## GEOTECHNICAL REPORT ON THE HINZER, DIRKS, DIRKS SHININGTREE BASE AND PRECIOUS METALS PROPERTY CHURCHILL TOWNSHIP, ONTARIO

J.B. Hinzer P. Geo.

February 2, 2015

## INDEX

Introduction	3
Property Description	4
History	6
General Geology Detailed geology	9
2013 Work Program and analytical results Geological mapping Trenching/Stripping/ Sampling	10 11 11
Summary and Conclusions	16
Recommendations	16
Selected References	17
Certificate	
List of Figures	5

Figure 1 Location map	5
Figure 2 Claim and work location map	7
Figure 3 detailed trench sketch	
Figure 4 Sample locations 2013 work programs	14
Figure 5 Sample locations 2013 detailed area	15

# List of Tables

List of claims	4
Selected Rock samples 2008	8
Selected Rock samples 2012.	8
Selected Rock samples	13
	List of claims Selected Rock samples 2008 Selected Rock samples 2012 Selected Rock samples

Appendix 1 Assay Certificates

Appendix 2 Sample Descriptions

Appendix 3 Trench Sketches

## **INTRODUCTION**

P.P. Dirks, P.J. Dirks and J.B. Hinzer engaged local prospector D. Hiltz and Adou Katche (Geologist in Training) to conduct a trenching and mapping program and collect rock chip samples in October 2013. To follow up anomalous gold mineralization encountered during the previous 2011 and 2012 trenching and sampling programs. The work consisted of the detailed mapping of the main trench areas including the accurate location and orientation mapping of the previous trenches as well as digging and sampling additional trenches to confirm the extent and orientation of the mineralization and sampling of the new area approximately 150 metres to the northwest as well as intervening targets.

The exploration work was conducted in accordance with new duty to consult guidelines. A work program was submitted to the MNDM and approval was obtained following receipt of approval and acceptance of work program plans.

P. Dirks and partners have been prospecting for gold in this area since 1999. The current claim unit is the residual property of a large claim block originally optioned from M. Caron (CORPOMIN) in 1998. Since that time the partners assessed fourteen sites of anomalous gold mineralization, previously identified by Northgate, and since 2007 the partners have focused their work in the eastern part of the original Northgate property.

The current property holding, consists of one eight unit claim registered in the name of Peter P. Dirks. The claim unit covers several north – northwest trending locally silicified and carbonated shears zones and hosts several areas of anomalous gold values ranging from background up to 1.73g/t Au from rock chip samples and one channel –chip sample located just south of the old Northgate 7+00S tie line which assayed 2.05g/t Au over 0.2m. All of the anomalous gold mineralization are concentrated in a north-northwest trending valley, thought to represent shear zone or fault. A 2004, IP survey, indicated several northwest trending chargeability anomalies more or less co-incident with the anomalous gold mineralization. The original trenching in 2007-2008 identified a mineralized quartz rich shear zone with anomalous gold mineralization ranging up to 2090 ppb Au. This original zone has now been traced for more that 125m along a strike.

The samples were analyzed by fire assay and ICP by ACTLABS of Ancaster Ontario.

This report presents the results of the follow up mapping and trenching programs completed in 2013.

## **PROPERTY DESCRIPTION**

The property is located just to the north of Shiningtree, Ontario, being within the Shiningtree Area, Larder Lake Mining Division, in Churchill Township G 3210, NTS sheet 41/P/11 Lat. 47°37' Long. 81°18' (see Figure 1).

The property currently consists of 1 unpatented mining claim (containing 8 claim units) as shown on Fig.2, and listed in Table 1 below. The recorded owner is Peter P. Dirks.

## **TABLE 1**LIST OF CLAIMS

<u>Claim Number</u> <u>Due date</u>

Claim L 3007649

2015 February 05

Claim posts	Easting	Northing
Post 1	479189	5273996
Post 2	479186	5272314
Post 3	478386	5272302
Post 4	478379	5273994

UTM WGS 84 Zone 17

The center of the property lies 6.4 km. (4 miles) northwest of the town of Shiningtree along Highway 560. Highway 560 is a tarred road, running east from Highway 11 at the town of Engelhart to intersect near the midpoint of Highway 144 which links Sudbury and Timmins (see Figure 1). The claims are accessible in summer by boat following a 10-km canoe route, approximately 30-40 minutes, from the village of Shining Tree where accommodation and boat rental are available. One of the lodges in Shiningtree is operates a winter rest station along one of the provincial skidoo trails facilitating winter skidoo access to the claims along the same route used in the summer.

Relief is gentle (5-30m) and outcrop exposure is extensive in most parts. The property is wooded with mixed vegetation and is part of a managed forest harvest area. Forest harvesting operations have been in progress to the north, east and west of the property during the last 3-5 years.

The electrical power grid traverses the town of Shining Tree. The property is located approximately half way between Sudbury and Timmins (two hours by road) from two major mining centers. Unemployment in the area is high.

JBR PER / JBR\_03\_Loc\_Map.cdr Last revision date: Thursday 24 January 2013



## HISTORY

The Shining Tree area, because of its generally similar geology to the Timmins camp, has received periodic exploration for both gold and base metals since the early 1900's.

The relationship between mineral occurrences and structure was well presented by Kutina and Fabbri (1971) for this part of the Abitibi area. Their work showed a strong correlation of both base metal and gold occurrences with major east-west and north-south structures, and especially their zones of intersection. Regional geological mapping by the O.G.S. (Map 2484, 1984) shows the geological similarities between both the Timmins and Shining Tree area and the presence of similar NNW and ENE structures.

Many gold showings were actively explored during the 1970's and late 1980's in the eastern and southeastern parts of Churchill Township. Base metals are reported in adjacent townships to the north and west and more recently in the east.

Following the release of the Ontario Geological Survey Geoterrex airborne survey in 1990 activity in this area was reactivated. Kidd Creek Mines reported sporadic copper mineralization from their 1991 drill program which tested several airborne electromagnetic anomalies near a previously reported grab sample assaying 2.57% Cu immediately north of the claim group.

The claim group itself, was optioned by Northgate Mines Ltd. in 1990 for its gold potential. Northgate field crews completed geological, soil geochemical and ground magnetic and VLF surveys in 1990. Soil and rock geochemical sampling identified numerous (14) sites of anomalous gold mineralization. Follow up work consisting of limited channel sampling and some whole rock analysis encountered encouraging gold values at three sites with values of up to 6 g/tonne. Other anomalous areas, were never followed up, or were not ranked as significant. The absence of airborne electromagnetic anomalies precluded the testing of samples for base metal mineralization by Northgate. Northgate relinquished the option on the property in 1992 as part of its restructuring in the mid 1990's.

Since 1999 the partners have conducted successive prospecting visits to the property. During the initial visits most of the gold anomalies identified by Northgate were re-sampled. Several of the more prospective gold anomalies were subsequently stripped and sampled in detail. Seven sites of anomalous gold mineralization were sampled in detail by the partners and at three sites anomalous gold mineralization in excess of 1.35 g/tonne Au (including 1.35 g/t over 1.4m) and one area of anomalous Cr 3280 ppm and Ni 1090 ppm were confirmed.

The area found to containing anomalous Cr and Ni was tested for PGE mineralization in 2000. No anomalous concentrations were encountered.

Since 2002 the partners have focused on the area covered by the current claim. In 2004, three short east west trending IP lines were surveyed to traverse the north trending valley (shear/fault) zone generally paralleling the former Northgate gridline 14+00E. The three lines along the 7+00S tie line, 700m to the south and 250m to the north all encountered one or more weak to moderate chargeability anomalies. These anomalies were interpreted to show several parallel northwest trending chargeability zones. The 2005 follow up work showed one of these coincided closely with a zone of anomalous weak to moderate Au and As mineralization on surface. The easternmost IP anomaly coincided with a sheared graphitic? and sulphide bearing (3-8% pyrite) zone. The southernmost anomaly remains unexplained.



The rock and trench sampling in 2006, 2007 and 2008 led to the discovery of a mineralized shear zone (2-4m wide) with anomalous gold mineralization of up to 2090 ppb Au (10+ metres strike length) bearing approximately 120° in the vicinity of previous anomalous grab samples (2002). The program in 2008 consisted of trenching and sampling three parallel, 30-40m long east west trending trenches in 2008. The trenches were manually dug, 5 metres apart. The trenches were dug 10, 15 and 20m north of the 2007 sampling program. Twenty nine samples were collected, Table 2 summarizes the best results. These samples were collected immediately south of a moderate IP chargeability anomaly along old Tie line 7 S.

Sample #	Au ppb	As ppm	Ni ppm	Zn ppm	Mo ppm
6	1540	736	32	42	*
7	1220	480	28	45	*
7A	1900	712	37	41	*
13	122	166	27	73	*
14	1720	376	18	43	10
15	320	136	29	64	*
16	20	30	30	69	*
20	1300	287	30	81	*
21	97	119	24	84	*
28	2090	770	23	52	4

<b>TADIC 2.</b> SCIECTED TOOL CHID SATISTICS $200$	Table 2.	Selected	rock chi	p samples	2008
--	----------	----------	----------	-----------	------

\*- below detection limit

Additional trenching in 2011extending the northern most trench encountered anomalous gold values up to 2200 ppb from grab sampling in the trench.

### Table 3. Selected rock chip samples 2012

Analyte Symbol	Au	Ag	Cu	Au
Unit Symbol	ppb	ppm	ppm	ppb
Detection Limit	5	0.2	1	1
Analysis Method	INAA	MULT INAA / AR-ICP	AR-ICP	FA-INAA
0-11	1860	0.4	26	1520
1-11	2700	1.1	78	2200
2-11	702	0.4	62	568
3-11	843	0.7	61	756
4-11	115	0.3	79	99
5-11	499	0.4	59	460
6-11	190	0.2	31	169
7-11	844	0.3	63	719

Mineralization is hosted in a sheared mafic volcanic with quartz veins (silicification and local carbonate alteration) and disseminated sulphides (2-8%).

## **GENERAL GEOLOGY**

Archean greenstone formations consisting of both calc-alkaline and tholeiitic rocks equivalent to the Timmins area Cycle II, III and IV groups underlie the area (Carter 1980) with strikes north to northwest and dipping steeply to the east. The tholeiitic rocks of the Shining Tree area are considered equivalents of the (Timmins) Kinojevis group, which host much of the prolific gold mineralization in the Timmins camp.

Field mapping by Northgate (Doyle 1992) identified dominant mafic and intermediate volcanic rocks. Whole rock geochemistry confirmed the mafic rocks as primarily potassium rich tholeiitic basalts and the intemediate rocks as potassium poor calc-alkaline dacites, equivalent to (the mineralized Cycle III rocks of the Timmins area). Felsic volcanics are present as narrow bands in the northeast and metasediments are interbedded in the southwestern areas of the claim group. Ultramafic rocks although not identified on the claims by Northgate have been mapped by Carter (1980) at the western claim boundary and along strike southeast of Saville Lake. Strikes vary from 310-340 degrees, dips are sub vertical. The dominant structures observed from air photo, aeromagnetic and satellite imagery are a series of N-S to NNW-SSE and E-W to ENE-WSW lineaments interpreted to be major fault lines. Topographic features strongly reflect these directions. Carter (1980) identified most of the major N-S and NNW-SSE faults, the most significant being along the western township boundary.

## **Detailed Geology**

The underlying rocks can be grouped into three broad categories. The dominant rocks are mafic volcanic. Both pillowed flows and more massive rocks have been identified. Quartz and quartz feldspar porphyries occur both as dykes and irregular intrusives in the central portion of the claim area. Some of the more massive mafic volcanic rocks contain locally silicified areas with some quartz phenocrysts.

The main area of interest are two sub- parallel north to slightly northwest trending shear-fault zones approximately 75-90 metres apart traversing the central part of the claim. They occupy a small lake and pond in the north and follow a valley between two outcrop areas in the northern half of the claim and expose a small highly carbonated cliff in the southern half of the property. Anomalous gold mineralization has been encountered in surface exposures at several locations along the structures primarily in the northern half of the property. Gold mineralization is associated with elevated arsenic and samples locally enriched in Pb are often depleted in Cr and Cu.

Sheared, silicified and porphyritic rocks are exposed in the central part of this structural zone and as well as along the low ground on either side of the valley. Gossany sulphide rich bands and quartz veins also occur locally.

The porphyrytic rocks range from medium to coarse-grained are usually siliceous but can be locally strongly carbonated. Small 1-3 mm clear to dark gray quartz eyes are common throughout. One to three percent disseminated pyrite and pyrrhotite are present locally. The majority of the porphyritic rocks are light green to mid gray and dacitic in appearance. Locally, some zones however are darker green and coarse grained.

The mafic rocks on the east side of the central structural (shear) zone are primarily intrusive, dark green, massive, medium to coarse grained. Grains include feldspar and locally tiny black 1-2mm quartz phenocrysts and hornblende? needles. One to two percent disseminated sulphides are common. Alteration is weak, minor carbonate and local epidote veinlets are present on fractures.

Those on the west side are primarily massive mafic volcanic flows or sills. These rocks are mid to dark green with grain size ranging from fine to coarse. Pillows were observed in one area suggesting these might be a series of flows. One to two percent disseminated sulphides are common. Epidote and carbonate alteration is variable.

## 2013 PROGRAM

Three days of mapping, trenching and rock chip sampling was carried out by geologist in training Adou Katche from Buffalo from 27<sup>th</sup> to 31<sup>st</sup> of October 2013. Prospector David Hiltz of Shiningtree completed a total of 11 days of work between October 10 and November 18, including trenching and plugger work in preparation for blasting and sampling sample as well as assisting the geologist. Tom O'Connor of the Shiningtree area was hired for one day to complete the blasting. The author completed the assessment report between January 28 and February 2, 2015. An itinerary of the field work is included in appendix 3.

The 2013 work program mapping in detail the area of the 2007-2012 work programs, recording exact coordinates as well as geologically mapping the existing trenches (see Figure 3) and verifying previous sample locations, making accurate trench sketches and sections (see Appendix 3) as well as digging additional in-fill trenches 2013 mineralized zones encountered.

Two (2) new trenches and four (4) stripped trench zones (surface exposure trenches) on top of outcrops (see Figure 3 Figure 4 and 5) were chip channel sampled. Reconnaissance samples were collected from adjacent outcrop areas. Geological mapping was conducted along 6 crosscutting traverse lines (see Figure 3) primarily to map in detail areas of the 2007, 2008 and 2011 and 2012 trenching as well as adjacent and intermediate areas.

In total approximately 590 m of geological mapping including the shallow trenches was completed as well as 2 new trenches 30 m long, 0.5 m wide and maximum 0.5 m deep; and 4 trench/stripped surface of 53.5m length by 0.5m width area. The field geological work included mapping the 7 former 2007 and 2008 trenches as well as the 6 additional short 2013 trenches (see Figures 4 and 5).

Both former and new trenches were mapped and section sketches prepared. The work was centered in the area of a major deformation are where crosscutting NNW-SSE and ENE-WSW structures were observed (see Figure 3).

Four (4) main outcrop areas were also spot checked and bearing of multidirectional structural alteration and shearing was recorded.

A total of 18 samples were sent for assay consisting of 6 trench chip samples and 12 grab samples.

The work program was carried out under the direction of J. Hinzer P. Geo. of Niagara Falls ON.

Shovels, axe, pickaxe, chisels, hammer were tools used; and trenching consisted of manual pick and shovel work to remove overburden and expose the bedrock. Locally sheared zones were drilled and blasted to expose fresh rock. Chip sampling was limited to accessible bedrock sites where blasting was not required. The depth of the trenching ranges from a few 10s of centimeters to a maximum of approximately 1.3 metres, and averaged about 0.5m, depending on depth to bedrock. The length and depth of trenches was limited by the local water table and the ability with the tools available to penetrate the composition of the local overburden. Sample descriptions are appended (see Appendix 2)

## **Geological Mapping**

Reconnaissance geological mapping completed along traverse lines and detailed mapping of the new and previous trenched areas is presented in Figure 3. Two sub-parallel shear deformation zones showing abundant quart-carbonate alteration and local gossan areas with disseminated sulphides were observed in two areas. These were located at the edges of a valley, overburden thickness and rubble precluded testing the intervening area.

Detailed geological sections of trenches and stripped areas were prepared for both new and previous see Appendix 3.

## Trenching/Stripping/Sampling

The trenches and stripped lines were emplaced perpendicular or sub perpendicular to the major NNW-SSE strike. The sample lines were marked by a bio degradable spray paint crosscutting the exposed geological structures. The samples are selected and divided according to the alteration, the mineralization, and the rock type. Chisel and hammer were used to collect rock chips, and then kept in conventional geological plastic labeled bags.

The chip sampling program was coupled with the collection grab samples collected from boulders and blocks in the vicinity of outcrops near both previous and recently sampled area.

Photo of Striped /Trench 3 area showing chip sample line.



JBH PER / JBH\_04\_Prop\_Geol.dwg (Layout: 1.25k) Last revision date: Thursday 29 January 2015



Eighteen samples were submitted to Activation Laboratories Ltd. of Ancaster Ontario an ISO accredited facility for both ICP and follow up Fire Assay of significant anomalous samples. The assay values range from 13-1180 ppb Au. This now extends the length of the main anomalous gold bearing, northwest trending mineralized shear/vein zone for a strike length of at least 75 m. of the southern detailed zone. (see Figure 4, 5)





The complete results and certificate are presented in Appendix I.

This now extends the length of the main anomalous gold bearing, northwest trending mineralized shear/vein zone for a strike length of at least 125 m in the southern portion of the detailed work area. Continuation of the sheared mineralized zone is also observed approximately 150m to the northwest (see Figures 4 and 5).

These samples confirm the presence of anomalous gold values as first identified by Northgate in the 1990s. One of the samples (299027) from this area also returned elevated Molybdenum (202 ppm). Results also show a correlation between gold and arsenic.

The rock samples from the above program were collected by Adou Katche and/or David Hilts and placed into plastic bags with appropriate descriptive details and securely bound with tape and then shipped by David Hiltz directly to Peter Dirks in St. Catharines. Upon arrival they were delivered still sealed to Joe Hinzer P. Geo. for examination, classification, description and selection of samples for analyses (see Appendix 2). All selected rock samples were prepared for shipment, to the lab, by J. Hinzer. All samples selected for assaying were placed in plastic bags and sealed by the author, with proper identification and forwarded to Activation Laboratories of Ancaster, Ontario for analysis. Appropriate splits of samples were retained as reference duplicates. Duplicate analyses and quality control procedures performed by the lab were considered sufficient QA/QC procedures for this stage of exploration.





## SUMMARY and CONCLUSIONS

Sampling to date has confirmed the presence of at least three sites of anomalous gold mineralization along a strike length of approximately 200 metres at several locations within the predominantly northwest bearing structures which traverse the property.

Mineralization is generally hosted in quartz veins within sheared mafic volcanic rocks with minor sulphides (2-8%).

The zones of anomalous gold mineralization also appear to coincide with several moderate IP chargeability anomalies form a previous survey along old Tie line 7 S and a second parallel line approximately 175 metres to the north.

The most recent 2013 sampling has extended an approximately 2-4m wide north west trending shear zone trough more than 6 trenches for a total strike length of at approximately 100-125m. Twelve of the 18 samples returned anomalous gold mineralization from the along this trend with the ranges from 13-1180 ppb Au, the highest value from 6.3 m long chip sample. The 2013 trenching and sampling confirms the extent of the zones of anomalous gold mineralization to be more than 200m.

The coincidence of the anomalous gold, mineralized shear and IP anomaly warrant follow up exploration.

## RECOMMENDATIONS

Additional work including trenching is recommended to try and expose and sample the zones of anomalous mineralized further along strike to both the northwest and south east.

If possible additional trenching and sampling should be carried out with mechanical equipment to access the areas where overburden thickness is more than 1.5m.

Where possible the shear zone should be cleaned to allow a complete saw channels to be cut across the zone to obtain a more representative samples.

Exploration should also focus on locating additional exposures both of parallel shear zones and further along strike especially within the local valley setting.

Joe Hinzer P. Geo.

## SELECTED REFERENCES

Kutina, J. and Fabbri, A (1972)	Relationship of Structural Lineaments and Mineral Occurrences in the Abitibi area of the Canadian Shield G.S.C. Paper 71-9
Carter, M. (1980)	Geology of Connaught and Churchill Twps. O.G.S. Report 190
MERQ – OGS (1983)	Lithostratigraphic map of the Abitibi Subprovince; Ontario Geological Survey/Ministére de l'Énergie et des Ressources, Québec; 1:500,000 Map 2484 Ontario or DV 83-16 in Québec
Ontario Geological Survey (1990)	Airborne electromagnetic and total intensity magnetic survey Shining Tree area. Ontario Geological Survey Maps, 81425, 81426,
Doyle, P. (1992)	Report on Northgate Exploration Ltd. Churchill Project (assessment file report)
Kallfa, G., Kapllani. L.,( 2004)	Assessment Report Regarding the IP \ RESISTIVITY SURVEYS at the SHINING TREE PROPERTY, Shining Tree, Ontario on behalf of P.P. DIRKS, P.J.DIRKS and J.B.HINZER Toronto, Ontario

## CERTIFICATE

I, JOE B. HINZER, am a geologist with my mailing address at 6395 Russell Street in the city of Niagara Falls, Ontario.

I have been practicing my profession for 43 years and am a graduate of the University of Waterloo, 1971 B. Sc. and the University of Western Ontario, 1977 M.Sc. and am a Fellow of the Geological Association of Canada and am a practicing member of the APGO license No. 0146.

The author warrants that he has visited the property on numerous occasions between 1998 and 2008 and has personally examined and selected and submitted all the samples for assaying. The field work and sample collection were carried out on the authors instruction and direction. Data for this report is based on data collected from the public domain and from personal knowledge of this property based on previous property visits. Conclusions and recommendations are based on the author's interpretation of the data and the author's personal experience.

f K.>

Joe Hinzer P. Geo.

Appendix I

Assay Certificates

Quality Analysis ...



### Innovative Technologies

 Date Submitted:
 15-May-14

 Invoice No.:
 A14-03331

 Invoice Date:
 11-Jun-14

 Your Reference:
 SHININGTREE PROJECT

P. Dirks c/o Joe Hinzer 6 Goldsmith Ave. St. Catherines Ontario L2M 2V8 Canada

ATTN: Peter Dirks

# CERTIFICATE OF ANALYSIS

18 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1EPI INAA(INAAGEO)/Aqua Regia ICP(AQUAGEO)

REPORT A14-03331

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

CERTIFIED BY:

Emmanuel Eseme , Ph.D. Quality Control



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

Page 1/3

#### Activation Laboratories Ltd.

Report: A14-03331

Analyte Symbol	Au	Mass	Fe	Au	Ad	Cd	Cu	Mn	Mo	Ni	Pb	Zn	S	As.	Ba	Hg	Sb	W	Mass
Unit Symbol	ppb	a	96	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	a
Detection Limit	1	-	0.02	5	0.2	0.5	1	2	2	1	2	1	0.001	2	50	1	0.2	4	T
Analysis Method	FA-INAA	FA-INAA	INAA	INAA	MULT INAA / AR-ICP	AR-ICP	INAA	INAA	INAA	INAA	INAA	INAA							
299019	-		6.74	<5	82.4	< 0.5	271	1080	119	59	<2	59	0.074	12	< 50	<1	1.2	<4	28.8
299020		1	6.38	133	3.5	< 0.5	67	1810	8	44	3	52	0.858	84	< 50	< 1	1.4	11	26.9
299021	1	1	7.44	65	4.7	< 0.5	120	1410	38	55	< 2	72	0.332	46	< 50	< 1	1.6	15	27.7
299022			3.34	36	2.1	< 0.5	78	1090	17	40	3	39	0.151	15	< 50	< 1	< 0.2	<4	24.5
299023		1	5.83	< 5	1.2	< 0.5	63	1230	22	117	< 2	41	0.178	22	< 50	< 1	2.7	<4	27.5
299024	1.000	1	7.21	56	0.6	< 0.5	107	1200	<2	64	< 2	66	0.281	18	< 50	< 1	0.5	<4	27.4
299025			6.10	<5	1.4	< 0.5	221	1080	2	133	< 2	48	0.051	10	810	< 1	1.4	<4	26.0
299026		1.	0.72	< 5	0.5	< 0.5	121	885	118	218	<2	76	0.146	46	< 50	< 1	2.0	<4	27.5
299027			5.38	13	0.3	< 0.5	76	1320	202	112	< 2	47	0.053	22	< 50	< 1	1.0	<4	24.4
299028			6.48	< 5	0.5	< 0.5	95	988	< 2	194	< 2	56	0,873	18	770	< 1	0.0	<4	26.5
299029			6.80	64	1.4	< 0.5	66	1750	3	54	< 2	52	0.155	16	< 50	< 1	0.7	<4	24.5
299030			1.48	< 5	0.6	< 0.5	10	352	8	12	< 2	25	0.015	10	< 50	< 1	0.6	< 4	22.8
299031			6.53	90	0.4	< 0.5	218	1120	3	60	<2	66	0.126	22	< 50	< 1	1.5	<4	23.2
299032			1.82	119	0.9	< 0.5	13	319	8	13	2	36	0.088	10	< 50	< 1	0.7	<4	21.3
299033	1180	20	8.54	1180	1.3	< 0.5	40	973	26	18	9	50	2.505	404	< 50	< 1	3.2	9	24.9
299034		1	6.49	29	< 0.2	< 0.5	72	1140	<2	188	< 2	61	0.096	29	< 50	<1	1.0	<4	23.6
299035			5.69	25	0.4	< 0.5	66	1040	4	31	<2	48	0.353	18	< 50	< 1	1.2	<4	23.6
299036			6.42	105	0,3	< 0.5	80	1310	11	32	<2	39	0.321	41	< 50	< 1	23	8	22.8

Page 2/3

#### Activation Laboratories Ltd.

Report: A14-03331

Analyte Symbol	Au	Mass	Fe	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	S	As	Ba	Hg	Sb	W	Mass
Unit Symbol	ppb	g	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	1	-	0.02	5	0.2	0.5	1	2	2	1	2	1	0.001	2	50	1	0.2	4	
Analysis Method	FA-INAA	FA-INAA	INAA	INAA	MULT	AR-ICP	AR-ICP	INAA	INAA	INAA	INAA	INAA	INAA						
GXR-1 Meas		-		-		1.7	1200	844	14	32	603	889	0.201			1			
GXR-1 Cert				-	1	3.30	1110	852	18.0	41.0	730	760	0.257						
GXR-1 Meas						1.6	1180	819	14	27	600	680	0.203						
GXR-1 Cert				-		3.30	1110	852	18.0	41.0	730	760	0.257		1				
GXR-4 Meas						< 0.5	6430	146	306	36	39	68	1.682				-		
GXR-4 Cert				-	-	0.860	6520	155	310	42.0	52.0	73.0	1.77	1	1	1	-	-	+
GXR-4 Meas				-	-	< 0.5	6560	149	309	37	39	71	1.708	-	-	-		-	+
GXR-4 Cert				-	-	0.860	6520	155	310	42.0	52.0	73.0	1.77			1			+
GXR-6 Meas						< 0.5	71	1130	<2	22	90	130	0.013						+
GXR-6 Cert			1	-	-	1.00	66.0	1010	2.40	27.0	101	118	0.0160			1		-	1
GXR-8 Meas	-			-	1	< 0.5	66	1110	<2	21	90	130	0.013		1	1	-		1
GXR-8 Cert	1			1	-	1.00	66.0	1010	2.40	27.0	101	118	0.0160		1				1
SAR-M (U.S.G.S.) Meas				-		4.5	324	4400	12	38	912	903		1					
SAR-M (U.S.G.S.) Cert						6.27	331	5220	13.1	41,5	982	930.0							1
SAR-M (U.S.G.S.) Meas				1		5.D	353	4730	13	41	978	990							
SAR-M (U.S.G.S.) Cert						5.27	331	5220	13,1	41.5	982	930,0	1						
CDN-GS-1L Meas	1150			-	-							1	1.11					-	+
CDN-GS-1L Cert	1160.00			-			-	-				· · · ·	1						+
OxD108 Meas	405			1	-	1								1					1
OxD108 Cert	414.000	-		-	-	-	-	-	1	-		-	-	-		-	-		+
DMMAS 118 Meas			3.10	1620							-	1.		1510	1100		6.5		-
DMMAS 116 Cert			3.12	1610										1560	1190		6.80		+
299033 Orig	1180	21	-	1										-					+
299033 Dup	1180	20																	1
Method Blank						< 0.5	2	4	<2	< 1	<2	< 1	< 0.001	1	1		1		1
Method Blank	1	-		-	-	< 0.5	<1	<2	<2	<1	< 2	<1	< 0.001	1	1	1		-	-
Method Blank	-		-	-	-	< 0.5	<1	<2	< 2	<1	<2	< 1	< 0.001	1	-		-		+
Mathead Direct	-		-	-	-	0.5	11	<2	102	1	<2	<1	< 0.001	+	1	-	-	-	-

Page 3/3

QC

Appendix II

**GPS** Trench locations

Sample Description Sheets

		Easting (m)	Northing (m)	Elevation (m)	Azimuth	Length (m)	
Tranch 1 (2008)	Station1	478640	5273256	374	260	21	
Trench I (2008)	Station2	478612	5273249	377	260	31	
Tronch 2 (2008)	Station1	478640	5273261	374	260	20	
Trench 2 (2008)	Station2	478609	5273255	378	260	30	
Trench 3 (2008)	Station1	478640	5273265	374	200	(225)	
	Station2	478602	5273259	375	260	(?25)	
Extension Trench	Station1	478591	5273271	378	275	12	
(sample 8-to-12)	Station2	478600	5273269	375	2/5	15	
Extension Trench	Station1	478590	5273261 370		250		
(sample 2-to-6)	Station2	478600	5273264	370	250	9	
Extension Trench	Station1	478596	5273276	373	275	4	
(sample 13-to-15)	Station2	478593	5273274	375	2/5	4	
	·	·		·			
	Station1	478655	5273209	361		_	

Table of trench locations 2007 and 2008 Trench coordinates, UTM WGS 84 Zone 17

Table of 2013 - samples and trench/stripped trench locations and sample/observation points

Trench 1 (2007)

Station2

Sample	Assay sample #	Grade Au(ppb)	Easting (m)	Northing (m)	Elevation (m)	Length (m)	Sample description
DH - 1 11-13	299019	<5	478663	5273204		Grab	Mafic volcanic,, dark green, some shearing, qtv vein (3-5cm) with local sulphides
DH -2A 11-13	299020	133	478664	5273191		Grab	Altered mafic volcanic shrd, with strong carbn altr. Trace sulph gossany- mid green colour
DH -2B 11-13			478655	5273212		Grab	Shrd mafic volcanic (pillowed-selvages?) with diss sulph gossany mid green some carbn
	299021	65					
DH -3 11-13	299022	36	478651	5273206		grab	Light green, volcanic, strongly carbonated, gossany zones local qtz. Veinlets
DH -4 11-13			478575	5273260		grab	Mid green mafic to u mafic volcanic, homogeneous fine diss sulphides some carbn.
	299023	<5					<b>6 1</b>
DH -5	277025	-0	478479	5273390		grah	Carbonated mafic volcanic dark grav green
11-13				02/00/0		- g	trace sulph fine grained carb veins cm scale
	299024	56					
DH -6 11-13	299025	<5	478468	5273368		grab	Med grained mid green weakly sheared mafic volc-u mafic (carbn) gossany crust
DH -7 11-13	299026	<5	478466	5273375		grab	Strongly sheard mafic volcaning, qtz-carbn veinlets and gossan surface
DH -8 11-13	299027	13	478465	5273370		grab	Strongly shrd qtz-carbn veinlets cm scale mafic volcanic altered
DH -9 11-13	299028	<5	478506	5273280		grab	Same as #6 homogeneous carbn alteration trace sulf diss very fine

Sample	Assay	Grade	Trench/ Line	Easting	Northing	Elevation	Length	Sample description
	sample	Au(ppb)		(m)	(m)	(m)	(m)	
KAT-DAV- 29-13 # 5			Trench 1 chip samples	478659	5273204	355	2	Brecciated silicified carbonated volcanic rock with carbonate and quartz veins (cm)
	299029	64		478656	5273205	356		
KAT-DAV-			Trench 2	478654	5273212	362	2.6	Very brecciated silicified
29-13 # 4	299030	<5	chip samples	478656	5273213	360		carbonated volcanic rock with stockwork alteration and light gossan
KAT-DAV- 29-13 # 3			Trench 3 chip samples	478647	5273212	378	5.6	brecciated mafic volcanic rock locally porphyritic with sulphides, carbonate-quartz veins sub parallel to foliation
	299031	90		478649	5273212	361		
KAT-DAV- 29-13 # 2			Trench 4 chip samples	478630	5273229	369	3	Mafic volcanic rock with fine stockworks of carbonate-quartz and disseminated sulphides with +/- porphyre structure
	299032	119		478643	5273234	365		
KAT-DAV- 29-13 # 1			Trench 5 chip samples	478606	5273268	378	6.3	Mafic (intrusive?) containing persistent stockworks of quartz- carbonate with sulphides and gossan (photo 7)
	299033	1180		478603	5273260	380		
KAT-DAV- 30-13 # 1			Trench 6 chip samples	478581	5273198	388	4	Brecciated silicified and carbonated volcanic rock
	299034	29		478586	5273199	389		
KAT-DAV- 30-13 # 2			Grab sample	478513	5273457		Covered by grass /~5	Contact zone silicified carbonated rock with disseminated sulphides
	299035	25						
KAT-DAV- 30-13 # 3			Grab sample	478497	5273439		Covered by grass /~25	Very Brachiated silicified carbonated volcanic rock containing stockworks with light gossan
	299036	105						
Not sampled			Observation spot	478498	5273459		outcrop	Identical rock (KAT-DAV-30-13#3)
Not sampled			Observation	478497	5273331		s covered by grass	Identical rock (KAT-DAV-30-13#3)
Not sampled			Observation spot	478498	5273282			Identical rock (KAT-DAV-30-13#3)
Not sampled			Observation spot	478578	5273196			Identical rock (KAT-DAV-30-13#3)

# Appendix III

Trench sketches /sections

## Fifth Lake Project Oct- Nov 2013

### Oct 10

Brushed out the Base Line on the way to the site. Carried equipment in & started trenching Target # 6 area on the edge of swamp.

### Oct 11

Finished trenching Target # 6 area, down to the water table as far south as possible in the swamp, still in the vein zone.

### Oct 22

Started trenching Target # 5 area. Encountered large boulders in the overburden. Managed to intercept

The vein zone.

### Oct 23

Finished trenching Target # 5.Started Target # 4 area. Finding mineralize boulders but unable to get to bedrock.

Moved 30 meters north, trenched out a 3x3 meter pit area with no indication of the vein zone.

Stripped area around Target # 1 in hope to extend the vein zone.

### Oct 27

Went to the Watershed to pick up Katche Adou off the bus & had booked him a room at Three Bears Camp.

### Oct 28

Took Katche up the lake to the job site. Helped with locating previous trenches & sample sites.

### Oct 29

Picked Katche up & went to the job site, started plugging holes at Target # 6.

Katche marked out 5 lines for blasting & sampling. Three of which were in the Target # 6 area, 1 on the Target #5 area & 1 at the exposed vein just 15 meters south of Target # 4.

Upon plugging Line # 1, the plugger was not running very good; the plugger I had lined up for the job was broke & was sent out to get fixed. I managed to locate 2 old cobra pluggers that hadn't been

running in years. I was able to get 1 running but didn't seem to run efficient enough so I cut back on the number of blast targets to the 3 lines in the Target # 6 area, due to the amount of time until freeze up.

### Oct 30

When checking out Target # 1-3. I located part of the carbonated zone along the claim line.

Following the claim line & I could not locate the # 4 Post. I located the tie on post on the claim to the west, but no post for your claim.

Katche & I checked the East boundary not finding any indication of a Boundary Claim Line done at the time of staking of the claim. Also on the way out on the job site we checked where the # 3 post should have been but was not found.

Helped Katche with the samplings.

#### Oct 31

Gave Katche a ride back out to the Watershed to catch the bus.

Nov 3

Worked on plugging holes on Line # 1-3 meters.

Nov 5

Worked on plugging holes on Line 2 -2 meters.

Nov 7

Worked on plugging holes on Line # 3-1 meter.

Hired Tom O'Connor for explosives work.

### Nov 10

Collected samples from the blast areas Line # 1, 2, 3.

Prospected in the target area, I managed to locate a mineralize outcrop Southwest of the Target # 1 area.

Stripped small area for sampling.

#### Nov 11

Stripped a trenched area along the claim line just west of Target # 2 & 3, very carbonated.

Samples DH # 6,7 & 8.

Nov 17

.

Lake is starting to freeze up again, brought equipment out of the bush. I located another mineralized outcrop where I took samples # DH # 9.





