was performed on 30 g aliquots from the pulps of each sample as well.

Samples collected in the Quarry Zone and within the shears in the Patterson Lake stock returned weakly to strongly anomalous Au-Ag-Cu-Zn-Pb assay values depending mainly on the sulphide content with the shears which vary from < 0.1% to 5%. Gold values vary greatly with 10 of the 28 samples collected returned greater than 250 ppb with a high of 1500 ppb. Elevated gold assays in this area are accompanied with elevated Cu-Zn-Ag-Pb with highs of 0.28% Cu, 0.89% Zn, 81.7 g/t Ag and 0.4% Pb.

The mineralization at the Hadley showing consists of a 30 to 50 cm zone of brecciated chert or felsic volcanic rocks within actinolite-sphalerite-tetrahedrite semi-massive sulphide matrix which only extends for 1-2 m in outcrop before pinching out. Samples of the semi-massive sulphide returned 4.25 g/t Au, 10.4% Zn, 53.5 g/t Ag, 0.1% Cu and 4.7% Pb. Samples collected along strike in actinolite rich layers and lenses along Highway 599 returned anomalous Au, Zn and Ag. The Golsil showing which appears to be along strike and ~ 1.5 km to the NW of Hadley is also high in gold but is also anomalous in Cu in historical sampling. Sampling in 2020, around the Golsil showing returned a single 0.1% Cu sample.

Date:  
April 7, 2022

Drafted by:  
S. Wetherup

Figure:  
**6-1**

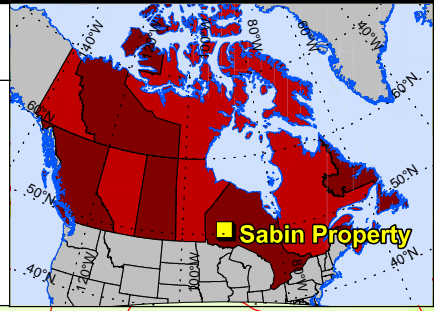
Sabin Property

Geology Mapping Stations

Interpreted Rock Types

Ontario, Canada

UTM NAD83 Zone 15



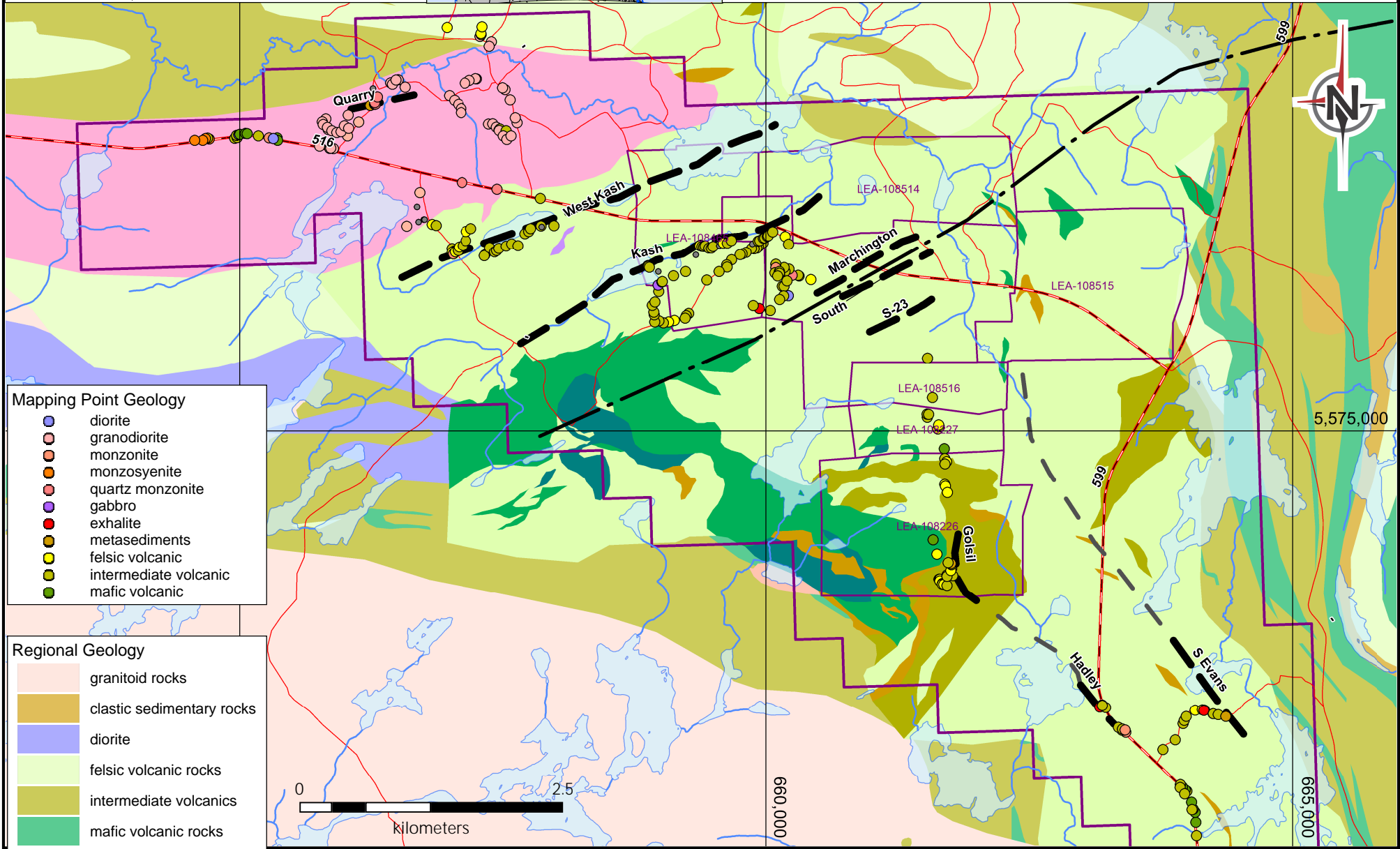
**Legend**

- Elevation contour
- Watercourse
- Waterbody
- Line
- Road

**Property Geology**

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

- VMS horizon
- Inferred VMS horizon
- Anticline axis



**Mapping Point Geology**

- diorite
- granodiorite
- monzonite
- monzosyenite
- quartz monzonite
- gabbro
- exhalite
- metasediments
- felsic volcanic
- intermediate volcanic
- mafic volcanic

**Regional Geology**

- granitoid rocks
- clastic sedimentary rocks
- diorite
- felsic volcanic rocks
- intermediate volcanics
- mafic volcanic rocks

Date:  
April 7, 2022

Drafted by:  
S. Wetherup

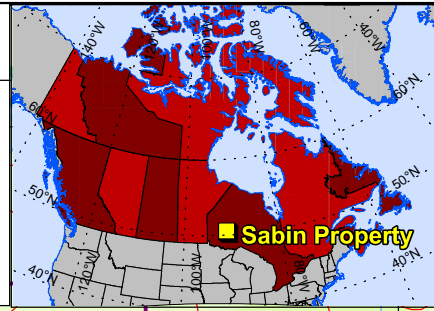
Figure:  
**6-2**

Sabin Property

Rock Samples and  
Cu Assays

Ontario, Canada

UTM NAD83 Zone 15



**Legend**

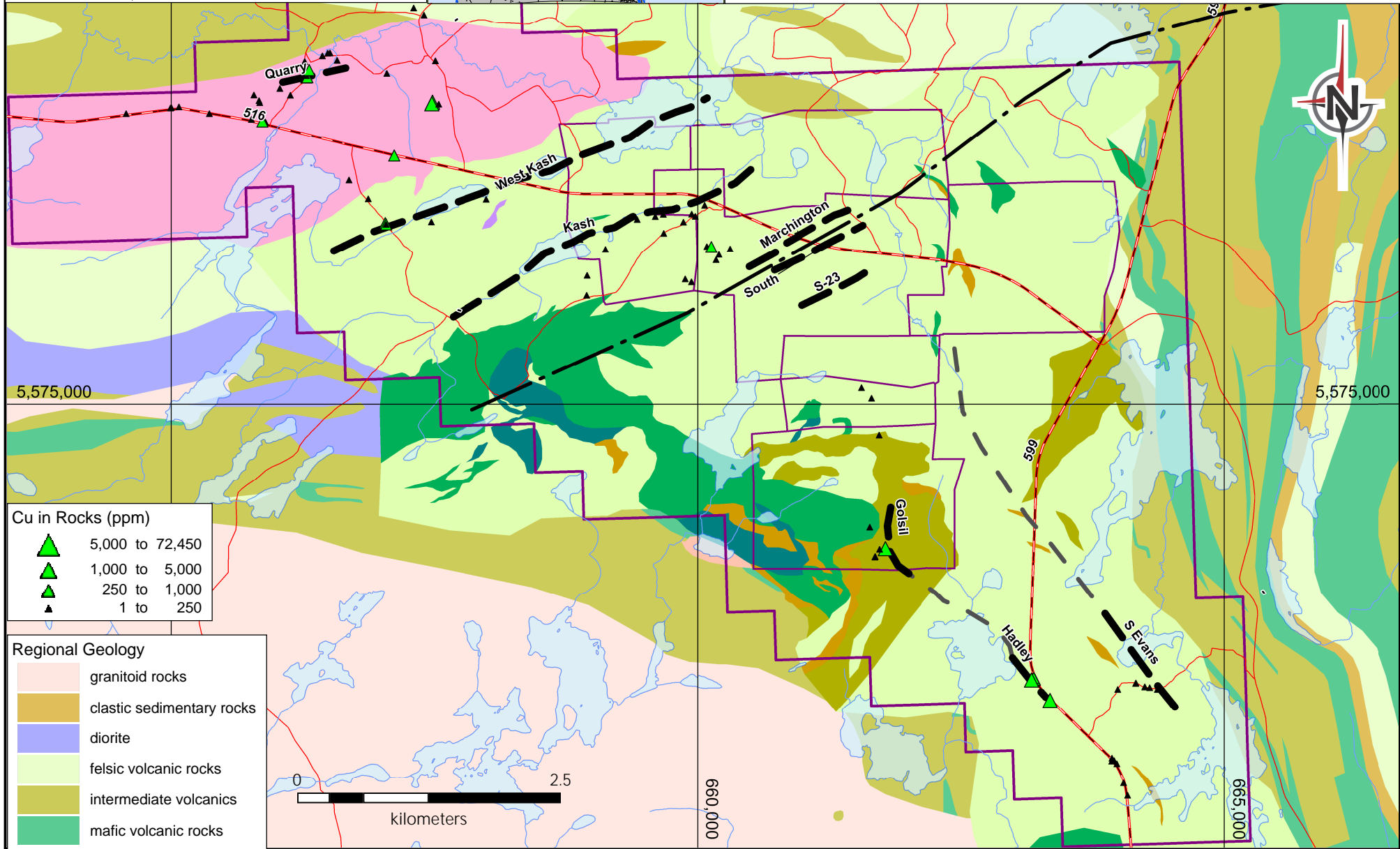
- Elevation contour
- Watercourse
- Waterbody
- Line
- Road

**Property Geology**

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

VMS horizon  
Inferred VMS horizon

Anticline axis



**Cu in Rocks (ppm)**

- 5,000 to 72,450
- 1,000 to 5,000
- 250 to 1,000
- 1 to 250

**Regional Geology**

- granitoid rocks
- clastic sedimentary rocks
- diorite
- felsic volcanic rocks
- intermediate volcanics
- mafic volcanic rocks





Date:  
April 7, 2022

Drafted by:  
S. Wetherup

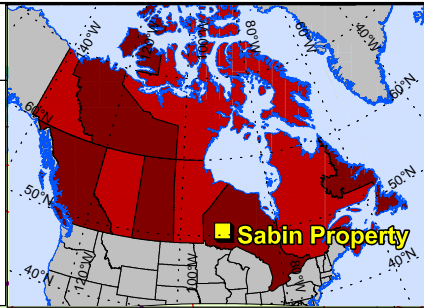
Figure:  
**6-3**

Sabin Property

Rock Samples and  
Au Assays

Ontario, Canada

UTM NAD83 Zone 15



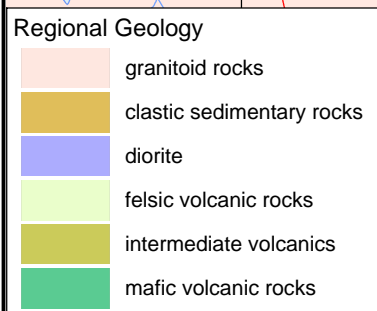
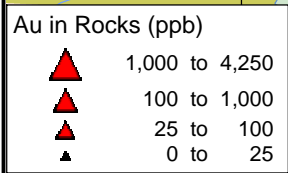
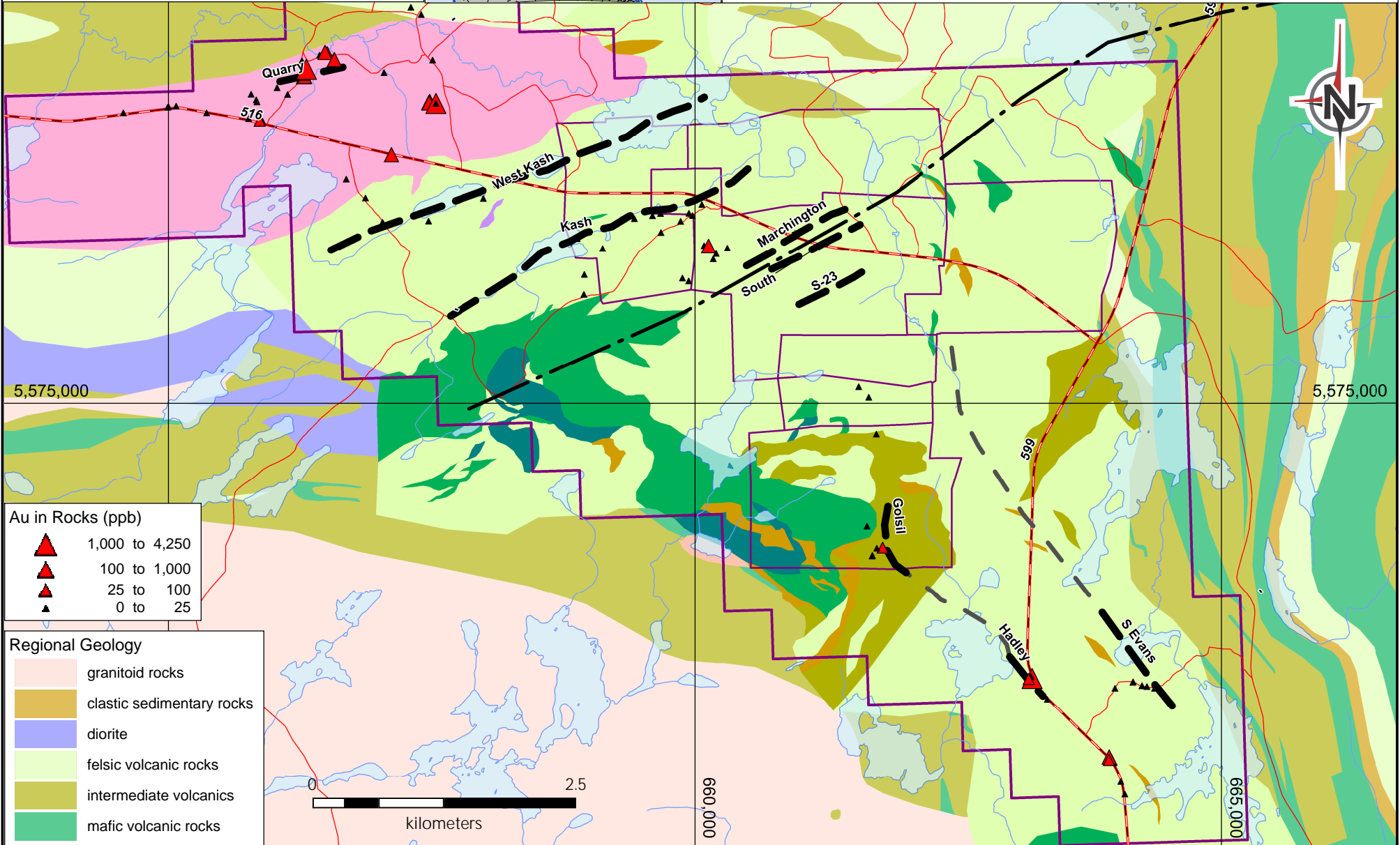
**Legend**

- Elevation contour
- Watercourse
- Waterbody
- Line
- Road

**Property Geology**

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

- VMS horizon
- Inferred VMS horizon
- Anticline axis



Date:  
April 7, 2022

Drafted by:  
S. Wetherup

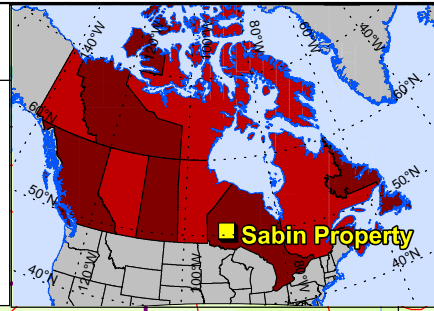
Figure:  
**6-4**

Sabin Property

Rock Samples and  
Zn Assays

Ontario, Canada

UTM NAD83 Zone 15



**Legend**

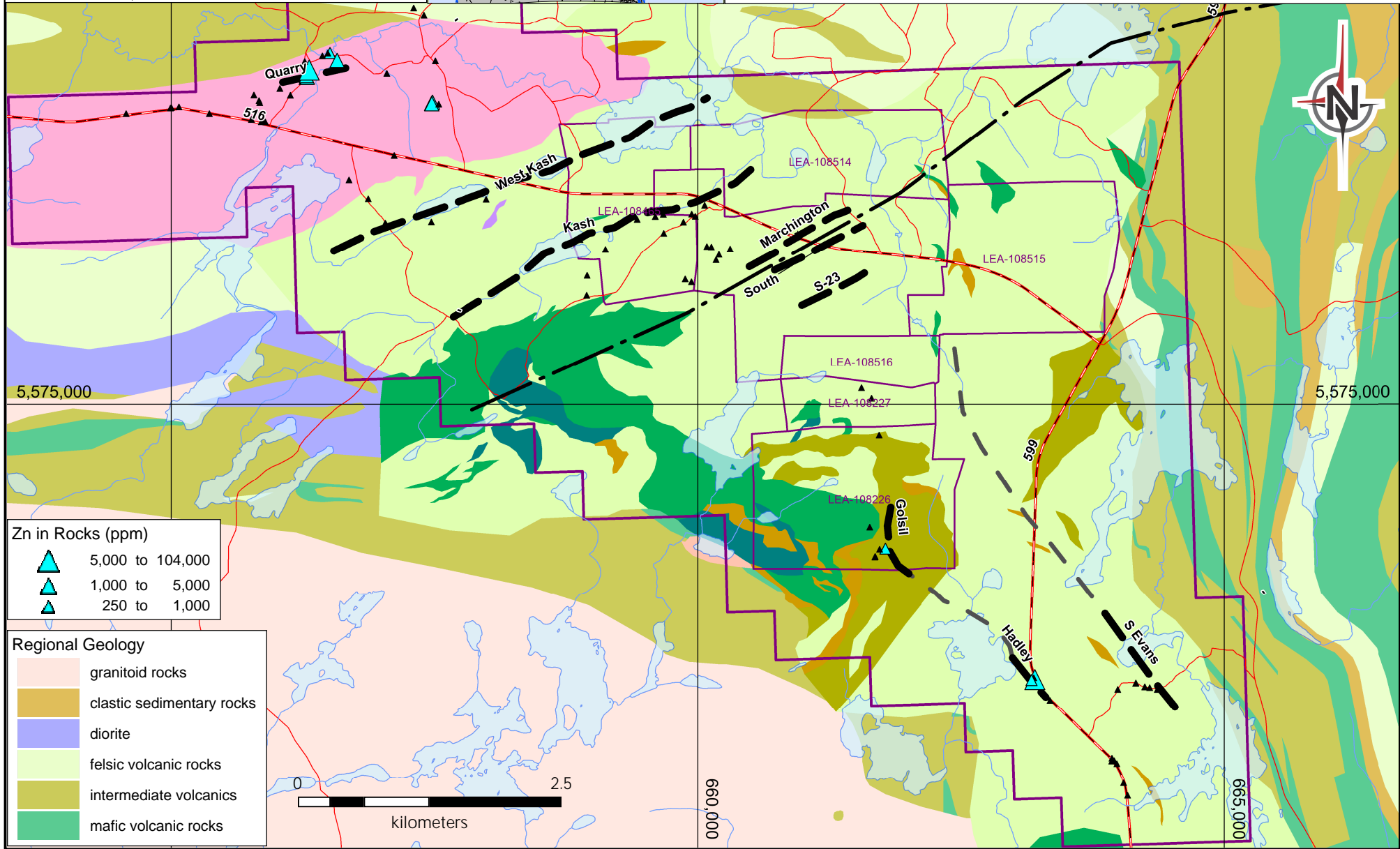
- Elevation contour
- Watercourse
- Waterbody
- Line
- Road

**Property Geology**

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

VMS horizon  
Inferred VMS horizon

Anticline axis



**Zn in Rocks (ppm)**

- 5,000 to 104,000
- 1,000 to 5,000
- 250 to 1,000

**Regional Geology**

- granitoid rocks
- clastic sedimentary rocks
- diorite
- felsic volcanic rocks
- intermediate volcanics
- mafic volcanic rocks





## 7.0 CONCLUSIONS AND RECOMMENDATIONS

The 2020 and 2021 exploration program on the Sabin property consisted of mapping and rock sampling to investigate the strike extents of VMS mineralized horizons (Marchington, Kash, Golsil, Hadley and South Evans) and polymetallic sheared quartz veins (Quarry Zone) and to discover additional zone if possible. Work south of the Kash zone show that alteration in the Kash area is limited to ~ 100-200 m wide horizon of intense aluminosilicate alteration which stratigraphically overlies the Marchington horizon, suggesting two distinct VMS horizons on the property with an unaltered break between them consisting of intermediate to felsic volcanic rocks.

The Marchington horizon extends at least 1 km to the WSW of the main drilled deposit area and consists of 4 to 5 separate exhalative zones which may simply be due to complex tight to isoclinal folding ( $F_1$ ) which creates an over thickening of the VMS horizon and Marchington likely includes the S-23 zone. Tracking the zone to the NE ~ 1 to 1.5 km and then around the  $F_2$  fold hinge it becomes difficult to trace southward although the rocks in this area are commonly strongly altered. The next VMS mineralization noted is the Golsil showing which continues along strike to Highway 599 and the Hadley showing as well as altered rocks along outcrops on the highway which extend the strike another 1.5 km. VMS mineralization discovered in the South Evans area consists of at least 3 exhalative horizons which lie stratigraphically above the Golsil-Hadley horizon and suggest again a pair of VMS horizons similar to that seen the Kash-Marchington area and are likely time correlative.

Overall, the Sabin property contains significant VMS potential along two main horizons which are at least 9 km in strike length which is tightly folded across a major  $F_2$  fold.

The Quarry Zone represents a different style of mineralization in that it is structurally constrained within shears in the Patterson Lake stock. These shears are strongly aluminosilicate altered (sericite-garnet) with pyrite, quartz and minor carbonate and locally chalcopyrite-sphalerite-galena mineralization with strongly anomalous Au-Ag-Zn-Cu tenors. In the Quarry area these shears are stacked in an en-echelon array with shears 1-2 m apart, whereas elsewhere several isolated shears were observed and sampled. More work is required, and an IP survey would be highly successful in identifying addition vein/shear arrays such as those in the Quarry Zone.

## 8.0 STATEMENTS OF AUTHORSHIP

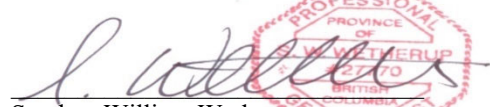
Stephen William Wetherup  
9253 164<sup>th</sup> Street  
Surrey, British Columbia  
Canada, V4N 3C9  
Telephone: 604-217-1900  
Email: wetherup@shaw.ca

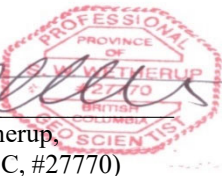
### CERTIFICATE OF AUTHOR

I, Stephen Wetherup, do hereby certify that,

1. I am a graduate of the University of Manitoba with a B.Sc. Honours in Geology.
2. I am a member of the Association of Association of Professional Engineers and Geoscientists of British Columbia (APEGBC, #27770). I am a member of the Society of Economic Geologists and the Vancouver Mining Exploration Group.
3. I have been operating a business as a geological consultant under my own name since June, 2001, and under the name of Caracle Creek International Consulting Inc. since March, 2004.
4. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report, the omission to disclose which makes the Report misleading.
5. I am responsible for the preparation of the Report titled “Assessment Report: Geochemical Sampling and Mapping, Savant Lake area, Patricia Mining Division, Ontario”, (the “Report”), dated April 10<sup>th</sup>, 2022.

Dated this 10<sup>th</sup> Day of April 2022.

  
Stephen William Wetherup,  
BSc., P.Geo. (APEGBC, #27770)



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## APPENDIX 1

### Geological Mapping Data and Maps

Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW20SA-001	9/10/2020	50.32662	-90.79831	5577265	656710	monzodiorite	monzodiorite												well foliated bt rich feldspar porphyry qtz monzodiorite
SW20SA-002	9/10/2020	50.32540	-90.79876	5577128	656682														two angular boulders of fg and cg mzd foliated with large qtz py vn 30cm wide and several other ksp vnlets cutting foliation
SW20SA-003	9/10/2020	50.32377	-90.80022	5576944	656583	monzodiorite	monzodiorite												boulder of feld porphyry mzd
SW20SA-004	9/10/2020	50.32411	-90.79863	5576985	656696														erratic of qtz mz with bull qtz vns
SW20SA-005	9/10/2020	50.32430	-90.79792	5577008	656745														boulders of int volc with few ksp-ep vns
SW20SA-006	9/10/2020	50.32430	-90.79782	5577008	656752						2								pink int volc bt feld schist with minor gt
SW20SA-007	9/10/2020	50.32385	-90.79682	5576960	656825	felsic volcanic	felsic volcanic												rare qtz eyes bt feld schist with 5 to 10 pct bt rare py
SW20SA-008	9/10/2020	50.32376	-90.79627	5576951	656865	intermediate volcanic	intermediate volcanic	s1	92	39			2						siliceous lenses with chlorite in bt feld schist
SW20SA-010	9/10/2020	50.32166	-90.79411	5576722	657025	felsic volcanic	felsic volcanic						4						silicified outcrop of felsic volc with locally 1pct py and tr cpy
SW20SA-011	9/10/2020	50.32173	-90.79428	5576729	657013	intermediate volcanic	intermediate volcanic												bt hbl feld schist
SW20SA-012	9/10/2020	50.32154	-90.79397	5576709	657036	intermediate volcanic		s1	70	52									old blast pit, 339, 340 samples
SW20SA-013	9/10/2020	50.32152	-90.79397	5576707	657036	intermediate volcanic		s1	70	52									
SW20SA-014	9/10/2020	50.32143	-90.79426	5576697	657016	felsic volcanic	felsic volcanic	s1	92	65									fg feld bt qtz schist
SW20SA-015	9/10/2020	50.32126	-90.79410	5576678	657027	monzonite	fg monzonite												strongly mag and foliated monz poss fels volc but pinkish with abund mt
SW20SA-016	9/10/2020	50.32144	-90.79382	5576698	657047	felsic volcanic	felsic volcanic												
SW20SA-017	9/10/2020	50.32153	-90.79345	5576710	657073	intermediate volcanic	intermediate volcanic												bt hbl feld schist, with qtz vns oriented 100 to 110/80
SW20SA-018	9/10/2020	50.32185	-90.79327	5576745	657085	felsic volcanic	felsic volcanic												
SW20SA-019	9/10/2020	50.32195	-90.79277	5576758	657120	intermediate volcanic	intermediate volcanic												bt hbl feld schist
SW20SA-020	9/10/2020	50.32238	-90.79235	5576806	657148	intermediate volcanic	intermediate volcanic												stockwork of ksp ep vns
SW20SA-021	9/10/2020	50.32315	-90.79228	5576892	657151	felsic volcanic	felsic volcanic	s1	75	75									110.85 bull qtz
SW20SA-022	9/10/2020	50.32339	-90.79163	5576920	657196	intermediate volcanic	intermediate volcanic												bt feld hbl schist, few late qtz vns cutting fol 070.80 and 100.80, fold ap 070.85, axis 070.12
SW20SA-023	9/10/2020	50.32111	-90.78982	5576670	657333	felsic volcanic	felsic volcanic												some ksp vning
SW20SA-024	9/10/2020	50.32104	-90.78991	5576663	657326	intermediate volcanic	intermediate volcanic												felsic volc to int vol. with common planar ksp with some qtz and rare ep, vns which cut fol
SW20SA-025	9/10/2020	50.32170	-90.78917	5576738	657377	intermediate volcanic	intermediate volcanic												
SW20SA-026	9/10/2020	50.32133	-90.78852	5576697	657424	intermediate volcanic	intermediate volcanic												commom qtz vn syringers sub parallel to fol and isoclinally folded
SW20SA-027	9/10/2020	50.32144	-90.78825	5576710	657443	intermediate volcanic	intermediate volcanic												tr py ksp vnlets common
SW20SA-028	9/10/2020	50.32163	-90.78796	5576732	657463	intermediate volcanic	intermediate volcanic						1		0.5				some sub ll qtz py vns within feld bt schist, and py bt blebs in schist as well, this may be an intermediate intrusive rather than volc
SW20SA-029	9/10/2020	50.32180	-90.78697	5576753	657533	intermediate volcanic	intermediate volcanic								0.25				
SW20SA-030	9/10/2020	50.32197	-90.78621	5576773	657587	intermediate volcanic	intermediate volcanic												
SW20SA-031	9/10/2020	50.32180	-90.78538	5576756	657647	intermediate volcanic	intermediate volcanic												gully 055.80 ll to primary ksp vns
SW20SA-032	9/10/2020	50.32281	-90.78441	5576871	657712	intermediate volcanic	intermediate volcanic												few planar qtz vns
SW20SA-033	9/10/2020	50.32300	-90.78390	5576893	657748	intermediate volcanic	intermediate volcanic												fg bt feld hbl schist w some ksp vns and planar qtz, no alt
SW20SA-034	9/10/2020	50.32323	-90.78364	5576919	657765	intermediate volcanic	intermediate volcanic								0.5				specks of py diss in schist, at shore of lake
SW20SA-035	9/10/2020	50.32345	-90.78223	5576946	657865	intermediate volcanic	intermediate volcanic	s1	85	80									ksp vn 218.80, 275.85
SW20SA-036	9/10/2020	50.32337	-90.78216	5576937	657870														witness post 1, 1209994
SW20SA-037	9/10/2020	50.32342	-90.78050	5576947	657988	intermediate volcanic	intermediate volcanic												bull qtz vm within bt hbl feld sch, vns have ksp haloes
SW20SA-039	9/10/2020	50.32581	-90.78221	5577209	657859	intermediate volcanic	intermediate volcanic												
SW20SA-040	9/10/2020	50.32669	-90.78797	5577295	657446	quartz monzonite	quartz monzonite												unfoliated to weak fol qtz mz
SW20SA-041	9/10/2020	50.32736	-90.79264	5577359	657111	quartz monzonite	quartz monzonite												series of 101.38 fractures and shears and a 0.5 m qtz vein along one which runs abt 75 m along hwy
SW20SA-042	9/11/2020	50.32191	-90.74974	5576845	660183	felsic volcanic	felsic volcanic					5	2		0.5				
SW20SA-043	9/11/2020	50.32142	-90.75272	5576784	659972	intermediate volcanic	intermediate volcanic				2	1	1		0.1				int volc with 1 pct gt locally and few ser zones whole rock
SW20SA-044	9/11/2020	50.32111	-90.75336	5576747	659928	intermediate volcanic	intermediate volcanic					1	1						ksp phenos in this int volc poss intrusive strongly foliated 10pct bt and hbl
SW20SA-045	9/11/2020	50.32100	-90.75356	5576735	659914	intermediate volcanic	intermediate volcanic	s1	240	80			1	1	0.1				
SW20SA-046	9/11/2020	50.32093	-90.75393	5576727	659888	intermediate volcanic	intermediate volcanic						1						poss sil fg int vol
SW20SA-047	9/11/2020	50.32097	-90.75430	5576730	659861	intermediate volcanic	intermediate volcanic	s1	63	76	2	3	1		0.1				bt gt ser schist, un altered rock previous looks to be a mz intrusive, intruding this volc

Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW20SA-048	9/11/2020	50.32066	-90.75502	5576694	659811	intermediate volcanic	intermediate volcanic				1	1							bt hbl feld sch., rare gt tr ser
SW20SA-049	9/11/2020	50.32054	-90.75556	5576679	659773	intermediate volcanic	intermediate volcanic												
SW20SA-050	9/11/2020	50.32048	-90.75582	5576672	659755	intermediate volcanic	intermediate volcanic												bhf sch
SW20SA-051	9/11/2020	50.32006	-90.75698	5576623	659674	intermediate volcanic	intermediate volcanic												sample of silicified bt hbl gt sch., float, also a gabbro float boulder,
SW20SA-052	9/11/2020	50.31963	-90.75767	5576574	659626	intermediate volcanic	fp int volcanic												rare qtz eye in bt hbl feld schist with some ksp phenos poss mz intrusive below and to north ser schist int volc
SW20SA-053	9/11/2020	50.31945	-90.75760	5576554	659631	intermediate volcanic	fp int volcanic												ksp porphyry int volc or monzonite
SW20SA-054	9/11/2020	50.31908	-90.75870	5576511	659555	intermediate volcanic	intermediate volcanic												near a pit possexcavation with a rounded boulder of ser schist
SW20SA-055	9/11/2020	50.31839	-90.76038	5576430	659437	intermediate volcanic	intermediate volcanic				1	1	1						
SW20SA-056	9/11/2020	50.31560	-90.76292	5576114	659266	intermediate volcanic	intermediate volcanic												
SW20SA-057	9/11/2020	50.31542	-90.76326	5576094	659242	intermediate volcanic	intermediate volcanic				1	1							
SW20SA-058	9/11/2020	50.31521	-90.76340	5576071	659233	intermediate volcanic	intermediate volcanic												few bull qtz vns here
SW20SA-059	9/11/2020	50.31505	-90.76483	5576050	659131	felsic volcanic	felsic volcanic												felsic tuff?, 1pct bt mostly feld ser sch.
SW20SA-060	9/11/2020	50.31494	-90.76561	5576035	659076	felsic volcanic	felsic volcanic					2							bt ser feld sch.
SW20SA-061	9/11/2020	50.31486	-90.76631	5576026	659027	intermediate volcanic	intermediate volcanic					1							10pct bt, bt ser feld schist
SW20SA-062	9/11/2020	50.31505	-90.76689	5576045	658985	intermediate volcanic	intermediate volcanic					1							
SW20SA-063	9/11/2020	50.31497	-90.76747	5576035	658944	intermediate volcanic	fp int volcanic				1	1							bt feld ser sch. with feld remnant phenos, large stripped outcrop by swamp with no channel sampling
SW20SA-064	9/11/2020	50.31557	-90.76750	5576101	658939	intermediate volcanic	fp int volcanic					1							bt ser sch
SW20SA-065	9/11/2020	50.31580	-90.76755	5576127	658936	intermediate volcanic	intermediate volcanic				1	2							nt ser gtschist
SW20SA-066	9/11/2020	50.31638	-90.76773	5576191	658921	intermediate volcanic	intermediate volcanic				1	3	2						
SW20SA-067	9/11/2020	50.31666	-90.76735	5576224	658946	intermediate volcanic	intermediate volcanic	s1	273	85		3	2	0.25					
SW20SA-068	9/11/2020	50.31755	-90.76680	5576323	658983	intermediate volcanic	intermediate volcanic												
SW20SA-069	9/11/2020	50.31808	-90.76687	5576382	658976	gabbro	gabbro												layers of amphibolite gabbro and some fp int vol
SW20SA-070	9/11/2020	50.31834	-90.76635	5576412	659012	intermediate volcanic	fp int volcanic				1		1						clasts? of more granitic material in it, prob mzd intrusive strongly fol
SW20SA-071	9/11/2020	50.31837	-90.76630	5576415	659015	intermediate volcanic	intermediate volcanic				1	1							bt ser hbl sch.
SW20SA-072	9/11/2020	50.31923	-90.76681	5576510	658977														boulders of int to fel vol
SW20SA-073	9/11/2020	50.31976	-90.76816	5576566	658879	intermediate volcanic	intermediate volcanic	s1	67	76	3								1-2 pct gt in a bt hbl feld schist
SW20SA-074	9/11/2020	50.31971	-90.76807	5576561	658885	felsic volcanic	felsic volcanic												bt feld qtz schist, rate qtz eye
SW20SA-075	9/11/2020	50.31962	-90.76798	5576551	658892	intermediate volcanic	intermediate volcanic				2	1							
SW20SA-076	9/11/2020	50.31884	-90.76479	5576471	659122	intermediate volcanic	intermediate volcanic				3								poss fp mzd, essentially a hbl bt feld gt schist
SW20SA-077	9/11/2020	50.31917	-90.76317	5576511	659236	intermediate volcanic	intermediate volcanic						1	0.1					poss fp mz
SW20SA-078	9/11/2020	50.32057	-90.76173	5576670	659333														ang boulder of feld qtz porphyry schist dacite
SW20SA-079	9/11/2020	50.32134	-90.76115	5576757	659372	felsic volcanic	felsic volcanic					2							
SW20SA-080	9/11/2020	50.32128	-90.76089	5576751	659391	intermediate volcanic	intermediate volcanic				1								fg bt feld sch. locally gt
SW20SA-081	9/11/2020	50.32125	-90.76066	5576748	659408	intermediate volcanic	intermediate volcanic		70	80									
SW20SA-082	9/11/2020	50.32132	-90.76044	5576756	659423	intermediate volcanic	intermediate volcanic				1	1		0.25					minor gt in bt hbl feld sch., silicified and locally ser
SW20SA-083	9/11/2020	50.32110	-90.75996	5576733	659458	intermediate volcanic	intermediate volcanic												fg bt hbl sch, float boulders of ser gt schist
SW20SA-084	9/11/2020	50.32110	-90.75964	5576733	659480	intermediate volcanic	intermediate volcanic					3	1						bt ser feld sch
SW20SA-085	9/11/2020	50.32123	-90.75940	5576748	659498	intermediate volcanic	intermediate volcanic					1	1						
SW20SA-086	9/11/2020	50.32130	-90.75858	5576758	659556														float of ser gr schist
SW20SA-087	9/11/2020	50.32152	-90.75802	5576783	659595	felsic volcanic	felsic volcanic				1	1		0.25					ang block of bt feld sch minot gt and ser with chl bt veins and ksp gt haloes
SW20SA-088	9/11/2020	50.32151	-90.75748	5576783	659633	intermediate volcanic	intermediate volcanic				1	2	1						
SW20SA-089	9/11/2020	50.32169	-90.75695	5576805	659670	intermediate volcanic	intermediate volcanic	s1	88	61	3	2	2	0.5					local feld porphyry tuff layers sheared out and few zones with 1 to 2 cm gt, planar n trending wtz vns common as are some 090 qtz vns, these diff to distinguish from the sheared sil zones ll to foliation
SW20SA-090	9/11/2020	50.32136	-90.75417	5576774	659869														poss ddh pad
SW20SA-091	9/11/2020	50.32159	-90.75337	5576801	659925	intermediate volcanic	intermediate volcanic				2								bt feld schist minor gt
SW20SA-092	9/11/2020	50.32163	-90.75317	5576807	659940	intermediate volcanic	intermediate volcanic							0.25					bt hbl feld gt schist, py posscpy diss

Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW20SA-093	9/11/2020	50.32183	-90.75268	5576829	659974	intermediate volcanic	intermediate volcanic								0.1				bt ser sch.
SW20SA-094	9/11/2020	50.32184	-90.75250	5576831	659987	intermediate volcanic	intermediate volcanic				1	2							bt hbl ser sch rare gt
SW20SA-095	9/11/2020	50.32197	-90.75213	5576846	660012	intermediate volcanic	intermediate volcanic					2							
SW20SA-096	9/11/2020	50.32202	-90.75200	5576852	660021	intermediate volcanic	intermediate volcanic					2							weak ser in bt hbl feld sch
SW20SA-097	9/11/2020	50.32235	-90.75140	5576890	660063	intermediate volcanic	intermediate volcanic					3	1						ser bt schist
SW20SA-098	9/11/2020	50.32125	-90.74934	5576773	660213	intermediate volcanic	fp int volcanic												fo volc bt hbl sch
SW20SA-099	9/12/2020	50.27715	-90.70152	5571973	663769	intermediate volcanic	intermediate volcanic												poss tuffaceous, fg bt hbl schist
SW20SA-100	9/12/2020	50.27795	-90.69982	5572066	663887	intermediate volcanic	intermediate volcanic					1	3		0.5				siliceous bt ser sch, fg poss tuff with chl vnls and siliceous haloes
SW20SA-101	9/12/2020	50.27934	-90.69872	5572223	663961	intermediate volcanic	intermediate volcanic tuff		310	82					0.25				chl hbl schist
SW20SA-102	9/12/2020	50.27960	-90.69856	5572252	663971	intermediate volcanic	intermediate volcanic tuff						3		0.5				vfg well layered chl bt hbl schist with rare dk green chlorite layers or py layers/lenses
SW20SA-103	9/12/2020	50.27994	-90.69829	5572291	663989	intermediate volcanic	intermediate volcanic tuff						3		0.5				fg finely layered chl bt schist rare gt
SW20SA-104	9/12/2020	50.28044	-90.69706	5572349	664075	felsic volcanic	felsic volcanic						3		0.25				feld chl bt schist with chl bands, no qtz eyes but only 10 pct chl bt
SW20SA-105	9/12/2020	50.28046	-90.69611	5572353	664143	felsic volcanic	felsic volcanic	s1	325	70		5	1		1				intensely deformed ser schist 1 pct py, isoclinal food hinges near vert to 133.75
SW20SA-106	9/12/2020	50.28043	-90.69585	5572351	664161	intermediate volcanic	intermediate volcanic tuff					4		3	0.5				int tuff chl bt schist with 2 to 4 pct gt
SW20SA-107	9/12/2020	50.28040	-90.69589	5572347	664158	exhalite	exhalite					4							ser sil gt schist and cherty zones
SW20SA-108	9/12/2020	50.28008	-90.69469	5572314	664245	intermediate volcanic	intermediate volcanic tuff								2				ser chl sil py schistx with py lenses and poss cpy and sph
SW20SA-109	9/12/2020	50.28009	-90.69467	5572316	664247	intermediate volcanic	intermediate volcanic tuff	s1	305	85									chl ser sil py schist poss sph, lenses of chl sch and ser schist as separate layers
SW20SA-110	9/12/2020	50.28001	-90.69402	5572307	664293	intermediate volcanic	intermediate volcanic tuff						2	5	4				pyritic silica alt rock finely layered with local py lenses and poss sph locally
SW20SA-111	9/12/2020	50.27982	-90.69301	5572289	664365	metasediments	sediments	s1	318	86			3		3				fg poss siltstone chl bt schist finely laminated with 2 to 3 pvt py
SW20SA-112	9/12/2020	50.27874	-90.70637	5572140	663418	monzonite	fg monzonite												bt hbl chl fg mod fol mzd
SW20SA-113	9/12/2020	50.27891	-90.70661	5572158	663400	intermediate volcanic	fp int volcanic	s1	305	80									hbl bt chl cut by stx of planar ksp halo chl vns
SW20SA-114	9/12/2020	50.27892	-90.70687	5572158	663381	intermediate volcanic	fp int volcanic												
SW20SA-115	9/12/2020	50.27918	-90.70734	5572186	663347	intermediate volcanic	fp int volcanic					2							minor gt with diss cpy and mal on fractures chl silica? ksp phenos look like mz
SW20SA-116	9/12/2020	50.28100	-90.70927	5572384	663203	intermediate volcanic	intermediate volcanic	s1	302	80	3				0.25				chlorite actinolite vn with sph carb within chl feld gt schist, mafic andesite to andesite contact? gt layers locally narrow ms of gal sph with cpy from 1 to 20 cm wide over 3 m strike, on one end of oc siliceous cherty frags occur in chl act matrix along with ms clasts, cpy and gal occur diss in chert; contorted bedding roughly appears to strk 240 to 260.90 with fol cutting across
SW20SA-117	9/12/2020	50.28114	-90.70942	5572400	663192	intermediate volcanic	intermediate volcanic					3	3		1				ser sil schist with py and cpy
SW20SA-118	9/12/2020	50.28096	-90.70972	5572379	663171	exhalite	exhalite								2				chl act silica schist, w gal, sph, cpy, py
SW20SA-119	9/12/2020	50.28091	-90.70896	5572375	663226	intermediate volcanic	intermediate volcanic	s1	300	85		2	2		0.5				chl bt ser schist, tr cpy
SW20SA-120	9/13/2020	50.31117	-90.73120	5575690	661539	intermediate volcanic	intermediate volcanic								0.25				bt hbl f schist, layered with few poss more siliceous zones, no gt
SW20SA-121	9/13/2020	50.30778	-90.73070	5575315	661586	intermediate volcanic	intermediate volcanic												bt hbl ksp schist poss fp mzd
SW20SA-122	9/13/2020	50.30612	-90.73145	5575129	661538	intermediate volcanic	intermediate volcanic	s1	75	86									bt hbl int fragmental volc, distended clasts so.e are boudin and distended isos, locally frags have qtz vn and lenses possibly these are siliceous zones deformed, lins on fold noses and stretch 070.45
SW20SA-123	9/13/2020	50.30640	-90.73148	5575160	661535	intermediate volcanic	intermediate volcanic												few mafic hbl boudins with gt poss the are altered chl vns now mmd
SW20SA-124	9/13/2020	50.30636	-90.73126	5575156	661550	intermediate volcanic	intermediate volcanic												hbl bt gt schist with more chl than elsewhere in rock which has no gt, discrete zones or vns now boudinaged
SW20SA-125	9/13/2020	50.30510	-90.73011	5575018	661637	felsic volcanic	felsic volcanic												bt qtz ksp schist
SW20SA-126	9/13/2020	50.30532	-90.72992	5575043	661650	intermediate volcanic	intermediate volcanic					3							chl gt boudins within volc
SW20SA-127	9/13/2020	50.30545	-90.72997	5575058	661646	felsic volcanic	felsic volcanic					2			1				qtz ksp bt schist with chl gt enclaves
SW20SA-128	9/13/2020	50.30341	-90.72933	5574832	661698	mafic volcanic	mafic volcanic								0.1				fg chl hbl schist, ksp ep vns locally with tr cpy
SW20SA-129	9/13/2020	50.30257	-90.72931	5574739	661702	intermediate volcanic	intermediate volcanic					1							
SW20SA-130	9/13/2020	50.30230	-90.72909	5574709	661719	felsic volcanic	felsic volcanic						4						bt silica schist, little mt in dacitic rocks, also ksp silica zones with tr mt and ep diss
SW20SA-131	9/13/2020	50.30210	-90.72930	5574687	661705	intermediate volcanic	intermediate volcanic						3						local mt hbl bt schist, locally mt
SW20SA-132	9/13/2020	50.30033	-90.72941	5574490	661703	felsic volcanic	felsic volcanic												some int volc as well with mod mt
SW20SA-133	9/13/2020	50.30018	-90.72934	5574473	661708	felsic volcanic	felsic volcanic	s2	67	80									fold hingein felsic rocks, abundant bull qtz vns, local int
SW20SA-134	9/13/2020	50.29965	-90.72910	5574415	661727	felsic volcanic	felsic volcanic	s2	68	90		1	1						
SW20SA-135	9/13/2020	50.29567	-90.73119	5573968	661592	mafic volcanic	mafic volcanic												hbl schist

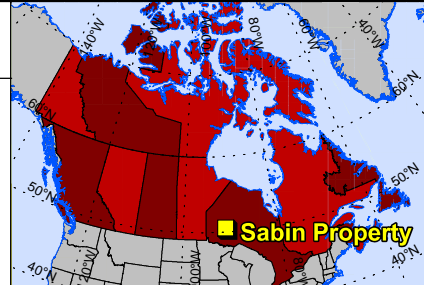
Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW20SA-137	9/13/2020	50.29230	-90.73057	5573594	661647	felsic volcanic	felsic volcanic								0.25				qtz bt feld schist,
SW20SA-138	9/13/2020	50.29229	-90.73046	5573593	661655	felsic volcanic	felsic volcanic					1	3						few rusty fractures in a silica rich felsic
SW20SA-139	9/13/2020	50.29215	-90.73046	5573577	661656	felsic volcanic	felsic volcanic						3		0.25				
SW20SA-140	9/13/2020	50.29192	-90.73014	5573553	661680	intermediate volcanic	intermediate volcanic				4				0.25				gt chl act schist with local py
SW20SA-141	9/13/2020	50.29186	-90.73015	5573547	661679	felsic volcanic	felsic volcanic	s1	295	70	3				0.5				chl bt gt feld schist rare qtz eyes, tr cpy
SW20SA-142	9/13/2020	50.29185	-90.72995	5573546	661693	felsic volcanic	felsic volcanic				2								rare qtz eyes in a bt chl schist with abundant bt vnlt
SW20SA-143	9/13/2020	50.29174	-90.72954	5573534	661723	intermediate volcanic	intermediate volcanic				1	2							bt schist
SW20SA-144	9/13/2020	50.29256	-90.72871	5573627	661779	intermediate volcanic	intermediate volcanic												spoil piles from trench?, cpy act-bt schist
SW20SA-145	9/13/2020	50.29319	-90.72883	5573697	661769	metasediments	sediments	s0	188	75									well bedded sed no gt , folded s0 330.80
SW20SA-146	9/13/2020	50.29264	-90.72949	5573634	661723	intermediate volcanic	intermediate volcanic				4	3							could be sed, fg bt gt schist
SW20SA-147	9/13/2020	50.29252	-90.72950	5573621	661723	intermediate volcanic	intermediate volcanic				4	3			0.5				
SW20SA-148	9/13/2020	50.29301	-90.72896	5573677	661759	felsic volcanic	felsic volcanic						4						highly siliceous felsic volc
SW20SA-149	9/13/2020	50.29350	-90.72886	5573732	661765	intermediate volcanic	intermediate volcanic												chl vnlt and mafics, no other alt
SW20SA-150	9/13/2020	50.29359	-90.72892	5573742	661761	metasediments	sediments								0.1				poss sed with mafic boudins and layers
SW20SA-151	9/13/2020	50.29369	-90.72930	5573751	661734	intermediate volcanic	intermediate volcanic	s0	35	80									interlayered w sed and injected with magic material, not altered
SW20SA-152	9/13/2020	50.29444	-90.73073	5573831	661629	felsic volcanic	felsic volcanic								0.25				blue qtz eyes with bt chl vnlt
SW20SA-153	9/16/2020	50.33416	-90.80459	5578090	656238	metasediments	sediments												
SW20SA-154	9/16/2020	50.33429	-90.80397	5578105	656282	quartz monzonite	quartz monzonite	sz	232	85	2	2		4					houghton gold area, looks like pendants or enclaves of volcanic rx in the foliated qtz mz, or shears cutting the mz eith py silica and bt altetation, several qtz gash vns suggesting dextral motion on the shears, fol in mz 045.78, qtz vns 000 and 015
SW20SA-155	9/16/2020	50.33426	-90.80402	5578102	656278	quartz monzonite	quartz monzonite												sample of silica py cpy schist sz, sample 147 and 146
SW20SA-156	9/16/2020	50.33428	-90.80389	5578104	656288	quartz monzonite	quartz monzonite												more stripped oc and rusty sz, 25 m along strike and 10 m wide exposure; several sz occur abt 20 cm to 50 cm wide, numerous channels here, sample of sheared qtz po, cpy gal vein
SW20SA-157	9/16/2020	50.33441	-90.80398	5578119	656281	quartz monzonite	quartz monzonite					1	5		2				
SW20SA-158	9/16/2020	50.33472	-90.80373	5578154	656298			sz	262	65									more rusty sz in qtz mz, 10 to 20 cm wide with abt 1m of uniltered qtz mz between is common
SW20SA-159	9/16/2020	50.33487	-90.80362	5578171	656305	quartz monzonite	quartz monzonite	sz	65	61									here mostly ua qmz, one 20 cm rusty shear,, few gt in the qmz
SW20SA-160	9/16/2020	50.33562	-90.80417	5578253	656263														cobble of mafic volc with blue qtz eyes
SW20SA-161	9/16/2020	50.33278	-90.80621	5577933	656128	monzodiorite	monzodiorite								0.5				cg mzd with py along fractures, large angular boulders near oc, poss cpy locally
SW20SA-162	9/16/2020	50.33163	-90.80776	5577802	656021	monzodiorite	monzodiorite	s1	270	75									qtz mzd with rare ep vns, anf ep ksp planar fractures
SW20ST-001	9/14/2020	50.35070	-90.61232	5580350	669861	mafic volcanic													mafic volc rocks, fol 245.70
SW20ST-002	9/14/2020	50.35014	-90.61531	5580281	669651	mafic volcanic													mafic volc, chl hbl schist
SW20ST-003	9/14/2020	50.35037	-90.61827	5580300	669439	intermediate volcanic													ser schist, 1 pct diss py, smpl 1587135
SW20ST-004	9/14/2020	50.35036	-90.61849	5580298	669423	felsic volcanic													felsic tuff or fg sed ser py altered, ser py schist, smp 1587136
SW20ST-005	9/14/2020	50.36095	-90.65607	5581390	666713	metasediments	massive sulphide												massive po cobbles, in road, host looks like argillite or chl maficrx
SW20ST-006	9/14/2020	50.36102	-90.65599	5581399	666718	intermediate volcanic	int volcanic												bt act gt schist with 5 pct po py
SW20ST-007	9/14/2020	50.36287	-90.65498	5581606	666784														claim post 4283970
SW20ST-008	9/14/2020	50.36289	-90.65505	5581609	666779	granodiorite	qfp granodiorite												few py qtz vnlt wi foliated qfp gd chl hbl
SW20ST-009	9/14/2020	50.36296	-90.65437	5581618	666827	granodiorite	qtz vein												qtz vn with cpy in qfp gd
SW20ST-011	9/14/2020	50.36513	-90.65059	5581867	667088	granodiorite	qfp granodiorite												qfp cut by numerous white qtz vns and vnltswith ksp haloes and rare py,
SW20ST-012	9/14/2020	50.36514	-90.65060	5581868	667087	granodiorite	qfp granodiorite												rusty cobble on oc of ksp alt qfp eith 1 pct py
SW20ST-013	9/14/2020	50.36630	-90.64635	5582007	667386	diorite	mafic intrusion												
SW20ST-014	9/14/2020	50.36646	-90.64467	5582029	667504	diorite	mafic intrusion												
SW20ST-015	9/14/2020	50.36665	-90.64313	5582053	667613	gabbro	gabbro												
SW20ST-016	9/14/2020	50.36651	-90.64052	5582043	667799	granodiorite	qfp granodiorite												few chl py shears in foliated qfp some diss py 0.1 to 0.25pct
SW20ST-017	9/14/2020	50.36695	-90.63788	5582099	667985	gabbro	gabbro												gabbro cut by granitic dyke
SW20ST-018	9/14/2020	50.36746	-90.63761	5582156	668003	diorite	mafic intrusion												chl hbl schist mafic either volc or intrusive with 2pct py
SW20ST-019	9/14/2020	50.36770	-90.63543	5582188	668157	gabbro	gabbro												



Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW21SA-015	9/22/2021	50.33605	-90.80180	5578306	656431	granodiorite	granodiorite	s1	72	83									foliation in gd string to moderate with numerous bull qtz vns near parallel to cross cutting and weakly to non deformed 265.72, tr py and no alteration visible as haloed
SW21SA-016	9/22/2021	50.33592	-90.80156	5578292	656448	granodiorite	granodiorite												here gd weakly fol with rusty qtz vns in shears 2 to 4 cm wide and separated by 20 to 50 cm
SW21SA-017	9/22/2021	50.33628	-90.80077	5578334	656503	granodiorite	granodiorite	s1	52	89									sheared gd with several rusty altered zone with minor qtz stringers
SW21SA-018	9/22/2021	50.33627	-90.80108	5578332	656481	granodiorite	granodiorite												
SW21SA-019	9/22/2021	50.33563	-90.79987	5578264	656570	granodiorite	granodiorite	shear	82	72									cg weakly fol gd with a strong rusty shear with ser py alt and qtz vn material within about 50 cm wide
SW21SA-020	9/22/2021	50.33340	-90.80757	5577999	656029	granodiorite	granodiorite	qv	90	84									fol cg gd with criss cutting qtz vn w tr py and ser alt halo of 1 cm, 10 cm qv
SW21SA-023	9/22/2021	50.33315	-90.81057	5577965	655816	granodiorite	granodiorite												cg gd weak fol
SW21SA-024	9/22/2021	50.33290	-90.81106	5577937	655782	granodiorite	granodiorite	qv	82	85									well foliated 082.85 with several qv lets parallel to fol, small rusty shears cut fol 242.75
SW21SA-025	9/22/2021	50.33266	-90.81094	5577910	655792	granodiorite	granodiorite	s1	270	89									cg fol gd 270.90
SW21SA-026	9/22/2021	50.33223	-90.81031	5577864	655838	granodiorite	granodiorite	shear	62	78									gd foliated 090.90, with cross cutting shears at 060.80 with qv stringers within and blo k white qtz vns emanating from them and parallel to 090 fol. 060 shears are weakly qtz ser py altered
SW21SA-027	9/22/2021	50.33241	-90.81040	5577883	655831	granodiorite	granodiorite												several orientations of qvs. 096.18 cut by 020.90 that is very rusty, sample.
SW21SA-028	9/22/2021	50.33210	-90.80980	5577850	655874	granodiorite	granodiorite												abundant qtz veins with local py, main is 270.90
SW21SA-029	9/22/2021	50.33195	-90.80916	5577834	655920	granodiorite	granodiorite												
SW21SA-030	9/22/2021	50.33201	-90.80860	5577843	655960	granodiorite	granodiorite												few aplite dykes, fol 090
SW21SA-031	9/22/2021	50.33250	-90.80812	5577898	655993	granodiorite	granodiorite												fol gd with rusty 4 cm wide aplite w qtz vn 020.89
SW21SA-032	9/22/2021	50.33227	-90.80756	5577874	656033	granodiorite	granodiorite												narrow 060.80 vn former sample
SW21SA-033	9/22/2021	50.33058	-90.80966	5577681	655889	granodiorite	granodiorite												mg mz dio with local rusty zone poss silicified oriented 262.89, sample a high grade of Jaroslav stained 4 cm rusty fracture in the 50 m rusty zone
SW21SA-034	9/22/2021	50.33061	-90.81018	5577684	655852	granodiorite	granodiorite							1	2				rusty zone in gd about 3 to 4 m wide with py qtz vn broken and sheared 050.90 to 065.70, samples of qtz py vein only
SW21SA-035	9/22/2021	50.33062	-90.81004	5577685	655862	granodiorite	granodiorite												sulphidic Wall rock 264 and sulphide vein 265
SW21SA-036	9/22/2021	50.33083	-90.81150	5577705	655758	granodiorite	granodiorite												cg gd with 245.70 shear cutting it and few py zones and ep zones, overall shear is 50 cm wide and silicified
SW21SA-037	9/22/2021	50.33164	-90.81713	5577784	655354	mafic volcanic	basalt												massive basalt to int volc
SW21SA-038	9/22/2021	50.33142	-90.81707	5577759	655359	mafic volcanic	basalt	s1	97	58				1	2				py sil altered mg to fg diorite with rare qtz vns
SW21SA-039	9/23/2021	50.33978	-90.78960	5578746	657286	granodiorite	granodiorite												
SW21SA-040	9/23/2021	50.33993	-90.78946	5578763	657296	intermediate volcanic	intermediate volcanic	s2	75	80									qtz vn 040.90 bull qtz 20 cm wide in int vol
SW21SA-041	9/23/2021	50.34002	-90.78947	5578773	657295	felsic volcanic	felsic volcanic												several bull qtz vns along fol and cross cutting could be aplite with mostly feld and minor qtz eyes and maybe 10 pct bt
SW21SA-042	9/23/2021	50.34060	-90.78932	5578838	657304	felsic volcanic	felsic volcanic	s2	256	61									felsic v with qv at 275.70, 2 cm wide, rare rusty fractures in felsics
SW21SA-046	9/23/2021	50.34063	-90.79403	5578831	656968	felsic volcanic	felsic volcanic	s1	265	82									qtz eye rhyolite mainly feld w 5 pct wtz eyes and 5 pct bt
SW21SA-047	9/23/2021	50.33929	-90.78812	5578695	657394	granodiorite	granodiorite												large gd boulders v angular one with a 2 cm qv
SW21SA-048.1	9/23/2021	50.33892	-90.78842	5578653	657374	granodiorite	granodiorite												cg weak fol
SW21SA-048.2	9/23/2021	50.33616	-90.79025	5578342	657252	granodiorite	granodiorite												cg gd with several wtz stringers oriented approx 060.70 to vert
SW21SA-049	9/23/2021	50.33620	-90.79041	5578346	657240	granodiorite	granodiorite	s2	62	75									several qtz vn parallel to fol but no sulphide
SW21SA-050	9/23/2021	50.33606	-90.79124	5578329	657182	granodiorite	granodiorite												subcrop and boulders
SW21SA-051	9/23/2021	50.33583	-90.79186	5578302	657138	granodiorite	granodiorite												cg gd with rare qtz vn and shear 065.76, tr py
SW21SA-055	9/23/2021	50.33480	-90.79398	5578184	656991	granodiorite	granodiorite												
SW21SA-056	9/23/2021	50.33440	-90.79331	5578140	657040	granodiorite	granodiorite												cg weak fol rare shear, lin 065.12
SW21SA-057	9/23/2021	50.33404	-90.79281	5578101	657077	granodiorite	granodiorite												cg with weak fol. few slightly bleached jts and qtz vns at 122.70, 1 ti 3 mm qv
SW21SA-058	9/23/2021	50.33368	-90.79245	5578062	657104	granodiorite	granodiorite												no py rare white qtz vn
SW21SA-059	9/23/2021	50.33333	-90.79249	5578023	657102	granodiorite	granodiorite												cg gd rare white qv weak fol
SW21SA-060	9/23/2021	50.33229	-90.78882	5577915	657367	granodiorite	granodiorite												massive gd
SW21SA-061	9/23/2021	50.33229	-90.78826	5577916	657407	granodiorite	granodiorite												weak fol 262.85
SW21SA-062	9/23/2021	50.33200	-90.78778	5577885	657441	granodiorite	granodiorite												massive v rare planar qtz vn no sulphides
SW21SA-063	9/23/2021	50.33175	-90.78745	5577858	657466	granodiorite	granodiorite	qv	50	89									5 to 15 cm wide white qv and another just to southeast

Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW21SA-064	9/23/2021	50.33184	-90.78734	5577868	657473	intermediate volcanic	musc bt gt schist	shear	67	85									intense shear of bt musc tr gt schist in gd with py cpy mal and azurite staining
SW21SA-065	9/23/2021	50.33170	-90.78743	5577853	657467	granodiorite	granodiorite												small 10 to 15 cm shear of chl bt musc schist and anastomosing qtz vn withtr py
SW21SA-066	9/23/2021	50.33166	-90.78651	5577850	657533	intermediate volcanic	granodiorite	shear	56	85									shear 10cm wide bt chl schist with qv. 279 qv, 280 shear with tr sulphide
SW21SA-067	9/23/2021	50.33124	-90.78691	5577802	657506	granodiorite	granodiorite												
SW21SA-068	9/23/2021	50.33092	-90.78646	5577768	657539	granodiorite	granodiorite												strong jt set 025.80
SW21SA-069	9/23/2021	50.33123	-90.78588	5577803	657579	granodiorite	granodiorite												
SW21SA-070	9/23/2021	50.33233	-90.78501	5577928	657638	granodiorite	granodiorite	shear	275	76									small shear 5 cm wide
SW21SA-071	9/23/2021	50.33276	-90.78524	5577975	657620	granodiorite	granodiorite												
SW21SA-072	9/23/2021	50.33430	-90.78585	5578145	657572	granodiorite	granodiorite												
SW21SA-073	9/23/2021	50.33518	-90.78648	5578242	657524	granodiorite	granodiorite												
SW21SA-074	9/23/2021	50.33535	-90.78679	5578259	657501	granodiorite	granodiorite	shear	67	72									15 to 20 cm shear with bull qtz vn up to 50 cm wide
SW21SA-075	9/24/2021	50.31816	-90.74649	5576435	660427	felsic volcanic	felsic volcanic												int to felsic volc feld bt schist, local qtz eyes, tr py
SW21SA-076	9/24/2021	50.31850	-90.74806	5576469	660314	intermediate volcanic	intermediate volcanic	s1	75	75									bt feld schist with some ksp could be fg intrusive
SW21SA-077	9/24/2021	50.31856	-90.74819	5576475	660304	intermediate volcanic	intermediate volcanic					2	2		1				ser sil py alt int vol with steel gray minerals in tr amounts diss throughout.
SW21SA-078	9/24/2021	50.31857	-90.74900	5576474	660247	quartz monzonite	qtz monzonite								0.5				fg qtz mz?, locally magnetic with bt chl py mag, mg
SW21SA-079	9/24/2021	50.31911	-90.74939	5576534	660217	intermediate volcanic	intermediate volcanic					3			0.1				weak mag, abundant gt 5 pct to 10
SW21SA-080	9/24/2021	50.31892	-90.74992	5576511	660180	intermediate volcanic	intermediate volcanic												locally rusty withcherty siliceous zones and strong chl with local act
SW21SA-081	9/24/2021	50.31926	-90.75001	5576549	660172	intermediate volcanic	intermediate volcanic					2							ridge of outcrop with mostly int volc with gt, middle of ridge is mz, weakly mag and poss reason for ridge
SW21SA-082	9/24/2021	50.31956	-90.75110	5576581	660094	intermediate volcanic	intermediate volcanic	s1	75	77									bald stripped outcrop slightly rusty with few chl syringers
SW21SA-083	9/24/2021	50.31926	-90.75113	5576547	660092	monzonite	feldspar porphyry monzonite												tree root exp of feld porphyry unit with chl mt vnlt
SW21SA-084	9/24/2021	50.31882	-90.75127	5576498	660084	intermediate volcanic	intermediate volcanic												sample of sub angular float with 5 pct diss py within int volc
SW21SA-085	9/24/2021	50.31893	-90.75067	5576511	660126	intermediate volcanic	intermediate volcanic												poss some intrusive zones with feld porphyry
SW21SA-086	9/24/2021	50.31868	-90.75065	5576484	660129	intermediate volcanic	intermediate volcanic					2	2	2					large trenches area with strong gt ser actinolite alt within presumably int volc
SW21SA-087	9/24/2021	50.31879	-90.75067	5576495	660127	intermediate volcanic	intermediate volcanic	s1	70	72	2	2	2		0.5				contact with mafic volc unit about 10 m to S, here highly siliceous zone with py, cpy, ser chl or told, poss act, but only 10 to 15 cm wide might open to west buy blasted away
SW21SA-088	9/24/2021	50.31855	-90.75091	5576468	660111	intermediate volcanic	intermediate volcanic	s1	265	70	2		4		0.5				highly silicified layers and lenses with act bt gt
SW21SA-089	9/24/2021	50.31766	-90.75035	5576371	660154	intermediate volcanic	intermediate volcanic					2	2		0.5				siliceous sericitic int volc but weak py
SW21SA-090	9/24/2021	50.31767	-90.75010	5576372	660171	intermediate volcanic	intermediate volcanic						1		2				huge stripped oc, with blasted pit, strongly sil and pyritic alt volc, sample 285 sil pyaltered, 286 sample of ser py altered rock, less common
SW21SA-091	9/24/2021	50.31811	-90.74970	5576422	660198	intermediate volcanic	intermediate volcanic									3			more intense sil py and local ser py sil altered int volc
SW21SA-092	9/24/2021	50.31684	-90.74956	5576282	660212	diorite	diorite	s1	74	75									strongly fol dio
SW21SA-093	9/24/2021	50.31684	-90.75020	5576280	660167	intermediate volcanic	intermediate volcanic	s1	91	77					1				pyritic volc, weakly mag
SW21SA-094	9/24/2021	50.31654	-90.75076	5576245	660128	intermediate volcanic	intermediate volcanic					1							few gt along some layers, little ser 2
SW21SA-095	9/24/2021	50.31564	-90.75205	5576143	660039	intermediate volcanic	intermediate volcanic												
SW21SA-096	9/24/2021	50.31584	-90.75348	5576161	659937	exhalite	exhalite	s1	80	90									mafic, altered int volc and cherty zone, altered int volc highly sericitic with py, 289 from sil cherty zone, 290 from ser sil altered volc
SW21SA-097	9/24/2021	50.31611	-90.75428	5576190	659879	intermediate volcanic	intermediate volcanic				2		2		2				blast pit in swamp, two types of rock here, massive sil py altered int volc, very hard with bt and gt, and a salt and pepper looking ser py bt schist with some actinolite, 291 qtz vn with act and py, 292 is sil py altered with act, py, gtvein, 293 salt and p. ser sil py bt schist, local blue qtz eyes but v rare
SW21SA-098	9/25/2021	50.26975	-90.69741	5571160	664086	intermediate volcanic	intermediate volcanic												highly contorted int volc with few bull qtz vns no gt or ser, all bt hbl feld schists
SW21SA-099	9/25/2021	50.27088	-90.69742	5571285	664082	mafic volcanic	basalt	s1	319	89					0.1				fairly massive basalt, few zones of fg dio, several qtz ep chl vns, significant ep vning, no gt
SW21SA-100	9/25/2021	50.27171	-90.69748	5571377	664075	mafic volcanic	basalt												
SW21SA-101	9/25/2021	50.27198	-90.69773	5571407	664057	mafic volcanic	basalt												
SW21SA-102	9/25/2021	50.27258	-90.69791	5571473	664042	mafic volcanic	basalt												poss int v, still lots of ep, some dio by hwy
SW21SA-103	9/25/2021	50.27352	-90.69849	5571576	663997	intermediate volcanic	intermediate volcanic	s1	285	89		2							highly contorted fol
SW21SA-104	9/25/2021	50.27362	-90.69872	5571587	663980	mafic volcanic	basalt					3	4		2				intense actinolite with silica and py locally
SW21SA-105	9/25/2021	50.27388	-90.69907	5571615	663955	mafic volcanic	basalt					4	4		3				intense sil py alt basalt or int volc, few lenses of semi massive py sil ser

Station No.	Date Created	Latitude	Longitude	N_83z15	E_83z15	Map Unit	Rock_type	Str_type1	az1	dip1	gt	ser	sil	cpy	py	sph	gal	po	Description
SW21SA-106	9/25/2021	50.27410	-90.69934	5571640	663934	intermediate volcanic	intermediate volcanic	s1	76	70	1				1				int tuff with sil py gt alt and numerous actinolite qtz py vns, act py vns 300.85 and less 165.62
SW21SA-107	9/25/2021	50.27385	-90.69939	5571611	663932	intermediate volcanic	intermediate volcanic												more act qtz py vns cutting
SW21SA-108	9/25/2021	50.27330	-90.69882	5571551	663974	intermediate volcanic	intermediate volcanic						2						mauve fg bt?, sil py altered
SW21SA-109	9/25/2021	50.27196	-90.69790	5571404	664044	intermediate volcanic	intermediate volcanic						2		2				locally py sil ser altered along vns and fractures
SW21SA-110	9/25/2021	50.28108	-90.70938	5572393	663195	intermediate volcanic	intermediate volcanic	s1	122	89									
SW21SA-112	9/25/2021	50.27902	-90.70680	5572170	663386	intermediate volcanic	intermediate volcanic												
SW21SA-113	9/25/2021	50.27893	-90.70646	5572161	663410	monzonite	monzonite	s1	300	85									mz with ksp ep vnls, locally magnetic
SW21SA-114	9/25/2021	50.33172	-90.82280	5577780	654951	intermediate volcanic	intermediate volcanic												
SW21SA-115	9/25/2021	50.33176	-90.82244	5577786	654976	intermediate volcanic	intermediate volcanic	s1	114	54									lineations 118.22
SW21SA-116	9/25/2021	50.33194	-90.82255	5577806	654967	intermediate volcanic	intermediate volcanic												poss fg mz what appears layered
SW21SA-117	9/25/2021	50.33201	-90.82223	5577814	654990	diorite	diorite	s1	105	72									fg dio maybe basalt, few qtz ksp chl py vns cutting parallel to fol , lins 105.20
SW21SA-118	9/25/2021	50.33204	-90.82209	5577818	655000	mafic volcanic	basalt												qtz cb vn l basalt
SW21SA-119	9/25/2021	50.33209	-90.82133	5577825	655054	mafic volcanic	basalt												cut by numerous qtz cb vns
SW21SA-120	9/25/2021	50.33208	-90.82109	5577824	655071	mafic volcanic	basalt	s1	104	55									gd dyke in basalt with 10 cm qtz vn at contact sample 303
SW21SA-121	9/25/2021	50.33185	-90.81962	5577802	655176	intermediate volcanic	intermediate volcanic												
SW21SA-122	9/25/2021	50.33166	-90.81819	5577783	655279	monzonite	feldspar porphyry monzonite												
SW21SA-123	9/25/2021	50.33160	-90.81763	5577778	655319	diorite	diorite				1				0.1				fg well foliated 100.85 with rare gt bands
SW21SA-124	9/25/2021	50.33171	-90.82618	5577773	654710	monzosyenite	monzosyenite												cg mzsye with trace ep in mafic
SW21SA-125	9/25/2021	50.33179	-90.82639	5577781	654694	intermediate volcanic	intermediate volcanic												contact t here btn mz dyke and volc
SW21SA-126	9/25/2021	50.33176	-90.82670	5577777	654673	monzosyenite	monzosyenite												cg mz
SW21SA-127	9/25/2021	50.33162	-90.82707	5577761	654647	monzosyenite	monzosyenite												contains fg mafic xenos
SW21SA-128	9/25/2021	50.33163	-90.82813	5577760	654572	monzosyenite	monzosyenite	s1	95	85									few qtz vns here slightly rusty, vn 087.35



**Legend**

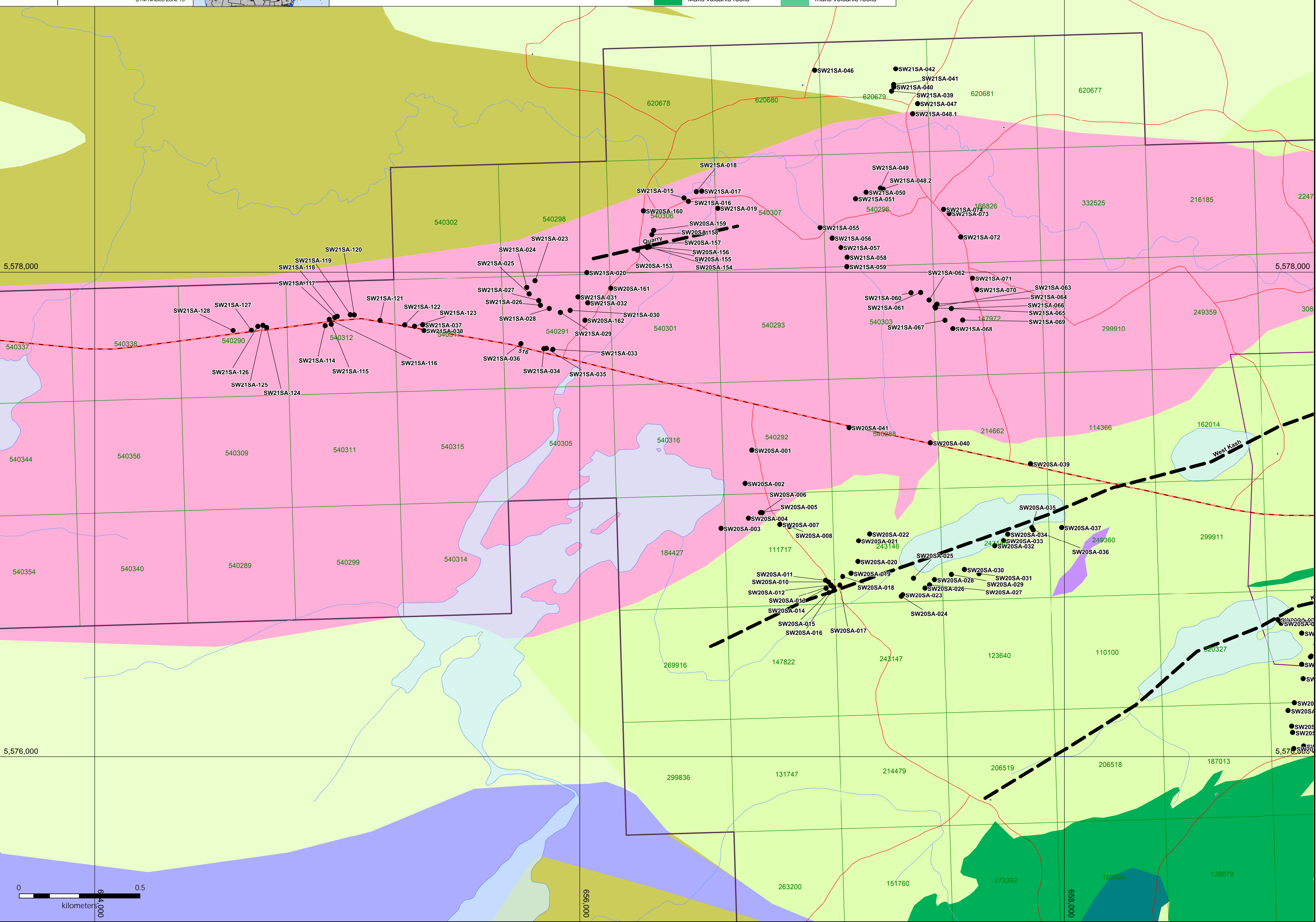
- Watercourse
- Waterbody
- Patented claims
- Cell claims
- Gravel roads
- Highway
- Inferred VMS horizon
- Mineralized zone
- Property outline
- Mapping stations

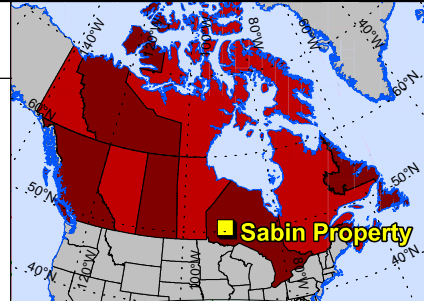
**Property Geology**

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

**Regional Geology**

- granitoid rocks
- clastic sedimentary rocks
- diorite
- felsic volcanic rocks
- intermediate volcanics
- mafic volcanic rocks





**Legend**

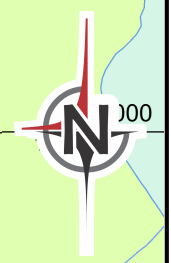
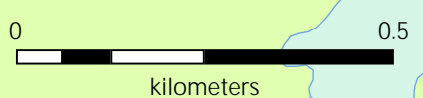
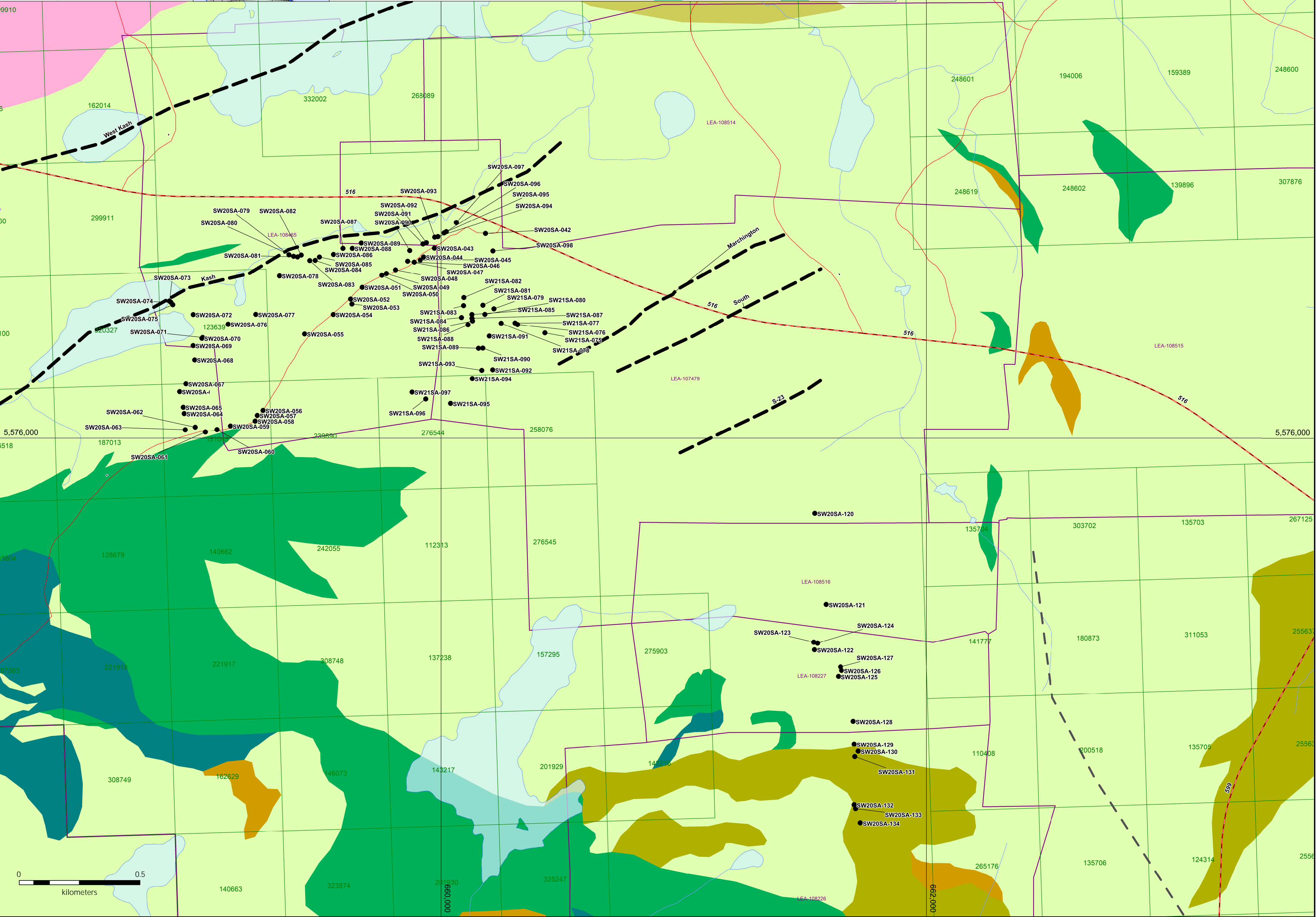
- Watercourse
- Waterbody
- Patented claims
- Cell claims
- Gravel roads
- Highway
- Inferred VMS horizon
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- Property outline
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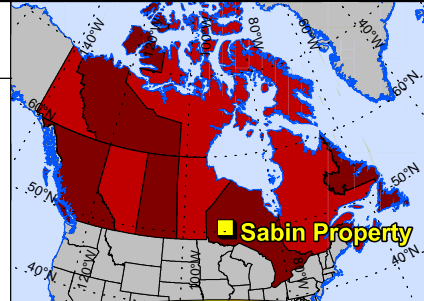
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**Legend**

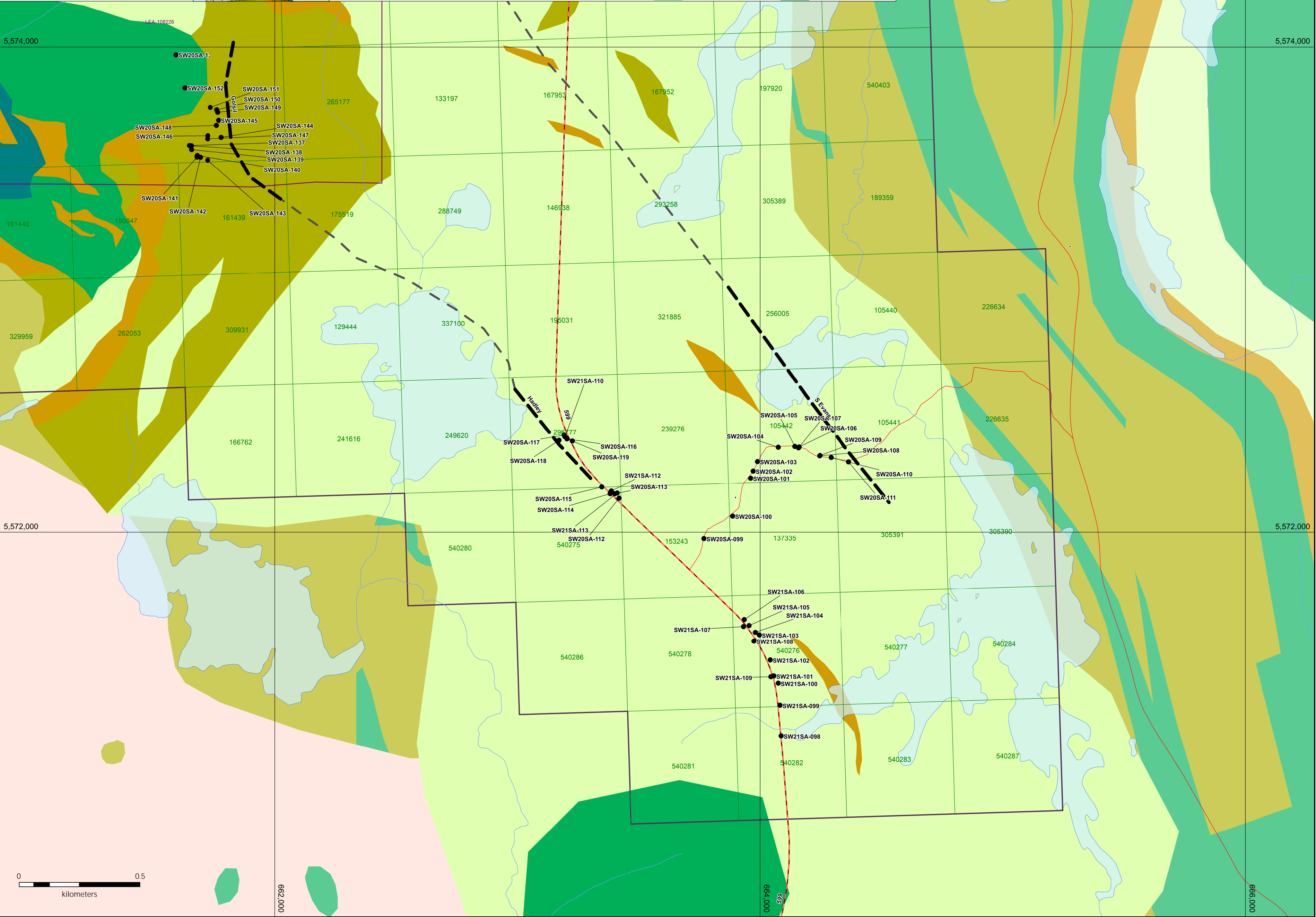
- Watercourse
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- mafic volcanic rocks



0 0.5  
kilometers

662,000

664,000

666,000

## APPENDIX 2

### Rock Sample Summary Data, Assays and Maps

Sample No.	Station No.	Date Created	N_83z15	E_83z15	Rock_type	gt	ser	stau	sil	cpy	py	sph	po	Description	Material	Zone	Au_ppb	Ag_ppm	Cu_ppm	Pb_pct	
1587336	SW20SA-002	9/10/2020	5577128	656682										two angular boulders of fg and cg mzd foliated with large qtz py vn 30cm	float	West Kash	2.5	0.05		3	
89394	SW20SA-008	9/10/2020	5576951	656865	intermediate volcanic				2					siliceous lenses with chlorite in bt feld schist	bedrock	West Kash	2.5	0.05		1	
1587337	SW20SA-010	9/10/2020	5576722	657025	felsic volcanic				4					silicified outcrop of felsic volc with locally 1pct py and tr cpy	bedrock	West Kash	2.5	0.40		407	
1587338	SW20SA-012	9/10/2020	5576709	657036										old blast pit, 339, 340 samples	bedrock	West Kash	2.5	0.40		502	
1587339	SW20SA-012	9/10/2020	5576709	657036										old blast pit, 339, 340 samples	bedrock	West Kash	2.5	0.50		448	
1587340	SW20SA-012	9/10/2020	5576709	657036										old blast pit, 339, 340 samples	bedrock	West Kash	2.5	0.20		181	
1587341	SW20SA-028	9/10/2020	5576732	657463	intermediate volcanic				1		0.5			some sub ll qtz py vns within feld bt schist, and py bt blebs in schist as w	bedrock	West Kash	2.5	0.05		16	
1587342	SW20SA-037	9/10/2020	5576947	657988	intermediate volcanic									bull qtz vm within bt hbl feld sch, vns have ksp haloes	bedrock	West Kash	2.5	0.05		9	
1587343	SW20SA-041	9/10/2020	5577359	657111	quartz monzonite									series of 101.38 fractures and shears and a 0.5 m qtz vein along one whi	bedrock	West Kash	387.0	0.70		591	
89395	SW20SA-043	9/11/2020	5576784	659972	intermediate volcanic	2	1		1		0.1			int volc with 1 pct gt locally and few ser zones whole rock	bedrock	South Kash	2.5	0.05		57	
89396	SW20SA-047	9/11/2020	5576730	659861	intermediate volcanic	2	3		1		0.1			bt gt ser schist, un altered rock previous looks to be a mz intrusive, intru	bedrock	South Kash	2.5	0.05		4	
1587344	SW20SA-051	9/11/2020	5576623	659674										sample of silicified bt hbl gt sch., float, also a gabbro float boulder,	bedrock	South Kash	8.0	0.20		123	
89397	SW20SA-063	9/11/2020	5576035	658944	fp int volcanic	1	1							bt feld ser sch. with feld remnant phenos, large stripped outcrop by swa	bedrock	South Kash	2.5	0.10		53	
89398	SW20SA-067	9/11/2020	5576224	658946	intermediate volcanic				3		0.3				bedrock	South Kash	2.5	0.10		24	
89399	SW20SA-073	9/11/2020	5576566	658879	intermediate volcanic	3								1-2 pct gt in a bt hbl feld schist	bedrock	South Kash	2.5	0.20		49	
89400	SW20SA-076	9/11/2020	5576471	659122	intermediate volcanic	3								poss fp mzd, essentially a hbl bt feld gt schist	bedrock	South Kash	2.5	0.05		10	
89001	SW20SA-082	9/11/2020	5576756	659423	intermediate volcanic	1	1				0.3			minor gt in bt hbl feld sch., silicified and locally ser	bedrock	South Kash	2.5	0.05		16	
1587345	SW20SA-087	9/11/2020	5576783	659595	felsic volcanic	1	1				0.3			ang block of bt feld sch minot gt and ser with chl bt veins and ksp gt halc	bedrock	South Kash	5.0	0.20		18	
89002	SW20SA-089	9/11/2020	5576805	659670	intermediate volcanic	3	2		2		0.5			local feld porphyry tuff layers sheared out and few zones with 1 to 2 cm	bedrock	South Kash	2.5	0.05		6	
89003	SW20SA-092	9/11/2020	5576807	659940	intermediate volcanic						0.3			bt hbl feld gt schist, py posscpy diss	bedrock	South Kash	2.5	0.05		5	
89004	SW20SA-097	9/11/2020	5576890	660063	intermediate volcanic				3		1			ser bt schist	bedrock	South Kash	2.5	0.05		12	
89005	SW20SA-103	9/12/2020	5572291	663989	intermediate volcanic tuff					3	0.5			fg finely layered chl bt schist rare gt	bedrock	South Evans	2.5	0.70		65	
89006	SW20SA-106	9/12/2020	5572351	664161	intermediate volcanic tuff	4			3		0.5			int tuff chl bt schist with 2 to 4 pct gt	bedrock	South Evans	9.0	1.30		50	
1587346	SW20SA-107	9/12/2020	5572347	664158	exhalite	4								ser sil gt schist and cherty zones	bedrock	South Evans	2.5	0.50		8	
1587347	SW20SA-108	9/12/2020	5572314	664245	intermediate volcanic tuff						2			ser chl sil py schistx with py lenses and poss cpy and sph	bedrock	South Evans	10.0	0.30		16	
1587348	SW20SA-109	9/12/2020	5572316	664247	intermediate volcanic tuff									chl ser sil py schist poss sph, lenses of chl sch and ser schist as separate l	bedrock	South Evans	2.5	0.20		27	
1587349	SW20SA-110	9/12/2020	5572307	664293	intermediate volcanic tuff		2		5		4			pyritic silica alt rock finely layered with local py lenses and poss sph local	bedrock	South Evans	2.5	0.10		17	
1587350	SW20SA-111	9/12/2020	5572289	664365	sediments				3		3			fg poss siltstone chl bt schist finely laminated with 2 to 3 pvt py	bedrock	South Evans	10.0	0.30		36	
1587128	SW20SA-115	9/12/2020	5572186	663347	fp int volcanic	2								minor gt with diss cpy and mal on fractures chl silica? ksp phenos look lik	bedrock	Hadley	5.0	0.90		1050	
1587129	SW20SA-116	9/12/2020	5572384	663203	intermediate volcanic	3					0.3			chlorite actinolite vn with sph carb within chl feld gt schist, mafic andesit	bedrock	Hadley	4250.0	53.50		814	4.73
1587130	SW20SA-117	9/12/2020	5572400	663192	intermediate volcanic		3		3		1			ser sil schist with py and cpy	bedrock	Hadley	21.0	1.40		679	
1587131	SW20SA-118	9/12/2020	5572379	663171	exhalite						2			chl act silica schist, w gal, sph, cpy, py	bedrock	Hadley	64.0	3.30		1100	
89007	SW20SA-124	9/13/2020	5575156	661550	intermediate volcanic									hbl bt gt schist with more chl than elsewhere in rock which has no gt, dis	bedrock	Golsil	2.5	0.10		17	
89008	SW20SA-127	9/13/2020	5575058	661646	felsic volcanic	2					1			qtz ksp bt schist with chl gt enclaves	bedrock	Golsil	2.5	0.10		20	
1587132	SW20SA-130	9/13/2020	5574709	661719	felsic volcanic				4					bt silica schist, little mt in dacitic rocks, also ksp silica zones with tr mt an	bedrock	Golsil	2.5	0.05		6	
89009	SW20SA-140	9/13/2020	5573553	661680	intermediate volcanic	4					0.3			gt chl act schist with local py	bedrock	Golsil	10.0	1.60		58	
1587133	SW20SA-141	9/13/2020	5573547	661679	felsic volcanic	3					0.5			chl bt gt feld schist rare qtz eyes, tr cpy	bedrock	Golsil	2.5	0.80		70	
1587134	SW20SA-144	9/13/2020	5573627	661779	intermediate volcanic									spoil piles from trench?, cpy act-bt schist	float	Golsil	33.0	6.80		1340	
89010	SW20SA-147	9/13/2020	5573621	661723	intermediate volcanic	4			3		0.5				bedrock	Golsil	2.5	0.20		8	
89011	SW20SA-152	9/13/2020	5573831	661629	felsic volcanic						0.3			blue qtz eyes with bt chl vnlt	bedrock	Golsil	2.5	0.05		8	
1587145	SW20SA-154	9/16/2020	5578105	656282	quartz monzonite	2			2		4			houghton gold area, looks like pendants or enclaves of volcanic rx in the	bedrock	Houghton	7.0	0.60		137	
1587146	SW20SA-155	9/16/2020	5578102	656278	quartz monzonite									sample of silica py cpy schist sz, sample 147 and 146	bedrock	Houghton	616.0	15.00		456	
1587147	SW20SA-155	9/16/2020	5578102	656278	quartz monzonite									sample of silica py cpy schist sz, sample 147 and 146	bedrock	Houghton	254.0	5.60		427	
1587148	SW20SA-156	9/16/2020	5578104	656288	quartz monzonite									more stripped oc and rusty sz, 25 m along strike and 10 m wide exposure	bedrock	Houghton	823.0	8.90		467	
1587149	SW20SA-157	9/16/2020	5578119	656281	quartz monzonite		1		5		2				bedrock	Houghton	36.0	1.40		227	
1587150	SW20SA-159	9/16/2020	5578171	656305	quartz monzonite									here mostly ua qmz, one 20 cm rusty shear,, few gt in the qmz	bedrock	Houghton	1410.0	22.00		947	
1589773	SW20SA-160	9/16/2020	5578253	656263										cobble of mafic volc woth blue qtz eyes	float	Houghton	2.5	0.05		30	



Sample No.	Pb_ppm	Zn_pct	Zn_ppm	Al_pct	As_ppm	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Fe_pct	Hf_ppm	K_pct	La_ppm	Li_ppm	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Nb_ppm	Ni_ppm	P_pct	Rb_ppm	S_pct	Sb_ppm
1587336	1.7		6	4.07	0.5	519	0.5	0.2	0.8	0.05	19	1.8	9	0.9	1.09	0.9	1.47	8.3	6.5	0.16	167	0.8	0.753	1.6	2	0.008	71.1	0.5	0.05
89394	2.6		33	8.4	0.5	282	0.5	0.05	2.94	0.05	28	11.8	12	1.2	2.66	2.6	1.38	14.3	25.9	1.28	369	0.4	2.16	1.4	18.2	0.033	74.9	0.5	0.05
1587337	6.2		11	6.03	0.5	573	0.5	0.5	0.82	0.05	18	12.8	6	1.6	1.28	7.4	1.77	7	6.4	0.05	156	7.2	2.69	9.7	0.7	0.006	43.1	0.5	0.05
1587338	6.1		25	7.36	0.5	175	3	0.6	1.72	0.05	67	17.5	11	1.5	1.98	8.3	0.5	30.9	8.3	0.09	239	3.9	3.6	8.8	3.2	0.006	21.3	0.5	0.05
1587339	6.7		10	5.73	0.5	348	0.5	0.4	0.64	0.05	42	13.7	8	0.3	1.22	7.1	1.8	18.5	12.1	0.04	123	4.3	2.45	10.1	0.5	0.007	38.9	0.5	0.05
1587340	5.0		24	6.48	0.5	113	6	0.3	1.47	0.05	18	4.8	7	1.7	1.09	6.9	0.37	8.4	7.3	0.08	201	2	3.31	7.4	1.5	0.007	18.5	0.5	0.05
1587341	12.2		87	8.61	0.5	437	1	0.2	2.28	0.1	7	6.1	10	1.9	2.22	1.7	1.36	3	18.3	0.3	621	0.1	3.1	0.3	8.4	0.03	69.2	0.5	0.05
1587342	3.4		21	5.43	0.5	86	0.5	1.4	1.72	0.05	33	1.5	9	0.5	1.31	0.4	0.43	15.2	11.6	0.17	404	0.5	1.96	2.5	1.1	0.03	20.7	0.5	0.05
1587343	1.2		23	0.18	0.5	2	0.5	0.7	0.56	0.05	0.5	34.7	6	0.05	5.29	0.05	0.03	0.4	0.7	0.41	359	2.7	0.03	0.2	36.5	0.0005	0.6	0.5	0.05
89395	9.2		56	8.55	0.5	556	0.5	0.05	2.47	0.05	23	7.4	17	1.2	2.65	2.2	1.48	11.1	18	0.38	737	0.1	2.59	0.9	13.5	0.029	56.4	0.5	0.05
89396	14.2		116	8.34	0.5	285	0.5	0.05	1.33	0.05	19	12.4	23	2.4	3.36	2.5	1.12	8.2	19.2	0.67	629	0.1	3.08	2	25.1	0.034	61.6	0.5	0.05
1587344	7.4		42	8.21	0.5	185	0.5	1.4	4.34	0.1	19	10.6	23	5.7	3.01	2	1.37	9.1	7.5	0.57	564	0.9	0.652	2.4	17.1	0.028	60.4	0.5	0.05
89397	4.7		59	8.01	1	214	0.5	0.05	1.95	0.05	20	11.8	20	1.1	2.61	1.2	1.14	9.5	11.7	0.92	473	0.05	2.79	0.5	29.9	0.027	39.2	0.5	0.05
89398	9.0		75	8.2	0.5	436	0.5	0.1	2.79	0.05	20	12.6	19	1.8	3.36	2.2	1.51	9.3	26.3	1.54	699	0.6	1.57	1.5	24.2	0.028	59.7	0.5	0.05
89399	16.5		132	8.6	0.5	378	0.5	0.2	2.38	0.2	12	11.8	18	1.9	2.91	2	1.11	5.5	29.3	1.45	800	0.05	3.05	0.4	20.1	0.026	40	0.5	0.05
89400	3.9		62	9.91	1	95	0.5	0.1	5.21	0.05	56	19.7	136	0.8	5.45	2.4	0.4	24.7	16.7	1.76	1030	0.05	2.54	0.3	78.7	0.093	13.8	0.5	0.05
89001	7.4		54	7.24	0.5	376	0.5	0.1	1.7	0.05	52	2.8	9	1.9	2.81	0.9	1.67	22.5	24	0.37	490	0.6	1.92	2.4	2.3	0.021	52.9	0.5	0.05
1587345	6.5		67	6.28	0.5	249	0.5	0.6	1.98	0.05	31	2.8	8	2.6	2.66	4.9	0.81	13.7	13.4	0.32	502	0.5	2.16	4	1.1	0.023	39.2	0.5	0.05
89002	7.3		73	8.75	0.5	214	0.5	0.1	1.29	0.05	29	18.3	25	2.5	3.99	2.7	1.34	14	23.5	0.73	614	1.8	3.74	0.5	37.1	0.037	57	0.5	0.05
89003	7.5		38	8.59	0.5	212	0.5	0.05	1.67	0.05	19	5.3	22	1	1.88	2.3	0.86	9.4	11.8	0.26	476	0.2	3.67	0.5	12	0.032	33.1	0.5	0.05
89004	11.7		60	9.53	0.5	516	0.5	0.05	1.12	0.05	26	8.7	18	1.4	2.4	2.6	1.99	13	27	1.15	303	0.2	2.83	1.5	15.9	0.028	51.8	0.5	0.05
89005	17.5		71	9.19	1	354	0.5	2.5	2.91	0.05	26	21.4	30	1.9	3.93	2.4	1.9	10.8	17.7	1.5	555	0.2	1.31	0.5	39.2	0.041	72.5	0.5	0.05
89006	18.9		101	7.4	1	442	0.5	0.3	3.02	0.05	41	29.8	16	1.9	5.71	3.3	2.22	19	12.7	0.74	892	0.5	0.5	4.7	23.1	0.069	91	0.5	1
1587346	28.2		146	5.97	4	310	0.5	0.05	2.08	0.4	49	2.4	8	2.1	3.36	4.2	1.55	23.9	12.9	0.68	1410	0.7	0.3	6.9	4	0.015	77.4	0.5	0.9
1587347	10.0		18	6.55	54	145	0.5	0.6	0.46	0.05	43	5.8	15	1.6	5.37	4.1	2	20.4	22.6	0.4	194	1.5	0.44	3.2	6.4	0.034	52.3	2	1.5
1587348	4.4		73	8.25	21	264	0.5	0.2	2.73	0.05	48	7.9	15	3.6	4.08	4.6	1.89	23.4	50.9	2.62	1670	0.9	0.382	5.1	13.2	0.048	76.5	1	3.6
1587349	8.7		37	6.92	38	72	0.5	0.2	1.52	0.05	45	8.8	22	3.1	3.32	4.2	1.04	21.1	35.4	1.16	329	1.4	0.596	5.4	18	0.022	40.9	3	2.1
1587350	6.6		54	8.38	13	89	0.5	0.4	4.96	0.1	36	28.4	27	3.5	5.67	3.8	1.35	16.7	32.5	2.16	717	0.7	0.453	4.9	31.2	0.071	41.8	2	1.8
1587128	5.9		41	8.86	0.5	478	0.5	0.5	2.19	0.1	26	11.8	24	1.8	2.55	2.5	1.87	12.4	15.3	1.12	493	0.7	2.05	0.4	21.8	0.036	54.3	0.5	0.05
1587129	47300.0	10.4	104000	1.59	4	23	0.5	135	9.97	662	18	13.9	2	0.05	5.7	0.5	0.11	9.2	4.2	5.31	4520	11.7	0.086	1.2	13.9	0.022	4.3	6	10.3
1587130	159.0		225	8.53	0.5	412	0.5	2.1	2	1.5	19	15.4	27	1.8	3.51	3	1.87	8.4	27.9	1.48	856	1.1	1.31	1.4	21.3	0.036	66.4	0.5	0.2
1587131	132.0		450	8.61	0.5	515	0.5	2.5	2.01	3.8	40	11.3	6	1.8	3.5	4.6	2.19	16.6	22.6	1.36	827	1.3	1.36	4.9	5.4	0.088	55.2	0.5	0.9
89007	6.0		57	8.77	0.5	342	0.5	0.05	2.04	0.05	24	13.1	23	1	2.82	2.5	0.97	11.5	32.5	1.02	418	0.6	2.64	2.2	25.3	0.032	33.6	0.5	0.05
89008	5.0		50	8.31	0.5	561	0.5	0.05	2.23	0.05	29	9.8	12	1.1	2.97	1.4	1.32	13	22.6	0.9	623	0.05	2.29	0.3	14.8	0.041	46.8	0.5	0.05
1587132	16.1		28	6.68	0.5	572	0.5	0.3	0.4	0.05	20	0.4	6	1.3	1.03	5	2.69	5.7	9.1	0.1	100	0.3	1.97	5	0.4	0.001	102	0.5	0.05
89009	11.1		192	7.62	0.5	200	0.5	5.2	2.13	0.2	40	14.2	23	1.3	5.12	2.3	1.6	17.7	16.6	1.74	1520	0.05	1.73	0.3	27.5	0.052	64.2	0.5	0.05
1587133	7.6		122	7	0.5	329	0.5	0.3	1.99	0.3	47	15.1	19	1.8	4.26	1.9	1.43	23.2	26.3	1.46	1180	0.5	0.896	2.3	25.2	0.042	82.7	0.5	0.1
1587134	25.1		481	6.73	10	285	0.5	20.9	1.13	1.4	30	19.9	38	1.5	7.3	3	1.64	13.9	35.8	3.01	1260	1	0.275	5.1	31.7	0.048	54.5	0.5	0.2
89010	13.0		94	5.79	0.5	309	0.5	0.5	0.65	0.3	37	2.6	4	1.3	1.55	4.4	1.6	16	12.1	0.69	568	0.9	0.787	6.7	0.7	0.001	51.7	0.5	0.05
89011	5.3		51	7.41	0.5	384	0.5	0.05	2.27	0.05	39	12.6	25	1.7	3.05	2.9	1.78	19.1	31.6	1.61	684	0.05	0.76	0.3	20.6	0.052	68.6	0.5	0.05
1587145	47.3		2380	8.81	3	247	0.5	1	0.92	17.5	66	5.8	12	2.7	3.79	2.7	2.84	31.1	30.5	1.02	513	0.4	1.37	4	3.9	0.051	112	0.5	0.2
1587146	4000.0		4430	4.55	13	84	0.5	30.4	0.29	38.7	13	29.8	13	0.6	2.78	2	1.64	6.8	17.2	0.22	147	0.6	0.364	2.8	2.9	0.019	72.8	2	1.4
1587147	1540.0		887	3.46	7	58	0.5	2.8	0.12	7.2	8	9.3	11	0.3	3.03	1.1	1.55	4	14.4	0.16	219	0.9	0.112	2.4	6.1	0.022	65.7	2	2.6
1587148	1820.0		3050	5.45	12	83	0.5	4.8	0.44	25.4	15	12	12	0.6	4.36	1.8	2.26	7.6	18.8	0.25	647	0.9	0.232	3.7	5.8	0.035	91.3	2	3.9
1587149	156.0		4620	2.52	23	36	0.5	3.5	0.68	43.8	11	8	9	0.4	1.6	0.8	0.69	5.1	4.1	0.14	156	1.9	0.593	2	3.4	0.016	27.9	0.5	0.3
1587150	470.0		8830	3.24	3	61	0.5	75.3	0.1	73.9	9	20.5	14	0.3	7.33	0.9	1.34	4.6	9.9	0.13	198	1.1	0.112	2.2	18.7	0.017	57.1	4	0.3
1589773	17.6		107	7.6	53	367	0.5	0.2	1.32	0.1	32	11.3	40	1.8	3.25	1.8	0.99	16.2	17.9	0.89	463	0.9	2.84	2.5	28.2	0.032	38.3	0.5	0.3

Sample No.	Sc_ppm	Sn_ppm	Sr_ppm	Ta_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zr_ppm
1587336	3	0.3	71	0.05	2.2	0.084	0.44	0.6	6	0.2	7.4	35.7
89394	5	0.9	165	0.05	2.9	0.179	0.32	1	37	0.2	6.8	97.7
1587337	6	1	106	0.7	5.4	0.108	0.27	1.9	2	0.6	11.4	269
1587338	7	0.6	133	0.8	8	0.127	0.14	1.9	4	0.5	17.7	318
1587339	6	1.1	100	0.7	5.5	0.107	0.16	1.4	2	2	12.7	270
1587340	5	0.5	113	0.6	4.8	0.103	0.13	1.3	4	0.4	10.5	256
1587341	5	0.4	227	0.05	2.4	0.131	0.45	0.5	23	0.05	3.7	63.7
1587342	4	0.5	89	0.05	3.5	0.085	0.11	0.6	2	0.2	11.1	17.2
1587343	2	0.2	2	0.05	0.05	0.002	0.07	0.2	8	16.5	4	0.9
89395	6	0.5	139	0.05	1.9	0.163	0.36	0.4	35	0.05	7.2	83.4
89396	6	0.5	151	0.1	1.9	0.209	0.54	0.4	49	0.2	5.3	96.7
1587344	7	0.9	127	0.1	2.2	0.218	0.51	0.6	52	0.8	10.7	70.4
89397	8	0.2	271	0.05	1.8	0.186	0.3	0.4	41	0.05	6.8	64.1
89398	8	0.7	209	0.1	2.2	0.185	0.46	0.5	50	0.3	8.3	80.4
89399	7	0.4	242	0.05	1.5	0.185	0.32	0.4	44	0.05	6.4	80.3
89400	22	0.7	298	0.05	2.4	0.219	0.1	0.5	54	0.05	15.1	92.9
89001	8	0.8	83	0.1	4.7	0.201	0.44	1	6	0.1	19.7	77.2
1587345	6	1.2	96	0.2	3.5	0.171	0.3	0.9	6	0.2	16.3	192
89002	10	0.6	107	0.05	2.1	0.249	0.42	0.6	57	0.05	8	113
89003	5	0.3	189	0.05	1.9	0.177	0.21	0.5	30	0.05	5.1	92
89004	7	0.7	173	0.05	2.9	0.206	0.34	0.7	50	0.2	3.7	98.9
89005	16	5.3	104	0.05	2.5	0.239	0.52	0.6	104	0.1	7.1	95.2
89006	12	0.9	95	0.3	2.8	0.384	0.66	0.7	96	0.5	13.5	129
1587346	6	1.3	56	0.5	5	0.143	0.63	1.1	17	0.5	16.8	146
1587347	9	1.2	94	0.2	3.9	0.192	0.53	0.9	56	0.4	8.1	150
1587348	11	1.2	112	0.4	4.5	0.256	1.22	1.1	70	0.5	19.1	166
1587349	8	1.3	133	0.4	3.7	0.195	0.51	1.1	43	0.5	12.3	152
1587350	14	1.1	189	0.3	2.5	0.395	0.42	0.7	134	0.3	11.7	155
1587128	7	0.4	172	0.05	1.9	0.163	0.26	0.5	50	0.05	6.9	93.4
1587129	3	0.4	49	0.05	0.7	0.083	0.65	0.2	18	0.3	8.5	22.9
1587130	7	0.7	93	0.05	1.7	0.229	0.43	0.5	55	0.2	7	110
1587131	12	1.1	79	0.3	4	0.426	0.33	1	63	1.7	16.9	179
89007	7	0.6	266	0.1	1.7	0.221	0.27	0.5	55	0.1	4.6	99.1
89008	7	0.1	184	0.05	2	0.107	0.22	0.5	30	0.05	5.7	52.3
1587132	5	2.7	70	0.3	6	0.05	0.68	1.8	2	0.3	14.9	147
89009	12	1.6	95	0.05	3.1	0.172	0.51	0.7	53	0.05	13.7	86.2
1587133	10	1.6	68	0.1	3.7	0.253	0.76	1	59	0.2	17.6	85.8
1587134	12	4.8	49	0.3	2.9	0.279	0.43	0.7	83	1.4	14.5	116
89010	4	3.9	64	0.5	6.7	0.045	0.32	1.7	2	0.8	12.1	138
89011	11	0.3	80	0.05	3	0.174	0.38	0.7	47	0.05	8.8	112
1587145	10	11.3	45	0.1	4.9	0.306	0.61	1	43	6.7	26.1	77.4
1587146	4	10.2	19	0.3	3.9	0.128	0.41	0.9	24	9.3	6.3	53.2
1587147	4	28.7	8	0.2	1.7	0.124	0.26	0.3	24	7.3	5.1	34.6
1587148	6	24.9	23	0.3	2.1	0.209	0.39	0.4	38	12.4	8.6	57.9
1587149	3	5.3	25	0.2	1.2	0.094	0.13	0.4	13	8.8	7.1	25
1587150	4	20.8	5	0.2	1.4	0.119	0.27	0.3	22	6.2	4.8	29.8
1589773	6	0.6	415	0.2	3.9	0.173	0.63	1.3	46	0.5	5.5	71.9

Sample No.	Station No.	Date Created	N_83z15	E_83z15	Rock_type	gt	ser	stau	sil	cpy	py	sph	po	Description	Material	Zone	Au_ppb	Ag_ppm	Cu_ppm	Pb_pct
1589774	SW20SA-161	9/16/2020	5577933	656128	monzodiorite						0.5			cg mzd with py along fractures, large angular boulders near oc, poss cpy	bedrock	Houghton	2.5	0.30	49	
1589249	SW21SA-015	9/22/2021	5578306	656431	granodiorite									foliation in gd string to moderate with numerous bull qtz vns near parallel to cross cutting and weakly to non deformed 265.72, tr py and no alteration visible as haloed	bedrock	Quarry	3	0.400	12.1	
1589250	SW21SA-015	9/22/2021	5578306	656431	granodiorite									foliation in gd string to moderate with numerous bull qtz vns near parallel to cross cutting and weakly to non deformed 265.72, tr py and no alteration visible as haloed	bedrock	Quarry	3	0.300	7	
1589251	SW21SA-017	9/22/2021	5578334	656503	granodiorite									sheared gd with several rusty altered zone with minor qtz stringers	bedrock	Quarry	58	2.400	30.7	
1589252	SW21SA-018	9/22/2021	5578332	656481	granodiorite										bedrock	Quarry	659	5.600	27	
1589253	SW21SA-019	9/22/2021	5578264	656570	granodiorite									cg weakly fol gd with a strong rusty shear with ser py alt and qtz vn material within about 50 cm wide	bedrock	Quarry	169	4.500	21.9	
1589254	SW21SA-019	9/22/2021	5578264	656570	granodiorite									cg weakly fol gd with a strong rusty shear with ser py alt and qtz vn material within about 50 cm wide	bedrock	Quarry	248	2.000	106	
1589255	SW21SA-020	9/22/2021	5577999	656029	granodiorite									fol cg gd with criss cutting qtz vn w tr py and ser alt halo of 1 cm, 10 cm qv	bedrock	Quarry	3	0.050	5.7	
1589256	SW21SA-024	9/22/2021	5577937	655782	granodiorite									well foliated 082.85 with several qv lets parallel to fol, small rusty shears cut fol 242.75	bedrock	Quarry	3	0.050	3	
1589257	SW21SA-026	9/22/2021	5577864	655838	granodiorite									gd foliated 090.90, with cross cutting shears at 060.80 with qv stringers within and blo k white qtz vns emanating from them and parallel to 090 fol. 060 shears are weakly qtz ser py altered	bedrock	Quarry	3	0.050	5.5	
1589258	SW21SA-026	9/22/2021	5577864	655838	granodiorite									gd foliated 090.90, with cross cutting shears at 060.80 with qv stringers within and blo k white qtz vns emanating from them and parallel to 090 fol. 060 shears are weakly qtz ser py altered	bedrock	Quarry	3	0.050	10	
1589259	SW21SA-026	9/22/2021	5577864	655838	granodiorite									gd foliated 090.90, with cross cutting shears at 060.80 with qv stringers within and blo k white qtz vns emanating from them and parallel to 090 fol. 060 shears are weakly qtz ser py altered	bedrock	Quarry	3	0.050	23.5	
1589260	SW21SA-027	9/22/2021	5577883	655831	granodiorite									several orientations of qvs. 096.18 cut by 020.90 that is very rusty, sample.	bedrock	Quarry	3	0.200	18	
1589261	SW21SA-033	9/22/2021	5577681	655889										mg mz dio with local rusty zone poss silicified oriented 262.89, sample a high grade of Jaroslav stained 4 cm rusty fracture in the 50 m rusty zone	bedrock	Quarry	3	0.300	56.5	
1589262	SW21SA-034	9/22/2021	5577684	655852	granodiorite				1		2			rusty zone in gd about 3 to 4 m wide with py qtz vn broken and sheared 050.90 to 065.70, samples of qtz py vein only	bedrock	Quarry	8	0.800	42	
1589263	SW21SA-034	9/22/2021	5577684	655852	granodiorite				1		2			rusty zone in gd about 3 to 4 m wide with py qtz vn broken and sheared 050.90 to 065.70, samples of qtz py vein only	bedrock	Quarry	9	1.500	146	
1589264	SW21SA-035	9/22/2021	5577685	655862										sulphidic Wall rock 264 and sulphide vein 265	bedrock	Quarry	46	6.200	940	
1589265	SW21SA-035	9/22/2021	5577685	655862										sulphidic Wall rock 264 and sulphide vein 265	bedrock	Quarry	62	18.400	664	
1589266	SW21SA-036	9/22/2021	5577705	655758	granodiorite									cg gd with 245.70 shear cutting it and few py zones and ep zones, overall shear is 50 cm wide and silicified	bedrock	Quarry	3	0.100	11.4	
1589267	SW21SA-036	9/22/2021	5577705	655758	granodiorite									cg gd with 245.70 shear cutting it and few py zones and ep zones, overall shear is 50 cm wide and silicified	bedrock	Quarry	3	0.700	35.5	
1589268	SW21SA-038	9/22/2021	5577759	655359	basalt				1		2			py sil altered mg to fg diorite with rare qtz vns	bedrock	Quarry	3	0.050	5.5	
1589269	SW21SA-040	9/23/2021	5578763	657296	intermediate volcanic									qtz vn 040.90 bull qtz 20 cm wide in int vol	bedrock	Quarry	3	0.200	122	
1589270	SW21SA-047	9/23/2021	5578695	657394	granodiorite									large gd boulders v angular one with a 2 cm qv	bedrock	Quarry	3	0.200	49.3	
1589271	SW21SA-056	9/23/2021	5578140	657040	granodiorite									cg weak fol rare shear, lin 065.12	bedrock	Quarry	3	0.050	5.4	
1589272	SW21SA-063	9/23/2021	5577858	657466	granodiorite									5 to 15 cm wide white qv and another just to southeast	bedrock	Quarry	3	0.050	10.6	
1589273	SW21SA-063	9/23/2021	5577858	657466	granodiorite									5 to 15 cm wide white qv and another just to southeast	bedrock	Quarry	3	0.050	3.9	

Sample No.	Pb_ppm	Zn_pct	Zn_ppm	Al_pct	As_ppm	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Fe_pct	Hf_ppm	K_pct	La_ppm	Li_ppm	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Nb_ppm	Ni_ppm	P_pct	Rb_ppm	S_pct	Sb_ppm
1589774	33.3		162	8.02	1	293	0.5	1	2.72	0.3	33	10.6	15	0.8	3.39	1.4	0.92	15.3	16.5	0.73	796	0.3	2.69	1.3	10.4	0.045	38.6	0.5	0.05
1589249	24.5		116	7.11	10	181.00	0.5	0.4	2	0.1	31	7.6	12	1.2	2.73	1.2	1.22	16.4	14.5	0.68	854	0.3	2.09	1.9	11	0.038	60.4	0.5	0.05
1589250	10.8		132	7.24	3	179.00	0.5	0.05	2	0.05	35	10.2	26	1.9	3.48	1.2	2.26	16.3	27.8	1.6	1020	0.2	1.28	0.5	11	0.046	116	0.5	0.05
1589251	926		324	6.10	1	585.00	0.5	8.4	2	0.7	15	2.3	14	1.3	3.23	1.3	1.95	7.8	13.9	0.52	1320	0.3	1.4	0.3	2.8	0.044	61.8	0.5	0.05
1589252	103		152	8.01	3	235.00	0.5	2.2	1	0.2	22	6	13	2.1	4.31	2.4	1.57	11.2	31.8	1.28	1680	2.3	1.55	5.5	6.9	0.054	107	0.5	0.05
1589253	413		103	6.56	4	160.00	0.5	4.5	1	0.1	16	1.6	10	1.3	3.01	2.1	1.54	11.7	18.5	0.62	734	1.4	0.784	4.9	2.1	0.043	80.6	0.5	0.4
1589254	113		3490	7.23	15	469.00	0.5	2.9	1	23.8	13	7.5	14	2	3.94	2	1.63	6.3	21.6	1.1	668	1.2	0.823	5.9	7.6	0.048	64.4	0.5	0.3
1589255	3.2		33	3.34	1	171.00	0.5	0.05	0	0.05	6	3.3	12	0.3	1.54	0.7	1.11	2.4	6	0.27	258	0.3	1.32	1.9	5.5	0.007	35.9	0.5	0.05
1589256	5		26	1.38	3	13.00	0.5	3.4	1	0.1	4	1.5	7	0.1	1.16	0.2	0.09	2.2	0.9	0.13	281	0.4	0.261	1.2	2.2	0.006	3.4	0.5	0.05
1589257	24.2		149	8.59	5	266.00	0.5	0.1	2	0.1	33	10.7	15	2.6	3.86	2	1.78	15.3	42.7	1.47	594	0.4	3.51	3	13.3	0.052	77.7	0.5	0.05
1589258	45.8		184	6.77	1	129.00	0.5	1.1	3	0.4	29	8.7	11	1.6	3.64	1.5	1.08	14.8	22.8	1.15	806	0.4	2.26	1.5	9.9	0.043	47.5	0.5	0.05
1589259	5.1		21	1.41	1	197.00	0.5	0.05	0	0.05	4	2.9	11	0.5	1.22	0.2	0.53	1.7	8.7	0.27	179	3	0.44	0.7	3.2	0.011	16.5	0.5	0.05
1589260	4.7		6	0.19	1	80.00	0.5	0.05	0	0.05	0.5	0.2	18	0.05	0.8	0.05	0.22	0.1	0.5	0.005	51	0.3	0.032	0.2	1.4	0.003	3.1	0.5	0.1
1589261	10.3		59	6.87	1	179.00	0.5	0.4	2	0.05	37	3.8	7	0.5	2.67	5.3	0.49	21.8	10.2	0.5	639	0.6	2.76	8.6	3.2	0.036	21	0.5	0.05
1589262	20		31	0.40	2	12.00	0.5	2.3	0	0.1	2	1.1	21	0.05	0.85	0.05	0.1	1	1.4	0.05	101	0.7	0.159	0.3	2.2	0.003	3.6	0.5	0.2
1589263	22		10	0.48	8	19.00	0.5	5.2	0	0.05	1	9.2	12	0.3	1.82	0.1	0.14	0.8	1.6	0.06	116	0.3	0.183	0.4	9.4	0.003	5.3	1	0.7
1589264	66.4		150	7.78	1	293.00	0.5	15.6	2	1	23	10.6	14	1.9	3.8	1.7	1.52	11.2	25.7	0.78	601	0.9	2.61	5.3	10.6	0.059	68.7	0.5	0.05
1589265	165		236	7.13	1	256.00	0.5	73.8	2	1.1	12	4.5	12	1	2.93	1.5	1.58	6	28.8	0.86	783	0.5	2.07	2.2	5.6	0.056	79.4	0.5	0.05
1589266	8.3		79	1.45	1	24.00	0.5	0.6	2	0.05	6	3.4	18	0.05	1.5	0.3	0.26	4	2.4	0.37	276	0.3	0.071	1	5.9	0.006	5.1	0.5	0.05
1589267	16.2		141	5.67	1	144.00	0.5	11.9	4	2.2	46	3.4	6	0.3	3	2.9	1.08	21.6	9.4	0.29	1010	0.6	0.962	7.5	1.1	0.026	36.3	0.5	0.1
1589268	0.7		7	0.14	1	6.00	0.5	0.3	0	0.05	1	0.1	6	0.05	0.46	0.05	0.04	0.5	0.4	0.01	64	0.3	0.064	2.8	0.7	0.0005	1.3	0.5	0.05
1589269	5		102	9.54	8	415.00	0.5	0.05	1	0.05	11	15.7	30	0.6	4.96	2.7	1.6	5.6	14.7	0.75	1540	1.3	1.77	1.9	19.1	0.029	50.5	0.5	0.1
1589270	11.3		74	4.92	4	353.00	0.5	0.4	1	0.05	15	8.2	10	2	2.39	0.2	1.11	7.2	12.4	0.46	378	0.4	1.67	2.2	12	0.028	34.7	0.5	0.05
1589271	6.6		85	7.72	1	316.00	0.5	0.2	2	0.05	21	7.3	9	5.2	2.72	1.2	1.32	11.2	17	0.88	482	0.05	2.98	0.6	9.9	0.043	51.7	0.5	0.05
1589272	3.6		21	0.86	7	49.00	0.5	0.05	0	0.05	3	1.6	9	0.7	0.78	0.2	0.23	1.2	5.1	0.21	104	0.3	0.269	0.6	2.4	0.007	10.3	0.5	0.05
1589273	1.9		20	0.67	1	37.00	0.5	0.05	0	0.05	2	1.1	9	0.4	0.84	0.2	0.17	0.9	3.7	0.15	106	0.4	0.212	0.7	2.5	0.006	6.7	0.5	0.05

Sample No.	Sc_ppm	Sn_ppm	Sr_ppm	Ta_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zr_ppm
1589774	8	1.2	181	0.05	3.4	0.169	0.25	0.9	32	0.2	15.6	40.4
1589249	7	0.7	116	0.1	3.5	0.129	0.4	0.8	22	0.2	12.8	33.4
1589250	9	1.1	49	0.05	2.8	0.126	0.77	0.5	24	0.1	12.8	34.6
1589251	7	1.6	52	0.05	2.7	0.142	0.38	0.6	33	0.2	8.5	37.5
1589252	9	2.4	78	0.3	3.7	0.295	0.84	0.7	50	1.6	10.2	69.9
1589253	7	2	62	0.3	3.1	0.241	0.51	0.5	45	3.1	5.9	62.4
1589254	8	8	24	0.4	3.2	0.274	0.31	0.7	49	7.2	11.8	61
1589255	4	1.1	43	0.05	0.9	0.168	0.19	0.3	30	0.8	4.7	18.8
1589256	2	1.3	28	0.05	0.3	0.059	0.025	0.2	17	0.3	4.6	5.1
1589257	8	1.1	127	0.2	3.7	0.217	0.42	0.7	40	0.3	11.9	60.7
1589258	9	1.8	105	0.05	3	0.196	0.24	0.7	48	11.1	15.5	43.3
1589259	2	0.5	14	0.05	0.7	0.058	0.09	0.2	13	0.2	1.7	12.1
1589260	0.5	0.1	2	0.05	0.05	0.005	0.025	0.05	2	0.05	0.05	1.5
1589261	7	5	103	0.5	4.6	0.223	0.23	0.9	18	0.4	13.1	182
1589262	0.5	0.4	5	0.05	0.1	0.013	0.025	0.05	2	0.1	0.7	4.4
1589263	0.5	0.4	6	0.05	0.1	0.015	0.025	0.05	5	0.3	0.9	6.5
1589264	10	6.6	181	0.3	3.2	0.317	0.46	0.7	57	0.7	14	50.7
1589265	8	11.4	75	0.1	2.8	0.232	0.48	0.5	41	0.3	7.6	45.6
1589266	2	4.3	21	0.05	0.3	0.069	0.025	0.2	20	0.3	1.9	7.2
1589267	6	9.9	79	0.5	3.7	0.171	0.2	1.1	9	1.6	23.6	93
1589268	0.5	0.6	2	0.4	0.4	0.06	0.025	0.2	5	0.6	1.1	3.4
1589269	10	0.4	72	0.1	2.1	0.264	0.33	0.7	69	1.3	10.1	93.2
1589270	6	0.7	91	0.05	1.9	0.173	0.19	0.4	32	0.4	9.1	13.5
1589271	8	0.4	183	0.05	3.7	0.087	0.27	0.4	17	0.05	14.1	40.7
1589272	1	0.2	11	0.05	0.4	0.034	0.05	0.05	8	0.1	1.2	5.2
1589273	0.5	0.3	9	0.05	0.3	0.03	0.025	0.05	7	0.05	0.9	5.1

Sample No.	Station No.	Date Created	N_83z15	E_83z15	Rock_type	gt	ser	stau	sil	cpy	py	sph	po	Description	Material	Zone	Au_ppb	Ag_ppm	Cu_ppm	Pb_pct
1589274	SW21SA-063	9/23/2021	5577858	657466	granodiorite									5 to 15 cm wide white qv and another just to southeast	bedrock	Quarry	181	14.100	422	
1589275	SW21SA-064	9/23/2021	5577868	657473	musc bt gt schist									intense shear of bt musc tr gt schist in gd with py cpy mal and azurite staining	bedrock	Quarry	966	81.700	1750	
1589276	SW21SA-064	9/23/2021	5577868	657473	musc bt gt schist									intense shear of bt musc tr gt schist in gd with py cpy mal and azurite staining	bedrock	Quarry	876	45.000	2770	
1589278	SW21SA-064	9/23/2021	5577868	657473	musc bt gt schist									intense shear of bt musc tr gt schist in gd with py cpy mal and azurite staining	bedrock	Quarry	5	0.300	14	
1589277	SW21SA-065	9/23/2021	5577853	657467	granodiorite									small 10 to 15 cm shear of chl bt musc schist and anastomosing qtz vn withtr py	bedrock	Quarry	409	34.500	1040	
1589279	SW21SA-066	9/23/2021	5577850	657533										shear 10cm wide bt chl schist with qv. 279 qv, 280 shear with tr sulphide	bedrock	Quarry	1500	0.200	16.1	
1589280	SW21SA-066	9/23/2021	5577850	657533										shear 10cm wide bt chl schist with qv. 279 qv, 280 shear with tr sulphide	bedrock	Quarry	3	0.050	4.6	
1589281	SW21SA-074	9/23/2021	5578259	657501	granodiorite									15 to 20 cm shear with bull qtz vn up to 50 cm wide	bedrock	Quarry	3	0.050	6	
1589282	SW21SA-077	9/24/2021	5576475	660304	intermediate volcanic		2		2		1			ser sil py alt int vol with steel gray minerals in tr amounts diss throughout.	bedrock	Marchington	17	0.400	4.5	
1589283	SW21SA-084	9/24/2021	5576498	660084	intermediate volcanic									sample of sub angular float with 5 pct diss py within int volc	bedrock	Marchington	3	0.200	38.9	
1589284	SW21SA-087	9/24/2021	5576495	660127	intermediate volcanic	2	2		2		0.5			contact with mafic volc unit about 10 m to S, here highly siliceous zone with py, cpy, ser chl or told, poss act, but only 10 to 15 cm wide might open to west buy blasted away	bedrock	Marchington	574	4.000	516	
1589285	SW21SA-090	9/24/2021	5576372	660171	intermediate volcanic				1		2			huge stripped oc, with blasted pit, strongly sil and pyritic alt volc, sample 285 sil pyaltered, 286 sample of ser py altered rock, less common	bedrock	Marchington	6	0.200	19.2	
1589286	SW21SA-090	9/24/2021	5576372	660171	intermediate volcanic				1		2			huge stripped oc, with blasted pit, strongly sil and pyritic alt volc, sample 285 sil pyaltered, 286 sample of ser py altered rock, less common	bedrock	Marchington	17	0.500	22.4	
1589287	SW21SA-091	9/24/2021	5576422	660198							3			more intense sil py and local ser py sil altered int volc	bedrock	Marchington	3	0.300	61.8	
1589288	SW21SA-091	9/24/2021	5576422	660198							3			more intense sil py and local ser py sil altered int volc	bedrock	Marchington	8	0.400	9.7	
1589289	SW21SA-096	9/24/2021	5576161	659937	exhalite									mafic, altered int volc and cherty zone, altered int volc highly sericitic with py, 289 from sil cherty zone, 290 from ser sil altered volc	bedrock	Marchington	5	0.100	20.2	
1589290	SW21SA-096	9/24/2021	5576161	659937	exhalite									mafic, altered int volc and cherty zone, altered int volc highly sericitic with py, 289 from sil cherty zone, 290 from ser sil altered volc	bedrock	Marchington	3	0.050	7.1	
1589291	SW21SA-097	9/24/2021	5576190	659879	intermediate volcanic	2			2		2			blast pit in swamp, two types of rock here, massive sil py altered int volc, very hard with bt and gt, and a salt and pepper looking ser py bt schist with some actinolite, 291 qtz vn with act and py, 292 is sil py altered with act, py, gtvein, 293 salt and p. ser sil py bt schist, local blue qtz eyes but v rare	bedrock	Marchington	3	0.400	49.6	
1589292	SW21SA-097	9/24/2021	5576190	659879	intermediate volcanic	2			2		2			blast pit in swamp, two types of rock here, massive sil py altered int volc, very hard with bt and gt, and a salt and pepper looking ser py bt schist with some actinolite, 291 qtz vn with act and py, 292 is sil py altered with act, py, gtvein, 293 salt and p. ser sil py bt schist, local blue qtz eyes but v rare	bedrock	Marchington	3	0.400	39.5	

Sample No.	Pb_ppm	Zn_pct	Zn_ppm	Al_pct	As_ppm	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Fe_pct	Hf_ppm	K_pct	La_ppm	Li_ppm	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Nb_ppm	Ni_ppm	P_pct	Rb_ppm	S_pct	Sb_ppm
1589274	220		1330	8.24	1	302.00	0.5	17	0	1	51	8.1	14	2.2	5.15	2.7	3.4	26.3	59	4	604	1	0.279	5.3	8.1	0.061	124	0.5	0.05
1589275	306		1510	8.00	7	327.00	0.5	216	0	1.8	26	9.1	15	1.8	3.43	2.4	1.36	12.9	31.7	2.05	359	1.8	0.225	4.8	8.8	0.057	62.3	0.5	0.2
1589276	262		1890	7.59	5	291.00	0.5	36.7	0	4.5	29	9.9	8	1.5	3.3	2.3	2.56	14.2	39.5	2.01	396	1.6	0.321	0.6	8.1	0.054	72.2	0.5	0.05
1589278	8.3		116	3.96	1	150.00	0.5	0.3	0	0.05	33	7.2	10	0.9	2.57	1	1.04	17.7	30.8	2.02	361	0.5	0.655	1.8	7.5	0.02	37	0.5	0.05
1589277	196		1290	8.33	2	365.00	0.5	59.3	0	2	29	9.2	8	1.9	3.29	1.5	3.92	14	43.6	2.45	427	0.2	0.243	0.2	8.8	0.051	98.5	0.5	0.05
1589279	2		14	1.23	1	196.00	0.5	0.8	0	0.05	13	0.5	7	0.2	0.41	0.1	0.46	6.2	2.8	0.14	43	0.4	0.15	0.4	1.6	0.003	8	0.5	0.05
1589280	4.1		120	8.39	1	551.00	0.5	0.1	1	0.05	41	11.3	14	2.3	4	2.1	3.14	19.2	54.8	3.11	593	0.2	2.42	3.8	12.2	0.056	93.4	0.5	0.05
1589281	1		30	0.92	1	61.00	0.5	0.05	0	0.05	3	2.5	10	3.8	0.93	0.2	0.43	0.9	6.1	0.37	132	0.4	0.182	1	4.3	0.01	18.2	0.5	0.05
1589282	11.4		17	8.64	2	464.00	0.5	0.05	2	0.05	12	5.4	25	0.7	1.91	2.7	1.17	6.9	15.3	0.15	259	0.3	3.44	2.4	4	0.035	33.9	0.5	0.3
1589283	13.6		129	7.64	30	358.00	0.5	0.2	2	0.3	18	14	38	1.5	3.24	1.9	0.96	8.8	19.1	0.67	453	1.6	2.66	2.9	28.4	0.04	41.1	1	0.4
1589284	24.6		117	6.50	1	198.00	0.5	5.5	6	0.7	22	16.6	17	0.4	4.13	0.9	0.62	12.2	8.6	0.48	1340	5.3	0.24	1.8	11.8	0.02	26	0.5	0.5
1589285	11.1		61	8.71	1	565.00	0.5	0.2	2	0.05	17	6	17	1.6	2.46	2.5	1.73	8.7	25	0.54	449	0.3	2.89	1.6	14.8	0.031	50.6	0.5	0.05
1589286	21.4		44	8.73	1	364.00	1.0	0.7	1	0.05	11	5	20	0.9	2.61	2.5	1.83	6	23.8	0.4	267	0.5	2.82	2.5	4.3	0.043	47.1	0.5	0.05
1589287	14.7		49	9.19	1	629.00	1.0	0.1	3	0.05	11	4.5	23	1.1	3.3	2.2	2.33	5.8	13.2	0.25	353	0.6	2.47	0.6	5.4	0.03	54.2	0.5	0.05
1589288	12.8		30	9.08	1	668.00	0.5	0.4	2	0.05	18	2.4	28	1	2.93	2.5	1.87	12.2	12.9	0.25	340	0.7	2.39	1.6	3.3	0.039	55.4	0.5	0.05
1589289	11.9		114	7.56	1	317.00	0.5	0.1	2	0.05	13	4.9	15	3	1.7	2.4	2.06	6.3	11.4	0.59	550	0.3	0.742	0.5	9.3	0.027	66.5	0.5	0.05
1589290	7.6		216	8.81	1	424.00	0.5	0.05	1	2.5	10	2.4	13	2.1	1.33	2.8	2.68	5.3	14.9	0.43	265	0.9	0.521	1.3	5.5	0.03	66	0.5	0.05
1589291	25.8		159	8.91	1	349.00	0.5	0.2	5	0.3	27	10.7	17	3.2	2.52	3	1.37	15.1	10	0.56	699	0.3	0.832	2.4	16.8	0.04	60	0.5	0.05
1589292	20.1		160	7.57	4	275.00	0.5	0.3	4	0.5	11	10.8	13	2.4	2.66	2.1	1.17	5.8	9.4	0.61	2660	0.7	0.751	2.6	16.6	0.033	45.8	0.5	0.1

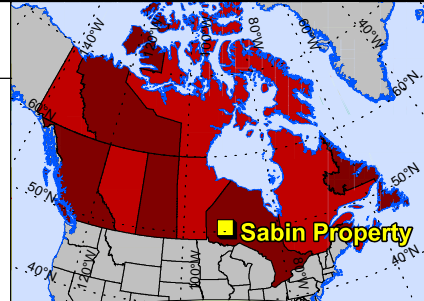
Sample No.	Sc_ppm	Sn_ppm	Sr_ppm	Ta_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zr_ppm
1589274	11	7.5	11	0.4	5.4	0.341	0.69	0.9	45	1.2	8.6	73.9
1589275	11	10.9	9	0.3	3.6	0.299	0.42	0.8	34	4	7.7	69.6
1589276	9	6.8	11	0.05	3.5	0.248	0.38	0.8	23	0.5	8.2	67
1589278	4	0.7	17	0.05	1.6	0.126	0.19	0.6	26	0.1	10.9	27.2
1589277	11	1.5	9	0.05	3.6	0.104	0.49	0.7	15	0.2	8	40.9
1589279	2	0.4	3	0.05	0.1	0.017	0.025	0.1	10	0.7	6.6	4.6
1589280	10	1	51	0.1	3.4	0.29	0.4	0.8	50	0.3	12.9	59.1
1589281	2	0.4	8	0.05	0.3	0.064	0.11	0.05	14	0.1	1.7	11.1
1589282	7	0.6	374	0.1	1.6	0.216	0.24	0.4	61	0.2	4.1	99.2
1589283	6	0.8	668	0.2	3.2	0.2	0.72	0.9	51	0.3	4.7	75.6
1589284	5	0.7	296	0.05	1	0.14	0.16	0.4	42	1.4	6.7	29.6
1589285	7	0.6	320	0.05	1.9	0.213	0.42	0.5	60	0.1	5.4	90.5
1589286	6	0.7	526	0.1	2	0.218	0.32	0.4	49	0.2	4.7	91.6
1589287	8	0.8	488	0.05	2.2	0.182	0.35	0.5	31	0.05	5.1	76.9
1589288	7	0.9	418	0.05	1.9	0.218	0.35	0.4	55	0.1	4.6	86.8
1589289	5	0.4	112	0.05	1.8	0.133	0.54	0.6	29	0.3	5.7	81.8
1589290	6	1.7	64	0.05	2	0.194	0.51	0.7	37	0.8	9.8	104
1589291	6	0.8	144	0.2	2.7	0.241	0.74	0.7	47	0.1	6.6	107
1589292	5	0.8	96	0.2	1.7	0.188	0.53	0.5	45	0.2	6.5	71.9



Sample No.	Station No.	Date Created	N_83z15	E_83z15	Rock_type	gt	ser	stau	sil	cpy	py	sph	po	Description	Material	Zone	Au_ppb	Ag_ppm	Cu_ppm	Pb_pct
1589293	SW21SA-097	9/24/2021	5576190	659879	intermediate volcanic	2			2		2			blast pit in swamp, two types of rock here, massive sil py altered int volc, very hard with bt and gt, and a salt and pepper looking ser py bt schist with some actinolite, 291 qtz vn with act and py, 292 is sil py altered with act, py, gtvein, 293 salt and p. ser sil py bt schist, local blue qtz eyes but v rare	bedrock	Marchington	3	0.400	41.5	
1589294	SW21SA-099	9/25/2021	5571285	664082	basalt						0.1			fairly massive basalt, few zones of fg dio, several qtz ep chl vns, significant ep vning, no gt	bedrock	Hadley	3	0.050	4.6	
1589295	SW21SA-104	9/25/2021	5571587	663980	basalt		3		4		2			intense actinolite with silica and py locally	bedrock	Hadley	15	0.300	23.7	
1589296	SW21SA-105	9/25/2021	5571615	663955	basalt		4		4		3			intense sil py alt basalt or int volc, few lenses of semi massive py sil ser	bedrock	Hadley	97	1.400	21.9	
1589297	SW21SA-106	9/25/2021	5571640	663934	intermediate volcanic	1					1			int tuff with sil py gt alt and numerous actinolite qtz py vns, act py vns 300.85 and less 165.62	bedrock	Hadley	113	2.600	86.2	
1589298	SW21SA-107	9/25/2021	5571611	663932	intermediate volcanic									more act qtz py vns cutting	bedrock	Hadley	86	0.800	18.7	
1589299	SW21SA-107	9/25/2021	5571611	663932	intermediate volcanic									more act qtz py vns cutting	bedrock	Hadley	46	0.800	32	
1589300	SW21SA-109	9/25/2021	5571404	664044	intermediate volcanic				2		2			locally py sil ser altered along vns and fractures	bedrock	Hadley	14	1.100	5.4	
1589301	SW21SA-117	9/25/2021	5577814	654990	diorite									fg dio maybe basalt, few qtz ksp chl py vns cutting parallel to fol, lins 105.20	bedrock	Hadley	3	0.700	184	
1589302	SW21SA-118	9/25/2021	5577818	655000	basalt									qtz cb vn l basalt	bedrock	Hadley	3	0.050	6.6	
1589303	SW21SA-120	9/25/2021	5577824	655071	basalt									gd dyke in basalt with 10 cm qtz vn at contact sample 303	bedrock	Hadley	3	0.050	10.7	
1589304	SW21SA-128	9/25/2021	5577760	654572	monzosyenite									few qtz vns here slightly rusty, vn 087.35	bedrock	Hadley	3	0.500	4.3	

Sample No.	Pb_ppm	Zn_pct	Zn_ppm	Al_pct	As_ppm	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cs_ppm	Fe_pct	Hf_ppm	K_pct	La_ppm	Li_ppm	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Nb_ppm	Ni_ppm	P_pct	Rb_ppm	S_pct	Sb_ppm
1589293	38.1		142	8.42	1	601.00	0.5	0.1	3	0.2	28	10	14	3	2.43	2.7	2.16	15.4	12.3	0.52	866	0.5	1.16	2.3	15.1	0.04	74.2	0.5	0.05
1589294	3.7		62	3.69	1	14.00	0.5	2.9	9	0.2	9	13.7	16	0.05	3.72	0.6	0.1	4.8	2.6	2.37	1530	2.1	0.061	1.1	22.8	0.041	2.7	0.5	0.2
1589295	4.4		107	8.11	2	59.00	0.5	0.8	10	0.3	33	20.2	11	2	5.58	2.8	0.56	16.7	9.1	5.12	1880	0.7	0.24	5.6	36.2	0.053	21.1	0.5	0.9
1589296	11.8		44	7.76	8	95.00	0.5	0.8	3	0.1	12	89.7	17	2	5.56	2.6	1.92	5.9	8.6	1.49	758	0.7	0.907	2.2	53.5	0.037	45.2	3	0.6
1589297	7.9		188	5.21	3	98.00	0.5	1.3	11	0.8	15	26.9	17	0.7	8.18	1.3	0.32	8.6	7.7	5.39	3880	2.4	0.209	2	27.1	0.027	10.8	2	1.1
1589298	5.1		90	5.91	6	117.00	1.0	0.8	6	0.2	36	27.6	8	0.7	7.56	3.4	1.24	18.4	16.1	4.95	1540	0.8	0.295	5.8	31.1	0.026	43.1	3	1.2
1589299	7		48	7.52	42	87.00	1.0	0.9	4	0.05	20	35.2	14	1.7	5.92	3.1	2.18	10	18.3	2.1	1230	1.1	0.728	4.4	48.7	0.026	49.2	3	2.2
1589300	4.2		9	6.89	14	189.00	0.5	0.5	1	0.05	9	12.4	19	1.3	2.91	2.9	2.07	4.2	15.1	0.76	161	0.6	2.19	3	18.1	0.036	47.2	2	1.7
1589301	2		63	6.70	4	185.00	0.5	0.1	2	0.05	17	34.4	44	0.3	6.3	0.8	0.84	6.4	29.3	1.75	753	1.9	1.57	0.2	111	0.085	27.1	0.5	0.05
1589302	6.5		12	6.75	1	111.00	1.0	0.05	2	0.05	33	0.6	6	0.1	0.4	4.1	0.42	21.8	3	0.08	75	0.2	3.52	1.4	1.3	0.004	6.2	0.5	0.1
1589303	2.2		44	3.85	22	280.00	0.5	0.05	1	0.05	25	5.6	7	0.7	2.34	0.2	0.88	7.2	19	0.5	349	0.1	1.52	1.8	3	0.068	29	0.5	0.05
1589304	1.7		10	0.89	1	258.00	0.5	0.05	0	0.05	0.5	0.3	7	0.1	0.42	0.2	0.94	0.5	1.1	0.01	49	0.3	0.151	0.4	0.6	0.003	13.2	0.5	0.05

Sample No.	Sc_ppm	Sn_ppm	Sr_ppm	Ta_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm	W_ppm	Y_ppm	Zr_ppm
1589293	6	0.7	119	0.1	2.4	0.218	0.83	0.7	44	0.5	6.8	93.4
1589294	6	0.5	71	0.05	0.4	0.111	0.025	0.1	79	0.3	7.7	19.4
1589295	13	1	109	0.4	3.2	0.338	0.15	0.8	67	1.4	15.2	97.7
1589296	8	0.6	63	0.2	1.4	0.233	0.34	0.4	59	0.4	4.9	91
1589297	5	0.9	72	0.2	1.1	0.161	0.09	0.3	39	0.7	6.9	48.4
1589298	6	1.4	68	0.4	3.2	0.161	0.27	1.1	28	0.5	19.6	116
1589299	10	0.7	82	0.3	2.1	0.405	0.42	1	102	2.1	8.2	105
1589300	6	0.7	37	0.2	1.6	0.235	0.21	0.9	49	0.4	5.1	96.3
1589301	11	0.2	214	0.05	0.7	0.279	0.18	0.6	59	0.05	8.3	28.4
1589302	0.5	0.2	95	0.3	9.1	0.022	0.025	1.1	5	0.3	5.7	76.5
1589303	8	0.5	69	0.05	3.7	0.2	0.18	0.7	14	0.05	14	10.9
1589304	0.5	0.1	9	0.05	0.2	0.008	0.025	0.2	2	0.1	0.8	9.9



**Legend**

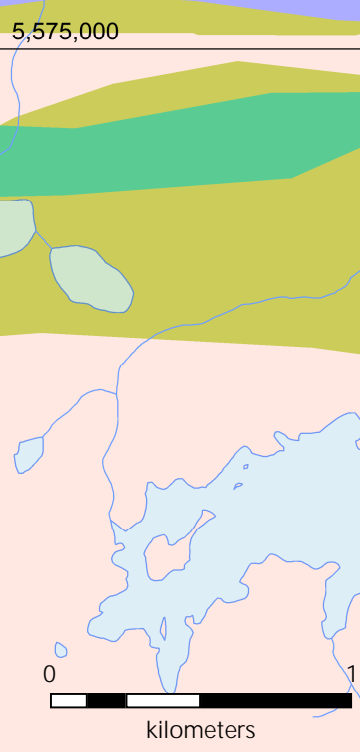
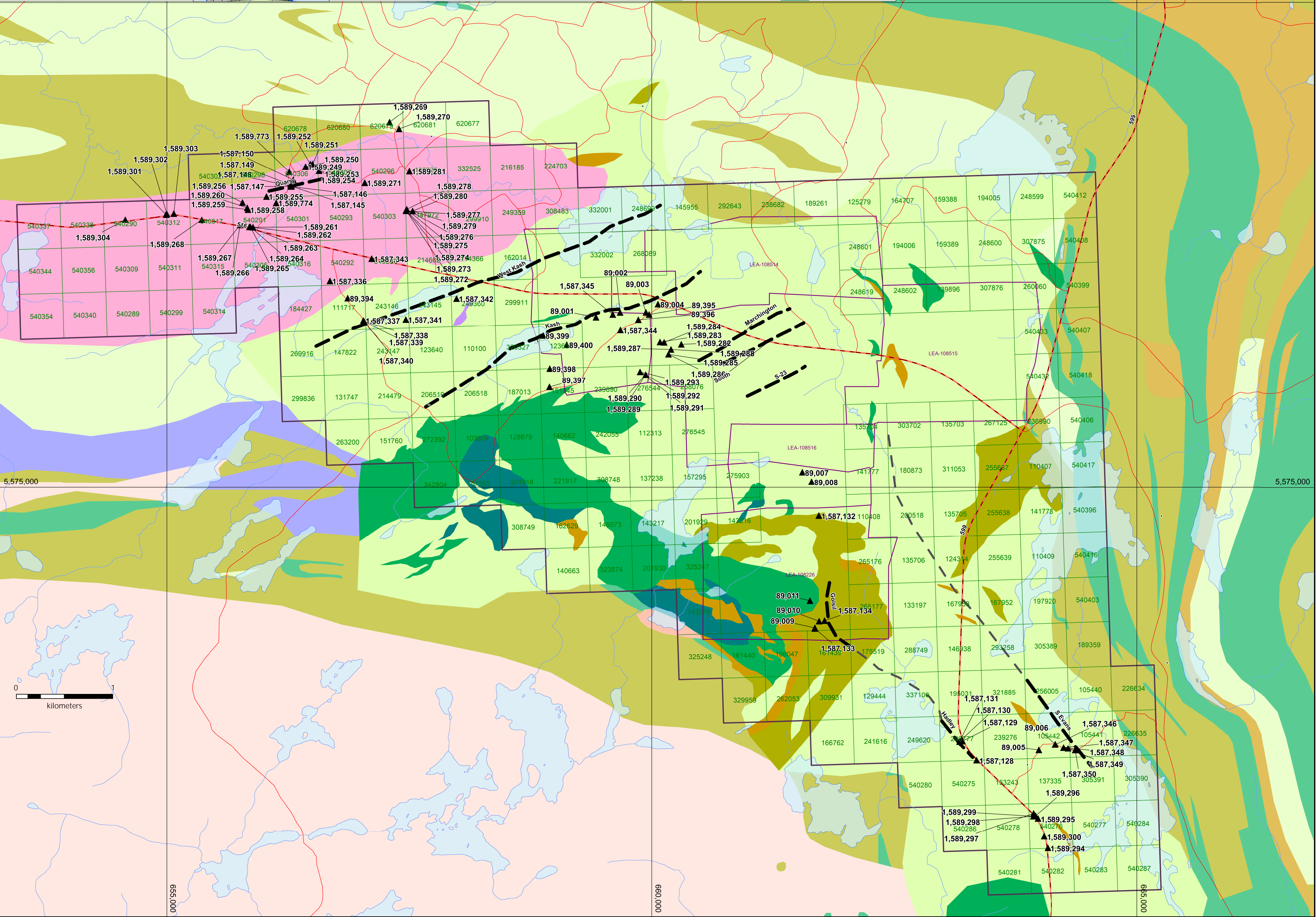
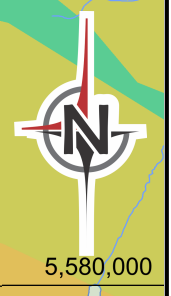
- Watercourse
- Waterbody
- Patented claims
- Cell claims
- Gravel roads
- Highway
- Inferred VMS horizon
- Mineralized zone
- Rock sample and sample number

**Property Geology**

- Granite
- Mafic intrusive
- Metasedimentary rocks
- Felsic volcanic rocks
- Intermediate volcanic rocks
- Mafic volcanic rocks

**Regional Geology**

- granitoid rocks
- clastic sedimentary rocks
- diorite
- felsic volcanic rocks
- intermediate volcanics
- mafic volcanic rocks



0 1 kilometers

## APPENDIX 3

### Assay Certificates



Report No.: A20-12128 (i)
Report Date: 27-Nov-20
Date Submitted: 30-Sep-20
Your Reference: SA

Commander Resources Ltd.
510 Burrard St.
Vancouver BC V6C-3A8
Canada

ATTN: Bernie Kahlert

CERTIFICATE OF ANALYSIS

49 Core samples were submitted for analysis.

Table with 2 columns: The following analytical package(s) were requested: and Testing Date:
4LITHO (11+) | QOP WRA/ QOP WRA 4B2 (/Major/Trace Elements Fusion ICPOES/ICPMS) | 2020-11-03 08:23:26

REPORT A20-12128 (i)

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 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 material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

The Au from AR-MS is for information purposes, for accurate Au fire assay 1A2 should be requested.

We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Esemé, Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Report No.: A20-12128 (i)  
Report Date: 27-Nov-20  
Date Submitted: 30-Sep-20  
Your Reference: SA

Commander Resources Ltd.  
510 Burrard St.  
Vancouver BC V6C-3A8  
Canada

ATTN: Bernie Kahlert

CERTIFICATE OF ANALYSIS

49 Core samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
UT-4M-Tbay	QOP Total/QOP Ultratrace- 4acid Digest (Total Digestion ICPOES/ICPMS)	

REPORT A20-12128 (i)

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 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 material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

The Au from AR-MS is for information purposes, for accurate Au fire assay 1A2 should be requested.

We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY:



Emmanuel Esemé, Ph.D.  
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.  
1201 Walsh Street West, Thunder Bay, Ontario, Canada, P7E 4X6  
TELEPHONE +807 622-6707 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Tbay@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Report No.: A20-12128 (i)  
Report Date: 27-Nov-20  
Date Submitted: 30-Sep-20  
Your Reference: SA

Commander Resources Ltd.  
510 Burrard St.  
Vancouver BC V6C-3A8  
Canada

ATTN: Bernie Kahlert

CERTIFICATE OF ANALYSIS

49 Core samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-Dryden	GOP AA-Au (Au - Fire Assay AA)	2020-11-03 10:21:40

REPORT A20-12128 (i)

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

The Au from AR-MS is for information purposes, for accurate Au fire assay 1A2 should be requested.

We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY:



Emmanuel Eseme, Ph.D.  
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



Results

Activation Laboratories Ltd.

Report: A20-12128

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	2	2	1	2	20	1	20
Method Code	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	GRAV	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS
1587336	< 5																						
1587337	< 5																						
1587338	< 5																						
1587339	< 5																						
1587340	< 5																						
1587341	< 5																						
1587342	< 5																						
1587343	387																						
1587344	8																						
1587345	5																						
1587346	< 5																						
1587347	10																						
1587348	< 5																						
1587349	< 5																						
1587350	10																						
1587128	5																						
1587129	4250																						
1587130	21																						
1587131	64																						
1587132	< 5																						
1587133	< 5																						
1587134	33																						
1587145	7																						
1587146	616																						
1587147	254																						
1587148	823																						
1587149	36																						
1587150	1410																						
1589774	< 5																						
89001		72.53	13.16	4.23	0.068	0.75	2.66	2.58	2.81	0.369	0.07	1.22	100.5	8	< 1	8	397	86	21	219	< 20	3	< 20
89002		67.43	15.83	5.98	0.083	1.20	1.99	5.05	1.74	0.524	0.10	0.66	100.6	10	< 1	79	227	116	11	108	30	18	40
89003		70.76	16.03	2.88	0.067	0.53	2.73	5.05	1.14	0.359	0.07	0.96	100.6	6	< 1	40	231	191	5	77	30	5	< 20
89004		67.61	17.22	3.91	0.044	1.87	1.75	3.72	2.57	0.394	0.07	1.53	100.7	7	< 1	60	524	180	5	102	30	8	< 20
89005		62.72	16.94	5.99	0.078	2.47	4.61	1.73	2.49	0.667	0.10	1.71	99.50	18	< 1	140	375	101	13	88	40	22	40
89006		64.74	14.21	8.61	0.124	1.22	4.80	0.69	2.89	0.679	0.16	2.37	100.5	12	< 1	104	455	100	15	114	< 20	28	30
89007		66.69	17.42	4.53	0.062	1.77	3.50	3.61	1.36	0.416	0.09	1.31	100.8	8	< 1	63	353	285	6	84	30	14	30
89008		66.07	16.70	4.93	0.096	1.57	3.84	3.29	1.88	0.515	0.12	1.55	100.6	8	< 1	74	630	208	8	89	< 20	10	< 20
89009		62.72	15.19	8.07	0.215	3.02	3.57	2.49	2.22	0.658	0.15	1.19	99.50	13	1	105	216	105	15	123	30	14	30
89010		78.69	11.06	2.51	0.088	1.18	1.11	1.09	2.34	0.079	0.01	1.53	99.68	4	< 1	< 5	320	70	17	115	< 20	3	< 20
89011		67.11	15.12	5.12	0.105	3.01	4.04	1.14	2.62	0.669	0.14	1.45	100.5	13	< 1	102	427	94	16	137	30	13	30
89394		67.66	15.94	4.06	0.050	2.08	4.62	2.73	1.78	0.377	0.08	1.24	100.6	5	< 1	51	296	174	7	115	< 20	12	20
89395		67.34	17.05	4.19	0.107	0.79	4.11	3.58	2.04	0.376	0.08	1.10	100.8	7	< 1	52	615	158	8	98	30	8	20
89396		68.10	16.07	5.34	0.090	1.13	2.21	4.01	2.32	0.389	0.08	0.88	100.6	7	1	57	309	165	6	91	30	13	30
89397		69.89	15.35	4.00	0.067	1.50	3.12	3.68	1.56	0.460	0.08	1.14	100.8	8	< 1	59	229	296	8	101	30	12	30
89398		66.66	15.66	4.99	0.097	2.47	4.59	2.01	2.02	0.459	0.07	1.59	100.6	9	< 1	66	471	224	8	96	30	12	20
89399		65.12	17.13	4.75	0.114	2.45	3.97	3.93	1.51	0.417	0.07	1.14	100.6	8	< 1	63	397	255	8	73	20	12	20
89400		56.00	19.55	7.98	0.135	2.98	8.35	3.18	0.52	0.964	0.25	0.70	100.6	24	1	143	99	307	15	148	280	20	80
1589773																							
89048HS																							

Analyte Symbol	Cu	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	10	30	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
1587336																							
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1587128																							
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1587134																							
1587145																							
1587146																							
1587147																							
1587148																							
1587149																							
1587150																							
1589774																							
89001	20	60	18	< 1	< 5	62	8	< 2	0.5	< 0.2	1	< 0.5	1.8	23.6	52.5	6.13	23.4	4.7	1.02	4.1	0.7	3.9	0.8
89002	< 10	80	17	< 1	< 5	55	4	3	< 0.5	< 0.2	1	< 0.5	2.4	14.6	28.6	3.32	13.1	2.8	0.78	2.4	0.3	2.0	0.4
89003	< 10	50	15	< 1	< 5	32	2	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	10.3	19.4	2.23	8.3	1.6	0.48	1.4	0.2	1.0	0.2
89004	< 10	70	20	< 1	< 5	46	3	2	< 0.5	< 0.2	1	< 0.5	1.3	12.0	22.1	2.39	8.9	1.6	0.38	1.4	0.2	1.0	0.2
89005	50	70	17	< 1	< 5	69	4	< 2	1.0	< 0.2	11	< 0.5	2.0	10.3	22.7	2.73	10.9	2.2	0.58	2.1	0.3	2.0	0.4
89006	40	540	17	1	< 5	89	4	< 2	1.3	< 0.2	1	0.9	1.8	20.3	42.6	5.23	20.3	3.6	0.98	2.9	0.4	2.5	0.5
89007	20	70	21	< 1	< 5	34	2	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	12.7	24.7	2.83	10.3	2.1	0.64	1.6	0.2	1.1	0.2
89008	20	70	20	< 1	< 5	48	2	< 2	< 0.5	< 0.2	1	< 0.5	1.2	14.4	28.9	3.35	12.3	2.4	0.69	1.9	0.3	1.5	0.3
89009	60	210	17	1	< 5	62	5	< 2	1.9	< 0.2	3	< 0.5	1.3	17.6	38.7	4.56	17.1	3.4	0.94	2.8	0.4	2.7	0.5
89010	< 10	100	13	< 1	< 5	49	5	< 2	< 0.5	< 0.2	3	< 0.5	1.2	15.1	33.5	3.65	13.5	2.6	0.46	2.4	0.4	2.5	0.5
89011	< 10	60	17	< 1	< 5	70	5	< 2	< 0.5	< 0.2	1	< 0.5	1.6	19.6	39.7	4.99	19.1	3.6	0.92	3.2	0.5	2.8	0.6
89394	< 10	40	20	< 1	< 5	72	4	< 2	< 0.5	< 0.2	1	< 0.5	1.1	14.1	26.2	2.80	10.1	1.8	0.61	1.6	0.2	1.4	0.2
89395	20	70	26	< 1	< 5	61	4	< 2	< 0.5	< 0.2	1	0.6	1.3	13.2	25.7	2.94	11.1	2.2	0.62	1.8	0.3	1.5	0.3
89396	< 10	120	18	< 1	< 5	76	2	< 2	< 0.5	< 0.2	< 1	< 0.5	2.4	8.7	19.1	2.08	7.8	1.6	0.56	1.4	0.2	1.1	0.2
89397	40	60	15	< 1	< 5	37	3	< 2	< 0.5	< 0.2	< 1	< 0.5	1.0	9.4	19.0	2.18	8.2	1.7	0.58	1.6	0.2	1.4	0.3
89398	20	70	18	< 1	< 5	57	3	< 2	< 0.5	< 0.2	1	< 0.5	1.7	9.3	18.4	2.14	7.6	1.6	0.57	1.4	0.2	1.4	0.3
89399	10	130	18	< 1	< 5	36	1	< 2	< 0.5	< 0.2	< 1	< 0.5	1.8	5.2	9.9	1.15	4.4	1.0	0.42	1.2	0.2	1.1	0.2
89400	< 10	60	19	1	< 5	13	8	< 2	< 0.5	< 0.2	2	< 0.5	0.7	24.8	55.3	6.77	27.0	5.2	1.60	4.3	0.6	3.0	0.5
1589773																							
89048HS																							

Results

Activation Laboratories Ltd.

Report: A20-12128

Analyte Symbol	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
Lower Limit	0.1	0.05	0.1	0.01	0.2	0.1	1	0.1	5	0.4	0.1	0.1	0.01	0.1	1	1	1	0.1	0.01	0.1	1	0.2	1	
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	
1587336													4.07	< 0.1	< 1	519	< 1	0.2	0.80	< 0.1	19	1.8	9	
1587337													6.03	0.4	< 1	573	< 1	0.5	0.82	< 0.1	18	12.8	6	
1587338													7.36	0.4	< 1	175	3	0.6	1.72	< 0.1	67	17.5	11	
1587339													5.73	0.5	< 1	348	< 1	0.4	0.64	< 0.1	42	13.7	8	
1587340													6.48	0.2	< 1	113	6	0.3	1.47	< 0.1	18	4.8	7	
1587341													8.61	< 0.1	< 1	437	1	0.2	2.28	0.1	7	6.1	10	
1587342													5.43	< 0.1	< 1	86	< 1	1.4	1.72	< 0.1	33	1.5	9	
1587343													0.18	0.7	< 1	2	< 1	0.7	0.56	< 0.1	< 1	34.7	6	
1587344													8.21	0.2	< 1	185	< 1	1.4	4.34	0.1	19	10.6	23	
1587345													6.28	0.2	< 1	249	< 1	0.6	1.98	< 0.1	31	2.8	8	
1587346													5.97	0.5	4	310	< 1	< 0.1	2.08	0.4	49	2.4	8	
1587347													6.55	0.3	54	145	< 1	0.6	0.46	< 0.1	43	5.8	15	
1587348													8.25	0.2	21	264	< 1	0.2	2.73	< 0.1	48	7.9	15	
1587349													6.92	0.1	38	72	< 1	0.2	1.52	< 0.1	45	8.8	22	
1587350													8.38	0.3	13	89	< 1	0.4	4.96	0.1	36	28.4	27	
1587128													8.86	0.9	< 1	478	< 1	0.5	2.19	0.1	26	11.8	24	
1587129													1.59	53.5	4	23	< 1	135	9.97	662	18	13.9	2	
1587130													8.53	1.4	< 1	412	< 1	2.1	2.00	1.5	19	15.4	27	
1587131													8.61	3.3	< 1	515	< 1	2.5	2.01	3.8	40	11.3	6	
1587132													6.68	< 0.1	< 1	572	< 1	0.3	0.40	< 0.1	20	0.4	6	
1587133													7.00	0.8	< 1	329	< 1	0.3	1.99	0.3	47	15.1	19	
1587134													6.73	6.8	10	285	< 1	20.9	1.13	1.4	30	19.9	38	
1587145													8.81	0.6	3	247	< 1	1.0	0.92	17.5	66	5.8	12	
1587146													4.55	15.0	13	84	< 1	30.4	0.29	38.7	13	29.8	13	
1587147													3.46	5.6	7	58	< 1	2.8	0.12	7.2	8	9.3	11	
1587148													5.45	8.9	12	83	< 1	4.8	0.44	25.4	15	12.0	12	
1587149													2.52	1.4	23	36	< 1	3.5	0.68	43.8	11	8.0	9	
1587150													3.24	22.0	3	61	< 1	75.3	0.10	73.9	9	20.5	14	
1589774													8.02	0.3	1	293	< 1	1.0	2.72	0.3	33	10.6	15	
89001	2.3	0.35	2.3	0.36	5.3	0.7	< 1	0.3	7	< 0.4	4.3	1.0												
89002	1.1	0.16	1.1	0.17	2.4	0.3	< 1	0.3	6	< 0.4	2.1	0.6												
89003	0.6	0.08	0.6	0.09	1.7	0.2	< 1	0.2	7	< 0.4	1.9	0.5												
89004	0.6	0.08	0.5	0.08	2.4	0.2	< 1	0.2	9	< 0.4	2.5	0.6												
89005	1.3	0.20	1.3	0.18	2.7	0.3	1	0.5	15	1.6	2.5	0.6												
89006	1.6	0.24	1.5	0.24	2.7	0.3	< 1	0.4	15	< 0.4	2.8	0.7												
89007	0.6	0.09	0.6	0.10	2.1	0.2	< 1	0.2	5	< 0.4	1.8	0.5												
89008	0.8	0.12	0.8	0.14	2.2	0.2	< 1	0.2	< 5	< 0.4	2.0	0.5												
89009	1.7	0.26	1.7	0.25	2.8	0.4	1	0.4	10	3.2	3.0	0.7												
89010	1.7	0.26	1.9	0.30	3.1	0.6	< 1	0.3	11	< 0.4	6.2	1.6												
89011	1.6	0.24	1.6	0.25	3.0	0.4	< 1	0.3	< 5	< 0.4	3.0	0.7												
89394	0.6	0.10	0.6	0.10	2.8	0.5	< 1	0.2	< 5	< 0.4	2.8	1.0												
89395	0.9	0.15	1.0	0.15	2.5	0.3	1	0.3	9	< 0.4	2.0	0.5												
89396	0.7	0.11	0.7	0.11	2.2	0.2	4	0.4	12	< 0.4	1.9	0.5												
89397	0.9	0.13	0.9	0.13	2.3	0.2	< 1	0.3	< 5	< 0.4	1.6	0.4												
89398	0.9	0.14	1.0	0.16	2.4	0.3	< 1	0.3	7	< 0.4	2.0	0.5												
89399	0.6	0.09	0.6	0.10	1.6	0.1	< 1	0.2	12	< 0.4	1.3	0.4												
89400	1.6	0.23	1.5	0.25	3.5	0.5	< 1	< 0.1	< 5	< 0.4	2.3	0.5												
1589773																								
89048HS																								

Analyte Symbol	Cu	Cs	Fe	Hf	K	La	Li	Na	Nb	Ni	P	Rb	Pb	S	Mg	Mn	Mo	Sb	Sc	Sn	Sr	Ta	Th
Unit Symbol	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.01	0.1	0.01	0.1	0.1	0.001	0.1	0.1	0.001	0.1	0.1	1	0.01	1	0.1	0.1	1	0.1	1	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1587336	3.1	0.9	1.09	0.9	1.47	8.3	6.5	0.753	1.6	2.0	0.008	71.1	1.7	< 1	0.16	167	0.8	< 0.1	3	0.3	71	< 0.1	2.2
1587337	407	1.6	1.28	7.4	1.77	7.0	6.4	2.69	9.7	0.7	0.006	43.1	6.2	< 1	0.05	156	7.2	< 0.1	6	1.0	106	0.7	5.4
1587338	502	1.5	1.98	8.3	0.50	30.9	8.3	3.60	8.8	3.2	0.006	21.3	6.1	< 1	0.09	239	3.9	< 0.1	7	0.6	133	0.8	8.0
1587339	448	0.3	1.22	7.1	1.80	18.5	12.1	2.45	10.1	0.5	0.007	38.9	6.7	< 1	0.04	123	4.3	< 0.1	6	1.1	100	0.7	5.5
1587340	181	1.7	1.09	6.9	0.37	8.4	7.3	3.31	7.4	1.5	0.007	18.5	5.0	< 1	0.08	201	2.0	< 0.1	5	0.5	113	0.6	4.8
1587341	15.7	1.9	2.22	1.7	1.36	3.0	18.3	3.10	0.3	8.4	0.030	69.2	12.2	< 1	0.30	621	0.1	< 0.1	5	0.4	227	< 0.1	2.4
1587342	8.7	0.5	1.31	0.4	0.43	15.2	11.6	1.96	2.5	1.1	0.030	20.7	3.4	< 1	0.17	404	0.5	< 0.1	4	0.5	89	< 0.1	3.5
1587343	591	< 0.1	5.29	< 0.1	0.03	0.4	0.7	0.030	0.2	36.5	< 0.001	0.6	1.2	< 1	0.41	359	2.7	< 0.1	2	0.2	2	< 0.1	< 0.1
1587344	123	5.7	3.01	2.0	1.37	9.1	7.5	0.652	2.4	17.1	0.028	60.4	7.4	< 1	0.57	564	0.9	< 0.1	7	0.9	127	0.1	2.2
1587345	18.4	2.6	2.66	4.9	0.81	13.7	13.4	2.16	4.0	1.1	0.023	39.2	6.5	< 1	0.32	502	0.5	< 0.1	6	1.2	96	0.2	3.5
1587346	7.6	2.1	3.36	4.2	1.55	23.9	12.9	0.300	6.9	4.0	0.015	77.4	28.2	< 1	0.68	1410	0.7	0.9	6	1.3	56	0.5	5.0
1587347	15.5	1.6	5.37	4.1	2.00	20.4	22.6	0.440	3.2	6.4	0.034	52.3	10.0	2	0.40	194	1.5	1.5	9	1.2	94	0.2	3.9
1587348	26.6	3.6	4.08	4.6	1.89	23.4	50.9	0.382	5.1	13.2	0.048	76.5	4.4	1	2.62	1670	0.9	3.6	11	1.2	112	0.4	4.5
1587349	17.4	3.1	3.32	4.2	1.04	21.1	35.4	0.596	5.4	18.0	0.022	40.9	8.7	3	1.16	329	1.4	2.1	8	1.3	133	0.4	3.7
1587350	36.2	3.5	5.67	3.8	1.35	16.7	32.5	0.453	4.9	31.2	0.071	41.8	6.6	2	2.16	717	0.7	1.8	14	1.1	189	0.3	2.5
1587128	1050	1.8	2.55	2.5	1.87	12.4	15.3	2.05	0.4	21.8	0.036	54.3	5.9	< 1	1.12	493	0.7	< 0.1	7	0.4	172	< 0.1	1.9
1587129	814	< 0.1	5.70	0.5	0.11	9.2	4.2	0.086	1.2	13.9	0.022	4.3	> 5000	6	5.31	4520	11.7	10.3	3	0.4	49	< 0.1	0.7
1587130	679	1.8	3.51	3.0	1.87	8.4	27.9	1.31	1.4	21.3	0.036	66.4	159	< 1	1.48	856	1.1	0.2	7	0.7	93	< 0.1	1.7
1587131	1100	1.8	3.50	4.6	2.19	16.6	22.6	1.36	4.9	5.4	0.088	55.2	132	< 1	1.36	827	1.3	0.9	12	1.1	79	0.3	4.0
1587132	6.1	1.3	1.03	5.0	2.69	5.7	9.1	1.97	5.0	0.4	0.001	102	16.1	< 1	0.10	100	0.3	< 0.1	5	2.7	70	0.3	6.0
1587133	69.8	1.8	4.26	1.9	1.43	23.2	26.3	0.896	2.3	25.2	0.042	82.7	7.6	< 1	1.46	1180	0.5	0.1	10	1.6	68	0.1	3.7
1587134	1340	1.5	7.30	3.0	1.64	13.9	35.8	0.275	5.1	31.7	0.048	54.5	25.1	< 1	3.01	1260	1.0	0.2	12	4.8	49	0.3	2.9
1587145	137	2.7	3.79	2.7	2.84	31.1	30.5	1.37	4.0	3.9	0.051	112	47.3	< 1	1.02	513	0.4	0.2	10	11.3	45	0.1	4.9
1587146	456	0.6	2.78	2.0	1.64	6.8	17.2	0.364	2.8	2.9	0.019	72.8	4000	2	0.22	147	0.6	1.4	4	10.2	19	0.3	3.9
1587147	427	0.3	3.03	1.1	1.55	4.0	14.4	0.112	2.4	6.1	0.022	65.7	1540	2	0.16	219	0.9	2.6	4	28.7	8	0.2	1.7
1587148	467	0.6	4.36	1.8	2.26	7.6	18.8	0.232	3.7	5.8	0.035	91.3	1820	2	0.25	647	0.9	3.9	6	24.9	23	0.3	2.1
1587149	227	0.4	1.60	0.8	0.69	5.1	4.1	0.593	2.0	3.4	0.016	27.9	156	< 1	0.14	156	1.9	0.3	3	5.3	25	0.2	1.2
1587150	947	0.3	7.33	0.9	1.34	4.6	9.9	0.112	2.2	18.7	0.017	57.1	470	4	0.13	198	1.1	0.3	4	20.8	5	0.2	1.4
1589774	48.9	0.8	3.39	1.4	0.92	15.3	16.5	2.69	1.3	10.4	0.045	38.6	33.3	< 1	0.73	796	0.3	< 0.1	8	1.2	181	< 0.1	3.4
89001																							
89002																							
89003																							
89004																							
89005																							
89006																							
89007																							
89008																							
89009																							
89010																							
89011																							
89394																							
89395																							
89396																							
89397																							
89398																							
89399																							
89400																							
1589773																							
89048HS																							

Analyte Symbol	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	0.05	0.1	4	0.1	0.1	1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1587336	0.084	0.44	0.6	6	0.2	7.4	6	35.7
1587337	0.108	0.27	1.9	< 4	0.6	11.4	11	269
1587338	0.127	0.14	1.9	4	0.5	17.7	25	318
1587339	0.107	0.16	1.4	< 4	2.0	12.7	10	270
1587340	0.103	0.13	1.3	4	0.4	10.5	24	256
1587341	0.131	0.45	0.5	23	< 0.1	3.7	87	63.7
1587342	0.085	0.11	0.6	< 4	0.2	11.1	21	17.2
1587343	0.002	0.07	0.2	8	16.5	4.0	23	0.9
1587344	0.218	0.51	0.6	52	0.8	10.7	42	70.4
1587345	0.171	0.30	0.9	6	0.2	16.3	67	192
1587346	0.143	0.63	1.1	17	0.5	16.8	146	146
1587347	0.192	0.53	0.9	56	0.4	8.1	18	150
1587348	0.256	1.22	1.1	70	0.5	19.1	73	166
1587349	0.195	0.51	1.1	43	0.5	12.3	37	152
1587350	0.395	0.42	0.7	134	0.3	11.7	54	155
1587128	0.163	0.26	0.5	50	< 0.1	6.9	41	93.4
1587129	0.083	0.65	0.2	18	0.3	8.5	> 10000	22.9
1587130	0.229	0.43	0.5	55	0.2	7.0	225	110
1587131	0.426	0.33	1.0	63	1.7	16.9	450	179
1587132	0.050	0.68	1.8	< 4	0.3	14.9	28	147
1587133	0.253	0.76	1.0	59	0.2	17.6	122	85.8
1587134	0.279	0.43	0.7	83	1.4	14.5	481	116
1587145	0.306	0.61	1.0	43	6.7	26.1	2380	77.4
1587146	0.128	0.41	0.9	24	9.3	6.3	4430	53.2
1587147	0.124	0.26	0.3	24	7.3	5.1	887	34.6
1587148	0.209	0.39	0.4	38	12.4	8.6	3050	57.9
1587149	0.094	0.13	0.4	13	8.8	7.1	4620	25.0
1587150	0.119	0.27	0.3	22	6.2	4.8	8830	29.8
1589774	0.169	0.25	0.9	32	0.2	15.6	162	40.4
89001								
89002								
89003								
89004								
89005								
89006								
89007								
89008								
89009								
89010								
89011								
89394								
89395								
89396								
89397								
89398								
89399								
89400								
1589773								
89048HS								

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	1	1	5	2	2	1	2	20	1	20	10
Method Code	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS
DNC-1 Meas		47.58	18.49	9.93	0.150	10.00	11.44	1.92	0.22	0.480	0.07		31		159	107	144	15	33				
DNC-1 Cert		47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070		31		148	118	144.0	18.0	38				
SDC-1 Meas																							
SDC-1 Cert																							
NOD-A-1 Meas		3.72	3.75		23.25	4.43	15.16	1.05	0.52	0.453	1.17				580	1414	1444	109					
NOD-A-1 Cert		3.81	3.87		23.9	4.76	15.4	1.04	0.600	0.530	1.37				770	1670	1750	116					
W-2a Meas		52.90	15.40	10.76	0.170	6.23	11.04	2.20	0.62	1.070	0.12		35	< 1	275	178	196	19	84	90	41	70	110
W-2a Cert		52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.140		36.0	1.30	262	182	190	24.0	94.0	92.0	43.0	70.0	110
DTS-2b Meas																				> 10000	130	3660	
DTS-2b Cert																				15500	120	3780	
SY-4 Meas		50.43	20.56	6.15	0.110	0.50	8.08	7.04	1.66	0.290	0.13		1	3	7	349	1193	117	535		2		
SY-4 Cert		49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131		1.1	2.6	8.0	340	1191	119	517		2.8		
Oreas 72a (4 Acid Digest) Meas																							
Oreas 72a (4 Acid Digest) Cert																							
BIR-1a Meas		48.10	15.66	11.23	0.170	9.51	13.49	1.80	0.01	0.960	0.02		44	< 1	339	9	108	14	14	380	52	160	130
BIR-1a Cert		47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021		44	0.58	310	6	110	16	18	370	52	170	125
ZW-C Meas																				70			
ZW-C Cert																				56.0			
OREAS 101b (Fusion) Meas																					43	< 20	420
OREAS 101b (Fusion) Cert																					47	9	420
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas																							
NCS DC86318 Cert																							
SARM 3 Meas																							
SARM 3 Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							

Analyte Symbol	Au	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	Sc	Be	V	Ba	Sr	Y	Zr	Cr	Co	Ni	Cu
Unit Symbol	ppb	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01	1	1	5	2	2	1	2	20	1	20	10
Method Code	FA-AA	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS
USZ 42-2006 Meas																					5	< 20	20
USZ 42-2006 Cert																					7.89	13.18	27.37
OREAS 904 (4 ACID) Meas																							
OREAS 904 (4 ACID) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
REE-1 Meas																				300	1	20	80
REE-1 Cert																				277	1.58	24.7	79.7
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
OREAS 621 (4 Acid) Meas																							
OREAS 621 (4 Acid) Cert																							
OREAS 209 (Fire Assay) Meas	1620																						
OREAS 209 (Fire Assay) Cert	1580																						
OREAS 209 (Fire Assay) Meas	1640																						
OREAS 209 (Fire Assay) Cert	1580																						
OREAS 522 (4 Acid) Meas																							
OREAS 522 (4 Acid) Cert																							
1587340 Orig	< 5																						
1587340 Dup	< 5																						
1587342 Orig																							
1587342 Dup																							
1587350 Orig		57.79	17.22	7.95	0.102	3.51	7.68	0.61	1.74	0.796	0.19	100.5	17	< 1	141	296	196	17	134	30	25	30	30
1587350 Dup		57.90	17.15	7.94	0.102	3.51	7.70	0.61	1.73	0.799	0.18	100.5	17	< 1	140	295	197	18	138	30	26	30	30
1587132 Orig	< 5																						
1587132 Dup	< 5																						
1587146 Orig																							
1587146 Dup																							
1587150 Orig	1360																						





Analyte Symbol	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	30	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
DNC-1 Meas																							
DNC-1 Cert																							
SDC-1 Meas																							
SDC-1 Cert																							
NOD-A-1 Meas																							
NOD-A-1 Cert																							
W-2a Meas	70	17	1		20	7	< 2				0.7	0.8	10.9	23.1		13.1	3.3	1.10		0.6	3.9	0.8	
W-2a Cert	80.0	17.0	1.00		21.0	7.90	0.600				0.790	0.990	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas	90	34			53	13						1.5	59.1	123	14.8	56.7	12.7	1.89	13.8	2.7	18.5	4.2	13.9
SY-4 Cert	93	35			55.0	13						1.5	58	122	15.0	57	12.7	2.00	14.0	2.6	18.2	4.3	14.2
Oreas 72a (4 Acid Digest) Meas																							
Oreas 72a (4 Acid Digest) Cert																							
BIR-1a Meas	70	15					< 1					< 0.5	0.6	1.9		2.3	1.1	0.50	1.9				
BIR-1a Cert	70	16					0.6					0.58	0.63	1.9		2.5	1.1	0.55	2.0				
ZW-C Meas	1050	97			> 1000					> 1000	4.7	278	31.7		10.0	26.2	7.1			4.7			
ZW-C Cert	1050	99			8500					1300	4.2	260	30.0		9.5	25.0	6.6			4.70			
OREAS 101b (Fusion) Meas							19						797	1330	126	381	49.0	7.71		5.3	31.7	6.3	18.8
OREAS 101b (Fusion) Cert							21						789	1331	127	378	48	7.77		5.37	32.1	6.34	18.7
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 101b (4 Acid) Meas																							
OREAS 101b (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
OREAS 98 (4 Acid) Meas																							
OREAS 98 (4 Acid) Cert																							
NCS DC86318 Meas					387							11.3	1960	425	747	> 2000	> 1000	19.0	> 1000	508	> 1000	610	> 1000
NCS DC86318 Cert					369.42							11.88	1960	432	737	3429	1725	18.91	2168	468	3224	560	1750
SARM 3 Meas						972																	
SARM 3 Cert						978																	
DNC-1a Meas																							
DNC-1a Cert																							
DNC-1a Meas																							
DNC-1a Cert																							
OREAS 13b (4-Acid) Meas																							
OREAS 13b (4-Acid) Cert																							

Analyte Symbol	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	30	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
USZ 42-2006 Meas	470				65	37	36						> 2000	> 3000	> 1000	> 2000	525	88.0					7.3
USZ 42-2006 Cert	469				67.12	31.00	34.40						21100	27600	2300	6500	539	87.22					7.86
OREAS 904 (4 ACID) Meas																							
OREAS 904 (4 ACID) Cert																							
SBC-1 Meas																							
SBC-1 Cert																							
OREAS 45d (4-Acid) Meas																							
OREAS 45d (4-Acid) Cert																							
REE-1 Meas				115	> 1000					499		1.1	1670	> 3000	446	1490	397	24.2	435	115	900	215	720
REE-1 Cert				124	1050					498		1.07	1661	3960	435	1456	381	23.5	433	106	847	208	701
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 96 (4 Acid) Meas																							
OREAS 96 (4 Acid) Cert																							
OREAS 923 (4 Acid) Meas																							
OREAS 923 (4 Acid) Cert																							
OREAS 621 (4 Acid) Meas																							
OREAS 621 (4 Acid) Cert																							
OREAS 209 (Fire Assay) Meas																							
OREAS 209 (Fire Assay) Cert																							
OREAS 209 (Fire Assay) Meas																							
OREAS 209 (Fire Assay) Cert																							
OREAS 522 (4 Acid) Meas																							
OREAS 522 (4 Acid) Cert																							
1587340 Orig																							
1587340 Dup																							
1587342 Orig																							
1587342 Dup																							
1587350 Orig	60	18	< 1	10	48	6	< 2	< 0.5	< 0.2	1	1.6	3.3	18.6	39.7	4.75	18.7	3.8	1.01	3.3	0.5	3.0	0.6	1.8
1587350 Dup	60	18	< 1	9	49	7	< 2	< 0.5	< 0.2	1	1.3	3.3	19.2	40.3	4.91	19.3	3.9	1.02	3.5	0.5	3.1	0.6	1.8
1587132 Orig																							
1587132 Dup																							
1587146 Orig																							
1587146 Dup																							
1587150 Orig																							
1587150 Dup																							

Analyte Symbol	Zn	Ga	Ge	As	Rb	Nb	Mo	Ag	In	Sn	Sb	Cs	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	30	1	1	5	2	1	2	0.5	0.2	1	0.5	0.5	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
89009 Orig																							
89009 Dup																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 30	< 1	< 1	< 5	< 2	< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Method Blank																							

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.1	0.01	0.2	0.1	1	0.1	5	0.4	0.1	0.1	0.01	0.1	1	1	1	0.1	0.01	0.1	1	0.2	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
DNC-1 Meas																							
DNC-1 Cert																							
SDC-1 Meas												8.38		< 1	621	3		0.99		86	18.7	46	32.8
SDC-1 Cert												8.34		0.220	630	3.00		1.00		93.00	18.0	64.00	30.000
NOD-A-1 Meas																							
NOD-A-1 Cert																							
W-2a Meas		2.0	0.30	2.2	0.5	< 1	< 0.1	7	< 0.4	2.2	0.5												
W-2a Cert		2.10	0.330	2.60	0.500	0.300	0.200	9.30	0.0300	2.40	0.530												
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas	2.18	14.6	2.10	9.8	0.8			9		1.3	1.0												
SY-4 Cert	2.3	14.8	2.1	10.6	0.9			10		1.4	0.8												
Oreas 72a (4 Acid Digest) Meas															3						149	164	310
Oreas 72a (4 Acid Digest) Cert															14.7						157	228	316
BIR-1a Meas		1.6		0.5				< 5															
BIR-1a Cert		1.7		0.60				3															
ZW-C Meas					82.8	319	31.5				19.7												
ZW-C Cert					82	320	34				20.0												
OREAS 101b (Fusion) Meas	2.68	17.7	2.53							36.1	398												
OREAS 101b (Fusion) Cert	2.66	17.6	2.58							37.1	396												
OREAS 101b (4 Acid) Meas																				1350	49.9		442
OREAS 101b (4 Acid) Cert																				1325	45		412
OREAS 101b (4 Acid) Meas																				1270	46.1		411
OREAS 101b (4 Acid) Cert																				1325	45		412
OREAS 98 (4 Acid) Meas														45.3				89.1			137		> 10000
OREAS 98 (4 Acid) Cert														45.1				97.2			121		14800 0.0
OREAS 98 (4 Acid) Meas														45.6				85.4			139		> 10000
OREAS 98 (4 Acid) Cert														45.1				97.2			121		14800 0.0
NCS DC86318 Meas	272	> 1000	253							67.8													
NCS DC86318 Cert	271	1844	264							67.0													
SARM 3 Meas																							
SARM 3 Cert																							
DNC-1a Meas															99			7.12			56.3	151	97.6
DNC-1a Cert															118			8.21			57	270	100
DNC-1a Meas															98			7.08			54.4	164	96.2
DNC-1a Cert															118			8.21			57	270	100
OREAS 13b (4-Acid) Meas														0.9	45						67.5	8600	1900
OREAS 13b (4-Acid) Cert														0.86	57						75	8650.0 00	2327.0 000

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
Lower Limit	0.05	0.1	0.01	0.2	0.1	1	0.1	5	0.4	0.1	0.1	0.01	0.1	1	1	1	0.1	0.01	0.1	1	0.2	1	0.1	
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	
USZ 42-2006 Meas		17.9						1630		963														
USZ 42-2006 Cert		17.85						1600		946														
OREAS 904 (4 Acid) Meas												6.73	0.6	95	199	9	4.1	0.05		84	85.0	58	5980	
OREAS 904 (4 Acid) Cert												6.30	0.551	98.0	194	7.86	4.05	0.0460		86.0	83.0	54.0	6120	
SBC-1 Meas														25	574	3	0.6		0.4	99	21.2	92	32.2	
SBC-1 Cert														25.7	788.0	3.20	0.70		0.40	108.0	22.7	109	31.0	
OREAS 45d (4-Acid) Meas												8.16		7	182	< 1	0.3	0.18		37	30.4	475	377	
OREAS 45d (4-Acid) Cert												8.150		13.8	183.0	0.79	0.31	0.185		37.20	29.50	549	371	
REE-1 Meas	111	708		458						777	144													
REE-1 Cert	106	678		479						719	137													
OREAS 96 (4 Acid) Meas													11.2				26.5				51.8		> 10000	
OREAS 96 (4 Acid) Cert													11.5				26.3				49.9		39300	
OREAS 96 (4 Acid) Meas													10.6				28.0				52.5		> 10000	
OREAS 96 (4 Acid) Cert													11.5				26.3				49.9		39300	
OREAS 923 (4 Acid) Meas												7.34	2.2	8	427	2	21.5	0.45	0.4	79	23.9	71	4120	
OREAS 923 (4 Acid) Cert												7.29	1.60	7.61	434	2.42	21.4	0.473	0.420	83.0	23.1	71.0	4230	
OREAS 621 (4 Acid) Meas												7.13	64.7	70		2	4.2	1.98	283	54	30.0	38	3560	
OREAS 621 (4 Acid) Cert												6.40	69.0	77.0		1.69	3.93	1.97	284	46.6	29.3	37.1	3630	
OREAS 209 (Fire Assay) Meas																								
OREAS 209 (Fire Assay) Cert																								
OREAS 209 (Fire Assay) Meas																								
OREAS 209 (Fire Assay) Cert																								
OREAS 522 (4 Acid) Meas												3.92	1.3	440		< 1	9.3	3.55		54	560	39	9080	
OREAS 522 (4 Acid) Cert												3.95	1.31	490		0.700	8.72	3.65		148	550	29.6	9160	
1587340 Orig																								
1587340 Dup																								
1587342 Orig												5.34	< 0.1	< 1	85	< 1	1.4	1.72	< 0.1	33	1.4	10	9.0	
1587342 Dup												5.51	0.1	< 1	87	< 1	1.4	1.72	< 0.1	33	1.5	8	8.4	
1587350 Orig	0.26	1.7	0.26	3.1	0.4	< 1	0.3	< 5	< 0.4	2.8	0.7													
1587350 Dup	0.27	1.8	0.26	3.2	0.4	< 1	0.3	< 5	< 0.4	2.8	0.7													
1587132 Orig																								
1587132 Dup																								
1587146 Orig												4.69	15.0	12	85	< 1	30.9	0.29		39.5	14	30.5	16	468
1587146 Dup												4.41	15.0	13	83	< 1	29.8	0.29		37.9	13	29.2	11	444
1587150 Orig																								
1587150 Dup																								

Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.1	0.01	0.2	0.1	1	0.1	5	0.4	0.1	0.1	0.01	0.1	1	1	1	0.1	0.01	0.1	1	0.2	1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
89009 Orig												7.40	1.6	< 1	194	< 1	5.0	2.13	0.2	38	14.1	22	56.7
89009 Dup												7.84	1.6	< 1	206	< 1	5.4	2.13	0.3	41	14.2	23	58.7
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank												< 0.01	< 0.1	1	< 1	< 1	< 0.1	< 0.01	< 0.1	< 1	< 0.2	1	0.2
Method Blank												< 0.01	< 0.1	< 1	< 1	< 1	< 0.1	< 0.01	< 0.1	< 1	< 0.2	6	0.3
Method Blank												< 0.01	< 0.1	< 1	< 1	< 1	< 0.1	< 0.01	< 0.1	< 1	< 0.2	5	0.4
Method Blank												< 0.01	< 0.1	< 1	< 1	< 1	< 0.1	< 0.01	< 0.1	< 1	< 0.2	1	0.3
Method Blank												< 0.01	< 0.1	< 1	< 1	< 1	< 0.1	< 0.01	< 0.1	< 1	< 0.2	5	0.3
Method Blank												< 0.01	< 0.1	< 1	< 1	< 1	< 0.1	< 0.01	< 0.1	< 1	< 0.2	5	0.2
Method Blank	< 0.05	< 0.1	< 0.01	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.4	< 0.1	< 0.1												
Method Blank																							

Analyte Symbol	Cs	Fe	Hf	K	La	Li	Na	Nb	Ni	P	Rb	Pb	S	Mg	Mn	Mo	Sb	Sc	Sn	Sr	Ta	Th	Ti
Unit Symbol	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Lower Limit	0.1	0.01	0.1	0.01	0.1	0.1	0.001	0.1	0.1	0.001	0.1	0.1	1	0.01	1	0.1	0.1	1	0.1	1	0.1	0.1	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
DNC-1 Meas																							
DNC-1 Cert																							
SDC-1 Meas	3.9	4.85	0.8	2.24	40.1	33.1	1.56	0.1	34.5	0.054	111	24.2		1.04	866		< 0.1	15	0.2	177	< 0.1	11.8	0.082
SDC-1 Cert	4.00	4.82	8.30	2.72	42.00	34.0	1.52	21.00	38.0	0.0690	127.00	25.00		1.02	880.00		0.54	17.00	3.00	180.00	1.20	12.00	0.606
NOD-A-1 Meas																							
NOD-A-1 Cert																							
W-2a Meas																							
W-2a Cert																							
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas																							
SY-4 Cert																							
Oreas 72a (4 Acid Digest) Meas		9.33							6130					2									
Oreas 72a (4 Acid Digest) Cert		9.63							6930.000				1.74										
BIR-1a Meas																							
BIR-1a Cert																							
ZW-C Meas																							
ZW-C Cert																							
OREAS 101b (Fusion) Meas																							
OREAS 101b (Fusion) Cert																							
OREAS 101b (4 Acid) Meas		11.4		2.68	765				9.6	0.126		23.9		1.31	1000	21.0						37.3	0.371
OREAS 101b (4 Acid) Cert		10.7		2.36	754				8.2			23		1.23	927	20.1						36.4	0.35
OREAS 101b (4 Acid) Meas		10.8		2.17	677				9.2	0.111		22.8		1.19	909	20.9						35.4	0.342
OREAS 101b (4 Acid) Cert		10.7		2.36	754				8.2			23		1.23	927	20.1						36.4	0.35
OREAS 98 (4 Acid) Meas												304	> 10.0				6.4		194				
OREAS 98 (4 Acid) Cert												345	15.5				20.1		206				
OREAS 98 (4 Acid) Meas												307	> 10.0				10.0		194				
OREAS 98 (4 Acid) Cert												345	15.5				20.1		206				
NCS DC86318 Meas																							
NCS DC86318 Cert																							
SARM 3 Meas																							
SARM 3 Cert																							
DNC-1a Meas		6.65			3.6	4.2	1.36	1.5	250			3.7	5.9				0.8	29		139			0.280
DNC-1a Cert		6.97			3.6	5.2	1.40	3	247			4.50	6.3				0.96	31		144			0.29
DNC-1a Meas		6.54			3.4	4.1	1.29	1.4	241			3.7	5.7				0.8	27		150			0.269
DNC-1a Cert		6.97			3.6	5.2	1.40	3	247			4.50	6.3				0.96	31		144			0.29
OREAS 13b (4-Acid) Meas									1830							8.4							
OREAS 13b (4-Acid) Cert									2247.000				1.2		9.0								
USZ 42-2006																							

Analyte Symbol	Cs	Fe	Hf	K	La	Li	Na	Nb	Ni	P	Rb	Pb	S	Mg	Mn	Mo	Sb	Sc	Sn	Sr	Ta	Th	Ti
Unit Symbol	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Lower Limit	0.1	0.01	0.1	0.01	0.1	0.1	0.001	0.1	0.1	0.001	0.1	0.1	1	0.01	1	0.1	0.1	1	0.1	1	0.1	0.1	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Meas																							
USZ 42-2006 Cert																							
OREAS 904 (4 Acid) Meas	3.5	6.82	4.9	2.68	41.6	15.8	0.035		41.4	0.095	118	11.3	< 1	0.57	408	2.2	1.2	11	2.8	27	0.5	14.5	
OREAS 904 (4 Acid) Cert	3.79	6.68	5.00	3.31	43.2	16.7	0.0340		40.1	0.0980	130	10.6	0.0630	0.556	410	2.12	1.48	11.2	2.83	27.2	0.540	14.3	
SBC-1 Meas	7.6		3.3		46.3	148		14.1	80.1		140	34.1				3.4	1.1	18	3.2	163	0.9	14.5	0.466
SBC-1 Cert	8.2		3.7		52.5	163		15.3	82.8		147	35.0				2.4	1.01	20.0	3.3	178.0	1.10	15.8	0.51
OREAS 45d (4-Acid) Meas	3.8	14.4	3.0	0.36	16.8	20.3	0.095	1.6	230	0.034	46.1	21.7	< 1	0.20	474	1.0	< 0.1	49	0.8	33	< 0.1	14.6	0.456
OREAS 45d (4-Acid) Cert	3.910	14.5	3.830	0.412	16.9	21.5	0.101	14.50	231.0	0.042	42.1	21.8	0.049	0.245	490.000	2.500	0.82	49.30	2.78	31.30	1.02	14.5	0.773
REE-1 Meas																							
REE-1 Cert																							
OREAS 96 (4 Acid) Meas												96.4	5				3.8			61.7			
OREAS 96 (4 Acid) Cert												101	4.19				5.09			65.6			
OREAS 96 (4 Acid) Meas												96.2	4				4.3			59.6			
OREAS 96 (4 Acid) Cert												101	4.19				5.09			65.6			
OREAS 923 (4 Acid) Meas	6.3	6.48	3.8	2.32	40.8	29.1	0.314	14.1	36.2	0.058	163	87.3	< 1	1.72	955	0.9	1.3	12	12.5	41	1.1	16.5	0.386
OREAS 923 (4 Acid) Cert	6.70	6.43	3.42	2.51	42.2	31.4	0.324	14.1	35.8	0.0630	166	83.0	0.691	1.69	950	0.930	1.29	13.1	13.3	43.0	1.11	16.5	0.405
OREAS 621 (4 Acid) Meas	3.3	3.87	4.7	2.17	25.0	14.0	1.33	10.3	26.0	0.035	92.1	> 5000	4	0.56	533	16.3	113	7	5.7	92		7.8	0.194
OREAS 621 (4 Acid) Cert	3.28	3.70	4.41	2.20	21.6	14.2	1.31	8.61	26.2	0.0359	84.0	13600	4.48	0.507	532	13.6	139	6.24	5.25	91.0		7.48	0.149
OREAS 209 (Fire Assay) Meas																							
OREAS 209 (Fire Assay) Cert																							
OREAS 209 (Fire Assay) Meas																							
OREAS 209 (Fire Assay) Cert																							
OREAS 522 (4 Acid) Meas	0.6	25.4	3.1	2.75	43.6	15.8	0.639	5.6	73.5	0.086	91.4	10.7	3	1.12	4150	220	3.5	11	8.6	63	0.3	2.2	0.355
OREAS 522 (4 Acid) Cert	0.640	24.6	2.96	2.83	171	16.2	0.633	5.66	70.0	0.0890	82.0	12.5	2.50	1.12	3970	206	7.93	10.9	9.32	199	0.440	7.53	0.344
1587340 Orig																							
1587340 Dup																							
1587342 Orig	0.5	1.30	0.4	0.43	15.1	11.5	1.95	2.5	1.1	0.029	20.7	3.3	< 1	0.16	406	0.5	< 0.1	3	0.5	88	0.1	3.4	0.083
1587342 Dup	0.5	1.33	0.4	0.42	15.2	11.7	1.97	2.4	1.1	0.030	20.7	3.4	< 1	0.17	403	0.5	< 0.1	4	0.5	90	< 0.1	3.5	0.086
1587350 Orig																							
1587350 Dup																							
1587132 Orig																							
1587132 Dup																							
1587146 Orig	0.6	2.84	2.1	1.57	7.0	17.5	0.370	2.8	3.0	0.019	72.1	4070	2	0.23	151	0.6	1.4	4	10.3	19	0.3	4.0	0.130
1587146 Dup	0.6	2.72	1.9	1.72	6.6	16.9	0.358	2.8	2.7	0.019	73.6	3930	2	0.22	144	0.6	1.3	4	10.0	19	0.3	3.8	0.126
1587150 Orig																							
1587150 Dup																							
89009 Orig	1.2	5.09	2.0	1.55	16.9	16.2	1.73	0.4	27.7	0.050	63.0	10.9	< 1	1.72	1480	< 0.1	< 0.1	11	1.3	93	< 0.1	3.0	0.139
89009 Dup	1.3	5.15	2.6	1.64	18.5	16.9	1.73	0.2	27.3	0.055	65.4	11.4	< 1	1.77	1560	< 0.1	< 0.1	12	1.9	97	< 0.1	3.2	0.205



Analyte Symbol	Cs	Fe	Hf	K	La	Li	Na	Nb	Ni	P	Rb	Pb	S	Mg	Mn	Mo	Sb	Sc	Sn	Sr	Ta	Th	Ti
Unit Symbol	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Lower Limit	0.1	0.01	0.1	0.01	0.1	0.1	0.001	0.1	0.1	0.001	0.1	0.1	1	0.01	1	0.1	0.1	1	0.1	1	0.1	0.1	0.001
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank																							
Method Blank	< 0.1	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 1	< 0.01	< 1	< 0.1	< 0.1	< 1	< 0.1	< 1	< 0.1	< 0.1	< 0.001
Method Blank	< 0.1	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 1	< 0.01	6	0.1	< 0.1	< 1	< 0.1	< 1	< 0.1	< 0.1	< 0.001
Method Blank	< 0.1	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 1	< 0.01	7	< 0.1	< 0.1	< 1	< 0.1	< 1	< 0.1	< 0.1	< 0.001
Method Blank	< 0.1	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 0.001	< 0.1	0.5	< 1	< 0.01	8	< 0.1	< 0.1	< 1	< 0.1	< 1	< 0.1	< 0.1	< 0.001
Method Blank	< 0.1	< 0.01	< 0.1	< 0.01	< 0.1	0.1	< 0.001	< 0.1	< 0.1	< 0.001	< 0.1	< 0.1	< 1	< 0.01	3	< 0.1	< 0.1	< 1	< 0.1	< 1	< 0.1	< 0.1	< 0.001
Method Blank	< 0.1	< 0.01	< 0.1	< 0.01	< 0.1	< 0.1	< 0.001	< 0.1	0.1	< 0.001	< 0.1	0.1	< 1	< 0.01	3	< 0.1	< 0.1	< 1	< 0.1	< 1	< 0.1	< 0.1	< 0.001
Method Blank																							
Method Blank																							

Analyte Symbol	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.1	4	0.1	0.1	1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
DNC-1 Meas							
DNC-1 Cert							
SDC-1 Meas	0.61	2.8	30	< 0.1		109	29.7
SDC-1 Cert	0.70	3.10	102.00	0.80		103.00	290.00
NOD-A-1 Meas							
NOD-A-1 Cert							
W-2a Meas							
W-2a Cert							
DTS-2b Meas							
DTS-2b Cert							
SY-4 Meas							
SY-4 Cert							
Oreas 72a (4 Acid Digest) Meas							
Oreas 72a (4 Acid Digest) Cert							
BIR-1a Meas							
BIR-1a Cert							
ZW-C Meas							
ZW-C Cert							
OREAS 101b (Fusion) Meas							
OREAS 101b (Fusion) Cert							
OREAS 101b (4 Acid) Meas		368	79		122		
OREAS 101b (4 Acid) Cert		387	77		133		
OREAS 101b (4 Acid) Meas		349	76		127		
OREAS 101b (4 Acid) Cert		387	77		133		
OREAS 98 (4 Acid) Meas						1400	
OREAS 98 (4 Acid) Cert						1360	
OREAS 98 (4 Acid) Meas						1450	
OREAS 98 (4 Acid) Cert						1360	
NCS DC86318 Meas							
NCS DC86318 Cert							
SARM 3 Meas							
SARM 3 Cert							
DNC-1a Meas			141		15.7	65	39.0
DNC-1a Cert			148		18.0	70	38.0
DNC-1a Meas			144		15.4	63	37.8
DNC-1a Cert			148		18.0	70	38.0
OREAS 13b (4-Acid) Meas						118	
OREAS 13b (4-Acid) Cert						133	
USZ 42-2006							

Analyte Symbol	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.1	4	0.1	0.1	1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Meas							
USZ 42-2006 Cert							
OREAS 904 (4 ACID) Meas	0.56	8.8	81	2.4	31.0	25	185
OREAS 904 (4 ACID) Cert	0.520	8.43	76.0	2.12	31.5	26.3	171
SBC-1 Meas	0.88	5.4	208	1.6	28.4	174	119
SBC-1 Cert	0.89	5.76	220.0	1.60	36.5	186	134.0
OREAS 45d (4-Acid) Meas	0.25	2.8	148	0.2	11.4	48	119
OREAS 45d (4-Acid) Cert	0.27	2.63	235.0	1.62	9.53	45.7	141
REE-1 Meas							
REE-1 Cert							
OREAS 96 (4 Acid) Meas						454	
OREAS 96 (4 Acid) Cert						457	
OREAS 96 (4 Acid) Meas						451	
OREAS 96 (4 Acid) Cert						457	
OREAS 923 (4 Acid) Meas	0.90	3.2	92	5.1	24.6	345	130
OREAS 923 (4 Acid) Cert	0.860	3.06	91.0	4.85	26.4	345	116
OREAS 621 (4 Acid) Meas	2.08	2.9	36	2.4	13.0	> 10000	184
OREAS 621 (4 Acid) Cert	1.96	2.83	31.8	2.35	11.1	52200	168
OREAS 209 (Fire Assay) Meas							
OREAS 209 (Fire Assay) Cert							
OREAS 209 (Fire Assay) Meas							
OREAS 209 (Fire Assay) Cert							
OREAS 522 (4 Acid) Meas	0.30	42.5	177	109	19.1	44	133
OREAS 522 (4 Acid) Cert	0.290	42.2	164	135	18.5	30.2	112
1587340 Orig							
1587340 Dup							
1587342 Orig	0.11	0.6	< 4	0.2	11.0	22	22.1
1587342 Dup	0.11	0.6	< 4	0.2	11.2	21	12.4
1587350 Orig							
1587350 Dup							
1587132 Orig							
1587132 Dup							
1587146 Orig	0.42	0.8	24	9.4	6.4	4500	55.8
1587146 Dup	0.40	1.1	23	9.1	6.2	4360	50.6
1587150 Orig							
1587150 Dup							
89009 Orig	0.50	0.7	47	0.1	13.3	190	73.4
89009 Dup	0.52	0.7	59	< 0.1	14.1	194	99.1

Analyte Symbol	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.05	0.1	4	0.1	0.1	1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Method Blank							
Method Blank							
Method Blank							
Method Blank							
Method Blank	< 0.05	< 0.1	< 4	< 0.1	< 0.1	< 1	< 0.1
Method Blank	< 0.05	< 0.1	< 4	< 0.1	< 0.1	< 1	< 0.1
Method Blank	< 0.05	< 0.1	< 4	< 0.1	< 0.1	< 1	< 0.1
Method Blank	< 0.05	< 0.1	< 4	< 0.1	< 0.1	< 1	< 0.1
Method Blank	< 0.05	< 0.1	< 4	< 0.1	< 0.1	< 1	< 0.1
Method Blank	< 0.05	< 0.1	< 4	< 0.1	< 0.1	< 1	0.3
Method Blank							
Method Blank							



Report No.: A21-18127
Report Date: 08-Dec-21
Date Submitted: 27-Sep-21
Your Reference: SA

Commander Resources Ltd.
510 Burrard St.
Vancouver BC V6C-3A8
Canada

ATTN: Bernie Kahlert

CERTIFICATE OF ANALYSIS

56 Core samples were submitted for analysis.

Table with 2 columns: Analytical package(s) requested, Testing Date. Row 1: 1A2-Dryden, QOP AA-Au (Au - Fire Assay AA), 2021-10-29 12:29:12

REPORT A21-18127

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 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 material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

Values which exceed the upper limit should be assayed for accurate numbers.



ACTIVATION LABORATORIES LTD.
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CERTIFIED BY:

Handwritten signature of Emmanuel Eseme

Emmanuel Eseme, Ph.D.
Quality Control Coordinator

Report No.: A21-18127  
Report Date: 08-Dec-21  
Date Submitted: 27-Sep-21  
Your Reference: SA

Commander Resources Ltd.  
510 Burrard St.  
Vancouver BC V6C-3A8  
Canada

ATTN: Bernie Kahlert

CERTIFICATE OF ANALYSIS

56 Core samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
UT-4M	QOP Total/QOP Ultratrace- 4acid Digest (Total Digestion ICPOES/ICPMS)	2021-11-17 15:48:49

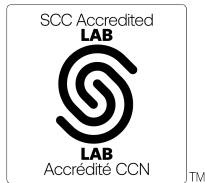
REPORT A21-18127

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

Values which exceed the upper limit should be assayed for accurate numbers.



LabID: 266

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CERTIFIED BY:

Emmanuel Esemé, Ph.D.  
Quality Control Coordinator

## Results

## Activation Laboratories Ltd.

## Report: A21-18127

Analyte Symbol	Au	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Cs	Fe	Hf	K	La	Li	Na	Nb	Ni	P
Unit Symbol	ppb	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.1	1	1	1	0.1	0.01	0.1	1	0.2	1	0.1	0.1	0.01	0.1	0.01	0.1	0.1	0.001	0.1	0.1	0.001
Method Code	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1589249	< 5	7.11	0.4	10	181	< 1	0.4	2.39	0.1	31	7.6	12	12.1	1.2	2.73	1.2	1.22	16.4	14.5	2.09	1.9	11.0	0.038
1589250	< 5	7.24	0.3	3	179	< 1	< 0.1	1.73	< 0.1	35	10.2	26	7.0	1.9	3.48	1.2	2.26	16.3	27.8	1.28	0.5	11.0	0.046
1589251	58	6.10	2.4	< 1	585	< 1	8.4	1.54	0.7	15	2.3	14	30.7	1.3	3.23	1.3	1.95	7.8	13.9	1.40	0.3	2.8	0.044
1589252	659	8.01	5.6	3	235	< 1	2.2	1.36	0.2	22	6.0	13	27.0	2.1	4.31	2.4	1.57	11.2	31.8	1.55	5.5	6.9	0.054
1589253	169	6.56	4.5	4	160	< 1	4.5	1.23	0.1	16	1.6	10	21.9	1.3	3.01	2.1	1.54	11.7	18.5	0.784	4.9	2.1	0.043
1589254	248	7.23	2.0	15	469	< 1	2.9	0.52	23.8	13	7.5	14	106	2.0	3.94	2.0	1.63	6.3	21.6	0.823	5.9	7.6	0.048
1589255	< 5	3.34	< 0.1	< 1	171	< 1	< 0.1	0.44	< 0.1	6	3.3	12	5.7	0.3	1.54	0.7	1.11	2.4	6.0	1.32	1.9	5.5	0.007
1589256	< 5	1.38	< 0.1	3	13	< 1	3.4	1.22	0.1	4	1.5	7	3.0	0.1	1.16	0.2	0.09	2.2	0.9	0.261	1.2	2.2	0.006
1589257	< 5	8.59	< 0.1	5	266	< 1	0.1	1.99	0.1	33	10.7	15	5.5	2.6	3.86	2.0	1.78	15.3	42.7	3.51	3.0	13.3	0.052
1589258	< 5	6.77	< 0.1	< 1	129	< 1	1.1	3.16	0.4	29	8.7	11	10.0	1.6	3.64	1.5	1.08	14.8	22.8	2.26	1.5	9.9	0.043
1589259	< 5	1.41	< 0.1	1	197	< 1	< 0.1	0.18	< 0.1	4	2.9	11	23.5	0.5	1.22	0.2	0.53	1.7	8.7	0.440	0.7	3.2	0.011
1589260	< 5	0.19	0.2	< 1	80	< 1	< 0.1	0.01	< 0.1	< 1	0.2	18	18.0	< 0.1	0.80	< 0.1	0.22	0.1	0.5	0.032	0.2	1.4	0.003
1589261	< 5	6.87	0.3	< 1	179	< 1	0.4	2.04	< 0.1	37	3.8	7	56.5	0.5	2.67	5.3	0.49	21.8	10.2	2.76	8.6	3.2	0.036
1589262	8	0.40	0.8	2	12	< 1	2.3	0.12	0.1	2	1.1	21	42.0	< 0.1	0.85	< 0.1	0.10	1.0	1.4	0.159	0.3	2.2	0.003
1589263	9	0.48	1.5	8	19	< 1	5.2	0.08	< 0.1	1	9.2	12	146	0.3	1.82	0.1	0.14	0.8	1.6	0.183	0.4	9.4	0.003
1589264	46	7.78	6.2	< 1	293	< 1	15.6	2.26	1.0	23	10.6	14	940	1.9	3.80	1.7	1.52	11.2	25.7	2.61	5.3	10.6	0.059
1589265	62	7.13	18.4	1	256	< 1	73.8	2.08	1.1	12	4.5	12	664	1.0	2.93	1.5	1.58	6.0	28.8	2.07	2.2	5.6	0.056
1589266	< 5	1.45	0.1	< 1	24	< 1	0.6	1.66	< 0.1	6	3.4	18	11.4	< 0.1	1.50	0.3	0.26	4.0	2.4	0.071	1.0	5.9	0.006
1589267	< 5	5.67	0.7	< 1	144	< 1	11.9	3.54	2.2	46	3.4	6	35.5	0.3	3.00	2.9	1.08	21.6	9.4	0.962	7.5	1.1	0.026
1589268	< 5	0.14	< 0.1	< 1	6	< 1	0.3	0.04	< 0.1	1	< 0.2	6	5.5	< 0.1	0.46	< 0.1	0.04	0.5	0.4	0.064	2.8	0.7	< 0.001
1589269	< 5	9.54	0.2	8	415	< 1	< 0.1	0.84	< 0.1	11	15.7	30	122	0.6	4.96	2.7	1.60	5.6	14.7	1.77	1.9	19.1	0.029
1589270	< 5	4.92	0.2	4	353	< 1	0.4	1.32	< 0.1	15	8.2	10	49.3	2.0	2.39	0.2	1.11	7.2	12.4	1.67	2.2	12.0	0.028
1589271	< 5	7.72	< 0.1	< 1	316	< 1	0.2	2.04	< 0.1	21	7.3	9	5.4	5.2	2.72	1.2	1.32	11.2	17.0	2.98	0.6	9.9	0.043
1589272	< 5	0.86	< 0.1	7	49	< 1	< 0.1	0.16	< 0.1	3	1.6	9	10.6	0.7	0.78	0.2	0.23	1.2	5.1	0.269	0.6	2.4	0.007
1589273	< 5	0.67	< 0.1	< 1	37	< 1	< 0.1	0.13	< 0.1	2	1.1	9	3.9	0.4	0.84	0.2	0.17	0.9	3.7	0.212	0.7	2.5	0.006
1589274	181	8.24	14.1	< 1	302	< 1	17.0	0.16	1.0	51	8.1	14	422	2.2	5.15	2.7	3.40	26.3	59.0	0.279	5.3	8.1	0.061
1589275	966	8.00	81.7	7	327	< 1	216	0.12	1.8	26	9.1	15	1750	1.8	3.43	2.4	1.36	12.9	31.7	0.225	4.8	8.8	0.057
1589276	876	7.59	45.0	5	291	< 1	36.7	0.18	4.5	29	9.9	8	2770	1.5	3.30	2.3	2.56	14.2	39.5	0.321	0.6	8.1	0.054
1589277	5	3.96	0.3	< 1	150	< 1	0.3	0.25	< 0.1	33	7.2	10	14.0	0.9	2.57	1.0	1.04	17.7	30.8	0.655	1.8	7.5	0.020
1589278	409	8.33	34.5	2	365	< 1	59.3	0.13	2.0	29	9.2	8	1040	1.9	3.29	1.5	3.92	14.0	43.6	0.243	0.2	8.8	0.051
1589279	1500	1.23	0.2	< 1	196	< 1	0.8	0.04	< 0.1	13	0.5	7	16.1	0.2	0.41	0.1	0.46	6.2	2.8	0.150	0.4	1.6	0.003
1589280	< 5	8.39	< 0.1	< 1	551	< 1	0.1	0.81	< 0.1	41	11.3	14	4.6	2.3	4.00	2.1	3.14	19.2	54.8	2.42	3.8	12.2	0.056
1589281	< 5	0.92	< 0.1	< 1	61	< 1	< 0.1	0.13	< 0.1	3	2.5	10	6.0	3.8	0.93	0.2	0.43	0.9	6.1	0.182	1.0	4.3	0.010
1589282	17	8.64	0.4	2	464	< 1	< 0.1	1.60	< 0.1	12	5.4	25	4.5	0.7	1.91	2.7	1.17	6.9	15.3	3.44	2.4	4.0	0.035
1589283	< 5	7.64	0.2	30	358	< 1	0.2	1.94	0.3	18	14.0	38	38.9	1.5	3.24	1.9	0.96	8.8	19.1	2.66	2.9	28.4	0.040
1589284	574	6.50	4.0	< 1	198	< 1	5.5	5.74	0.7	22	16.6	17	516	0.4	4.13	0.9	0.62	12.2	8.6	0.240	1.8	11.8	0.020
1589285	6	8.71	0.2	< 1	565	< 1	0.2	1.57	< 0.1	17	6.0	17	19.2	1.6	2.46	2.5	1.73	8.7	25.0	2.89	1.6	14.8	0.031
1589286	17	8.73	0.5	< 1	364	1	0.7	1.31	< 0.1	11	5.0	20	22.4	0.9	2.61	2.5	1.83	6.0	23.8	2.82	2.5	4.3	0.043
1589287	< 5	9.19	0.3	< 1	629	1	0.1	2.53	< 0.1	11	4.5	23	61.8	1.1	3.30	2.2	2.33	5.8	13.2	2.47	0.6	5.4	0.030
1589288	8	9.08	0.4	< 1	668	< 1	0.4	2.37	< 0.1	18	2.4	28	9.7	1.0	2.93	2.5	1.87	12.2	12.9	2.39	1.6	3.3	0.039
1589289	5	7.56	0.1	< 1	317	< 1	0.1	2.22	< 0.1	13	4.9	15	20.2	3.0	1.70	2.4	2.06	6.3	11.4	0.742	0.5	9.3	0.027
1589290	< 5	8.81	< 0.1	< 1	424	< 1	< 0.1	0.98	2.5	10	2.4	13	7.1	2.1	1.33	2.8	2.68	5.3	14.9	0.521	1.3	5.5	0.030
1589291	< 5	8.91	0.4	< 1	349	< 1	0.2	5.06	0.3	27	10.7	17	49.6	3.2	2.52	3.0	1.37	15.1	10.0	0.832	2.4	16.8	0.040
1589292	< 5	7.57	0.4	4	275	< 1	0.3	4.04	0.5	11	10.8	13	39.5	2.4	2.66	2.1	1.17	5.8	9.4	0.751	2.6	16.6	0.033
1589293	< 5	8.42	0.4	< 1	601	< 1	0.1	2.59	0.2	28	10.0	14	41.5	3.0	2.43	2.7	2.16	15.4	12.3	1.16	2.3	15.1	0.040
1589294	< 5	3.69	< 0.1	< 1	14	< 1	2.9	8.59	0.2	9	13.7	16	4.6	< 0.1	3.72	0.6	0.10	4.8	2.6	0.061	1.1	22.8	0.041
1589295	15	8.11	0.3	2	59	< 1	0.8	10.1	0.3	33	20.2	11	23.7	2.0	5.58	2.8	0.56	16.7	9.1	0.240	5.6	36.2	0.053
1589296	97	7.76	1.4	8	95	< 1	0.8	3.32	0.1	12	89.7	17	21.9	2.0	5.56	2.6	1.92	5.9	8.6	0.907	2.2	53.5	0.037
1589297	113	5.21	2.6	3	98	< 1	1.3	10.9	0.8	15	26.9	17	86.2	0.7	8.18	1.3	0.32	8.6	7.7	0.209	2.0	27.1	0.027
1589298	86	5.91	0.8	6	117	1	0.8	5.81	0.2	36	27.6	8	18.7	0.7	7.56	3.4	1.24	18.4	16.1	0.295	5.8	31.1	0.026
1589299	46	7.52	0.8	42	87	1	0.9	4.15	< 0.1	20	35.2	14	32.0	1.7	5.92	3.1	2.18	10.0	18.3	0.728	4.4	48.7	0.026

Results

Activation Laboratories Ltd.

Report: A21-18127

Analyte Symbol	Au	Al	Ag	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Cs	Fe	Hf	K	La	Li	Na	Nb	Ni	P
Unit Symbol	ppb	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	%
Lower Limit	5	0.01	0.1	1	1	1	0.1	0.01	0.1	1	0.2	1	0.1	0.1	0.01	0.1	0.01	0.1	0.1	0.001	0.1	0.1	0.001
Method Code	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1589300	14	6.89	1.1	14	189	< 1	0.5	0.94	< 0.1	9	12.4	19	5.4	1.3	2.91	2.9	2.07	4.2	15.1	2.19	3.0	18.1	0.036
1589301	< 5	6.70	0.7	4	185	< 1	0.1	2.12	< 0.1	17	34.4	44	184	0.3	6.30	0.8	0.84	6.4	29.3	1.57	0.2	111	0.085
1589302	< 5	6.75	< 0.1	< 1	111	1	< 0.1	1.82	< 0.1	33	0.6	6	6.6	0.1	0.40	4.1	0.42	21.8	3.0	3.52	1.4	1.3	0.004
1589303	< 5	3.85	< 0.1	22	280	< 1	< 0.1	0.84	< 0.1	25	5.6	7	10.7	0.7	2.34	0.2	0.88	7.2	19.0	1.52	1.8	3.0	0.068
1589304	< 5	0.89	0.5	< 1	258	< 1	< 0.1	0.03	< 0.1	< 1	0.3	7	4.3	0.1	0.42	0.2	0.94	0.5	1.1	0.151	0.4	0.6	0.003



## Results

## Activation Laboratories Ltd.

## Report: A21-18127

Analyte Symbol	Rb	Pb	S	Mg	Mn	Mo	Sb	Sc	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	1	0.01	1	0.1	0.1	1	0.1	1	0.1	0.1	0.001	0.05	0.1	4	0.1	0.1	1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1589249	60.4	24.5	< 1	0.68	854	0.3	< 0.1	7	0.7	116	0.1	3.5	0.129	0.40	0.8	22	0.2	12.8	116	33.4
1589250	116	10.8	< 1	1.60	1020	0.2	< 0.1	9	1.1	49	< 0.1	2.8	0.126	0.77	0.5	24	0.1	12.8	132	34.6
1589251	61.8	926	< 1	0.52	1320	0.3	< 0.1	7	1.6	52	< 0.1	2.7	0.142	0.38	0.6	33	0.2	8.5	324	37.5
1589252	107	103	< 1	1.28	1680	2.3	< 0.1	9	2.4	78	0.3	3.7	0.295	0.84	0.7	50	1.6	10.2	152	69.9
1589253	80.6	413	< 1	0.62	734	1.4	0.4	7	2.0	62	0.3	3.1	0.241	0.51	0.5	45	3.1	5.9	103	62.4
1589254	64.4	113	< 1	1.10	668	1.2	0.3	8	8.0	24	0.4	3.2	0.274	0.31	0.7	49	7.2	11.8	3490	61.0
1589255	35.9	3.2	< 1	0.27	258	0.3	< 0.1	4	1.1	43	< 0.1	0.9	0.168	0.19	0.3	30	0.8	4.7	33	18.8
1589256	3.4	5.0	< 1	0.13	281	0.4	< 0.1	2	1.3	28	< 0.1	0.3	0.059	< 0.05	0.2	17	0.3	4.6	26	5.1
1589257	77.7	24.2	< 1	1.47	594	0.4	< 0.1	8	1.1	127	0.2	3.7	0.217	0.42	0.7	40	0.3	11.9	149	60.7
1589258	47.5	45.8	< 1	1.15	806	0.4	< 0.1	9	1.8	105	< 0.1	3.0	0.196	0.24	0.7	48	11.1	15.5	184	43.3
1589259	16.5	5.1	< 1	0.27	179	3.0	< 0.1	2	0.5	14	< 0.1	0.7	0.058	0.09	0.2	13	0.2	1.7	21	12.1
1589260	3.1	4.7	< 1	< 0.01	51	0.3	0.1	< 1	0.1	2	< 0.1	< 0.1	0.005	< 0.05	< 0.1	< 4	< 0.1	< 0.1	6	1.5
1589261	21.0	10.3	< 1	0.50	639	0.6	< 0.1	7	5.0	103	0.5	4.6	0.223	0.23	0.9	18	0.4	13.1	59	182
1589262	3.6	20.0	< 1	0.05	101	0.7	0.2	< 1	0.4	5	< 0.1	0.1	0.013	< 0.05	< 0.1	< 4	0.1	0.7	31	4.4
1589263	5.3	22.0	1	0.06	116	0.3	0.7	< 1	0.4	6	< 0.1	0.1	0.015	< 0.05	< 0.1	5	0.3	0.9	10	6.5
1589264	68.7	66.4	< 1	0.78	601	0.9	< 0.1	10	6.6	181	0.3	3.2	0.317	0.46	0.7	57	0.7	14.0	150	50.7
1589265	79.4	165	< 1	0.86	783	0.5	< 0.1	8	11.4	75	0.1	2.8	0.232	0.48	0.5	41	0.3	7.6	236	45.6
1589266	5.1	8.3	< 1	0.37	276	0.3	< 0.1	2	4.3	21	< 0.1	0.3	0.069	< 0.05	0.2	20	0.3	1.9	79	7.2
1589267	36.3	16.2	< 1	0.29	1010	0.6	0.1	6	9.9	79	0.5	3.7	0.171	0.20	1.1	9	1.6	23.6	141	93.0
1589268	1.3	0.7	< 1	0.01	64	0.3	< 0.1	< 1	0.6	2	0.4	0.4	0.060	< 0.05	0.2	5	0.6	1.1	7	3.4
1589269	50.5	5.0	< 1	0.75	1540	1.3	0.1	10	0.4	72	0.1	2.1	0.264	0.33	0.7	69	1.3	10.1	102	93.2
1589270	34.7	11.3	< 1	0.46	378	0.4	< 0.1	6	0.7	91	< 0.1	1.9	0.173	0.19	0.4	32	0.4	9.1	74	13.5
1589271	51.7	6.6	< 1	0.88	482	< 0.1	< 0.1	8	0.4	183	< 0.1	3.7	0.087	0.27	0.4	17	< 0.1	14.1	85	40.7
1589272	10.3	3.6	< 1	0.21	104	0.3	< 0.1	1	0.2	11	< 0.1	0.4	0.034	0.05	< 0.1	8	0.1	1.2	21	5.2
1589273	6.7	1.9	< 1	0.15	106	0.4	< 0.1	< 1	0.3	9	< 0.1	0.3	0.030	< 0.05	< 0.1	7	< 0.1	0.9	20	5.1
1589274	124	220	< 1	4.00	604	1.0	< 0.1	11	7.5	11	0.4	5.4	0.341	0.69	0.9	45	1.2	8.6	1330	73.9
1589275	62.3	306	< 1	2.05	359	1.8	0.2	11	10.9	9	0.3	3.6	0.299	0.42	0.8	34	4.0	7.7	1510	69.6
1589276	72.2	262	< 1	2.01	396	1.6	< 0.1	9	6.8	11	< 0.1	3.5	0.248	0.38	0.8	23	0.5	8.2	1890	67.0
1589277	37.0	8.3	< 1	2.02	361	0.5	< 0.1	4	0.7	17	< 0.1	1.6	0.126	0.19	0.6	26	0.1	10.9	116	27.2
1589278	98.5	196	< 1	2.45	427	0.2	< 0.1	11	1.5	9	< 0.1	3.6	0.104	0.49	0.7	15	0.2	8.0	1290	40.9
1589279	8.0	2.0	< 1	0.14	43	0.4	< 0.1	2	0.4	3	< 0.1	0.1	0.017	< 0.05	0.1	10	0.7	6.6	14	4.6
1589280	93.4	4.1	< 1	3.11	593	0.2	< 0.1	10	1.0	51	0.1	3.4	0.290	0.40	0.8	50	0.3	12.9	120	59.1
1589281	18.2	1.0	< 1	0.37	132	0.4	< 0.1	2	0.4	8	< 0.1	0.3	0.064	0.11	< 0.1	14	0.1	1.7	30	11.1
1589282	33.9	11.4	< 1	0.15	259	0.3	0.3	7	0.6	374	0.1	1.6	0.216	0.24	0.4	61	0.2	4.1	17	99.2
1589283	41.1	13.6	1	0.67	453	1.6	0.4	6	0.8	668	0.2	3.2	0.200	0.72	0.9	51	0.3	4.7	129	75.6
1589284	26.0	24.6	< 1	0.48	1340	5.3	0.5	5	0.7	296	< 0.1	1.0	0.140	0.16	0.4	42	1.4	6.7	117	29.6
1589285	50.6	11.1	< 1	0.54	449	0.3	< 0.1	7	0.6	320	< 0.1	1.9	0.213	0.42	0.5	60	0.1	5.4	61	90.5
1589286	47.1	21.4	< 1	0.40	267	0.5	< 0.1	6	0.7	526	0.1	2.0	0.218	0.32	0.4	49	0.2	4.7	44	91.6
1589287	54.2	14.7	< 1	0.25	353	0.6	< 0.1	8	0.8	488	< 0.1	2.2	0.182	0.35	0.5	31	< 0.1	5.1	49	76.9
1589288	55.4	12.8	< 1	0.25	340	0.7	< 0.1	7	0.9	418	< 0.1	1.9	0.218	0.35	0.4	55	0.1	4.6	30	86.8
1589289	66.5	11.9	< 1	0.59	550	0.3	< 0.1	5	0.4	112	< 0.1	1.8	0.133	0.54	0.6	29	0.3	5.7	114	81.8
1589290	66.0	7.6	< 1	0.43	265	0.9	< 0.1	6	1.7	64	< 0.1	2.0	0.194	0.51	0.7	37	0.8	9.8	216	104
1589291	60.0	25.8	< 1	0.56	699	0.3	< 0.1	6	0.8	144	0.2	2.7	0.241	0.74	0.7	47	0.1	6.6	159	107
1589292	45.8	20.1	< 1	0.61	2660	0.7	0.1	5	0.8	96	0.2	1.7	0.188	0.53	0.5	45	0.2	6.5	160	71.9
1589293	74.2	38.1	< 1	0.52	866	0.5	< 0.1	6	0.7	119	0.1	2.4	0.218	0.83	0.7	44	0.5	6.8	142	93.4
1589294	2.7	3.7	< 1	2.37	1530	2.1	0.2	6	0.5	71	< 0.1	0.4	0.111	< 0.05	0.1	79	0.3	7.7	62	19.4
1589295	21.1	4.4	< 1	5.12	1880	0.7	0.9	13	1.0	109	0.4	3.2	0.338	0.15	0.8	67	1.4	15.2	107	97.7
1589296	45.2	11.8	3	1.49	758	0.7	0.6	8	0.6	63	0.2	1.4	0.233	0.34	0.4	59	0.4	4.9	44	91.0
1589297	10.8	7.9	2	5.39	3880	2.4	1.1	5	0.9	72	0.2	1.1	0.161	0.09	0.3	39	0.7	6.9	188	48.4
1589298	43.1	5.1	3	4.95	1540	0.8	1.2	6	1.4	68	0.4	3.2	0.161	0.27	1.1	28	0.5	19.6	90	116
1589299	49.2	7.0	3	2.10	1230	1.1	2.2	10	0.7	82	0.3	2.1	0.405	0.42	1.0	102	2.1	8.2	48	105

Results

Activation Laboratories Ltd.

Report: A21-18127

Analyte Symbol	Rb	Pb	S	Mg	Mn	Mo	Sb	Sc	Sn	Sr	Ta	Th	Ti	Tl	U	V	W	Y	Zn	Zr
Unit Symbol	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	1	0.01	1	0.1	0.1	1	0.1	1	0.1	0.1	0.001	0.05	0.1	4	0.1	0.1	1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1589300	47.2	4.2	2	0.76	161	0.6	1.7	6	0.7	37	0.2	1.6	0.235	0.21	0.9	49	0.4	5.1	9	96.3
1589301	27.1	2.0	< 1	1.75	753	1.9	< 0.1	11	0.2	214	< 0.1	0.7	0.279	0.18	0.6	59	< 0.1	8.3	63	28.4
1589302	6.2	6.5	< 1	0.08	75	0.2	0.1	< 1	0.2	95	0.3	9.1	0.022	< 0.05	1.1	5	0.3	5.7	12	76.5
1589303	29.0	2.2	< 1	0.50	349	0.1	< 0.1	8	0.5	69	< 0.1	3.7	0.200	0.18	0.7	14	< 0.1	14.0	44	10.9
1589304	13.2	1.7	< 1	0.01	49	0.3	< 0.1	< 1	0.1	9	< 0.1	0.2	0.008	< 0.05	0.2	< 4	0.1	0.8	10	9.9

Analyte Symbol	Au	Al	Ag	Ba	Be	Ca	Cd	Co	Cu	Cs	Fe	K	La	Li	Nb	Ni	P	S	Mg	Mn	Sb	Sc	Sr
Unit Symbol	ppb	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	0.1	1	1	0.01	0.1	0.2	0.1	0.1	0.01	0.01	0.1	0.1	0.1	0.1	0.001	1	0.01	1	0.1	1	1
Method Code	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Oreas 72a (4 Acid) Meas								165	352		10.2					6470		2					
Oreas 72a (4 Acid) Cert								157	316		9.63					6930.000		1.74					
Oreas 72a (4 Acid) Meas								152	306		9.18					6620		2					
Oreas 72a (4 Acid) Cert								157	316		9.63					6930.000		1.74					
OREAS 101b (4 Acid) Meas								41.0	358		10.3	2.49	848			7.9	0.123		1.24	974			
OREAS 101b (4 Acid) Cert								45	412		10.7	2.36	754			8.2			1.23	927			
OREAS 101b (4 Acid) Meas								45.5	414		10.2	2.26	730			9.0	0.121		1.22	929			
OREAS 101b (4 Acid) Cert								45	412		10.7	2.36	754			8.2			1.23	927			
OREAS 98 (4 Acid) Meas			41.0					104	> 10000									> 10.0			9.4		
OREAS 98 (4 Acid) Cert			45.1					121	14800.00									15.5			20.1		
OREAS 98 (4 Acid) Meas			47.6					130	> 10000									> 10.0			9.6		
OREAS 98 (4 Acid) Cert			45.1					121	14800.00									15.5			20.1		
OREAS 13b (4-Acid) Meas			0.8					73.3	2170							2150		1					
OREAS 13b (4-Acid) Cert			0.86					75	2327.0000							2247.0000		1.2					
OREAS 904 (4 Acid) Meas		7.11	0.7	208	10	0.05		90.1	6220	4.1	6.94	3.60	44.4	17.3		44.0	0.109	< 1	0.65	407	1.4	13	29
OREAS 904 (4 Acid) Cert		6.30	0.551	194	7.86	0.0460		83.0	6120	3.79	6.68	3.31	43.2	16.7		40.1	0.0980	0.0630	0.556	410	1.48	11.2	27.2
OREAS 904 (4 Acid) Meas		6.76	0.6	195	9	0.06		78.6	6190	3.6	6.58	3.75	40.7	16.9		36.9	0.106	< 1	0.55	450	0.8	12	28
OREAS 904 (4 Acid) Cert		6.30	0.551	194	7.86	0.0460		83.0	6120	3.79	6.68	3.31	43.2	16.7		40.1	0.0980	0.0630	0.556	410	1.48	11.2	27.2
OREAS 904 (4 Acid) Meas		6.78	0.6	204	8	0.05		84.3	6010	3.8	6.45	3.07	41.5	15.5		40.3	0.103	< 1	0.57	418	0.9	11	25
OREAS 904 (4 Acid) Cert		6.30	0.551	194	7.86	0.0460		83.0	6120	3.79	6.68	3.31	43.2	16.7		40.1	0.0980	0.0630	0.556	410	1.48	11.2	27.2
OREAS 45d (4-Acid) Meas		8.22		183	< 1	0.19		30.4	397	3.9	14.3	0.41	17.4	22.1	0.8	249	0.033	< 1	0.25	462	< 0.1	49	33
OREAS 45d (4-Acid) Cert		8.150		183.0	0.79	0.185		29.50	371	3.910	14.5	0.412	16.9	21.5	14.50	231.0	0.042	0.049	0.245	490.000	0.82	49.30	31.30
OREAS 45d (4-Acid) Meas		8.14		197	< 1	0.17		30.0	381	4.0	14.5	0.41	16.9	21.7	2.8	237	0.038	< 1	0.25	494	< 0.1	50	31
OREAS 45d (4-Acid) Cert		8.150		183.0	0.79	0.185		29.50	371	3.910	14.5	0.412	16.9	21.5	14.50	231.0	0.042	0.049	0.245	490.000	0.82	49.30	31.30
OREAS 96 (4 Acid) Meas			11.4					52.3	> 10000									5			5.7		
OREAS 96 (4 Acid) Cert			11.5					49.9	39300									4.19			5.09		
OREAS 96 (4 Acid) Meas			11.2					48.8	> 10000									4			5.8		
OREAS 96 (4 Acid) Cert			11.5					49.9	39300									4.19			5.09		
OREAS 96 (4 Acid) Meas			10.9					49.9	> 10000									4			4.5		

Analyte Symbol	Au	Al	Ag	Ba	Be	Ca	Cd	Co	Cu	Cs	Fe	K	La	Li	Nb	Ni	P	S	Mg	Mn	Sb	Sc	Sr
Unit Symbol	ppb	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	0.1	1	1	0.01	0.1	0.2	0.1	0.1	0.01	0.01	0.1	0.1	0.1	0.1	0.001	1	0.01	1	0.1	1	1
Method Code	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
OREAS 96 (4 Acid) Cert			11.5					49.9	39300									4.19			5.09		
OREAS 923 (4 Acid) Meas		6.92	1.6	429	2	0.46	0.4	22.0	4090	6.6	6.37	2.51	41.0	32.1	13.5	36.4	0.067	< 1	1.68	876	1.4	13	45
OREAS 923 (4 Acid) Cert		7.29	1.60	434	2.42	0.473	0.420	23.1	4230	6.70	6.43	2.51	42.2	31.4	14.1	35.8	0.0630	0.691	1.69	950	1.29	13.1	43.0
OREAS 621 (4 Acid) Meas		5.80	63.7		2	2.08	309	31.0	3620	3.5	3.83	1.52	17.4	15.3	9.2	30.0	0.035	5	0.50	509	23.8	5	69
OREAS 621 (4 Acid) Cert		6.40	69.0		1.69	1.97	284	29.3	3630	3.28	3.70	2.20	21.6	14.2	8.61	26.2	0.0359	4.48	0.507	532	139	6.24	91.0
Oreas 77b (4 Acid) Meas		1.83	1.7	39	< 1	2.81	1.2	1520	3280	2.4	28.4	0.35	15.5	19.8	3.4	> 10000			2.46	665	10.0	4	37
Oreas 77b (4 Acid) Cert		1.94	1.62	118	0.470	3.06	1.20	1550	3430	2.32	29.9	0.361	15.8	18.8	3.26	113000			2.59	640	9.100	3.51	34.4
Oreas E1336 (Fire Assay) Meas	511																						
Oreas E1336 (Fire Assay) Cert	510																						
Oreas E1336 (Fire Assay) Meas	505																						
Oreas E1336 (Fire Assay) Cert	510																						
Oreas E1336 (Fire Assay) Meas	508																						
Oreas E1336 (Fire Assay) Cert	510																						
Oreas E1336 (Fire Assay) Meas	506																						
Oreas E1336 (Fire Assay) Cert	510																						
OREAS 681 (4 Acid) Meas		7.88	0.2	431	1	5.66		50.6	259	4.0	7.31	1.31	17.7	12.6	6.1	505	0.154	< 1	4.92	1360	0.2	28	452
OREAS 681 (4 Acid) Cert		7.91	0.118	442	1.41	5.98		51.0	264	4.02	7.47	1.35	18.8	13.0	6.17	503	0.141	0.109	5.19	1310	0.240	27.7	478
OREAS 147 (4 Acid) Meas		5.54		1780	40	1.20		7.1	327	203	3.40	1.84	617	1700	177	23.2	0.111	< 1	0.61	410	2.5	12	306
OREAS 147 (4 Acid) Cert		4.90		1940	31.2	1.09		6.90	298	238	3.23	1.60	663	2260	1110	21.2	0.155	0.0300	0.535	390	10.6	10.7	299
OREAS 216b Meas	> 5000																						
OREAS 216b Cert	6660																						
OREAS 216b Meas	> 5000																						
OREAS 216b Cert	6660																						
OREAS 216b Meas	> 5000																						
OREAS 216b Cert	6660																						
OREAS 216b Meas	> 5000																						
OREAS 216b Cert	6660																						
OREAS 70b (4 Acid) Meas		4.33	0.2	225	< 1	3.48	0.3	85.2	58.3	3.5	5.86	0.63	15.6	35.1	3.6	2000	0.027	< 1	14.0	1210	0.5	13	83
OREAS 70b (4 Acid) Cert		3.87	0.2	202	1	3.05	0.4	78.0	52.0	3.4	5.52	0.62	15.3	34.4	3.7	2180	0.022	0.3	13.4	1150	0.6	12	74
OREAS 70b (4 Acid) Meas		3.85	0.2	200	< 1	2.92	0.3	79.0	51.3	3.3	5.45	0.60	13.8	33.3	3.4	2090	0.025	< 1	12.6	1200	0.6	13	70
OREAS 70b (4 Acid) Cert		3.87	0.2	202	1	3.05	0.4	78.0	52.0	3.4	5.52	0.62	15.3	34.4	3.7	2180	0.022	0.3	13.4	1150	0.6	12	74

Analyte Symbol	Au	Al	Ag	Ba	Be	Ca	Cd	Co	Cu	Cs	Fe	K	La	Li	Nb	Ni	P	S	Mg	Mn	Sb	Sc	Sr
Unit Symbol	ppb	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	ppm	ppm
Lower Limit	5	0.01	0.1	1	1	0.01	0.1	0.2	0.1	0.1	0.01	0.01	0.1	0.1	0.1	0.1	0.001	1	0.01	1	0.1	1	1
Method Code	FA-AA	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
1589254 Orig	246																						
1589254 Dup	249																						
1589262 Orig	7																						
1589262 Dup	8																						
1589266 Orig		1.48	0.2	23	< 1	1.61	< 0.1	3.2	11.2	< 0.1	1.47	0.25	3.9	2.3	0.9	6.1	0.006	< 1	0.37	277	0.2	2	20
1589266 Dup		1.42	0.1	25	< 1	1.71	0.1	3.5	11.7	< 0.1	1.53	0.27	4.1	2.5	1.1	5.8	0.006	< 1	0.38	275	< 0.1	2	21
1589274 Orig	179																						
1589274 Dup	183																						
1589276 Orig	876	7.59	45.0	291	< 1	0.18	4.5	9.9	2770	1.5	3.30	2.56	14.2	39.5	0.6	8.1	0.054	< 1	2.01	396	< 0.1	9	11
1589276 Split PREP DUP	944	7.16	45.3	237	< 1	0.18	4.4	9.6	2820	1.4	3.21	1.37	15.0	38.4	3.4	7.8	0.052	< 1	1.89	390	0.2	9	11
1589278 Orig		8.35	35.7	369	< 1	0.13	1.9	9.3	1020	1.9	3.30	3.91	13.8	43.8	0.2	8.4	0.050	< 1	2.46	426	< 0.1	11	9
1589278 Dup		8.31	33.3	360	< 1	0.14	2.1	9.0	1060	1.9	3.27	3.92	14.2	43.5	0.3	9.1	0.053	< 1	2.44	427	< 0.1	11	9
1589288 Orig	8																						
1589288 Dup	8																						
1589294 Orig		3.63	< 0.1	14	< 1	8.62	0.2	13.5	4.3	< 0.1	3.65	0.10	4.7	2.5	1.2	22.8	0.041	< 1	2.38	1520	0.2	6	72
1589294 Dup		3.74	< 0.1	14	< 1	8.56	0.2	14.0	4.9	< 0.1	3.78	0.10	4.8	2.7	1.1	22.8	0.041	< 1	2.36	1540	0.2	6	71
1589296 Orig	104																						
1589296 Dup	89																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank	< 5																						
Method Blank		< 0.01	< 0.1	< 1	< 1	< 0.01	< 0.1	< 0.2	< 0.1	< 0.1	< 0.01	< 0.01	< 0.1	0.4	< 0.1	< 0.1	< 0.001	< 1	< 0.01	8	< 0.1	< 1	< 1
Method Blank		< 0.01	< 0.1	< 1	< 1	< 0.01	< 0.1	< 0.2	< 0.1	< 0.1	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 1	< 0.01	5	< 0.1	< 1	< 1
Method Blank		< 0.01	< 0.1	< 1	< 1	< 0.01	< 0.1	< 0.2	0.3	< 0.1	< 0.01	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.001	< 1	< 0.01	9	< 0.1	< 1	< 1

Analyte Symbol	Ta	Tl	U	V	W	Zn	Zr	As	Bi	Ce	Cr	Hf	Na	Rb	Pb	Mo	Sn	Th	Ti	Y
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm
Lower Limit	0.1	0.05	0.1	4	0.1	1	0.1	1	0.1	1	1	0.1	0.001	0.1	0.1	0.1	0.1	0.1	0.001	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
Oreas 72a (4 Acid) Meas								6			178									
Oreas 72a (4 Acid) Cert								14.7			228									
Oreas 72a (4 Acid) Meas								4			167									
Oreas 72a (4 Acid) Cert								14.7			228									
OREAS 101b (4 Acid) Meas			434	67						1440					21.7	18.9		36.9	0.338	119
OREAS 101b (4 Acid) Cert			387	77						1325					23	20.1		36.4	0.35	133
OREAS 101b (4 Acid) Meas			375	77						1200					23.3	21.4		35.5	0.348	128
OREAS 101b (4 Acid) Cert			387	77						1325					23	20.1		36.4	0.35	133
OREAS 98 (4 Acid) Meas						1280			78.3						262		167			
OREAS 98 (4 Acid) Cert						1360			97.2						345		206			
OREAS 98 (4 Acid) Meas						1380			93.1						339		231			
OREAS 98 (4 Acid) Cert						1360			97.2						345		206			
OREAS 13b (4-Acid) Meas						132		53			> 10000					9.1				
OREAS 13b (4-Acid) Cert						133		57			8650.00					9.0				
OREAS 904 (4 Acid) Meas	0.7	0.56	8.8	85	2.4	26	186	110	4.1	90	66	5.1	0.038	141	11.1	2.2	3.1	15.4		32.4
OREAS 904 (4 Acid) Cert	0.540	0.520	8.43	76.0	2.12	26.3	171	98.0	4.05	86.0	54.0	5.00	0.0340	130	10.6	2.12	2.83	14.3		31.5
OREAS 904 (4 Acid) Meas	0.4	0.52	7.8	69	1.8	25	162	106	4.0	80	46	4.9	0.036	142	10.3	2.0	2.7	14.4		29.4
OREAS 904 (4 Acid) Cert	0.540	0.520	8.43	76.0	2.12	26.3	171	98.0	4.05	86.0	54.0	5.00	0.0340	130	10.6	2.12	2.83	14.3		31.5
OREAS 904 (4 Acid) Meas	0.5	0.53	8.6	77	1.8	27	160	110	3.9	79	55	4.7	0.038	135	11.0	2.2	2.8	14.3		30.3
OREAS 904 (4 Acid) Cert	0.540	0.520	8.43	76.0	2.12	26.3	171	98.0	4.05	86.0	54.0	5.00	0.0340	130	10.6	2.12	2.83	14.3		31.5
OREAS 45d (4-Acid) Meas	< 0.1	0.24	2.7	71	0.1	44	40.5	6	0.3	39	421	1.1	0.093	43.4	21.9	0.2	0.5	13.8	0.164	11.3
OREAS 45d (4-Acid) Cert	1.02	0.27	2.63	235.0	1.62	45.7	141	13.8	0.31	37.20	549	3.830	0.101	42.1	21.8	2.500	2.78	14.5	0.773	9.53
OREAS 45d (4-Acid) Meas	< 0.1	0.25	2.6	152	0.3	46	109	8	0.3	35	545	3.1	0.094	45.2	22.6	1.1	0.8	14.1	0.460	11.0
OREAS 45d (4-Acid) Cert	1.02	0.27	2.63	235.0	1.62	45.7	141	13.8	0.31	37.20	549	3.830	0.101	42.1	21.8	2.500	2.78	14.5	0.773	9.53
OREAS 96 (4 Acid) Meas						481			25.4						94.5		64.9			
OREAS 96 (4 Acid) Cert						457			26.3						101		65.6			
OREAS 96 (4 Acid) Meas						450			25.4						93.2		64.4			
OREAS 96 (4 Acid) Cert						457			26.3						101		65.6			
OREAS 96 (4 Acid) Meas						451			27.6						103		64.4			

Analyte Symbol	Ta	Tl	U	V	W	Zn	Zr	As	Bi	Ce	Cr	Hf	Na	Rb	Pb	Mo	Sn	Th	Ti	Y
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm
Lower Limit	0.1	0.05	0.1	4	0.1	1	0.1	1	0.1	1	1	0.1	0.001	0.1	0.1	0.1	0.1	0.1	0.001	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
OREAS 96 (4 Acid) Cert						457			26.3						101		65.6			
OREAS 923 (4 Acid) Meas	1.1	0.87	3.2	89	4.9	316	140	7	28.6	85	71	3.7	0.320	153	87.5	1.0	13.9	16.8	0.391	24.5
OREAS 923 (4 Acid) Cert	1.11	0.860	3.06	91.0	4.85	345	116	7.61	21.4	83.0	71.0	3.42	0.324	166	83.0	0.930	13.3	16.5	0.405	26.4
OREAS 621 (4 Acid) Meas		2.16	2.9	37	2.1	> 10000	154	82	4.0	46	35	3.8	1.39	72.7	> 5000	13.4	5.8	4.1	0.193	10.7
OREAS 621 (4 Acid) Cert		1.96	2.83	31.8	2.35	52200	168	77.0	3.93	46.6	37.1	4.41	1.31	84.0	13600	13.6	5.25	7.48	0.149	11.1
Oreas 77b (4 Acid) Meas	0.2	1.41	1.7	30	2.8	211	45.0	1910	3.3	26	244	1.2	0.407	21.4	62.6		1.7	5.8	0.060	7.2
Oreas 77b (4 Acid) Cert	0.280	1.37	1.71	33.6	3.07	205	37.9	2050	3.44	27.7	280	1.15	0.434	19.1	61.0		1.59	6.61	0.0640	6.55
Oreas E1336 (Fire Assay) Meas																				
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OREAS 681 (4 Acid) Meas	0.4		1.4	225	0.9	88	57.3		< 0.1	36	1490	1.8	1.50	80.8	10.1	1.5	1.8	6.5	0.597	16.2
OREAS 681 (4 Acid) Cert	0.420		1.44	253	1.09	88.0	58.0		0.0980	40.6	1640	1.70	1.61	80.0	10.2	1.38	1.89	6.55	0.588	17.5
OREAS 147 (4 Acid) Meas	2.9	11.8	15.6	44		152	38.2	18	12.3	1130	57	0.8	0.935	1140	29.4	2.9		87.7	0.232	28.8
OREAS 147 (4 Acid) Cert	17.8	10.8	15.8	60.0		138	105	36.0	12.5	1110	57.0	2.99	0.948	1160	27.8	7.99		93.0	0.470	26.3
OREAS 216b Meas																				
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OREAS 70b (4 Acid) Meas	0.3	0.34	1.7	41	4.6	126	71.0	155	0.9	31		1.8	0.803		13.7	2.9	1.5	6.8	0.203	10.3
OREAS 70b (4 Acid) Cert	0.3	0.33	1.7	67	4.9	112	66.0	148	0.8	28		1.9	0.769		13.7	3.3	1.2	6.9	0.181	9.85
OREAS 70b (4 Acid) Meas	0.3	0.33	1.6	50	3.4	106	63.1	149	0.9	24		1.8	0.766		12.9	3.3	1.2	6.1	0.187	8.7
OREAS 70b (4 Acid) Cert	0.3	0.33	1.7	67	4.9	112	66.0	148	0.8	28		1.9	0.769		13.7	3.3	1.2	6.9	0.181	9.8

Analyte Symbol	Ta	Tl	U	V	W	Zn	Zr	As	Bi	Ce	Cr	Hf	Na	Rb	Pb	Mo	Sn	Th	Ti	Y	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	
Lower Limit	0.1	0.05	0.1	4	0.1	1	0.1	1	0.1	1	1	0.1	0.001	0.1	0.1	0.1	0.1	0.1	0.001	0.1	
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	
1589254 Orig																					
1589254 Dup																					
1589262 Orig																					
1589262 Dup																					
1589266 Orig	< 0.1	< 0.05	0.2	19	0.2	86	7.2	< 1	0.6	6	26	0.3	0.071	5.0	13.3	0.4	8.0	0.3	0.068	1.9	
1589266 Dup	< 0.1	< 0.05	0.2	21	0.3	72	7.1	< 1	0.6	6	11	0.3	0.071	5.3	3.2	0.3	0.5	0.3	0.071	1.9	
1589274 Orig																					
1589274 Dup																					
1589276 Orig	< 0.1	0.38	0.8	23	0.5	1890	67.0	5	36.7	29	8	2.3	0.321	72.2	262	1.6	6.8	3.5	0.248	8.2	
1589276 Split PREP DUP	0.1	0.36	0.8	22	2.7	1810	67.3	5	34.1	30	12	2.3	0.307	52.7	261	1.8	7.7	3.7	0.252	8.3	
1589278 Orig	< 0.1	0.49	0.7	13	0.2	1300	36.2	2	59.6	28	7	1.4	0.244	99.2	197	0.1	1.2	3.6	0.083	8.1	
1589278 Dup	< 0.1	0.48	0.7	17	0.1	1280	45.6	2	59.1	29	9	1.7	0.242	97.7	195	0.2	1.8	3.6	0.124	8.0	
1589288 Orig																					
1589288 Dup																					
1589294 Orig	< 0.1	< 0.05	0.1	79	0.3	60	18.5	< 1	2.9	9	20	0.6	0.059	2.7	3.7	2.6	0.5	0.4	0.112	7.7	
1589294 Dup	< 0.1	< 0.05	0.1	80	0.4	64	20.3	< 1	2.9	9	12	0.6	0.062	2.6	3.7	1.7	0.5	0.4	0.111	7.7	
1589296 Orig																					
1589296 Dup																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank																					
Method Blank	< 0.1	< 0.05	< 0.1	4	< 0.1	< 1	< 0.1	< 1	< 0.1	< 1	8	< 0.1	< 0.001	< 0.1	0.1	< 0.1	0.2	< 0.1	< 0.001	< 0.1	
Method Blank	< 0.1	< 0.05	< 0.1	< 4	< 0.1	< 1	0.3	< 1	< 0.1	< 1	5	< 0.1	< 0.001	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.001	< 0.1	
Method Blank	< 0.1	< 0.05	< 0.1	< 4	< 0.1	< 1	0.2	< 1	< 0.1	< 1	8	< 0.1	< 0.001	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.001	< 0.1	