

# Big Bear

## Report on Sampling (July-August 2010)

Honeywell, Goodall and Skinner-Shabu  
Properties

Kenora-Red Lake Mining Division  
Northwestern Ontario

NTS  
52N02  
52N07  
52N08

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## Summary

During late July and early August John Archibald, P.Geo., and the author each walked portions of the properties, attempting to locate and sample historic showings. During August persistent poor weather delayed fieldwork both directly (heavy rain) and indirectly (poor visibility).

Big Bear holds three staked properties, currently shown in the name of Perry English, the staker. The author has not reviewed the claim status. Claim and line posts were located on the Goodall and Skinner-Shabu properties close to the locations depicted on claim maps. The claim locations as shown appear to be reliable.

The area lies in the Uchi-Confederation Greenstone Belt, a very well exposed and studied belt. The belt contains a former base metal producer (South Bay Mine) and numerous small gold prospects with very limited production. The prospects tend to be simple-gold-quartz veins which display little evidence of the degree of alteration and deformation associated with big deposits. There however remains a possibility of finding a simple, Golden Patricia type vein.

## *Honeywell*

The Honeywell property lies in the northeast corner of that township and extends eastwards into McNaughton township and northwards into Shabumeni Lake area. The property is accessible by air and water although the latter route is arduous. Roads reach within ~5 km of the property while the winter road to Birch is reported to pass close by. The Sol d'Or prospect, the principal prospect is situated on a knob on the west shore of Grace Lake. The host rock is a dull grey, possibly slightly graphitic, felsic ash tuff containing trace amounts of cubic pyrite and locally accretionary lapilli. The Sol d'Or comprised seven narrow, north-dipping quartz veins, that locally contain short, high-grade (10 to 20 g/t Au) intervals. The prospect was discovered in 1926 and worked intensively during the mid-1930's. During that time three shafts were sunk, some lateral development completed and ~\$7,500 worth of gold were recovered using an apparently rudimentary plant (stamps and mercury plates). The average recovered grade is estimated to be ~15 g/t Au.

Grab samples of broken rock were taken from dumps adjacent to the veins and from the main dump where the three types of quartz were assayed separately. Four samples contained more than 10 g/t Au. A similar number reported values between 1 and 10 g/t Au.

The results obtained are particularly encouraging as previous samplers had reported much lower numbers. Although the record of early work is limited to reports by visiting government geologists, the immediate areas of the veins was extensively trenched and pitted, greatly reducing the probability of finding high grade material close to surface. Some drilling was completed during the 1930's, however, the hole locations were uncertain.

The prospect requires a competent compilation of all available work with an emphasis on drilling and mapping. This work may indicate whether there is potential for structural traps elsewhere on the property. The geological map shows that the prospect lies within a zone characterized by occurrences typical of gold-bearing systems. In the event that the compilation is encouraging, additional, focused mapping and prospecting are required. Geophysics (magnetics) may be required to better define the structures to focus drilling.

## *Goodall*

The Goodall property comprises three claims in the northwest quadrant of the township. The claims of most interest cover some long-known gold showings around Stevens Lake, which lies between Woman and Washagomis Lakes to the west and east respectively. The property lies north of and on strike with the Hudson-Patricia and Jackson-Manion gold prospects.

The property is underlain by north-striking, mainly fragmental basalts possibly intruded by gabbroic bodies along their west margin. Some high level, possibly quartz-feldspar porphyries, occur on the east margin of the property. Previous workers report narrow quartz veins in broader ENE-WSW trending "shears" [~2 m wide deformation zones] which locally contain significant amounts of gold, particularly if arsenopyrite and base metal sulphides are present. At least one worker has suggested that values tend to be highest at flexures along the structure.

The showings around Stevens Lake have been competently explored by several groups with disappointing results. There is, however, some potential in the more heavily covered eastern part of the property where potential quartz feldspar porphyry bodies intrude the basalts.

The property was examined over several days and three samples collected, of which one, taken from a pit north of Stevens Lake, returned 0.79 g/t Au.

A quick compilation of data is required to develop a more detailed understanding of the geology of the prospect. Additional prospecting may be warranted in the vicinity of Premiere Lake.

## *Skinner-Shabu*

The Skinner-Shabu property covers the north-westernmost tip of the Uchi-Confederation belt, where it is confined between gneisses encroaching from the north and west. The property is underlain by basalts with subsidiary amounts of felsics and appear to be intruded by small gabbroic plugs which are assumed to be coeval with the basalts.

The east end of the property is accessible by road while the Shabu Lake portion requires aircraft access. The property ties onto the Bathurst Mine, a small but high-grade (up to 50 g/t Au) quartz vein prospect. Sabena, the holder has cleaned off the outcrop around the shaft. The host rock comprises pillowed basalts and a coarser-grained basaltic unit cut by variably altered "quartz feldspar porphyries" and by a lamprophyre dike. The prospect lacks the intense alteration and deformation more typically associated with major gold deposits. Assessment files suggest that the Bathurst "structure" extends to for a kilometre or more to the west where a similar suite of rocks are exposed in a series of showings.

The few samples taken from the property failed to return detectable levels of gold.

The property has received a good deal of previous work most recently by Fronteer. There are several minor gold-quartz showings around Leonard Lake. In addition Fronteer has completed surficial geochemical sampling over the area south of Leonard Lake which has generated several anomalies which warrant some desktop study as part of a data compilation exercise. In the event that there is encouragement extension of surficial sampling, which is known to be effective, should be completed over the east part of the property. Infill sampling, magnetics and perhaps IP may be required to develop specific drill targets.

## Introduction

This report summarizes the results of sampling completed over three claim blocks situated in the Confederation-Uchi Lakes Greenstone Belt, near Red Lake in northwestern Ontario.

### *Work completed*

Field work was supervised by Patrick Chance (late July and early August) and John Archibald (August). The crew was based at Kabeelo's Lodge on the south-westernmost extremity of Confederation Lake, where charter aircraft (DH-2 Beavers) are available during the summer season.

### *Logistics*

A forestry and resource access road network extends north and eastwards from the community of Ear Falls which lies about 80 km south of Red Lake on Highway 105 offering accommodation and limited services.

Roads cross the Skinner Township property and extend within two kilometres east of the Goodall and 6 km southwest of the Honeywell properties. Water access is also feasible along the the major lakes (Shabu, Woman-Swain-Washagomis and Birch-Grace). Numerous fishing camps on each of the lake systems offer convenient accommodation close to the properties.

The Resident Geologist's Office (Andreas Lichtblau, Ministry of Northern Development, Mines and Forestry) in Red Lake maintains historic records, including assessment files and newspaper clippings.

### *Area History*

Gold was first discovered in the Red Lake area in 1926. During the 1930's the area, among the busiest in Ontario, saw development of many small mines and prospects including the Sol d'Or, Hudson Patricia and Bathurst that are on or close to the current properties. The Campbell-Dickenson deposit in Balmertown, a short distance east of the town of Red Lake, was discovered in 1945 and has been mined continuously since. In recent years Goldcorp, the current operator has invested in innovative exploration programmes, significantly increasing the amount and quality of reserves. The operation currently produces ~800,000 ounces annually from a similar amount of ore at a cash cost of ~\$300 per ounce.

The area has been relatively accessible by water across Lac Seul from the CN rail at Hudson to Goldpines and then over the height of land into the Chukuni basin in which the current property is situated. Prior to the 1926 discovery Lac Seul supported a significant commercial fishery.

The properties are situated in the north part of the Uchi-Condeferation Lakes Greenstone Belt, ~100 km ENE of Red Lake. A network of interconnected lakes and thin overburden provided ideal terrain for prospecting, thus the principal gold prospects, Uchi, Jackson-Manion, Hudson-Patricia, Sol d' Or and Bathurst, were discovered and developed during the late 20's and 1930's. The South Bay copper zinc mine, situated on the east shore of Confederation lake, is the areas only significant producer and was discovered in the late 1960's. The mine produced ~1.45 Mt ore running 2.3% copper, 14.5% zinc, and 120 g/t silver between 1970 and 1982.



## **REGIONAL DISTRIBUTION OF GOLD MINERALIZATION (after Parker & Atkinson, 1992)**

There are over 120 known gold deposits in the Birch-Confederation lakes area, the majority of which consist of structurally controlled, gold-bearing quartz veins hosted by shear zones and/or fracture zones concentrated in areas of greenschist grade metamorphism. Several gold properties at Birch and Springpole lakes (to NE of current area) consist of broad, intensely altered, deformation zones containing widespread disseminated sulphides and gold.

Gold-bearing quartz vein systems are associated with deformation zones trending north and northeast at Confederation, Woman and Uchi lakes; east-northeast at Swain and Shabumeni lakes (Fyon and Lane 1986; Thurston 1986)

Gold mineralization commonly occurs along the Swain Lake deformation zone at Leonard, Car, Woman, Swain and Birch lakes. The majority of the mineralized deformation zones are related to a second and possibly third deformational phase that affected the greenstone belt (Fyon and O'Donnell, 1986). Stratigraphy has influenced the localization of gold mineralization by providing lithological contrasts that created zones susceptible to alteration and deformation. Examples of this are at Uchi Lake in Earney Township where gold deposits are situated at contacts between mafic and felsic rock types; and in the west part of Birch Lake where gold is associated with competent, felsic porphyry stocks and plugs which intrude less competent metasediments.

There is a strong correlation between gold deposits and the three metavolcanic-metasedimentary cycles in the belt. Approximately 53% of all gold deposits in the Birch-Confederation lakes area are situated within the Cycle II sequence, 31% occur in Cycle III, 7% occur in Cycle I and 9% occur in granitoid rocks, the allochthonous metavolcanic-metasedimentary assemblage at Springpole Lake, and metavolcanic rocks not assigned to cycles (Figure 3). About 88% of all gold produced from the Birch-Confederation lakes area was extracted from mines situated within the Cycle II sequence, while 12% of gold production came from mines in Cycle III.

Volcanic Cycle	Showings	Production
I	7%	nil
II	53%	88%
III	31%	12%
Granitoids	9%	nil

*Table 1: Distribution of showings (count) and production (ounces) by stratigraphy.*

Volcanics		Sediments		
Mafic	Felsic	Clastic	Chemical	Intrusives

*Table 2: Lithology preference for gold prospect by lithology (decreasing to right)*

Gold deposits are most commonly hosted by mafic metavolcanic rocks followed by felsic metavolcanic rocks, clastic and chemical metasediments and felsic to mafic intrusive rocks. Several gold properties are located at the margins of the surrounding granitoid complexes but only 3 occurrences are hosted by granitoid rocks.

# Honeywell

## *Location*

The Honeywell property lies in the northeast corner of Honeywell extending eastwards into McNaughton Township and northwards into the Shabumeni Lake Area (NTS 52N08SE $\frac{1}{4}$ ).

## **Access**

The southeast part of the property is best reached off Grace Lake which is accessible by air from Kabeelo's (32 km south-southwest) or Red Lake (95 km west-southwest). Kabeelo's offer room and board for \$90 / day. Work needs to be scheduled to minimize conflict with their tourist business. Logging roads extend within 4 km SW of the property.

Gawley's Little Beaver (Doug Gawley, 807-222-333) has a cabin in the east part of Grace Lake. Green Airway operates the Poplar Grove fishing camp in the West part of Birch Lake is a little less convenient, requiring a 7½ km boat trip over Birch Lake, a short portage and another 4 km to the Sol d'Or part of the property.

## **Work Completed**

Patrick Chance located the Sol d'Or veins and collected grab samples on July 29. John Archibald continued sampling and cleared the trail on 4 August. Archibald also prospected the west part of the property from Swain Lake, however, samples collected there failed to return gold values.

## **Property Description**

The Sol d'Or prospect is situated on the west side of Grace Lake where it occupies a distinct local knob. Poplar saplings and balsam fir have overgrown the old camp site (on the lake shore). Inland mature poplar with a heavy deciduous understory dominate, however, there is much dead-fall.

Veins 1 to 6 [numbered from south to north] outcrop on largely bare outcrop knob. During the 1990's the shaft was capped (stainless steel vent), the open cuts back-filled and remaining structures tidied up. A large dump remains on the slope to the south of the shaft and partially obscures the Number 4 Vein.

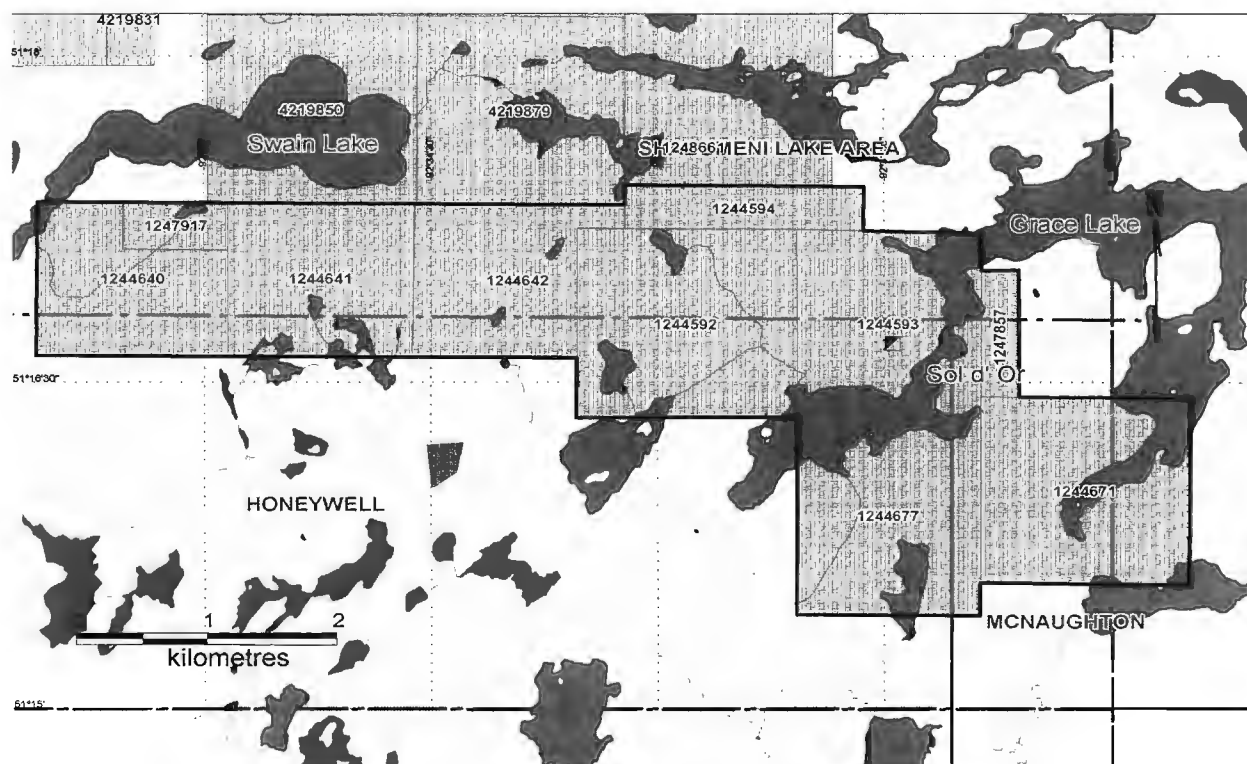


Figure 1: Honeywell Property (Sol d'Or Prospect).

## 2010 Sampling

Initial sampling was designed to determine the concentrations of gold in the most obviously mineralized rocks (i.e., quartz veins and immediate wall rock). In all cases the material selected was loose rock typically piled adjacent to the vein and, with the exception of the dump samples, unlikely to have been transported far.

Appreciable amounts of gold are reported in samples taken from Veins 1, 2 and 4. Unpromising looking material taken from the dump reports values in excess of 1 g/t Au.

These results confirm that appreciable amounts of gold occur in each of the veins sampled and in quartz taken from the dump. It should be noted that previous workers (e.g., Parker and Atkinson, 1993; table 2 below) reported much lower values. It seems likely that back-filling of the shaft has exposed high-grade material on the surface, implying that the dump was picked over in the past.

Location	UTM_E	UTM_N	Tag	Au (g/t)	Description
<b>General</b>					
	533117	5680669	W538001	0.47	
	533187	5680739	W538041	2.15	Quartz veining, Wall rock attached, Clots of chlorite and tourmaline, Rusty patches in quartz vein, Not much visible sulphide
	533197	5680749	W538042	<0.01	Fine grained silicified volcanic, Fine quartz rich fractures, <1" dark milky quartz, Tourmaline/chlorite??
<b>Main Dump</b>					
	533157	5680709	W538005	0.75	Quartz tourmaline
	533167	5680719	W538006	12.60	Quartz carbonate
	533177	5680729	W538007	3.04	Bull quartz
<b>Vein 1</b>					
	533137	5680689	W538003	17.20	Quartz carbonate
	533153	5680750	W538009	1.26	Siliceous acid volcanic/dacite, North side footwall, Odd disseminated cubic pyrite
	533153	5680750	W538010	1.85	White milky quartz vein (2" wide)
	533153	5680750	W538011	0.05	Acid volcanic, Footwall, Disseminated cubic pyrite
<b>Vein 2</b>					
	533127	5680679	W538002	14.90	Quartz carbonate
	533106	5680743	W538012	<0.01	Acid volcanic on north side (siliceous footwall contact)
<b>Vein 3</b>					
	533106	5680743	W538013	0.03	White bull quartz, Coarse crystalline, No sulphides, Intergrowths of quartz crystals
	533111	5680734	W538014	0.28	Acid volcanic, Siliceous, Poorly mineralized, <1% disseminated sulphides
	533111	5680734	W538015	0.03	Quartz vein, Coarse grained, Crystalline quartz, Poorly mineralized, Bull quartz
	533111	5680734	W538016	<0.01	Light grey, Acid volcanic, Sugary texture, Minor chlorite spots, Poorly mineralized, Very little pyrite, if any
<b>Vein 4</b>					
	533147	5680699	W538004	9.50	
	533098	5680716	W538017	0.02	Siliceous acid volcanic, Disseminated cubic pyrite, 1-2% all through, Odd micro fracture with quartz
	533098	5680716	W538018	0.23	Quartz veining plus altered acid volcanic, Disseminated cubic pyrite, Sugary texture, Pyrite in dark blue staining along fractures
	533098	5680741	W538019A	<0.01	Wall rock, Siliceous acid volcanic, Odd disseminated cubic pyrite specs, Sugary texture, <1% sulphides
	533098	5680741	W538019B	<0.01	Quartz vein, White bull quartz, Poorly mineralized

Table 3: Sol d'Or Gold Prospect; Grab Samples by P. Chance & J. Archibald (2010) (UTM Zone 15, NAD'83).

## Discussion of Results

1. While the initial sampling results are encouraging, the historical work suggests that the known mineralized bodies are relatively small.
2. It is not clear how much drilling has been done in the known area of mineralization. A complete data compilation is required to fully understand the local geology
3. The current sampling reports much higher values than those compiled by Parker and Atkinson (1992). It seems likely that backfilling of the shafts (3) and open cut in the 1990's has exposed more representative material on surface. This suggests that the dumps were picked over at some point, probably shortly after closure in the mid-1930's.
4. The known veins appear to brittle fractures developed in a single rock type. Assuming that vein development is related to a rock property contrast, a drill hole compilation should be used to develop a 3D stratigraphy from which potential structural traps might be identified.
5. Stone and Crawford (1994) report a series quartz and quartz-carbonate veins, tourmaline and sulphides in a narrow zone extending west and north of the Sol d'Or prospect (Area A, figure 2) which appear to be truncated to the north against an apparent structural zone boundary. In addition more detailed mapping reported in assessment files suggests potential for additional structural traps in this zone. It should be noted that Fronteer drilled several holes in this zone about a decade ago.
6. Stone and Crawford (ibid.) report several sulphide showings associated with a narrow zone in the west part of the claim block (Area B, figure 2).

## Interpretation of Historic Data

Extant records suggest that the reported gold production came from open cuts prior to underground development in the mid-1930's. Examination of the large dump shows a lot of quartz which can be divided into three types; bull quartz; white, milky quartz with carbonatized-looking, wall-rock inclusions and black, tourmaline(?) bearing quartz breccia veins. None appears to contain appreciable sulphides while all three appear to occur in wall rock and are unlikely to contain much gold. Descriptions and concentration of work suggest that significant gold values are restricted to short parts of the seven principal, east-west trending quartz veins. With a little effort and luck remnants of the veins may remain in exposed mineralized material in the trenches.

## Recommended Work

The following work is designed to develop viable drill targets, that have a reasonable prospect of intersecting potentially gold-bearing structures.

1. A comprehensive compilation of existing assessment and published [OGS] data supplemented by satellite and/or airphoto images is required to fully assess the potential of the property and its relationship to larger structures (five days; senior geologist).
2. Stripping, cleaning and channel sampling of trenches at 10 m or less intervals is required to better understand the variation of gold grade within the mineralized structures (five field days, geologist)

and field assistant/line cutter).

3. Reconnaissance mapping, prospecting and sampling of high-potential portions of the property (Areas A & B), focusing on geometry and gold content of quartz and quartz-carbonate veins (five days; geologist and prospector).

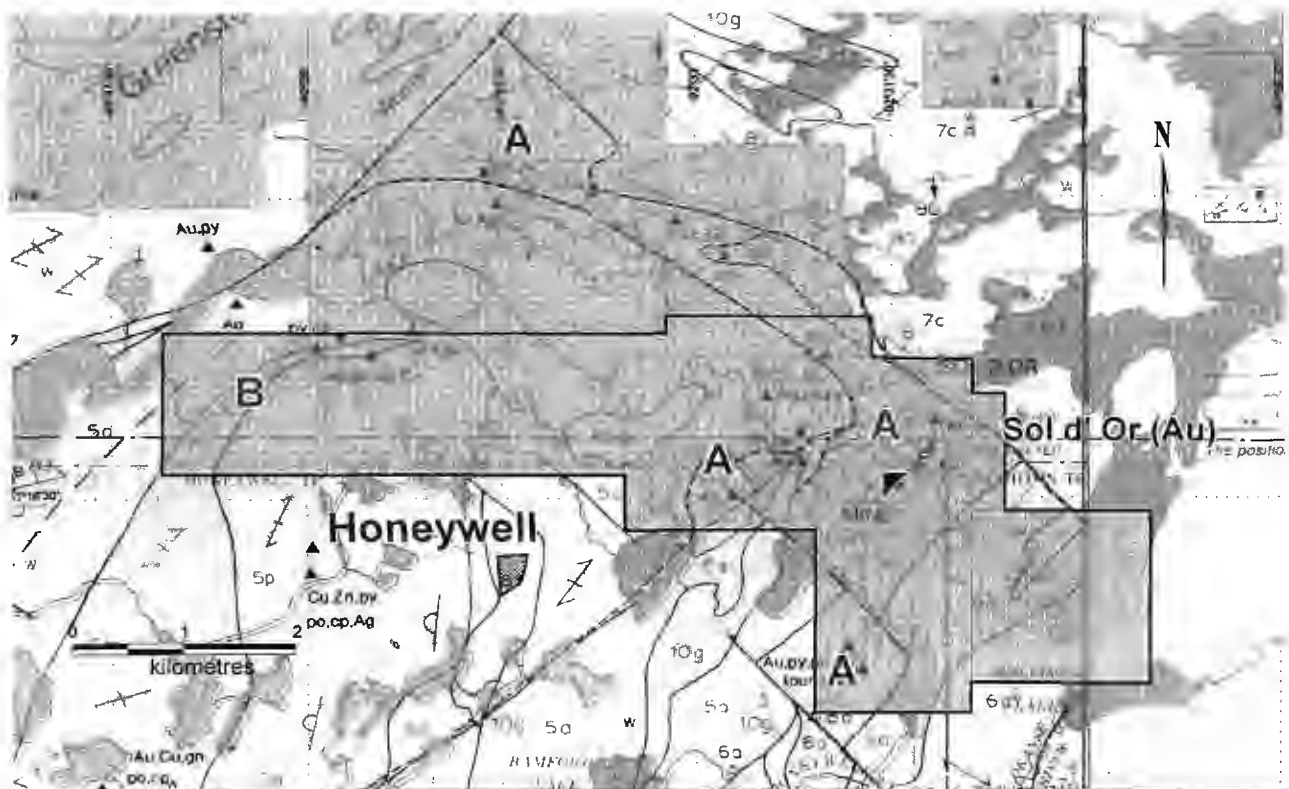


Figure 2: Honeywell Property; Showing Sol d' Or Prospect and Areas A (Gold) and B (Base Metal) Potential

## History

Company Year	Reference(s)	Description of Work
T.W. Bathurst Syndicate 1927		The original Sol D'Or claims were staked in 1927 for the T.W. Bathurst Syndicate. They were then taken over by the newly organized Rainbow Lake Gold Mining Company Limited in 1927, renamed Rainbow Lake Gold Mines Limited in 1932. A camp was erected and development of the mine site consisted of a small shaft 10.4 m deep. The claims lapsed.
Earl McDougall, 1932		Restaked property
T.W. Bathurst 1932-1933		Leased property from McDougall. A 3-ton Jack Nutt mill was installed Over the 1932 – 1933 winter 100 tons of were treated and \$1,500 worth of gold was shipped to the mint in Ottawa.
Sol d'Or Gold Mines Limited 1935		<p>Acquired property. Installed a 5 ton Straub Mill with amalgamation plates and concentrating table. Mining operations were almost exclusively confined to the open-cut veins.</p> <p>By July, 1935, ~400 tons of ore were milled yielding \$7,500 worth of gold.</p> <p>Klatt (2002) estimated that the averaged mined grade was 1.11 ounce gold per ton.</p> <p>During this period a 164 foot deep, 3 compartment shaft and 1000 feet of lateral work were completed [mainly] on the 150' level.</p>
Midco Minerals Limited 1941	Tilsley, 1986 52N08SE0026	Held property. No work mentioned.
Selco 1969		South Bay Mine, Dent Township discovered.
Cyril Williams 1969		Cyril Williams held 5 claims covering a portion of the southern part of the Sol D'Or claim block, discovering the Williams Occurrence comprising an auriferous quartz vein in medium grained, carbonized gabbro (Parker, J.R. and Atkinson, B.T, 1992). Johns (1979) reported 0.27 opt Au from a grab sample quartz taken from a deep water filled pit.
Long Lac Mineral Expl. 1969	Firth 1969 52N08SE0056	Broad airborne magnetic and radiometric survey, flown on east-west lines, included the Sol D'Or area in NE corner.

Table 4: Honeywell Property; Exploration and Development History, 1927-1969.

Company Year	Reference(s)	Description of Work
Rhonda Copper ML 1974	Ogden 1976 52N07SE0047	IP survey over claims including the Sol d'Or mine area outlined two east-west trending anomalous zones. Additional IP in 1975. Geological mapping (1974) and 5 ddh (?)
Harry Shlesinger 1980	Shlesinger, 1980	<i>Completed 18 holes; two near the Sol d'Or mine and 16 around the Cyril Williams gold showing ~1 km W of the Sol D'Or mine. One hole cut a sediment hosted pyrite (~3%) horizon.</i>
Rand Hodgson	Hodgson 1985 52N08SW0053	Geology SE shore of Grace Lake opposite Sol d'Or.
Parflo Mines & Energy Corp 1986	Tilsley, 1986 52N08SE0026	Humus geochemical survey, geological mapping, VLF-EM, and magnetic surveys over the Sol D'Or property.
Kidd Creek ML / Falconbridge 1987-1989	Bosowec, 1987, Falconbridge, 1988, Hodges & Lutz, 1989	Drilled hole HO-1 and HO-2 ~40 m apart testing a conductor located near the center of the Sol D'Or property. HO-1 cut ≤55% pyrite and pyrrhotite in intermediate to felsic tuff and lapilli tuff. HO-2 cut two pyrite-pyrrhotite zones (1 – 5% combined) hosted in intermediate agglomerate and lapilli tuff/agglomerate. Geological mapping, rock and soil geochemistry (Cu, Zn, Au) also completed.
Rod Knappett 1993	AMIS Report	Knappett held the property in 1993 when the abandoned mines inspection was completed.
Maple Minerals 1996	Patrie, 1996 52N07SE0013	Linecutting and an IP survey over the Sol D'Or property defining a chargeability anomaly along the southern part of the property and extending into Grace Lake.
Perry English 2001	Klatt, 2003	Staked and subsequently optioned the property to Red Lake Resources.
Fronteer Development 2002	Klatt, 2003 52N08SW2002	Dighem AEM & AMag Soil & MMI geochem Sampling Diamond drilling

Table 5: Honeywell Property; Exploration History, 1969-2002.



Vein	Length (m)	Width (m)	Strike / Dip	Grade (opt Au) / Width (m)	Grade (opt Au) / Length (m)	Source
No. 1	40	0.22		0.996		Tilsley, 1986
	47	0.45		0.22 to 0.61		ODM
No. 2	72	0.15	270/52	0.18		Tilsley, 1986
	85	0.35			0.14/64.6m 0.78/15.0m	Sol d'Or, 1935
No. 3	60	0.40	265/55	0.21/0.15 0.13/0.15		Tilsley, 1986
No. 4					Not accessible	Tilsley, 1986
	60	0.38			0.34/52.7m 2.11/27.9m	Sol d'Or, 1935
No. 5	50		270/60	0.57/0.25		Tilsley, 1986
	40	0.40			0.42/40.0m.	Sol d'Or, 1935
No. 6					Not identified	Tilsley, 1986
No. 7	180	0.10	145/90	2.18 (grab)		Tilsley, 1986

Table 6: Summary of assays from Sol d'Or veins (reported by Tilsley, 1986).

## REFERENCES

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- Breaks, F.W., Bond, W.D., McWilliams, G.H., and Gower, C., 1974 Operation Kenora-Sydney Lake, District of Kenora; p. 17-36 in OGS MP 59.
- Bruce, E.L., 1928 Gold Deposits of Woman, Narrow and Confederation Lakes; ODM AR V 37, Pt 4, 51 p. Accompanied by Map 37h, scale 1: 47 520 or 1 inch to  $\frac{3}{4}$  mile.
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- Klatt, HM 2003 Geotechnical Report on Swain East, Sol d'Or and Grace Properties, Frontier Development Vol 1 52N08SW2002 250 pp
- Noramco Exploration Inc., 1987 Reports, maps, drill logs and discussions with field personnel for the Shabumeni Lake Property.
- Stone, D. and Crawford, D. 1994 Precambrian Geology, Shabumeni Lake Area OGS Map P 3295

# Goodall Property

## *Introduction*

This property comprises three staked claims, two of which cover long-known, ENE-WSW trending, gold veins around Stevens Lake which lies between Woman and Washagomis Lake. Work by the Ontario Geological Survey (Fyon and Lane, 1986) suggest that the property straddles a structural domain boundary separating dominantly north-south trending structures to the south, hosting the Jackson-Manion and Patricia Hudson prospects, from ENE-WSW trending structures hosting the Sol d' Or to the north. The known structures parallel the boundary.

The available data were compiled by Chance who also completed a traverse around Stevens Lake, locating and sampling the north showing, and, checking claim and line posts. Archibald and crew traversed the west side of the property from Woman Lake and the east side through portages from Washagomis.

## *Geology*

The property lies near the centre of the Uchi-Confederation Lakes Greenstone Belt. It is underlain by north-south striking, mafic fragmentals.

Several gold-bearing quartz-carbonate vein / "shear" systems were discovered about 80 years ago. Over the intervening years the property has been evaluated by several groups. While occasional surface samples reported gold values, diamond drill holes cut the down dip extensions of the structures but rarely returned significant gold values.

Neil Willoughby has suggested that gold values are associated with arsenopyrite, particularly where the strike of the host structures changes orientation.

Fyon and Lane (1986) suggest that the property lies on a structural domain boundary between dominantly north-south orientations to the south and east-northeasterly trending structures to the north. The mineralized structures tend to parallel the latter trend.

The property also lies north of the Hudson-Patricia (2½ km) and Jackson-Manion (11 km) gold deposits. The Hudson-Patricia lies close to a string of quartz-feldspar porphyry bodies that terminate near the structural domain boundary.

## *Discussion*

The current work has relocated and sampled several of the previously known zones. The results obtained are in line with those reported in previous work. One sample of a narrow quartz vein in a shallow trench, on the north shore of Stevens Lake returned 0.79 g/t Au and 4,810 ppm As.

The property requires mapping to better understand the domain boundary and to attempt to locate [covered] areas in which significant gold accumulations might be found. These are likely in the less well exposed, east part of the property so it may be necessary to option the two small patents and staking open ground to the south and east of the current claims before beginning this work.

In particular, should the string of north-south trending, high level, felsic intrusives, may reflect a shosontic affinity

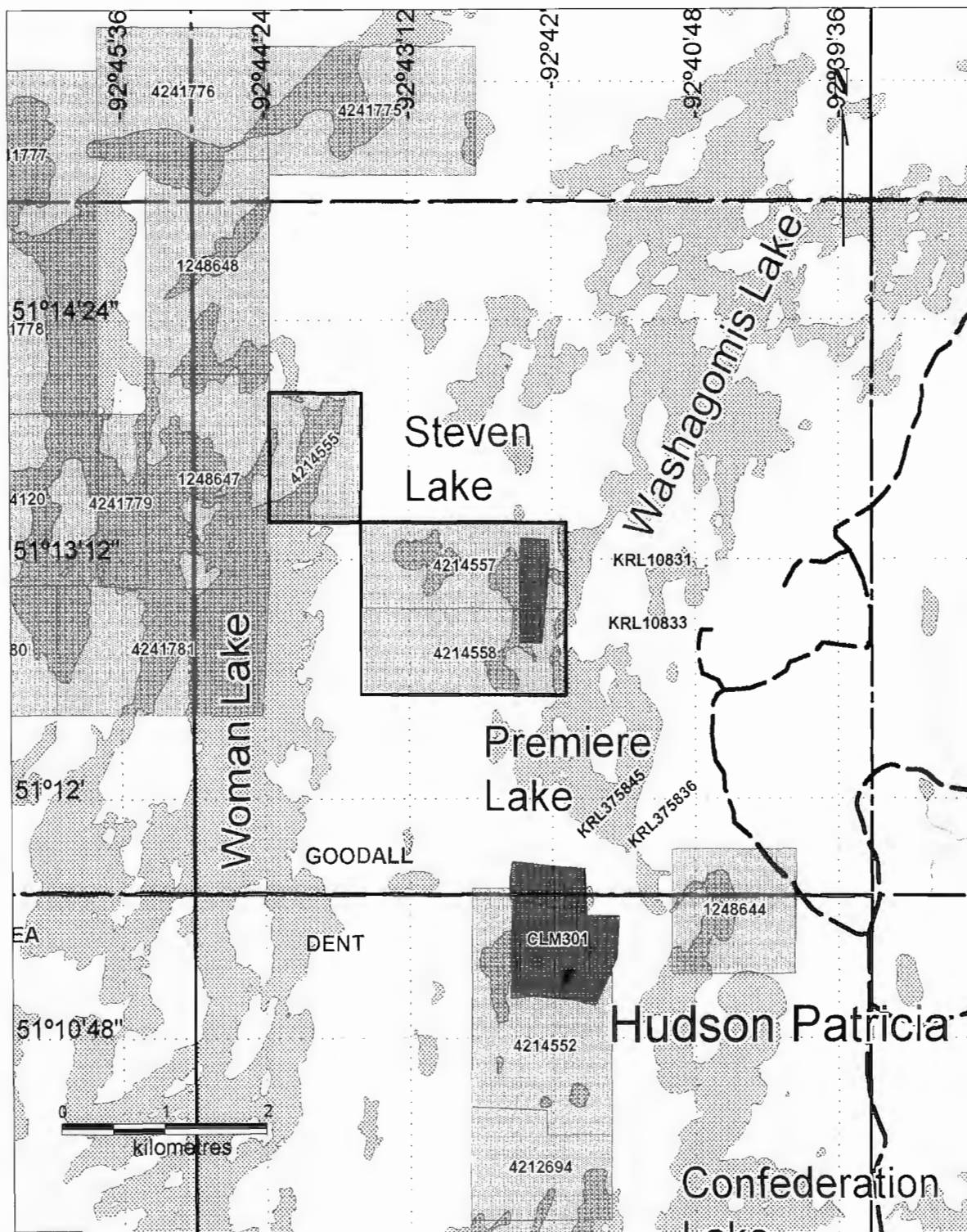


Figure 3: Goodall Township Property (red outline), staked claims (green), patents (mauve) and forest access roads (orange).



Location	Sample	UTM_E	UTM_N	Analysis Method	Au (g/t)	Description
Goodall		519559	5674509	W538020	<0.01	Mafic fragmental, Quartz eyes, Disseminated sulphides, 1-2%, Foliated, Rusty gabbro/andescite
Goodall		519559	5674509	W538021	<0.01	Mafic fragmental, Quartz eyes, Disseminated sulphides, 1-2%, Foliated, Rusty gabbro/andescite
Goodall		519582	5674537	W538022	<0.01	1-2" east-west trending quartz vein, Foggy, Black, Tourmaline??
Goodall		520795	5673625	W538023	<0.01	Rusty, Dark, Disseminated cubic pyrite, Mafic volcanic, <2% sulphides, Foliated & sheared
Goodall		520867	5673377	W538024	<0.01	Siliceous volcanic/quartz vein, Disseminated fine pyrite
Goodall		520883	5673380	W538025	<0.01	Quartz vein, New trench/discovery, Silicified acid volcanic, Poorly mineralized, Low sulphide content
Goodall		520787	5673897	W538026	0.04	Quartz vein 1-2", Pit: 5x8x5', Quartz breccia, Sheared mafic volcanics, Odd disseminated cubic pyrite along contacts, Some blueish quartz streaking (tourmaline??)
Goodall		520758	5673964	W538027	0.09	1-2" quartz vein, East-west sheared mafic volcanics, Dipping 85 N, Re-discovery
Goodall		528580	5681901	W538028	<0.01	Quartz vein, Rusty black clots of disseminated sulphides
Goodall - Stevens Lake		519100	5673800	W538029	<0.01	Rusty mafic volcanic, Silicified andesite, Odd disseminated pyrite
Goodall - Stevens Lake		519272	5673737	W538033	<0.01	Fine andesite, Disseminated cubic pyrite, <1%
Goodall - Stevens Lake		519360	5673890	W538034	n/r	Intrusive pyroxenite, Disseminated cubic pyrite
Goodall - Stevens Lake		519489	5674138	W538038	0.03	Silicified dacite
Goodall - Stevens Lake		519325	5673895	W538039	<0.01	Intermediate to mafic volcanic, Odd quartz slips, Well sheared

Table 7: Goodall Township Property; Sample Locations and Assay Results (July-August 2010 Sampling Programme)>

# Skinner Township and Shabu Lake Property

## Location and Access

The property lies in northwest part of the Birch-Confederation Lakes greenstone belt some 75 km east-northeast of Red Lake straddling the Skinner township / Shabu Lake area boundary

It comprises a contiguous group of claims (~175 units, 6,988 acres) extending 11.5 km from Leonard Lake in the east to Shabu Lake in the northwest.

## Access

The east part of the property is road accessible from Highway 105 at Ear Falls, eastwards towards Gold Pines on Lac Seul on Highway 653, then northeastwards along the South Bay Road and finally north on the Joyce Road which crosses the southeast extremity of the property. The South Bay and Joyce Roads are both well maintained, gravel logging access roads.

Northwest parts of the property are accessible by float plane available at the south end of Confederation Lake (Kabeelo's; ~30 km), Ear Falls (several; 75 km) and Red Lake (e.g, Greens, 75 km).

## Title

The property comprises staked Mining Claims which are currently held in the name of Perry Vern English with whom Big Bear is understood to have entered an option agreement.

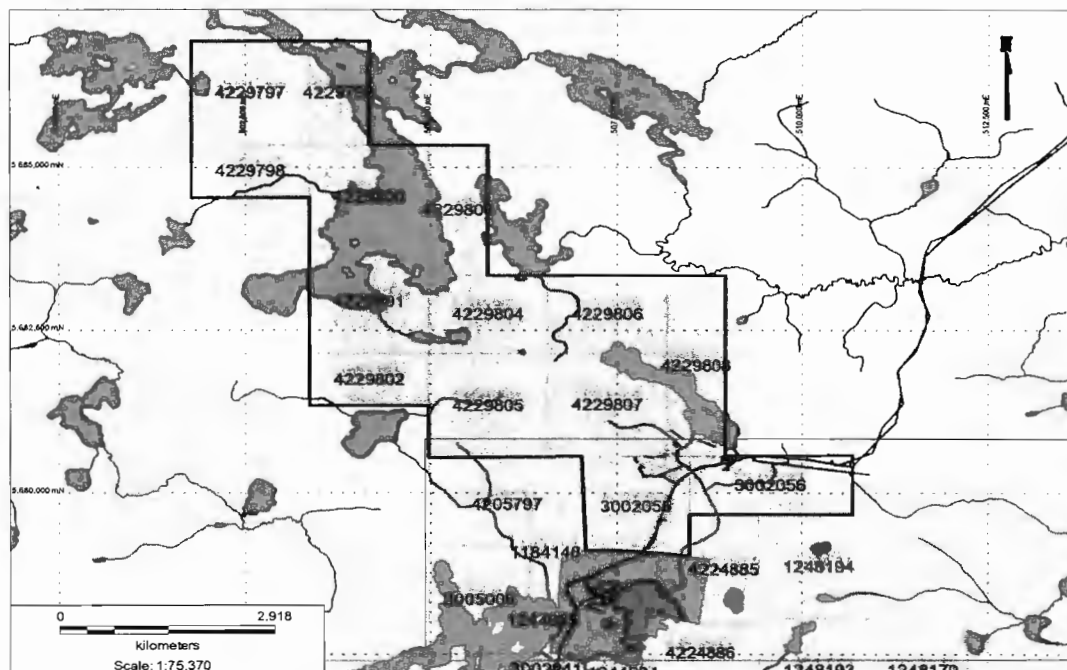
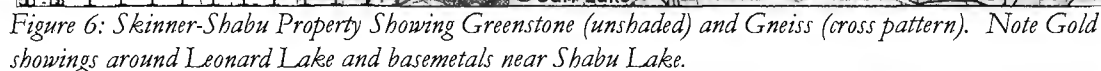


Figure 5: Shabu-Skinner Claims (outlined in red; UTM Zone 15; NAD'83). Joyce Road (access in brown).

The Skinner-Shabu property is situated in the northwest corner of the Uchi-Confederation Lake Greenstone belt, where it is pinched by gneiss belts to a narrow ( $\sim 1$  km) sliver. Outcrop patterns suggest that the gneiss and greenstone are folded into one another.



Parker and Atkinson (1993) record several gold showings on the property dating from 1926. Past work in the area has focused on the Bathurst Mine on Carr Lake which lies on the adjoining property south and east.

Parker and Atkinson (1993) provide detailed descriptions and histories of specific showings. Table 8 below lists work reported in the Shabu lake map area (NTS 52N07SW). Available data suggest that there is a significant and varied base of work on which to design further exploration programmes. In recent work (circa 2004) by Fronteer, completed only on the Leonard Lake portion of the property, can be effectively applied to the central and northwestern portions.



AFRI File	Year	AFRO ID	Performed For	Drilling	Geology	Geochem	Geophysics
52N07SW0008	1963	DDH 10	FLINT ROCK MINES LTD	x			
52N07SW0007	1967	DDH 11	MADSEN RL AU MINES LTD	x			
52N07SW0005	1969	DDH 13	G J CIGLEN	x			
52N07SW0006	1969	DDH 12	FLINT ROCK MINES LTD	x			
52N07SW0003	1985	2.7641	SUMMIT RED L GOLD MINES LTD			x	x
52N07SW0002	1987	63.519	FLINT ROCK MINES LTD	x	x		
52N07SW0004	1988	DDH 14	SHABU GOLD MINES LTD	x			
52N07SW9913	1993	2.1494	ASARCO EXPL CO OF CAN LTD		x		x
52N07SW2001	2002	2.25014	FRONTEER DVLPMPT GROUP INC		x	x	x
52N08NE2003	2003	2.27483	JILBEY ENTERPRISES LTD			x	x
52N07SW2002	2004	2.27325	FRONTEER DVLPMPT GROUP INC			x	
52N07SW2003	2004	2.27924	FRONTEER DVLPMPT GROUP INC	x			

Table 8: Assessment files in the Skinner Township and Shabu Lake area (NTS 52N07SW).

### Bathurst Mine (Carr Lake)

The Bathurst Mine lies to the south of the present property on the west shore of the lake. It was previously explored by a 400 foot shaft, with lateral development on two levels. The mineralized bodies are narrow ( $\leq 1$  m), short (12 to 60 m) but high grade ( $\leq 50$  g/t Au) (Figure 7 below).

The fabled Golden Sidewalk is reported to be in the vicinity of the mine. Early press descriptions describe a quartz knob coated with a network of visible gold. Unfortunately there are no reports by the Resident Geologist.

Sabena, the current owner, has drilled the area extensively and have not released drill data indicating that the results were not material.

The author spent some time walking over the washed outcrop that extends a couple of hundred metres along strike (WNW-ESE). The host rock is mainly rather fresh looking pillowed basalt with milky-white quartz-filled interstices. There is locally evidence of very minor definition. There are also areas of coarser-grained, mafic (hornblende) phyric basalt, that is not obviously texturally similar to the basalts, yet lacks obvious intrusive contacts. The whole is cut, irregular, variably altered, sometimes pyritic, quartz feldspar porphyry-like bodies. These are locally faulted a few decimetres dextrally. They in turn are intruded by a narrow, meandering, fairly fresh looking lamprophyre dike.

The prospect has three of five elements typical of a Shield gold prospect; quartz veins, quartz-feldspar porphyry and lamprophyre dikes. They however lack strong through-going structure and alteration which are perquisites for fertile deposits.

Sabena also reported several showings displaying similar geology and reporting low ( $\sim 1$  g/t) gold values, suggesting a cryptic structure which may be the focus of gold mineralization on the Sabena property.



*Figure 7: Bathurst Mine Longsection Showing Grade at Width on Surface and Levels.*

## Work Completed

Chance spent two days on the property, one locating the core and claim posts (which are within a few metres of the positions shown on claim maps) and a second examining the Bathurst (described above) and mapping outcrop along the road and along the drill trail.

Outcrop along the access road comprises non-descript basalts, that rarely display obvious textures (e.g., pillows, flow tops and bottoms). They tend to be darker suggesting that they are approaching amphibolite grade. Locally (e.g., along the drill access road south of Leonard Lake) more massive, coarser-grained basaltic units were encountered. Similar, small (<1 km diameter) gabbroic plugs are shown on Fronteer maps suggesting that they common through the area.

Only minor amounts of quartz and sulphides were observed along the road between the Bathurst shaft and Leonard Lake.

The showings around Leonard are described as quartz-carbonate veins containing small quantities of sulphides. Several samples taken failed to return detectable amounts of gold (table 9 below).

Location	UTM_E	UTM_N	Assay Tag	Au (g/t)	Description
<b>East Lake:</b>					
	507422	5678859	W538040	0.01	White bull quartz, Saw marks, Fine fracture filling with chlorite, No visible sulphides, Rusty on weathered surface, Clots of tourmaline
<b>Leonard Lake:</b>					
	507494	5682135	W538032	<0.01	Silicified andesite flow/fragmental, Disseminated cubic pyrite
	507494	5682135	W538035	n/r	Porphyritic mafic volcanic, Streaks of pyrite and pyrrhotite

Table 9: Skinner-Shabu Property; Analytical Results.

## Discussion

Although the initial sampling failed to obtain significant results, the property appears to have some promise by virtue of its proximity to a small but legitimate prospect.

## Recommendations

1. A comprehensive review of data and compilation are required to gain a more detailed view of the potential of the property (3½ days). Overburden geochemical data should be reviewed with particular care as values are reported in the Frontier data must be locally derived.
2. Additional traversing in the Leonard and Shabu Lake sections of the property to gain a first hand understanding of the styles of mineralization. Due to the proximity to the gneisses it is possible that the showings represent minor accumulations due to metamorphism.
3. Assuming that the first steps are encouraging, surficial geochemical sampling should be extended and where warranted sampled in more detail.



•	Section	250	Items	Maps	APPARENT RESISTIVITY 900 HZ COPLANAR PORTAGE PROP	1	items
•	Section	260	Items	Maps	APPARENT RESISTIVITY 7200 HZ COPLANAR PORTAGE PROP	1	items
•	Section	270	Items	Maps	EM ANOMALIES PORTAGE PROP	1	items
•	Section	280	Items	Maps	SOIL GEOCHEM GOLD PPB PORTAGE PROP	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N07SW2002  
 AFRO ID: 2.27325  
 Townships / Area Names: GOODALL, SKINNER, SHABU LAKE  
 Performed For: FRONTEER DVLPMT GROUP INC  
 Author(s): RICHARD VALENTA  
 Claim Holder(s): FRONTEER DVLPMT GROUP INC  
 Work Type(s): ASSAYING AND ANALYSES , GEOCHEMICAL , OVERBURDEN STUDIES  
 Sections:

•	Section	10	Items	Reports	GCHEM ASSESSMENT RPT PORTAGE PROP	144	2004
•	Section	200	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	210	Items	Maps	TILL SAMPLE LOCATION MAP PORTAGE PROP	1	items
•	Section	220	Items	Maps	TILL GCHEM & GOLD GRAIN COUNTS PORTAGE PROP	1	items
•	Section	230	Items	Maps	MMI SAMPLE LOCATIONS PORTAGE PROP	1	items
•	Section	240	Items	Maps	MMI SAMPLE LOCATIONS & ASSAY RESULTS PORTAGE PROP	1	items
•	Section	250	Items	Maps	ROCK SAMPLE LOCATIONS PORTAGE PROP	1	items
•	Section	260	Items	Maps	ROCK SAMPLE ASSAYS MAP PORTAGE PROP	1	items
•	Section	270	Items	Maps	B HORIZON SOIL SAMPLE LOCATIONS PORTAGE PROP	1	items
•	Section	280	Items	Maps	B HORIZON SOIL SAMPLES ASSAYS PORTAGE PROP	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N07SW2003  
 AFRO ID: 2.27924  
 Townships / Area Names: SKINNER, SHABU LAKE  
 Performed For: FRONTEER DVLPMT GROUP INC  
 Author(s): JEFF WILSON  
 Claim Holder(s): FRONTEER DVLPMT GROUP INC , JAROSLAV RUZA  
 Work Type(s): ASSAYING AND ANALYSES , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DRILLING ASSESSMENT RPT PORTAGE PROP	162	2004
•	Section	200	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	210	Items	Maps	DDH LOCATIONS PORTAGE PROP	1	items
•	Section	220	Items	Maps	DDH SECTIONS P04-01 & P04-02 PORTAGE PROP	1	items
•	Section	230	Items	Maps	DDH SECTIONS P04-03 & P04-04 PORTAGE PROP	1	items
•	Section	240	Items	Maps	DDH SECTIONS P04-05 P04-06 & P04-07 PORTAGE PROP	1	items
•	Section	250	Items	Maps	DDH SECTION P04-08 PORTAGE PROP	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	3	items

AFRI File: 52N07SW9913  
 AFRO ID: 2.14940  
 Townships / Area Names: SKINNER, SHABU LAKE  
 Performed For: ASARCO EXPL CO OF CAN LTD  
 Author(s): ASARCO EXPL CO OF CAN LTD  
 Claim Holder(s): ASARCO EXPL CO OF CANADA LTD  
 Work Type(s): ELECTROMAGNETIC , GEOLOGICAL , MAGNETOMETER  
 Sections:

•	Section 10	Items	Reports	RPT ON HLEM/MAG & GEOL SUR DOM 1 CL	10	1993
•	Section 200	Items	Maps	CL LOC PL G-1880	1	items
•	Section 210	Items	Maps	CL LOC PL G-3758	1	items
•	Section 220	Items	Maps	PROP MAP	1	items
•	Section 230	Items	Maps	HLEM SUR PL 444/1777/3555 HZ	1	items
•	Section 240	Items	Maps	HLEM SUR PL 444 HZ	1	items
•	Section 250	Items	Maps	HLEM SUR PL 1777 HZ	1	items
•	Section 260	Items	Maps	HLEM SUR PL 3555 HZ	1	items
•	Section 270	Items	Maps	MAG SUR PL CTR	1	items
•	Section 280	Items	Maps	MAG SUR PL DATA	1	items
•	Section 290	Items	Maps	GEOL SUR PL	1	items
•	Section 900	Items	Misc	MISCELLANEOUS	7	items

## Appendix 1A – Ontario Geological Survey - Publications

- Publication No: ARM37H  
 Publication Title: Woman and Narrow lakes gold area, District of Kenora (Patricia Portion), Ontario  
 Author: E.L. Bruce  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1928  
 Publication Series: Annual Report Map  
 Location: 52N02, AGNEW, CORLESS, DENT, EARNGEY, GOODALL, HONEYWELL, KNOTT, LITTLE BEAR LAKE, MITCHELL, NARROW LAKE, Ontario, Canada, SKINNER, UCHI LAKE
- Publication No: ARV37-04.001  
 Publication Title: Gold deposits of Woman, Narrow and Confederation lakes, District of Kenora (Patricia Portion)  
 Author: E.L. Bruce  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1929  
 Publication Series: Annual Report Volume  
 Location: 52N02, AGNEW, CORLESS, DENT, EARNGEY, GOODALL, KNOTT, LITTLE BEAR LAKE, MITCHELL, NARROW LAKE, Ontario, Canada, SKINNER, UCHI LAKE
- Publication No: M2498  
 Publication Title: Confederation Lake, Precambrian geology  
 Author: P.C. Thurston  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1984  
 Publication Series: Map, 2000 Series  
 Location: 52N02, AGNEW, BELANGER, BIRKETT, BOWERMAN, CORLESS, COSTELLO, DENT, EARNGEY, GOODALL, HONEYWELL, KNOTT, LITTLE BEAR LAKE, MCNAUGHTON, MITCHELL, NARROW LAKE, Ontario, Canada, SKINNER, UCHI LAKE
- Publication No: M81615  
 Publication Title: Geophysical/geochemical series, Birch-Uchi-Confederation lakes area, airborne electromagnetic survey, total intensity magnetic survey  
 Author: Digheem Surveys and Processing Inc.  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1991  
 Publication Series: Map, 80 000 Series  
 Location: 52N07, GOODALL, Ontario, Canada, SHABU LAKE, SKINNER
- Publication No: M81616  
 Publication Title: Geophysical/geochemical series, Birch-Uchi-Confederation lakes area, airborne electromagnetic survey, total intensity magnetic survey  
 Author: Geotrex Ltd.  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1991  
 Publication Series: Map, 80 000 Series  
 Location: 52N07, GOODALL, Ontario, Canada, SHABU LAKE, SKINNER
- Publication No: M81617  
 Publication Title: Geophysical/geochemical series, Birch-Uchi-Confederation lakes area, airborne electromagnetic survey, total intensity magnetic survey  
 Author: Geotrex Ltd.  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1991  
 Publication Series: Map, 80 000 Series  
 Location: 52N07, GOODALL, HONEYWELL, Ontario, Canada, SHABU LAKE, SHABUMENI LAKE
- Publication No: M81625  
 Publication Title: Geophysical/geochemical series, Birch-Uchi-Confederation lakes area, airborne electromagnetic survey, total intensity magnetic survey  
 Author: Digheem Surveys and Processing Inc.  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1991  
 Publication Series: Map, 80 000 Series  
 Location: 52N02, 52N07, CORLESS, DENT, GOODALL, NARROW LAKE, Ontario, Canada, SHABU LAKE, SKINNER
- Publication No: M81626  
 Publication Title: Geophysical/geochemical series, Birch-Uchi-Confederation area, airborne electromagnetic survey, total intensity magnetic survey  
 Author: Geotrex Ltd.  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1991  
 Publication Series: Map, 80 000 Series  
 Location: 52N02, 52N07, CORLESS, DENT, GOODALL, NARROW LAKE, Ontario, Canada, SHABU LAKE, SKINNER

Publication No: M81627  
 Publication Title: Geophysical/geochemical series, Birch-Uchi-Confederation lakes area, airborne electromagnetic survey, total intensity magnetic survey  
 Author: Geotrex Ltd.  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1991  
 Publication Series: Map, 80 000 Series  
 Location: 52N02,52N07,AGNEW,DENT,GOODALL,HONEYWELL,Ontario, Canada,SHABUMENI LAKE

Publication No: OFR5835  
 Publication Title: **Gold occurrences, prospects and past-producing mines of the Birch-Confederation lakes area**  
 Author: J.R. Parker,B.T. Atkinson  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1992  
 Publication Series: Open File Report  
 Location: 52K15,52K16,52N01,52N02,52N07,52N08,52N09,AGNEW,AVIS LAKE,BELANGER,BIRKETT,BOWERMAN,BROWNSTONE LAKE,CASUMMIT LAKE,CORLESS,CURIE LAKE,DENT,EARNGEY,FREDART LAKE,GOODALL,HONEYWELL,JUBILEE LAKE,KEIGAT LAKE,KNOTT,LATREILLE LAKE,LITTLE BEAR LAKE,MCNAUGHTON,MITCHELL,NARROW LAKE,Ontario, Canada,SATTERLY LAKE,SEAGRAVE LAKE,SHABU LAKE,SHABUMENI LAKE,SKINNER,SLATE LAKE,UCHI

Publication No: P0592  
 Publication Title: Dent Township, District of Kenora (Patricia Portion)  
 Author: A.P. Pryslak  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1970  
 Publication Series: Map, P Series  
 Location: 52N02,AGNEW,CORLESS,DENT,GOODALL,LITTLE BEAR LAKE,MITCHELL,NARROW LAKE,Ontario, Canada,UCHI LAKE

Publication No: P0763  
 Publication Title: **Geological series, Goodall Township, District of Kenora (Patricia Portion)**  
 Author: A.P. Pryslak  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1972  
 Publication Series: Map, P Series  
 Location: 52N02,52N07,DENT,GOODALL,NARROW LAKE,Ontario, Canada,SHABU LAKE,SHABUMENI LAKE

Publication No: P0901  
 Publication Title: Geological series, Shabumeni River-Narrow Lake area (northeastern part), District of Kenora (Patricia Portion)  
 Author: A.P. Pryslak  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1973  
 Publication Series: Map, P Series  
 Location: 52N07,GOODALL,Ontario, Canada,SHABU LAKE,SHABUMENI LAKE

Publication No: P1066  
 Publication Title: Geological series, Honeywell Township, District of Kenora (Patricia Portion)  
 Author: G.W. Johns, R.M. Falls  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1976  
 Publication Series: Map, P Series  
 Location: 52N02,52N07,GOODALL,HONEYWELL,Ontario, Canada,SHABUMENI LAKE

Publication No: P1071  
 Publication Title: Red Lake data series, Skinner Township, District of Kenora (Patricia Portion)  
 Author: A.P. Pryslak, W.W. Valliant  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1976  
 Publication Series: Map, P Series  
 Location: 52N02, 52N07, CORLESS, GOODALL, NARROW LAKE, Ontario, Canada, SHABU LAKE,SKINNER

Publication No: P1216  
 Publication Title: Red Lake data series, Goodall Township, District of Kenora (Patricia Portion)  
 Author: A.P. Pryslak, W.W. Valliant  
 Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
 Publication Date: 1977  
 Publication Series: Map, P Series  
 Location: 52N02,52N07,GOODALL,NARROW LAKE,Ontario, Canada,SHABU LAKE,SHABUMENI LAKE

Publication No: P2025  
Publication Title: Red Lake data series, Shabumeni Lake area, District of Kenora (Patricia Portion)  
Author: D.A. Panagapko, J.C. Gibson  
Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
Publication Date: 1980  
Publication Series: Map, P Series  
Location: 52N07,GOODALL,HONEYWELL,MCNAUGHTON,Ontario, Canada,SHABUMENI LAKE

Publication No: P2081  
Publication Title: Red Lake data series, Okanse Lake area, District of Kenora (Patricia Portion)  
Author: D.A. Panagapko, J.C. Gibson  
Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
Publication Date: 1980  
Publication Series: Map, P Series  
Location: 52N02,AGNEW,COSTELLO,DENT,GOODALL,HONEYWELL,MCNAUGHTON,Ontario, Canada

Publication No: P2119  
Publication Title: Red Lake data series, Shabu Lake area, District of Kenora (Patricia Portion)  
Author: D.A. Panagapko, J.C. Gibson  
Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
Publication Date: 1980  
Publication Series: Map, P Series  
Location: 52N07,GOODALL,Ontario, Canada,SHABU LAKE,SKINNER

Publication No: P2387  
Publication Title: Geological series, Precambrian geology of the Birch Lake area, Kenora District (Patricia Portion)  
Author: P.C. Thurston, M.C. Jackson, J. Pirie  
Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
Publication Date: 1981  
Publication Series: Map, P Series  
Location: 52N07,52N08,CASUMMIT LAKE,GOODALL,HONEYWELL,KEIGAT LAKE,LITTLE SHABUMENI LAKE,MCNAUGHTON,Ontario, Canada,SATTERLY LAKE,SEAGRAVE LAKE,SHABUMENI LAKE

Publication No: P2953  
Publication Title: Geological series, Precambrian geology, Skinner Township, District of Kenora (Patricia Portion)  
Author: A.P. Pryslak  
Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
Publication Date: 1986  
Publication Series: Map, P Series  
Location: 52N02,52N07,CORLESS,GOODALL,NARROW LAKE,Ontario, Canada,SHABU LAKE,SKINNER

Publication No: P3295  
Publication Title: Precambrian Geology, Shabumeni Lake Area  
Author: D. Stone, J. Crawford  
Publisher: Ontario Ministry of Northern Development and Mines, Ontario Geological Survey  
Publication Date: 1994  
Publication Series: Map, P Series  
Location: 52N07,ARMOUR LAKE,GOODALL,HONEYWELL,LITTLE SHABUMENI LAKE,Ontario, Canada,SHABU LAKE,SHABUMENI LAKE,SKINNER

## Appendix 1B – Assessment Files

AFRI File: 52N07SE0058  
 AFRO ID: 63.2426  
 Townships / Area Names: SHABU LAKE  
 Performed For: MADSEN RED LAKE GOLD MINES LTD  
 Author(s): M J MOREAU  
 Claim Holder(s): MADSEN RED LAKE GOLD MINES LTD  
 Work Type(s): ELECTROMAGNETIC , MAGNETOMETER  
 Sections:

•	Section	10	Items	Reports	RPT ON EM AND MAG SUR SHABU L PROP	3		1967
•	Section	200	Items	Maps	CL LOC PL MAP M.2608	1	items	
•	Section	210	Items	Maps	EM GUN EM SUR SHABU L PROP	1	items	
•	Section	220	Items	Maps	MAG SUR SHABU L PROP	1	items	

AFRI File: 52N07SW0002  
 AFRO ID: 63.5190  
 Townships / Area Names: SHABU LAKE  
 Performed For: FLINT ROCK MINES LTD  
 Author(s): R CROWLEY , P T GEORGE  
 Claim Holder(s): FLINT ROCK MINES LTD  
 Work Type(s): GEOLOGICAL , INDUCED POLARISATION , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	RPT ON THE SHABU L PROP SHABUMENI L AREA	60		1988
•	Section	20	Items	Reports	RED L PROJ SHABU L PROP 1987 WORKPLAN & BUDGET	20		1987
•	Section	200	Items	Maps	COMP MAP	1	items	
•	Section	210	Items	Maps	IP PSEUDOSECT L 3W	1	items	
•	Section	220	Items	Maps	IP PSEUDOSECT L 6W	1	items	
•	Section	230	Items	Maps	IP PSEUDOSECT L 12W	1	items	
•	Section	240	Items	Maps	IP PSEUDOSECT L 18W	1	items	
•	Section	250	Items	Maps	IP PSEUDOSECT L 24W	1	items	
•	Section	260	Items	Maps	IP PSEUDOSECT L 27W	1	items	
•	Section	270	Items	Maps	IP PSEUDOSECT L 30W	1	items	
•	Section	280	Items	Maps	IP PSEUDOSECT L 33W	1	items	
•	Section	290	Items	Maps	IP PSEUDOSECT L 36W	1	items	
•	Section	300	Items	Maps	IP PSEUDOSECT L 39W X=25'	1	items	
•	Section	310	Items	Maps	IP PSEUDOSECT L 39W	1	items	
•	Section	320	Items	Maps	IP PSEUDOSECT L 42W X=25'	1	items	
•	Section	330	Items	Maps	IP PSEUDOSECT L 42W	1	items	

AFRI File: 52N07SW0003  
 AFRO ID: 2.7641  
 Townships / Area Names: SHABU LAKE  
 Performed For: SUMMIT RED L GOLD MINES LTD  
 Author(s): INDEPENDENT EXPL SERV LTD , L C CHASTKO  
 Claim Holder(s): L J HERMISTON , T TRIPPIER  
 Work Type(s): GEOCHEMICAL , MAGNETOMETER , ELECTROMAGNETIC VERY LOW FREQUENCY  
 Sections:

•	Section 10	Items	Reports	RPT ON VLF MAG SOIL GEOCH SUR & LCUT SHEEHAN L PROP	74		1985
•	Section 200	Items	Maps	RX GEOCH AU E SHEET	1	items	
•	Section 210	Items	Maps	RX GEOCH AU W SHEET	1	items	
•	Section 220	Items	Maps	DRAINAGE & SLOPES E SHEET	1	items	
•	Section 230	Items	Maps	DRAINAGE & SLOPES W SHEET	1	items	
•	Section 240	Items	Maps	SOIL GEOCH SUR AS E SHEET	1	items	
•	Section 250	Items	Maps	SOIL GEOCH SUR AS W SHEET	1	items	
•	Section 260	Items	Maps	SOIL GEOCH SUR AU E SHEET	1	items	
•	Section 270	Items	Maps	SOIL GEOCH SUR AU W SHEET	1	items	
•	Section 280	Items	Maps	SOIL GEOCH SUR CA E SHEET	1	items	
•	Section 290	Items	Maps	SOIL GEOCH SUR CA W SHEET	1	items	
•	Section 300	Items	Maps	SOIL GEOCH SUR CU E SHEET	1	items	



•	Section 310	Items	Maps	SOIL GEOCH SUR CU W SHEET	1	items
•	Section 320	Items	Maps	SOIL GEOCH SUR FE E SHEET	1	items
•	Section 330	Items	Maps	SOIL GEOCH SUR FE W SHEET	1	items
•	Section 340	Items	Maps	SOIL GEOCH SUR MG E SHEET	1	items
•	Section 350	Items	Maps	SOIL GEOCH SUR MG W SHEET	1	items
•	Section 360	Items	Maps	SOIL GEOCH SUR MN E SHEET	1	items
•	Section 370	Items	Maps	SOIL GEOCH SUR MN W SHEET	1	items
•	Section 380	Items	Maps	SOIL GEOCH SUR PB E SHEET	1	items
•	Section 390	Items	Maps	SOIL GEOCH SUR PB W SHEET	1	items
•	Section 400	Items	Maps	SOIL GEOCH SUR ZN E SHEET	1	items
•	Section 410	Items	Maps	SOIL GEOCH SUR ZN W SHEET	1	items
•	Section 420	Items	Maps	VLF SUR FF E SHEET	1	items
•	Section 430	Items	Maps	VLF SUR FF W SHEET	1	items
•	Section 440	Items	Maps	VLF SUR PROF E SHEET	1	items
•	Section 450	Items	Maps	VLF SUR PROF W SHEET	1	items
•	Section 460	Items	Maps	MAG SUR E SHEET	1	items
•	Section 470	Items	Maps	MAG SUR W SHEET	1	items
•	Section 900	Items	Misc	MISCELLANEOUS	23	items

AFRI File: 52N07SW0004  
 AFRO ID: 14  
 Townships / Area Names: SHABU LAKE  
 Performed For: SHABU GOLD MINES LTD  
 Author(s): SHABU GOLD MINES LTD  
 Claim Holder(s): SHABU GOLD MINES LTD  
 Work Type(s): ASSAYING AND ANALYSES , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 14 SHABU LAKE	151		1988
•	Section	900	Items	Misc	MISCELLANEOUS	6	items	

AFRI File: 52N07SW0005  
 AFRO ID: 13  
 Townships / Area Names: SHABU LAKE  
 Performed For: G J CIGLEN  
 Author(s): G J CIGLEN  
 Claim Holder(s): G J CIGLEN  
 Work Type(s): ASSAYING AND ANALYSES , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 13 SHABU LAKE	3		1969
•	Section	900	Items	Misc	MISCELLANEOUS	1	items	

AFRI File: 52N07SW0006  
 AFRO ID: 12  
 Townships / Area Names: SHABU LAKE  
 Performed For: FLINT ROCK MINES LTD  
 Author(s): FLINT ROCK MINES LTD  
 Claim Holder(s): FLINT ROCK MINES LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 12 SHABU L	6		1969
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AFRI File: 52N07SW0007  
 AFRO ID: 11  
 Townships / Area Names: SHABU LAKE  
 Performed For: MADSEN RL AU MINES LTD  
 Author(s): MADSEN RED LAKE GOLD  
 Claim Holder(s): MADSEN RL AU MINES LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 11 SHABU LAKE AREA	40		1967
•	Section	200	Items	Maps	CL LOC PL M 2608	1	items	
•	Section	210	Items	Maps	CL LOC PL M 2608	1	items	
•	Section	900	Items	Misc	MISCELLANEOUS	2	items	

AFRI File: 52N07SW0008  
 AFRO ID: 10  
 Townships / Area Names: SHABU LAKE  
 Performed For: FLINT ROCK MINES LTD  
 Author(s): FLINT ROCK MINES LTD  
 Claim Holder(s): FLINT ROCK MINES LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 10 SHABU LAKE	10	1963
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AFRI File: 52N07SW0021  
 AFRO ID: W9420-00009  
 Townships / Area Names: SKINNER, SHABU LAKE  
 Performed For: ASARCO EXPL CO OF CAN LTD  
 Author(s): A S HORVATH  
 Claim Holder(s): ASARCO EXPL CO CAN LTD  
 Work Type(s): ASSAYING AND ANALYSES , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DDH LOG	16	1993
•	Section	200	Items	Maps	SHABU LAKE RED LAKE MIN DIV MNR MAP G-1880	1 items	
•	Section	900	Items	Misc	MISCELLANEOUS	4 items	

AFRI File: 52N07SW0025  
 AFRO ID: OP93-017  
 Townships / Area Names: SKINNER, SHABU LAKE  
 Performed For: G STRILCHUK  
 Author(s): G STRILCHUK  
 Claim Holder(s): G STRILCHUK  
 Work Type(s): ASSAYING AND ANALYSES , ELECTROMAGNETIC , PROSPECTING BY LICENCE HOLDER (\$150 PER DAY)  
 , OVERBURDEN STRIPPING , BEDROCK TRENCHING  
 Sections:

•	Section	10	Items	Reports	FINAL RPT	4	1994
•	Section	20	Items	Reports	DETAILED LIST OF EXPENDITURES	2	1993
•	Section	30	Items	Reports	PROSPECTING DAILY LOG	9	1993
•	Section	40	Items	Reports	PROSPECTING DAILY LOG PT 2	20	1993
•	Section	50	Items	Reports	ASSAYS	9	1993
•	Section	200	Items	Maps	SKINNER TP RED LAKE MIN DIV MAP G-3758	1 items	
•	Section	210	Items	Maps	SKINNER TP RED LAKE MIN DIV MAP G-3758	1 items	
•	Section	220	Items	Maps	GEOLOGICAL MAP	1 items	
•	Section	230	Items	Maps	AREA A SECT-1 SAMPLE LOCATIONS & NUMBERS	1 items	
•	Section	240	Items	Maps	AREA A SECT-1 SAMPLE LOCATIONS & NUMBERS	1 items	
•	Section	250	Items	Maps	AREA A SECT-4 SAMPLE LOCATIONS & NUMBERS	1 items	
•	Section	260	Items	Maps	AREA A SECT-4 SAMPLE LOCATIONS & NUMBERS	1 items	
•	Section	270	Items	Maps	AREA B SECT-5 SAMPLE LOCATIONS & NUMBERS	1 items	
•	Section	280	Items	Maps	AREA A SECT-4 SAMPLE LOCATIONS & NUMBERS	1 items	
•	Section	290	Items	Maps	GEOLOGICAL COMPILATION MAP	1 items	
•	Section	300	Items	Maps	AREA A SECT 1 LINES SHOWING BEEP MAT TRAVERSE	1 items	
•	Section	310	Items	Maps	AREA A SECT 1 LINES SHOWING BEEP MAT TRAVERSE	1 items	
•	Section	320	Items	Maps	AREA A SECT 2 LINES SHOWING BEEP MAT TRAVERSE	1 items	

AFRI File: 52N07SW2001  
 AFRO ID: 2.25014  
 Townships / Area Names: GOODALL, SKINNER, SHABU LAKE, NARROW LAKE  
 Performed For: FRONTEER DVLPM GROUP INC  
 Author(s): FRONTEER DEV GROUP INC  
 Claim Holder(s): FRONTEER DVLPM GROUP INC  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE MAGNETOMETER , ASSAYING AND ANALYSES ,  
 GEOCHEMICAL , GEOLOGICAL  
 Sections:

•	Section	10	Items	Reports	RPT ON GEOL GEOCHEM & GEOPHYS WORK PORTAGE PROP	176	2002
•	Section	200	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1 items	
•	Section	210	Items	Maps	GEOLOGICAL & ROCK SAMPLE LOCATIONS EAST SHEET PORTAGE PROP	1 items	
•	Section	220	Items	Maps	GEOLOGICAL & ROCK SAMPLE LOCATIONS WEST SHEET PORTAGE PROP	2 items	
•	Section	230	Items	Maps	TOTAL MAG FIELD PORTAGE PROP	1 items	
•	Section	240	Items	Maps	CALCULATED VERT MAG GRADIENT PORTAGE PROP	1 items	

AFRI File: 52N08NE2003  
 AFRO ID: 2.27483  
 Townships / Area Names: GOODALL, DENT, EARNGEY, CASUMMIT LAKE, SKINNER, SATTERLY LAKE, SHABU LAKE, SHABUMENI LAKE, LITTLE SHABUMENI LAKE, NARROW LAKE, KEIGAT LAKE  
 Performed For: JILBEY ENTERPRISES LTD  
 Author(s): FELIX LEE  
 Claim Holder(s): JILBEY ENTERPRISE LTD  
 Work Type(s): ASSAYING AND ANALYSES , GEOCHEMICAL , MAGNETOMETER  
 Sections:

Section	Items	Reports	Summary RPT BIRCH-UCHI PROJ	1640	2003
Section 10	Items	Reports	SUMMARY RPT BIRCH-UCHI PROJ	1640	2003
Section 200	Items	Maps	G-1901 UCHI LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
Section 210	Items	Maps	G-1751 SUMMIT LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
Section 220	Items	Maps	G-3750 GOODALL TP RED LAKE DIST RED LAKE MNG DIV	1	items
Section 230	Items	Maps	G-1810 LITTLE SHABUMENI LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
Section 240	Items	Maps	G-1881 SHABUMENI LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
Section 250	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1	items
Section 260	Items	Maps	G-1874 SATTERLY LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
Section 270	Items	Maps	ROCK & SOIL SAMPLE LOCATIONS BIRCH-UCHI PROJ	1	items
Section 900	Items	Misc	MISCELLANEOUS	2	items

Goodall  
 AFRI File: 52N02NE0006  
 AFRO ID: 2.7099  
 Townships / Area Names: GOODALL, CORLESS, DENT  
 Performed For: SHERRITT GORDON MINES LTD  
 Author(s): I ALLEN  
 Claim Holder(s): SHERRITT GORDON MINES LTD  
 Work Type(s): GEOCHEMICAL  
 Sections:

Section	Items	Reports	GEOL RPT WOMAN L AREA	56	1984
Section 10	Items	Reports	GEOL RPT WOMAN L AREA	56	1984
Section 200	Items	Maps	CL LOC PL M-2154	1	items
Section 210	Items	Maps	CL LOC PL M-2155	1	items
Section 220	Items	Maps	CL LOC PL M-2164	1	items
Section 230	Items	Maps	GEOL OF THE WOMAN L AREA	1	items
Section 240	Items	Maps	WOMEN L SAMP LOC	1	items

AFRI File: 52N02NE0008  
 AFRO ID: 19  
 Townships / Area Names: GOODALL  
 Performed For: NORAMCO EXPL INC  
 Author(s): S STOCK  
 Claim Holder(s): WESTERN PACIFIC ENERGY CORP  
 Work Type(s): DIAMOND DRILLING  
 Sections:

Section	Items	Reports	DD RPT 19 GOODALL TWP	11	1987
Section 10	Items	Reports	DD RPT 19 GOODALL TWP	11	1987
Section 900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N02NE0009  
 AFRO ID: 63.5401  
 Townships / Area Names: GOODALL  
 Performed For: BLACK CLIFF MINES LTD  
 Author(s): A FARKAS , R BELANGER  
 Claim Holder(s): BLACK CLIFF MINES LTD  
 Work Type(s): GEOLOGICAL , INDUCED POLARISATION  
 Sections:

Section	Items	Reports	RPT ON GEOL MAPPING & SAMPLING OF GOLD	24	1988
Section 10	Items	Reports	RPT ON GEOL MAPPING & SAMPLING OF GOLD	24	1988
Section 20	Items	Reports	IP SUR RPT GOODALL PROP	8	1988
Section 200	Items	Maps	CL MAP	1	items
Section 210	Items	Maps	GEOL MAP	1	items
Section 220	Items	Maps	COMP MAP	1	items
Section 230	Items	Maps	RES CTR N=4	1	items
Section 240	Items	Maps	CTR FREQ EFFECT N=4	1	items
Section 250	Items	Maps	IP ANOMALY MAP	1	items
Section 260	Items	Maps	IP PSEUDOSECT L 3E	1	items

•	Section	270	Items	Maps	IP PSEUDOSECT L 2E	1	items
•	Section	280	Items	Maps	IP PSEUDOSECT L 1E	1	items
•	Section	290	Items	Maps	IP PSEUDOSECT L 0E	1	items
•	Section	300	Items	Maps	IP PSEUDOSECT L 0E EXT	1	items
•	Section	310	Items	Maps	IP PSEUDOSECT L 1W	1	items
•	Section	320	Items	Maps	IP PSEUDOSECT L 2W	1	items
•	Section	330	Items	Maps	IP PSEUDOSECT L 3W	1	items
•	Section	340	Items	Maps	IP PSEUDOSECT L 4W	1	items
•	Section	350	Items	Maps	IP PSEUDOSECT L 5W	1	items
•	Section	360	Items	Maps	IP PSEUDOSECT L 6W	1	items
•	Section	370	Items	Maps	IP PSEUDOSECT L 7W	1	items
•	Section	380	Items	Maps	IP PSEUDOSECT L 8W	1	items
•	Section	390	Items	Maps	IP PSEUDOSECT L 8W EXT	1	items
•	Section	400	Items	Maps	IP PSEUDOSECT L 9W	1	items
•	Section	410	Items	Maps	IP PSEUDOSECT L 10W	1	items
•	Section	420	Items	Maps	IP PSEUDOSECT L 11W	1	items
•	Section	430	Items	Maps	IP PSEUDOSECT L 12W	1	items

AFRI File: 52N02NE0010  
 AFRO ID: 2.11442  
 Townships / Area Names: GOODALL, DENT  
 Performed For: OROFINO RESC LTD  
 Author(s): OROFINO RESOURCES LTD  
 Claim Holder(s): OROFINO RESC LTD  
 Work Type(s): GEOCHEMICAL , GEOLOGICAL , MAGNETOMETER  
 Sections:

•	Section	10	Items	Reports	RPT ON EXPL ACTIVITIES 1986	69	1988
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items
•	Section	210	Items	Maps	CL LOC PL M.3737	1	items
•	Section	220	Items	Maps	GEOLOGICAL MAP FIGURE 3	1	items
•	Section	230	Items	Maps	GEOLOGICAL MAP FIGURE 4	1	items
•	Section	240	Items	Maps	MAGNETIC MAP FIGURE 5	1	items
•	Section	250	Items	Maps	MAGNETIC MAP FIGURE 6	1	items
•	Section	260	Items	Maps	HUMUS FIGURE 7	1	items
•	Section	270	Items	Maps	HUMUS FIGURE 8	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	42	items

AFRI File: 52N02NE0011  
 AFRO ID: 2.10820  
 Townships / Area Names: GOODALL  
 Performed For: BLACK CLIFF MINES LTD  
 Author(s): LAFOREST-HLAVA EXPL SERV  
 Claim Holder(s): BLACK CLIFF MINES LTD  
 Work Type(s): MAGNETOMETER , ELECTROMAGNETIC VERY LOW FREQUENCY  
 Sections:

•	Section	10	Items	Reports	MAG & VLF EM 16 SUR FOR TASU RES LTD	14	1988
•	Section	200	Items	Maps	CL LOC PL M-2164	1	items
•	Section	210	Items	Maps	MAG SUR	1	items
•	Section	220	Items	Maps	VLF SUR	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N02NE0012  
 AFRO ID: 2.10703  
 Townships / Area Names: GOODALL  
 Performed For: BLACK CLIFF MINES LTD  
 Author(s): BLACK CLIFF MINES LTD  
 Claim Holder(s): BLACK CLIFF MINES LTD  
 Work Type(s): ASSAYING AND ANALYSES , GEOCHEMICAL , GEOLOGICAL  
 Sections:

•	Section	10	Items	Reports	RPT ON GEOL & GEOCH SUR OF TASU RESC LTD	49	1987
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items

•	Section	210	Items	Maps	TRAVERSE & SAMP LOC MAP	1	items
•	Section	220	Items	Maps	GEOL & SAMP LOC MAP	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	3	items

AFRI File: 52N02NE0013  
 AFRO ID: 2.4336  
 Townships / Area Names: GOODALL  
 Performed For: MINOREX LTD  
 Author(s): K D PEDEN  
 Claim Holder(s): A HAGAR, B CRAWFORD, MINOREX LTD, W HERMISTON  
 Work Type(s): ELECTROMAGNETIC  
 Sections:

•	Section	10	Items	Reports	WOMAN L CL GRP VLF-EM SUR	null	1981
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items
•	Section	210	Items	Maps	WOMAN L CL GRP VLF-EM (N PART)	1	items
•	Section	220	Items	Maps	WOMAN L CL GRP VLF-EM (CENTRAL PART)	1	items
•	Section	230	Items	Maps	WOMAN L CL GRP VLF-EM (S PART)	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	null	items

AFRI File: 52N02NE0014  
 AFRO ID: 2.4674  
 Townships / Area Names: GOODALL  
 Performed For: MINOREX LTD  
 Author(s): K PEDEN  
 Claim Holder(s): A HAGAR, B CRAWFORD, MINOREX LTD, W HERMISTON  
 Work Type(s): ELECTROMAGNETIC VERY LOW FREQUENCY  
 Sections:

•	Section	10	Items	Reports	VLF-EM SUR WOMAN L CL GRP ASST WORK	10	1982
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items
•	Section	210	Items	Maps	WOMAN L CL GRP/VLF-EM (N PART)	1	items
•	Section	220	Items	Maps	WOMAN L CL GRP/VLF-EM (CENTRAL PART)	1	items
•	Section	230	Items	Maps	WOMAN L CL GRP/VLF-EM (S PART)	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	18	items

AFRI File: 52N02NE0015  
 AFRO ID: 2.4176  
 Townships / Area Names: GOODALL  
 Performed For: MINOREX LTD  
 Author(s): INDEPENDENT EXPL SERV LTD, J JESSOP, K PEDEN  
 Claim Holder(s): MINOREX LTD  
 Work Type(s): GEOLOGICAL  
 Sections:

•	Section	10	Items	Reports	GEOL RPT NEW WOMAN L CL GRP GOODALL TWP	7	1981
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items
•	Section	210	Items	Maps	GEOL (S PART)	1	items
•	Section	220	Items	Maps	GEOL (CENTRAL PART)	1	items
•	Section	230	Items	Maps	GEOL (N PART)	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	3	items

AFRI File: 52N02NE0016  
 AFRO ID: 18  
 Townships / Area Names: GOODALL  
 Performed For: MINOREX LTD  
 Author(s): D BRAY, K D PEDEN  
 Claim Holder(s): MINOREX LTD  
 Work Type(s): ASSAYING AND ANALYSES, DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 18 GOODALL TWP	25	1981
•	Section	200	Items	Maps	DDSECT DDH G81-9 ZONE 3 LOOKING NE	1	items
•	Section	210	Items	Maps	DDSECT DDH G81-13 22+20S LOOKING N	1	items
•	Section	220	Items	Maps	DDSECT DDH G81-12 15+00S LOOKING E	1	items
•	Section	230	Items	Maps	DDSECT DDH G81-7 8+40N LOOKING NE	1	items
•	Section	240	Items	Maps	DDSECT DDH G81-6 & G80-3 7+80N LOOKING NE	1	items
•	Section	250	Items	Maps	DDSECT DDH G81-11 ZONE 4 LOOKING E	1	items

•	Section	260	Items	Maps	DDSECT DDH G81-8 10+55N LOOKING NE	1	items
•	Section	270	Items	Maps	DDSECT DDH G81-10 ZONE 3 LOOKING NE	1	items

AFRI File: 52N02NE0017  
 AFRO ID: 2.3754  
 Townships / Area Names: GOODALL  
 Performed For: MINOREX LTD  
 Author(s): MINOREX LTD  
 Claim Holder(s): MINOREX LTD  
 Work Type(s): ELECTROMAGNETIC , GEOLOGICAL , DIAMOND DRILLING , ELECTROMAGNETIC VERY LOW  
 FREQUENCY  
 Sections:

•	Section	10	Items	Reports	1980 EXPL PROGRAM ON WOMAN-WASHIAGOMIS LAKES GP	94	1981
•	Section	200	Items	Maps	DDH SECTIONS HOLES G-80-1 TO 5	1	items
•	Section	210	Items	Maps	EM SUR	1	items
•	Section	220	Items	Maps	GEOLOGY SUR	null	items
•	Section	900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N02NE0018  
 AFRO ID: 17  
 Townships / Area Names: GOODALL  
 Performed For: MINOREX LTD  
 Author(s): MINOREX LTD  
 Claim Holder(s): MINOREX LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 17 GOODALL TWP	27	1980
•	Section	900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N02NE0019  
 AFRO ID: 12  
 Townships / Area Names: GOODALL  
 Performed For: SELCO EXPL CO LTD  
 Author(s): SELCO EXPLORATION CO LTD  
 Claim Holder(s): SELCO EXPLCO LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 12 GOODALL TWP	4	1969
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AFRI File: 52N02NE0020  
 AFRO ID: 10  
 Townships / Area Names: GOODALL  
 Performed For: L DION  
 Author(s): L DION  
 Claim Holder(s): L DION  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 10 GOODALL	4	1959
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AFRI File: 52N02NE0021  
 AFRO ID: 16  
 Townships / Area Names: GOODALL  
 Performed For: SELCO EXPL CO LTD  
 Author(s): SELCO EXPLORATION CO LTD  
 Claim Holder(s): SELCO EXPL CO LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 16 GOODALL TWP	5	1974
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AFRI File: 52N02NE0023  
 AFRO ID: 2.406  
 Townships / Area Names: GOODALL  
 Performed For: FALCONBRIDGE NICKEL MINES LTD  
 Author(s): CENTRAL GEOPHYSICS LTD , R N SAUKKO  
 Claim Holder(s): FALCONBRIDGE NICKEL MINES LTD  
 Work Type(s): MAGNETOMETER  
 Sections:

•	Section	10	Items	Reports	GEOPHYSICAL ASSESSMENT OF WOMAN L CLAIMS	4		1971
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items	
•	Section	210	Items	Maps	MAG SUR	1	items	
•	Section	900	Items	Misc	MISCELLANEOUS	2	items	

AFRI File: 52N02NE0025  
 AFRO ID: 63.2713  
 Townships / Area Names: GOODALL  
 Performed For: VANCO EXPL OF ONTARIO LTD  
 Author(s): J E MEKARSKI  
 Claim Holder(s): VANCO EXPL OF ONTARIO LTD  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE MAGMETOMETER  
 Sections:

•	Section	10	Items	Reports	RPT ON AEM & AMAG	10		1969
•	Section	200	Items	Maps	CL LOC PL GOODALL TWP	1	items	
•	Section	210	Items	Maps	AEM SUR	2	items	
•	Section	220	Items	Maps	AMAG SUR	2	items	

AFRI File: 52N02NE0094  
 AFRO ID: 63.2703  
 Townships / Area Names: GOODALL, HONEYWELL  
 Performed For: VANCO EXPL OF ONTARIO LTD  
 Author(s): J MEKARSKI  
 Claim Holder(s): VANCO EXPL OF ONTARIO LTD  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE MAGMETOMETER , AIRBORNE RADIOMETRIC  
 Sections:

•	Section	10	Items	Reports	RPT ON AMAG AEM & ARAD SUR	10		1969
•	Section	200	Items	Maps	CL LOC PL HONEYWELL TWP	1	items	
•	Section	210	Items	Maps	AEM SUR SUNDOWN L AREA	2	items	
•	Section	220	Items	Maps	AMAG SUR SUNDOWN L AREA	2	items	

AFRI File: 52N02NE0099  
 AFRO ID: 63.2789  
 Townships / Area Names: GOODALL  
 Performed For: FALCONBRIDGE NICKEL MINES LTD  
 Author(s): CDN AERO MINERAL SURVEYS  
 Claim Holder(s): FALCONBRIDGE NICKEL MINES LTD  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE MAGMETOMETER , AIRBORNE RADIOMETRIC  
 Sections:

•	Section	10	Items	Reports	AGEOPH SUR	12		1969
•	Section	200	Items	Maps	CL LOC PL GOODALL TWP	1	items	
•	Section	210	Items	Maps	AMAG SUR	2	items	
•	Section	220	Items	Maps	AEM SUR	2	items	
•	Section	900	Items	Misc	MISCELLANEOUS	1	items	

AFRI File: 52N02NE9865  
 AFRO ID: 63.2672  
 Townships / Area Names: GOODALL, DENT  
 Performed For: MIDLAND NICKEL CORP LTD  
 Author(s): CANEX AERIAL EXPL LTD  
 Claim Holder(s): MIDLAND NICKEL CORP LTD  
 Work Type(s): AIRBORNE ELECTROMAGNETIC  
 Sections:

•	Section	10	Items	Reports	AGEOPH RPT	14		1969
•	Section	200	Items	Maps	CL LOC PL M-2155	1	items	
•	Section	210	Items	Maps	CL LOC PL M-2164	1	items	
•	Section	220	Items	Maps	AEM SUR	2	items	

AFRI File: 52N02NE9869  
 AFRO ID: 2.14942  
 Townships / Area Names: GOODALL  
 Performed For: ASARCO EXPL CO OF CAN LTD  
 Author(s): ASARCO EXPL CO OF CAN LTD  
 Claim Holder(s): ASARCO EXPLORATION CO OF CANADA LTD  
 Work Type(s): ELECTROMAGNETIC , GEOLOGICAL , MAGNETOMETER  
 Sections:

•	Section	10	Items	Reports	RPT ON HLEM MAG AND GEOL SUR GOOD 1 CL	9	1993
•	Section	200	Items	Maps	CL LOC PL G-3750	1	items
•	Section	210	Items	Maps	GEOL SUR GOOD GRID 1	1	items
•	Section	220	Items	Maps	MAG SUR TF (GAMMAS) VALUES GOOD 1 GRID	1	items
•	Section	230	Items	Maps	MAG SUR TF (GAMMAS) CTR GOOD 1 GRID	1	items
•	Section	240	Items	Maps	PROP MAP GOOD 1 GRID	1	items
•	Section	250	Items	Maps	HLEM SUR PROF GOOD 1 GRID	1	items
•	Section	260	Items	Maps	HLEM SUR 444 HZ GOOD 1 GRID	1	items
•	Section	270	Items	Maps	HLEM SUR 1777 HZ GOOD 1 GRID	1	items
•	Section	280	Items	Maps	HLEM SUR 3555 HZ GOOD 1 GRID	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	6	items

AFRI File: 52N02NE9870  
 AFRO ID: 2.357  
 Townships / Area Names: GOODALL, SKINNER  
 Performed For: VANCO EXPL OF ONTARIO LTD  
 Author(s): M HLAVA  
 Claim Holder(s): VANCO EXPL OF ONTARIO LTD  
 Work Type(s): GEOLOGICAL , MAGNETOMETER , ELECTROMAGNETIC VERY LOW FREQUENCY  
 Sections:

•	Section	10	Items	Reports	GEOL RPT SKINNER & GOODALL TWPS	10	1970
•	Section	20	Items	Reports	RPT ON GEOPH SURS SKINNER TWP	7	1970
•	Section	30	Items	Reports	DETAILED GEOPH SURS SKINNER GOODALL	7	1970
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items
•	Section	210	Items	Maps	CL LOC PL M-2205	1	items
•	Section	220	Items	Maps	GEOL SUR SHEET 1 GOODALL & SKINNER TWPS	2	items
•	Section	230	Items	Maps	GEOL SUR SHEET 2 GOODALL & SKINNER TWPS	2	items
•	Section	240	Items	Maps	GEOL SUR SHEET 3 SKINNER TWP	1	items
•	Section	250	Items	Maps	MAG SUR SKINNER TWP	1	items
•	Section	260	Items	Maps	VLF EM-16 SUR SKINNER TWP	1	items
•	Section	270	Items	Maps	DETAILED MAG SUR SKINNER & GOODALL TWPS	1	items
•	Section	280	Items	Maps	DETAILED VLF EM-16 SUR SKINNER & GOODALL TWPS	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	1	items

AFRI File: 52N02NW0004  
 AFRO ID: 20  
 Townships / Area Names: GOODALL  
 Performed For: NORAMCO EXPL INC  
 Author(s): NORAMCO EXPLORATION INC  
 Claim Holder(s): NORAMCO EXPL INC  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 20 GOODALL TWP	37	1987
•	Section	900	Items	Misc	MISCELLANEOUS	3	items

AFRI File: 52N02NW0007  
 AFRO ID: 14  
 Townships / Area Names: GOODALL  
 Performed For: VANCO EXPL OF ONTARIO LTD  
 Author(s): VANCO EXPL OF ONTARIO LTD  
 Claim Holder(s): VANCO EXPL OF ONTARIO LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 14 GOODALL TWP	9	1971
•	Section	200	Items	Maps	DDH LOC PL - WOMAN LAKE AREA	1	items
•	Section	210	Items	Maps	DDH XSECT - WL 71-2	1	items



•	Section	220	Items	Maps	DDH XSECT - WL 71-4	1	items
•	Section	230	Items	Maps	DDH XSECT - WL 71-3	1	items
•	Section	240	Items	Maps	DDH XSECT - WL 71-6	1	items
•	Section	250	Items	Maps	DDH XSECT - WL 71-7	1	items
•	Section	260	Items	Maps	DDH XSECT - WL 71-9	1	items
•	Section	270	Items	Maps	DDH XSECT - WL 71-9A	1	items
•	Section	280	Items	Maps	DDH XSECT - WL 71-12	1	items

AFRI File: 52N02NW0008  
 AFRO ID: 15  
 Townships / Area Names: GOODALL  
 Performed For: VANCO EXPL ONTARIO LTD  
 Author(s): VANCO EXPL OF ONTARIO LTD  
 Claim Holder(s): VANCO EXPL ONTARIO LTD  
 Work Type(s): DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DD RPT 15 GOODALL	24	1971
•	Section	200	Items	Maps	DDH LOC PL	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	1	items

AFRI File: 52N02NW0010  
 AFRO ID: 63.2808  
 Townships / Area Names: GOODALL  
 Performed For: VANCO EXPL (ONT) LTD  
 Author(s): PROSPECTING GEOPH LTD  
 Claim Holder(s): VANCO EXPL (ONT) LTD  
 Work Type(s): ELECTROMAGNETIC , MAGNETOMETER  
 Sections:

•	Section	10	Items	Reports	RPT ON GEOPH SUR WOMAN L	11	1970
•	Section	200	Items	Maps	CL LOC PLAN GOODALL TWP	1	items
•	Section	210	Items	Maps	CL LOC PLAN M-2205	1	items
•	Section	220	Items	Maps	MAG SUR	1	items
•	Section	230	Items	Maps	HLEM SUR	1	items

AFRI File: 52N02NW0011  
 AFRO ID: 63.2661  
 Townships / Area Names: GOODALL, SKINNER  
 Performed For: VANCO EXPL ONT LTD  
 Author(s): P T GEORGE  
 Claim Holder(s): VANCO EXPL ONT LTD  
 Work Type(s): GEOLOGICAL , MAGNETOMETER , SELF POTENTIAL  
 Sections:

•	Section	10	Items	Reports	GEOL SURVEY RPT	9	1969
•	Section	20	Items	Reports	SP SURVEY RPT	6	1969
•	Section	30	Items	Reports	MAG SURVEY RPT	7	1969
•	Section	200	Items	Maps	GOODALL TP RED LAKE MIN DIV CLAIM MAP	1	items
•	Section	210	Items	Maps	GEOL SHEET NO 1	2	items
•	Section	220	Items	Maps	GEOL SHEET NO 2	1	items
•	Section	230	Items	Maps	GEOL SHEET NO 3	1	items
•	Section	240	Items	Maps	SP SURVEY SHEET NO 1	2	items
•	Section	250	Items	Maps	SP SURVEY SHEET NO 2	2	items
•	Section	260	Items	Maps	MAG SURVEY SHEET NO 1	2	items
•	Section	270	Items	Maps	MAG SURVEY SHEET NO 2	1	items

AFRI File: 52N02NW2003  
 AFRO ID: 2.27180  
 Townships / Area Names: GOODALL, CORLESS, DENT, SKINNER  
 Performed For: FRONTEER DVLPMT GROUP INC  
 Author(s): FRONTEER DEV GROUP INC , FUGRO AIRBORNE SURVEYS  
 Claim Holder(s): FRONTEER DVLPMT GROUP INC , JILBEY ENTERPRISES LTD  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE RESISTIVITY , AIRBORNE MAGNETOMETER  
 Sections:

•	Section	10	Items	Reports	GEOPHYS RPT PORTAGE PROP	16		2004
•	Section	20	Items	Reports	RPT ON DIGHEM SURV PORTAGE SOUTH AREA	129		2004
•	Section	200	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1	items	
•	Section	210	Items	Maps	TOTAL MAG FIELD SHEET 1 PORTAGE SOUTH AREA	1	items	
•	Section	220	Items	Maps	TOTAL MAG FIELD SHEET 2 PORTAGE SOUTH AREA	1	items	
•	Section	230	Items	Maps	TOTAL MAG FIELD COLOUR SHEET 1 PORTAGE SOUTH AREA	1	items	
•	Section	240	Items	Maps	TOTAL MAG FIELD COLOUR SHEET 2 PORTAGE SOUTH AREA	1	items	
•	Section	250	Items	Maps	CALCULATED VERTICAL MAG GRADIENT SHEET 1 PORTAGE SOUTH AREA	1	items	
•	Section	260	Items	Maps	CALCULATED VERTICAL MAG GRADIENT SHEET 2 PORTAGE SOUTH AREA	1	items	
•	Section	270	Items	Maps	HORIZONTAL GRADIENT ENHANCED SHEET 1 PORTAGE SOUTH AREA	1	items	
•	Section	280	Items	Maps	HORIZONTAL GRADIENT ENHANCED SHEET 2 PORTAGE SOUTH AREA	1	items	
•	Section	290	Items	Maps	MEASURED TRAVERSE HORIZONTAL GRADIENT SHEET 2 PORTAGE SOUTH AREA		1 items	
•	Section	300	Items	Maps	APPARENT RESISTIVITY 56000 HZ COPLANAR SHEET 1 PORTAGE SOUTH AREA		1 items	
•	Section	310	Items	Maps	APPARENT RESISTIVITY 56000 HZ COPLANAR SHEET 2 PORTAGE SOUTH AREA		1 items	
•	Section	320	Items	Maps	APPARENT RESISTIVITY 7200 HZ COPLANAR SHEET 1 PORTAGE SOUTH AREA		1 items	
•	Section	330	Items	Maps	APPARENT RESISTIVITY 7200 HZ COPLANAR SHEET 2 PORTAGE SOUTH AREA		1 items	
•	Section	340	Items	Maps	EM ANOMALIES SHEET 1 PORTAGE SOUTH AREA		1 items	
•	Section	350	Items	Maps	EM ANOMALIES SHEET 2 PORTAGE SOUTH AREA		1 items	
•	Section	900	Items	Misc	MISCELLANEOUS		2 items	

AFRI File: 52N07SE0002  
 AFRO ID: W9420-00010  
 Townships / Area Names: GOODALL  
 Performed For: ASARCO EXPL CO OF CAN LTD  
 Author(s): A S HORVATH  
 Claim Holder(s): ASARCO EXPL CO CAN LTD  
 Work Type(s): ASSAYING AND ANALYSES , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	DDH LOG	13		1993
•	Section	200	Items	Maps	GOODALL RED LAKE MIN DIV MNR MAP G-3750	1	items	
•	Section	900	Items	Misc	MISCELLANEOUS	6	items	

AFRI File: 52N07SE0010  
 AFRO ID: 2.11571  
 Townships / Area Names: GOODALL, HONEYWELL, SHABUMENI LAKE  
 Performed For: NORAMCO EXPL INC  
 Author(s): M STANLEY  
 Claim Holder(s): GREENSTAR RESC LTD  
 Work Type(s): GEOCHEMICAL , GEOLOGICAL , MICROSCOPIC STUDIES  
 Sections:

•	Section	10	Items	Reports	GEOL RPT SHABUMENI L PROP	88		1988
•	Section	200	Items	Maps	CL LOC PL M.2164	1	items	
•	Section	210	Items	Maps	CL LOC PL M.2171	1	items	
•	Section	220	Items	Maps	CL LOC PL G.1881	1	items	
•	Section	230	Items	Maps	SHABUMENI L PROP GEOL SHEET 6	1	items	
•	Section	240	Items	Maps	SHABUMENI L PROP GEOL SHEET 7	1	items	
•	Section	900	Items	Misc	MISCELLANEOUS	4	items	

AFRI File: 52N07SE0011  
 AFRO ID: OM92-038  
 Townships / Area Names: GOODALL, SHABUMENI LAKE  
 Performed For: GREENSTAR RESC LTD  
 Author(s): B J BERDUSCO  
 Claim Holder(s): GREENSTAR RESC LTD  
 Work Type(s): ASSAYING AND ANALYSES , DIAMOND DRILLING  
 Sections:

•	Section	10	Items	Reports	RPT ON 1992 DDH PROGRAM ON SHABUMENI LAKE PROP	39		1992
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AFRI File: 52N07SE0053  
 AFRO ID: 63.2708  
 Townships / Area Names: GOODALL, HONEYWELL, DENT, AGNEW, SHABUMENI LAKE  
 Performed For: M J BOYLEN  
 Author(s): J E MEKARSKI  
 Claim Holder(s): M J BOYLEN  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE MAGMETOMETER , MICROSCOPIC STUDIES , AIR PHOTO  
 AND REMOTE IMAGERY INTERPRETATIONS

Sections:

•	Section	10	Items	Reports	INTRODUCTION	12	1969
•	Section	200	Items	Maps	AGNEW TP RED LAKE MIN DIV	1 items	
•	Section	210	Items	Maps	SHABUMENI LAKE AREA RED LAKE MIN DIV	1 items	
•	Section	220	Items	Maps	DENT TP RED LAKE MIN DIV MNR PLAN NO M-2155	1 items	
•	Section	230	Items	Maps	HONTEYWELL TP RED LAKE MIN DIV	1 items	
•	Section	240	Items	Maps	GOODALL TP RED LAKE MIN DIV	1 items	
•	Section	250	Items	Maps	AIRBORNE EM SURVEY SWAIN LAKE ARE	1 items	
•	Section	260	Items	Maps	AIRBORNE EM SURVEY OKANSE LAKE AREA	2 items	
•	Section	270	Items	Maps	AIRBORNE MAG SURVEY SWAIN LAKE AREA	1 items	
•	Section	280	Items	Maps	AIRBORNE MAG SURVEY OKANSE LAKE AREA	2 items	

AFRI File: 52N07SE0062  
 AFRO ID: 63.2772  
 Townships / Area Names: GOODALL  
 Performed For: NORTHWEST EXPLORERS (1967) LTD  
 Author(s): CDN AERO MINERAL SURVEYS , J E MEKARSKI  
 Claim Holder(s): NORTHWEST EXPLORERS (1967) LTD  
 Work Type(s): AIRBORNE ELECTROMAGNETIC , AIRBORNE MAGMETOMETER , AIRBORNE RADIOMETRIC

Sections:

•	Section	10	Items	Reports	RPT ON AMAG/AEM/ARAD SUR - SHABUMENI L AREA	12	1969
•	Section	200	Items	Maps	CL LOC PL M.2164	1 items	
•	Section	210	Items	Maps	AMAG SUR - SHABUMENI L AREA	1 items	
•	Section	220	Items	Maps	AEM SUR - SHABUMENI L AREA	1 items	

AFRI File: 52N07SE0091  
 AFRO ID: 23  
 Townships / Area Names: GOODALL  
 Performed For: WESTERN PACIFIC ENERGY CORP  
 Author(s): C LORMAND , D LESTER , M STANLEY , N VAUGHAN , NORAMCO EXPLORATION INC  
 Claim Holder(s): WESTERN PACIFIC ENERGY CORP  
 Work Type(s): DIAMOND DRILLING

Sections:

•	Section	10	Items	Reports	DD RPT 23 GOODALL TWP	225	1988
•	Section	200	Items	Maps	GEOL & DDH LOC MAP SHEET 3	1 items	
•	Section	210	Items	Maps	GEOL & DDH LOC MAP SHEET 4	1 items	
•	Section	220	Items	Maps	GEOL & DDH LOC MAP SHEET 5	1 items	
•	Section	900	Items	Misc	MISCELLANEOUS	6 items	

AFRI File: 52N07SE0092  
 AFRO ID: 2.11859  
 Townships / Area Names: GOODALL, HONEYWELL  
 Performed For: WESTERN PACIFIC ENERGY CORP  
 Author(s): NORAMCO EXPLORATION INC  
 Claim Holder(s): WESTERN PACIFIC ENERGY CORP  
 Work Type(s): GEOCHEMICAL , OTHER

Sections:

•	Section	10	Items	Reports	ASSAY CERTIFICATES	90	1988
•	Section	200	Items	Maps	GOODALL TP RED LAKE MIN DIV MNR PLAN NO M-2164	1 items	
•	Section	210	Items	Maps	SHEET A SWAIN LAKE PROJECT ROCK SAMPLE LOCATION	1 items	
•	Section	220	Items	Maps	SHEET B SWAIN LAKE PROJECT ROCK SAMPLE LOCATION	1 items	
•	Section	230	Items	Maps	SHEET C SWAIN LAKE PROJECT ROCK SAMPLE LOCATION	1 items	
•	Section	900	Items	Misc	MISCELLANEOUS	3 items	

AFRI File: 52N07SE0093  
 AFRO ID: 13  
 Townships / Area Names: GOODALL

Performed For: SELCO EXPL CO LTD  
Author(s): SELCO EXPLORATION CO LTD  
Claim Holder(s): SELCO EXPL CO LTD  
Work Type(s): DIAMOND DRILLING  
Sections:

•	Section	10	Items	Reports	DD RPT 13 GOODALL TWP	8	1969
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AFRI File: 52N07SE0094  
AFRO ID: 11  
Townships / Area Names: GOODALL  
Performed For: SELCO EXPL CO LTD  
Author(s): SELCO EXPLORATION CO LTD  
Claim Holder(s): SELCO EXPL CO LTD  
Work Type(s): DIAMOND DRILLING  
Sections:

•	Section	10	Items	Reports	DD RPT 11 GOODALL TWP	11	1969
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AFRI File: 52N07SE9868  
AFRO ID: 2.11565  
Townships / Area Names: GOODALL, HONEYWELL  
Performed For: GOLDEN DAY MINING EXPL INC , INLET RESC LTD , WESTERN PACIFIC ENERGY CORP  
Author(s): NORAMCO EXPLORATION INC  
Claim Holder(s): GOLDEN DAY MINING EXPL INC , WESTERN PACIFIC ENERGY CORP  
Work Type(s): GEOCHEMICAL , GEOLOGICAL , MICROSCOPIC STUDIES , OTHER  
Sections:

•	Section	10	Items	Reports	GEOL RPT FOR THE SWAIN LAKE PROP	89	1988
•	Section	200	Items	Maps	GEOL SHEET 3 SWAIN LAKE PROJ	1 items	
•	Section	210	Items	Maps	GEOL SHEET 4 SWAIN LAKE PROJ	1 items	
•	Section	220	Items	Maps	GEOL SHEET 5 SWAIN LAKE PROJ	1 items	
•	Section	900	Items	Misc	MISCELLANEOUS	8 items	

AFRI File: 52N07SE9878  
AFRO ID: 63.2821  
Townships / Area Names: GOODALL  
Performed For: BRALORNE CAN-FER RESC LTD  
Author(s): BRALORNE CAN-FER RESC LTD  
Claim Holder(s): BRALORNE CAN-FER RESC LTD  
Work Type(s): MAGNETOMETER  
Sections:

•	Section	10	Items	Reports	MAG SUR SWAIN L PROP	6	1970
•	Section	200	Items	Maps	CL LOC PL M.2164	1 items	
•	Section	210	Items	Maps	MAG SUR SWAIN L CL GRP	1 items	
•	Section	220	Items	Maps	MAGNETIC INTERP SWAIN L CL GRP	1 items	

AFRI File: 52N07SE9923  
AFRO ID: 2.236  
Townships / Area Names: GOODALL, SHABUMENI LAKE  
Performed For: HUDSON'S BAY OIL & GAS CO LTD  
Author(s): NORTHWEST EXPLORERS LTD  
Claim Holder(s): HUDSON'S BAY OIL & GAS CO LTD  
Work Type(s): AIRBORNE RADIOMETRIC  
Sections:

•	Section	10	Items	Reports	ASST RPT ON ARAD DATA	47	1970
•	Section	200	Items	Maps	CL LOC PL M-2665	1 items	
•	Section	210	Items	Maps	CL LOC PL M.2164	1 items	
•	Section	900	Items	Misc	MISCELLANEOUS	2 items	

AFRI File: 52N07SE9924  
 AFRO ID: 2.10520  
 Townships / Area Names: GOODALL, HONEYWELL, SKINNER, SHABUMENI LAKE  
 Performed For: NORAMCO EXPL INC  
 Author(s): TERRAQUEST LTD  
 Claim Holder(s): GOLDEN HOPE RESC INC , GREENSTAR RESC LTD , WESTERN PACIFIC ENERGY CORP  
 Work Type(s): COMPILATION AND INTERPRETATION - AIRBORNE GEOPHYSICS , AIRBORNE MAGNETOMETER ,  
 AIRBORNE ELECTROMAGNETIC VERY LOW FREQUENCY

Sections:

•	Section	10	Items	Reports	AMAG & AVLF-EM SUR SHABUMENI SWAIN & MOSIER L	131987
•	Section	200	Items	Maps	CL LOC PL G-1881	1 items
•	Section	210	Items	Maps	CL LOC PL M-2205	1 items
•	Section	220	Items	Maps	CL LOC PL M.2164	1 items
•	Section	230	Items	Maps	CL LOC PL M.2171	1 items
•	Section	240	Items	Maps	AMAG SUR TF CTRS MOSIER & SWAIN LAKE PROPS	1 items
•	Section	250	Items	Maps	AMAG SUR VERT MAG GRAD CALC MOSIER & SWAIN	1 items
•	Section	260	Items	Maps	AVLF-EM SUR CTRS OF TF PROFS OF QUAD MOSIER & SWAIN LAKE	1
•	Section	270	Items	Maps	INTERP MOSIER & SWAIN LAKE PROPS	1 items
•	Section	280	Items	Maps	AMAG SUR TF CTRS SWAIN & SHABUMENI LAKE PROPS	1 items
•	Section	290	Items	Maps	AMAG SUR VERT MAG GRAD CALC SWAIN & SHABUMENI LAKE	1 items
•	Section	300	Items	Maps	AVLF-EM SUR CTRS OF TF PROFS OF QUAD SWAIN & SHABUMENI	1
•	Section	310	Items	Maps	INTERP SWAIN & SHABUMENI LAKE PROPS	1 items
•	Section	900	Items	Misc	MISCELLANEOUS	9 items

AFRI File: 52N07SW0009  
 AFRO ID: 2.11860  
 Townships / Area Names: GOODALL, SKINNER  
 Performed For: NORAMCO EXPL INC  
 Author(s): B THOMPSON  
 Claim Holder(s): NORAMCO EXPL INC  
 Work Type(s): GEOCHEMICAL

Sections:

•	Section	10	Items	Reports	ROW GCHEM	3	1989
•	Section	200	Items	Maps	CL LOC PL M-2205	1	items
•	Section	210	Items	Maps	CL LOC PL M-22164	1	items
•	Section	220	Items	Maps	RX SAMP LOC PL	2	items
•	Section	230	Items	Maps	RX SAMP LOC ASSAYS	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	99	items

AFRI File: 52N07SW0010  
 AFRO ID: 21  
 Townships / Area Names: GOODALL  
 Performed For: NORAMCO EXPL INC  
 Author(s): M STANLEY , S STOCK  
 Claim Holder(s): NORAMCO EXPL INC  
 Work Type(s): DIAMOND DRILLING

Sections:

•	Section	10	Items	Reports	DD RPT 21 GOODALL TWP	129	1988
•	Section	200	Items	Maps	GEOL WITH DDH LOC SHEET 1	2	items
•	Section	210	Items	Maps	GEOL WITH DDH LOC SHEET 2	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	6	items

AFRI File: 52N07SW0013  
 AFRO ID: 2.11507  
 Townships / Area Names: GOODALL, SKINNER  
 Performed For: NORAMCO EXPL INC  
 Author(s): C Q BARRIE, TERRAQUEST LTD  
 Claim Holder(s): NORAMCO EXPL INC  
 Work Type(s): AIRBORNE MAGNETOMETER, AIRBORNE ELECTROMAGNETIC VERY LOW FREQUENCY  
 Sections:

• Section	10	Items	Reports	RPT ON AN AMAG & AVLF SUR	10	1988
• Section	200	Items	Maps	CL LOC PL M-2205	1	items
• Section	210	Items	Maps	CL LOC PL M.2164	1	items
• Section	220	Items	Maps	MOSIER L PROP CL MAP	1	items
• Section	230	Items	Maps	NARROW L BLKS CL MAP	1	items
• Section	240	Items	Maps	TF AMAG SUR LARK L BLK	1	items
• Section	250	Items	Maps	VGAMAG CALCULATED FROM TF LARK L BLK	1	items
• Section	260	Items	Maps	AVLF SUR CTRS OF TF & PROF OF QUAD LARK L	1	items
• Section	270	Items	Maps	INTERP LARK L BLK	1	items
• Section	280	Items	Maps	TF AMAG SUR NARROW L BLKS	1	items
• Section	290	Items	Maps	VGAMAG CALCULATED FROM TF NARROW L BLKS	1	items
• Section	300	Items	Maps	AVLF SUR CTRS OF TF & PROF OF QUAD NARROW L	1	items
• Section	310	Items	Maps	INTERP NARROW L BLKS	1	items
• Section	900	Items	Misc	MISCELLANEOUS	8	items

AFRI File: 52N07SW2001  
 AFRO ID: 2.25014  
 Townships / Area Names: GOODALL, SKINNER, SHABU LAKE, NARROW LAKE  
 Performed For: FRONTEER DVLPM GROUP INC  
 Author(s): FRONTEER DEV GROUP INC  
 Claim Holder(s): FRONTEER DVLPM GROUP INC  
 Work Type(s): AIRBORNE ELECTROMAGNETIC, AIRBORNE MAGNETOMETER, ASSAYING AND ANALYSES, GEOCHEMICAL, GEOLOGICAL  
 Sections:

• Section	10	Items	Reports	RPT ON GEOL GEOCHEM & GEOPHYS WORK PORTAGE PROP	176	2002
• Section	200	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1	items
• Section	210	Items	Maps	GEOL & ROCK SAMPLE LOCATIONS EAST SHEET PORTAGE PROP	1	items
• Section	220	Items	Maps	GEOL & ROCK SAMPLE LOCATIONS WEST SHEET PORTAGE PROP	2	items
• Section	230	Items	Maps	TOTAL MAG FIELD PORTAGE PROP	1	items
• Section	240	Items	Maps	CALCULATED VERT MAG GRADIENT PORTAGE PROP	1	items
• Section	250	Items	Maps	APPARENT RESISTIVITY 900 HZ COPLANAR PORTAGE PROP	1	items
• Section	260	Items	Maps	APPARENT RESISTIVITY 7200 HZ COPLANAR PORTAGE PROP	1	items
• Section	270	Items	Maps	EM ANOMALIES PORTAGE PROP	1	items
• Section	280	Items	Maps	SOIL GEOCHEM GOLD PPB PORTAGE PROP	1	items
• Section	900	Items	Misc	MISCELLANEOUS	2	items

AFRI File: 52N07SW2002  
 AFRO ID: 2.27325  
 Townships / Area Names: GOODALL, SKINNER, SHABU LAKE  
 Performed For: FRONTEER DVLPM GROUP INC  
 Author(s): RICHARD VALENTA  
 Claim Holder(s): FRONTEER DVLPM GROUP INC  
 Work Type(s): ASSAYING AND ANALYSES, GEOCHEMICAL, OVERBURDEN STUDIES  
 Sections:

• Section	10	Items	Reports	GCHEM ASSESSMENT RPT PORTAGE PROP	144	2004
• Section	200	Items	Maps	G-3758 SKINNER TP	1	items
• Section	210	Items	Maps	TILL SAMPLE LOCATION MAP PORTAGE PROP	1	items
• Section	220	Items	Maps	TILL GCHEM & GOLD GRAIN COUNTS PORTAGE PR	1	items
• Section	230	Items	Maps	MMI SAMPLE LOCATIONS PORTAGE PROP	1	items
• Section	240	Items	Maps	MMI SAMPLE LOCS & ASSAY RESULTS PORTAGE PR	1	items
• Section	250	Items	Maps	ROCK SAMPLE LOCATIONS PORTAGE PROP	1	items
• Section	260	Items	Maps	ROCK SAMPLE ASSAYS MAP PORTAGE PROP	1	items
• Section	270	Items	Maps	B HORIZON SOIL SAMPLE LOCATIONS PORTAGE PR	1	items
• Section	280	Items	Maps	B HORIZON SOIL SAMPLES ASSAYS PORTAGE PROP	1	items

• Section 900 Items Misc MISCELLANEOUS 2 items

AFRI File: 52N08NE2003

AFRO ID: 2.27483

Townships / Area Names: GOODALL, DENT, EARNGEY, CASUMMIT LAKE, SKINNER, SATTERLY LAKE, SHABU LAKE, SHABUMENI LAKE, LITTLE SHABUMENI LAKE, NARROW LAKE, KEIGAT LAKE

Performed For: JILBEY ENTERPRISES LTD

Author(s): FELIX LEE

Claim Holder(s): JILBEY ENTERPRISE LTD

Work Type(s): ASSAYING AND ANALYSES , GEOCHEMICAL , MAGNETOMETER

Sections:

•	Section	10	Items	Reports	SUMMARY RPT BIRCH-UCHI PROJ	164	2003
•	Section	200	Items	Maps	G-1901 UCHI LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	210	Items	Maps	G-1751 SUMMIT LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	220	Items	Maps	G-3750 GOODALL TP RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	230	Items	Maps	G-1810 LITTLE SHABUMENI LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	240	Items	Maps	G-1881 SHABUMENI LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	250	Items	Maps	G-3758 SKINNER TP RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	260	Items	Maps	G-1874 SATTERLY LAKE AREA RED LAKE DIST RED LAKE MNG DIV	1	items
•	Section	270	Items	Maps	ROCK & SOIL SAMPLE LOCATIONS BIRCH-UCHI PROJ	1	items
•	Section	900	Items	Misc	MISCELLANEOUS	2	items

# Sol d'Or Property Notes

2 August 2010

Property centred near 51° 16' 35" N; 92° 31' 33" W

Mine (Shaft Collar) - GPS 15U0533110E / 5680765N

## Logistics

Green Airways' Poplar Grove fishing camp situated near the western end of Birch Lake, and lying ~100 km ENE of Red Lake. The Sol d'Or Property can be reached by traveling 7½ km S by boat to the South Bay of Birch Lake and over a short portage to Grace Lake and a further 4 km to the Sol d'Or site.

Gawley's Little Beaver has a cabin on Grace Lake about 4 km east of the Sol d'Or area. Doug Gawley (807-222-333) indicates that the cabin was available August 25 to 28 and September 6 onward. [He requires notice for September 6 as he plans to close up if the cabin is not booked. He also insists that you use his aircraft. He has a Cessna 185 and Beech 18.]

The property lies 48 miles NNE of Kabeelo's where room and board are available for \$90 / day. Work needs to be scheduled to minimize conflict with their tourist business.

## History

Company Year	Reference(s)	Description of Work
T.W. Bathurst Syndicate 1927		The original Sol D'Or claims were staked in 1927 for the T.W. Bathurst Syndicate. They were then taken over by the newly organized Rainbow Lake Gold Mining Company Limited in 1927, renamed Rainbow Lake Gold Mines Limited in 1932. A camp was erected and development of the mine site consisted of a small shaft 10.4 m deep. The claims lapsed.
Earl McDougall, 1932		Restaked property
T.W. Bathurst 1932-1933		Leased property from McDougall. A 3-ton Jack Nutt mill was installed  Over the 1932 – 1933 winter 100 tons of were treated and \$1,500 worth of gold was shipped to the mint in Ottawa.



Sol d'Or Gold Mines Limited 1935		<p>Acquired property. Installed a 5-ton Straub Mill with amalgamation plates and concentrating table. Mining operations were almost exclusively confined to the open-cut veins.</p> <p>By July, 1935, ~400 tons of ore were milled yielding \$7,500 worth of gold.</p> <p>Klatt (2002) estimated that the averaged mined grade was 1.11 ounce gold per ton.</p> <p>During this period a 164 foot deep, 3 compartment shaft and 1000 feet of lateral work were completed [mainly] on the 150' level.</p>
Midco Minerals Limited 1941	Tilsley, 1986 52N08SE0026	Held property. No work mentioned.
Selco 1969		South Bay Mine, Dent Township discovered.
Cyril Williams 1969		Cyril Williams held 5 claims covering a portion of the southern part of the Sol D'Or claim block, discovering the Williams Occurrence comprising an auriferous quartz vein in medium grained, carbonized gabbro (Parker, J.R. and Atkinson, B.T, 1992). Johns (1979) reported 0.27 opt Au from a grab sample quartz taken from a deep water filled pit.
Long Lac Mineral Expl. 1969	Firth 1969 52N08SE0056	Broad airborne magnetic and radiometric survey, flown on east-west lines, included the Sol D'Or area in NE corner.
Rhonda Copper ML 1974	Ogden 1976 52N07SE0047	IP survey over claims including the Sol d'Or mine area outlined two east-west trending anomalous zones. Additional IP in 1975. Geological mapping (1974) and 5 ddh (?)
Harry Shlesinger 1980	Shlesinger, 1980	Completed 18 holes; two near the Sol d'Or mine and 16 around the Cyril Williams gold showing ~1 km W of the Sol D'Or mine. One hole cut a sediment hosted pyrite (~3%) horizon.
Rand Hodgson	Hodgson 1985 52N08SW0053	Geology SE shore of Grace Lake opposite Sol d'Or.
Parflo Mines & Energy Corp 1986	Tilsley, 1986 52N08SE0026	Humus geochemical survey, geological mapping, VLF-EM, and magnetic surveys over the Sol D'Or property.
Kidd Creek ML /	Bosowec, 1987,	Drilled hole HO-1 and HO-2 ~40 m apart testing a conductor located near the center of the Sol D'Or property. HO-1 cut

Falconbridge 1987-1989	Falconbridge, 1988,  Hodges & Lutz, 1989	≤55% pyrite and pyrrhotite in intermediate to felsic tuff and lapilli tuff. HO-2 cut two pyrite-pyrrhotite zones (1 – 5% combined) hosted in intermediate agglomerate and lapilli tuff/agglomerate. Geological mapping, rock and soil geochemistry (Cu, Zn, Au) also completed.
Maple Minerals 1996	Patrie, 1996 52N07SE0013	Linecutting and an IP survey over the Sol D'Or property defining a chargeability anomaly along the southern part of the property and extending into Grace Lake.
Perry English 2001	Klatt, 2003	Staked and subsequently optioned the property to Red Lake Resources.
Fronteer Development 2002	Klatt, 2003 52N08SW2002	Dighem AEM & AMag Soil & MMI geochem Sampling Diamond drilling

#### **Tilsley, 1986 (52N08SE0026)**

The mineralization on the property was located during the period of extensive prospecting activity during the 1920s that saw exploration carried out throughout many of the greenstone belts of northwestern Ontario. Original staking appears to have been in 1927 by T. W. Bathurst.

The property was acquired by Rainbow Lake Gold Mines, Ltd. late in 1927 and held by that company until 1930 when the claims appear to have lapsed. During their tenure surface exploration was carried out and a 10m deep shaft sunk.

In 1932 the property was re-staked by E. McDougall for T.W. Bathurst who treated quartz mined from open cuts in a 3-ton mill.

Prospecting prior to 1933 located seven quartz veins which were described by Fruse (1933, pp 42-45, Ont. Dept. Mines, Vol. 42, Pt. 6).

Development on these veins began shortly after discovery and in 1936 a vertical three-compartment shaft had been sunk to 164' and 1000' of drifting completed on the 150 foot level.

Minor production took place between 1932 and 1936. Reports available in official publications indicate between 400 and 600 tons of mill feed treated. SMDR No. 001578 reports 458 tons averaging 19.2 g/tonne or 0.569 ounces Au/ton, while ODM Vol.XLV, Pt. 1, 1936, pp 158-159, suggests that 519 tons had been treated by the end of 1935 and 325.45 ounces of gold Sol D'Or Gold Mines Ltd. held the property from

1934 until 1938. No additional work appears to have been done by the company after 1936.

In 1941 the property was held by Midco Minerals Limited.

The claims subsequently fell open and were acquired by Ronda Copper Mines Limited in 1974. This organization carried out surface mapping and geophysical surveys followed by 766 feet of diamond drilling.

The present property was staked in early September 1985 by Titus Keewaycabo and John Arthur Green and acquired by Sweany Gold Corporation. 477233 Ontario Inc. optioned the claims from Sweany Gold Corporation in April 1986, and subsequently transferred all rights and obligations to Parflo Mines a Energy Corp. on April 15th, 1986. Reconnaissance of the property was done on August 17, 1986, and line cutting began on the property on September 19th. Line cutting was followed by geological, geophysical, and geochemical surveys. The field programs were completed October 21, 1986.

#### **Sol d'Or Gold Mines et al. (1927 to 1936; from Resident's files)**

Extant records suggest that the reported gold production came from open cuts prior to underground development in the mid-1930's. Examination of the large dump shows a lot of quartz which can be divided into three types; bull quartz; white, milky quartz with carbonatized-looking, wall-rock inclusions and black, tourmaline (?) bearing quartz breccia veins. None appears to contain appreciable sulphides while all three appear to occur in wall rock and are unlikely to contain much gold. Descriptions and concentration of work suggest that significant gold values are restricted to short parts of the seven principal, east-west trending quartz veins. With a little effort and luck remnants of the veins may remain in exposed mineralized material in the trenches.

Johns (1979, p 48) describes the veins as follows:

"This group of claims is situated in the western part of Grace Lake. The rocks are basalts, acidic tuffs, and a small body of diorite. Seven veins were examined; six lie in the central and northern part of claim KRL10790, and the last in the northeast corner of KRL10788.

No. 1 vein strikes N80°E, and dips 67°N. It is exposed continuously for 300 feet [90m], varies in width from 5 to 18 inches [13 to 46 cm], and is composed of a moderately coarse-grained, glassy, light grey quartz cemented by a finer quartz and siderite. In narrow sections considerable orthoclase occurs. A trace of gold was found.

No. 2 veins (sic) is about 400 feet [120m] long and lies 55 feet north of No. 1 and approximately parallels it, dipping 60°N. It cuts a small, dark grey diorite dike.

No. 3 vein is about 1000 feet [300m] long, strikes N70°E, and dips 45°N. At the west end it consists of a number of stringers about 2 inches [5cm] wide, which appear to be barren, but contain a small amount of tourmaline. A few chains east the vein is about 2 feet [0.6m] wide and follows the south or foot wall of a dioritic sill. The vein contains inclusions of the diorite, which, in turn, contains inclusions of the rhyolitic wall rock. A pit shows the vein to be about a foot [0.3m] wide in the diorite, which is about 6 feet [1.8m] wide. The cribbing obscures a deformation zone in which the east portion of the vein is offset 4 feet [1.2m] north. Several irregular quartz stringers occur in this zone and unite immediately to form the easterly continuation of the vein. The vein carries some fine pyrite as does the diorite hanging wall. In this section the vein is exposed almost continuously for a distance of 150 feet [45.7m]. Farther east it becomes a series of small stringers and also a vein breccia.

Vein Nos. 4, 5, and 6 are quite small and have been exposed for a length of only a few feet.

Vein No. 7 has been tested by several trenches and three pits over a length of 800 feet [240m]. At the west end of this vein is a rusty, carbonated silicified zone in chlorite schist, striking about S25°E and dipping about 80°S. The central part of the zone is a silicified yellowish schist, slightly mineralized with fine pyrite and arsenopyrite. Two chains east, siderite stringers in schist are cut by minute quartz veinlets carrying pyrite. At the east end, a pit 20 feet [6m] deep shows at the bottom a shear zone 2 feet [0.6m] wide in a carbonated and silicified yellowish grey schist. Traces of chalcopyrite, pyrite, and arsenopyrite occur, and gold is reported from the pit. A 2½ foot [0.67m] chip sample taken from the bottom assayed one-tenth of an ounce gold."

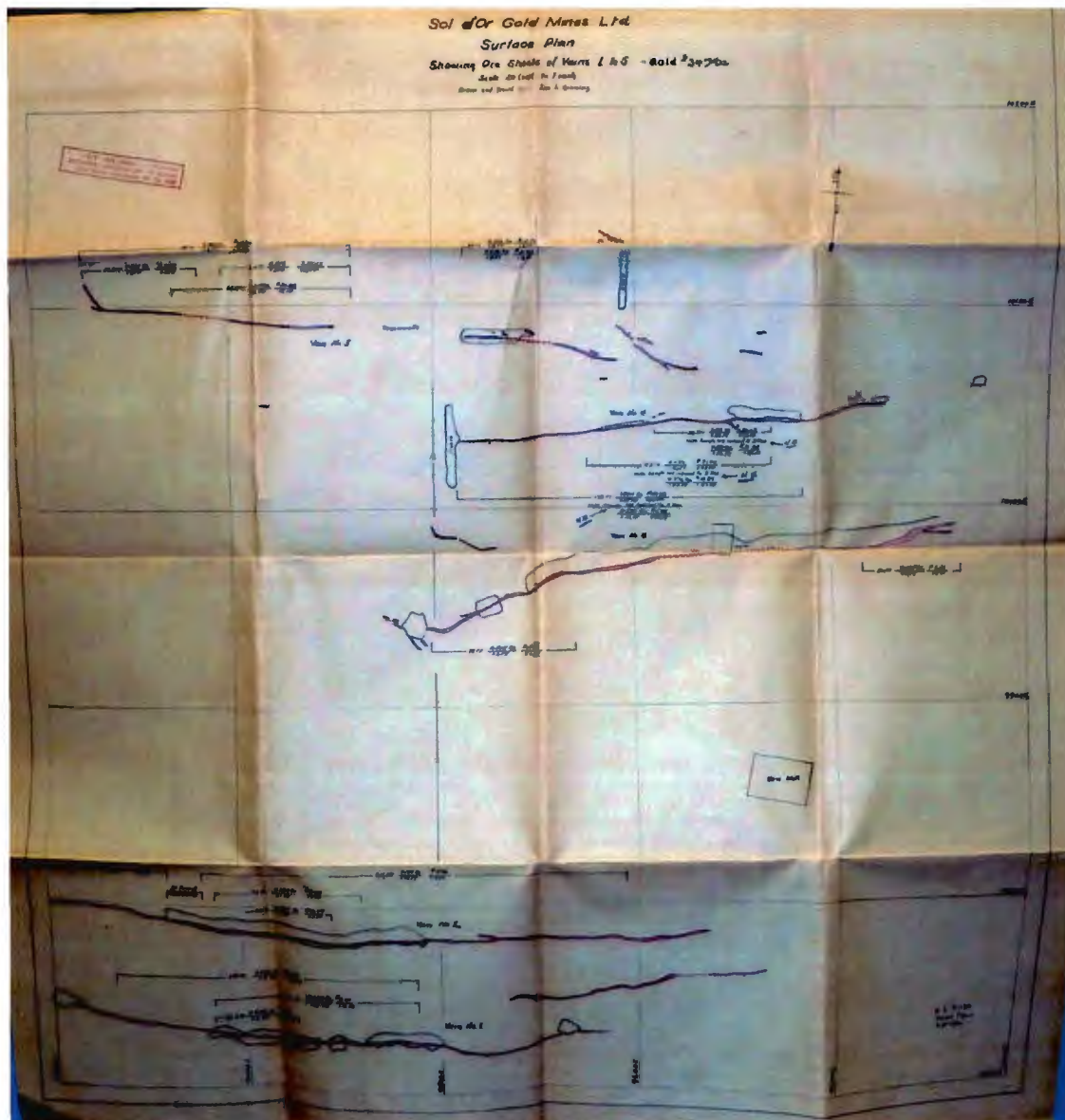


Figure Sol d'Or Gold Mines Ltd., surface plan of veins and pits with values (September 1935).





Hand-drawn geological map of the Kinnearville area. The map shows various features, elevations, and sample locations. Key features include:

- Vern No. 4**: A vertical feature on the left side of the map.
- Vern No. 3**: A vertical feature on the right side of the map.
- Kinnearville**: A label on the left side of the map.
- Elevations**: Numerous numerical values are scattered across the map, representing elevations in feet. Examples include 173 ft, 150 ft, 145 ft, 135 ft, 125 ft, 115 ft, 105 ft, 95 ft, 85 ft, 75 ft, 65 ft, 55 ft, 45 ft, 35 ft, 25 ft, 15 ft, 5 ft, and 0 ft.
- Sample Locations**: Marked with 'S' and 'N' and include elevations like 173 ft, 150 ft, 145 ft, 135 ft, 125 ft, 115 ft, 105 ft, 95 ft, 85 ft, 75 ft, 65 ft, 55 ft, 45 ft, 35 ft, 25 ft, 15 ft, 5 ft, and 0 ft.
- Scale Bar**: Located at the bottom right, indicating 0 to 100 feet.
- North Arrow**: Located in the upper right corner.

Figure Sol d'Or Gold Mines Ltd., Veins 3 & 4 detail (September 1935).

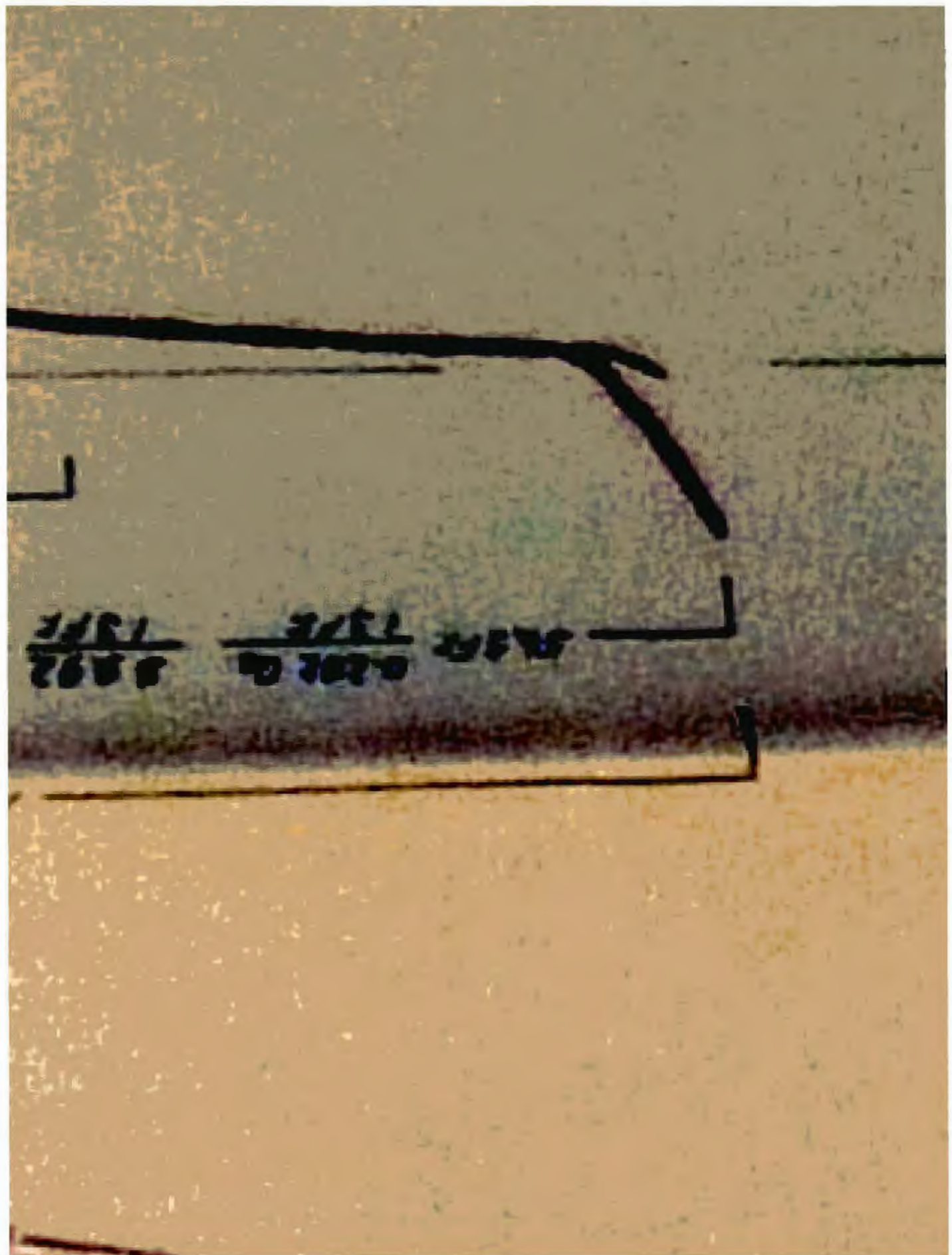




Figure Sol d'Or Gold Mines Ltd., Vein 5 detail (September 1935).

## HISTORY

The central portion of the ground, in the vicinity of what is now claim **KRL-397554** was first staked in 1927. Although a shaft was soon sunk to 34 feet, the ground came open in 1932 and was restaked. A new company was formed on it and a 3-ton mill erected. The Sol d'Or Gold Mines Limited got the ground in 1934 and a year later put up a 5-ton mill. By mid 1935 some 400 tons had been mined from here, mostly from the open cut. The yield was about \$7,500 in gold which at \$35 per ounce amounts to half an ounce per ton of rock.

Three timbered pits or shafts were sunk on No. 7 vein during the 1920-1936 period.

The shaft is reported to have been sunk to 164 feet in 1936. This fits, for the waste dump is large enough for a shaft of at least that depth. Furthermore, as the main vein 100 feet south of the shaft dips north at 55°, the two should have met at about 140 feet in the shaft. Thus the dump could reflect a little lateral work on the vein as well.

Furse (193?) describes six parallel, 1" to 10" wide, quartz veins occurring in a 350 foot wide fracture zone. The sulphides of iron, copper, zinc and lead were found along with visible gold. Reference 1 numbers the veins from 1 to 6 from south to north and records the southerly vein at 5" to 18" in width and the main, #3, vein at 2 to 3 feet in thickness. All are in rhyolite with diorite dykes or sills nearby or forming the hang-wall like as at No. 3.

Harding (1936) reports 3,000 feet of drilling in 10 holes, 150 to 650 feet in length. The core remained in collapsed racks at the old camp site. But the drilling seems to have been done around the periphery of the main workings for very little of it looked anything like the main zone of silicification - quartzite, rhyolite and the few holes that have been found are well north or south of the main workings.

## Lithologies (Tilsley, 1986)

### Basalts

Well foliated, chloritic basaltic flows occur south of Grace Lake opposite the Sol d'Or area.

### Felsic volcanics

Felsic volcanics range from ash tuffs through lapilli, including accretionary lapilli, tuffs and volcanic breccias. Cherty-looking felsic volcanic rock is noted in some outcrops and is interpreted to be a welded tuff or a silicified tuff.

## Chemical sediments and argillites

Chert, noted in several outcrops, appear to be interbedded with felsic volcanics. In some cases adjacent tuffs are quite siliceous suggesting perhaps hydrothermal alteration of the wall rock.

The cherts vary in colour from grey-green (pyrite-poor) to black (variably carbonaceous with <1% pyrite). Black cherts grade into black, pyritic, graphitic argillites and slates (locally  $\leq 2\%$  pyrite).

## Intrusive rocks

Diorite underlies the north part of claim KRL 838921, intrudes the felsic volcanics in claims KRL 838920, and KRL 838923 (between the lake shore and 300mN on lines 50mE to 150mE) and forms a south dipping, east-west diorite dyke or sill (interpreted from surface exposures and magnetic data to extend from line 400mW to 600mW at about 225mN). Diorites present as rough-surfaced, spotty outcrop. In hand specimen they fine to medium grained and chloritic with minor pyrite and/or pyrrhotite. Tilsley's descriptions suggest that

## Quartz veins

Seven veins of sufficient size to warrant prospecting have been identified on the property.

The veins strike generally east-west and dip 50 to 60°N. Veins are numbered from south to north.

The veins vary in thickness from a few centimetres to 0.40m. Vein contacts show some brecciation. Disseminated pyrite, pyrrhotite, and chalcopyrite may be present in the narrow (10 to 15cm) alteration zones adjacent to veins but may also occur in vein selvages and in wall rock breccia fragments within veins.

Chalcopyrite and pyrrhotite were noted occasionally in some samples of quartz from the veins, but are not common.

Minor stringers of black, massive tourmaline were also present along the margins of the quartz veins, and sometimes were observed to cut across the veins. Tourmaline and quartz stringers are pervasive throughout the country rock and appear to post-date the main mineralizing event.



Table . Summary of assays from Sol d'Or veins (reported by Tilsley, 1986).

Vein	Length (m)	Width (m)	Strike / Dip	Grade (opt Au) / Width (m)	Grade (opt Au) / Length (m)	Source
No. 1	40	0.22		0.996		Tilsley, 1986
	47	0.45		0.22 to 0.61		ODM
No. 2	72	0.15	270/52	0.18		Tilsley, 1986
	85	0.35			0.14/64.6m 0.78/15.0m	Sol d'Or, 1935
No. 3	60	0.40	265/55	0.21/0.15 0.13/0.15		Tilsley, 1986
No. 4					Not accessible	Tilsley, 1986
	60	0.38			0.34/52.7m 2.11/27.9m	Sol d'Or, 1935
No. 5	50		270/60	0.57/0.25		Tilsley, 1986
	40	0.40			0.42/40.0m.	Sol d'Or, 1935
No. 6					Not identified	Tilsley, 1986
No. 7	180	0.10	145/90	2.18 (grab)		Tilsley, 1986

## REFERENCES

- Beakhouse, G.P., 1985 Geology of the Southwestern Birch Area, District of Kenora (Patricia Portion); p. 8-12 in OGS MP 126.
- Breaks, F.W., Bond, W.D., McWilliams, G.H., and Gower, C., 1974 Operation Kenora-Sydney Lake, District of Kenora; p. 17-36 in OGS MP 59.
- Bruce, E.L., 1928 Gold Deposits of Woman, Narrow and Confederation Lakes; ODM AR V 37, Pt 4, 51 p. Accompanied by Map 37h, scale 1: 47 520 or 1 inch to  $\frac{3}{4}$  mile.
- Fyon, A.J., and Lane, L., 1986 Assessment of the Gold Potential in the Uchi-Confederation-Wornan Lake Area: Preliminary Results, District of Kenora (Patricia Portion); Ontario Geological Survey, Map P. 2989, Scale 1:50 000.
- Fyon, J.A., and O'Donnell, L., 1986 Regional Strain State and Alteration Patterns Related to Gold Mineralization in the Uchi-Confederation-Woman Lakes Area. in OGS MP 132.
- Goodwin, A.M., 1967 Volcanic Studies in the Birch-Uchi Lakes Area of Ontario; Ontario Department of Mines MP 6 p
- Klatt, HM 2003 Geotechnical Report on Swain East, Sol d'Or and Grace Properties, Frontier Development Vol. 1 52N08SW2002 250 pp.
- Noramco Exploration Inc., 1987 Reports, maps, drill logs and discussions with field personnel for the Shabumeni Lake Property.

## Claims for Work Proposal

### Shabumeni Lake Group

Township/Area	Claim Number	Recording Date	Claim Due Date	Status	Percent Option
McNaughton	1244671	June 20, 2003	June 20, 2011	Active	100%
McNaughton	1244677	June 20, 2003	June 20, 2011	Active	100%
Shabumeni Lk.	1244857***	June 20, 2003	June 20, 2011	Active	100%
Shabumeni Lk.	1244594	July 17, 2002	July 17, 2011	Active	100%
Shabumeni Lk.	1244593 **	June 21, 2002	June 21, 2011	Active	100%
Shabumeni Lk.	1244592	June 21, 2002	June 21, 2011	Active	100%
Shabumeni Lk.	1244642	Sept 24, 2002	Sept. 24, 2011	Active	100%
Shabumeni Lk.	1244641	Sept 24, 2002	Sept. 24, 2011	Active	100%
Shabumeni Lk.	1244640	Sept 24, 2002	Sept. 24, 2011	Active	100%

### Central Group

Township/Area	Claim Number	Recording Date	Claim Due Date	Status	Percent Option
Goodall	4214555	Mar. 17, 2009	Mar. 17, 2011	Active	100%
Goodall	4214557	Mar. 17, 2009	Mar. 17, 2011	Active	100%
Goodall	4214558	Mar. 17, 2009	Mar. 17, 2011	Active	100%

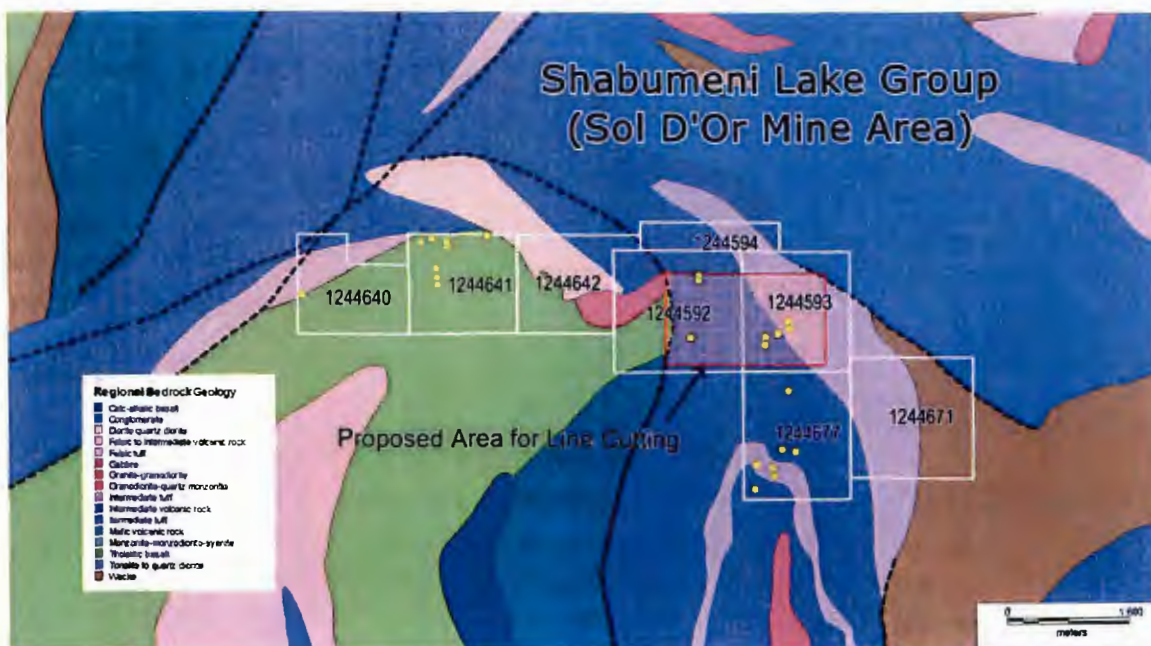
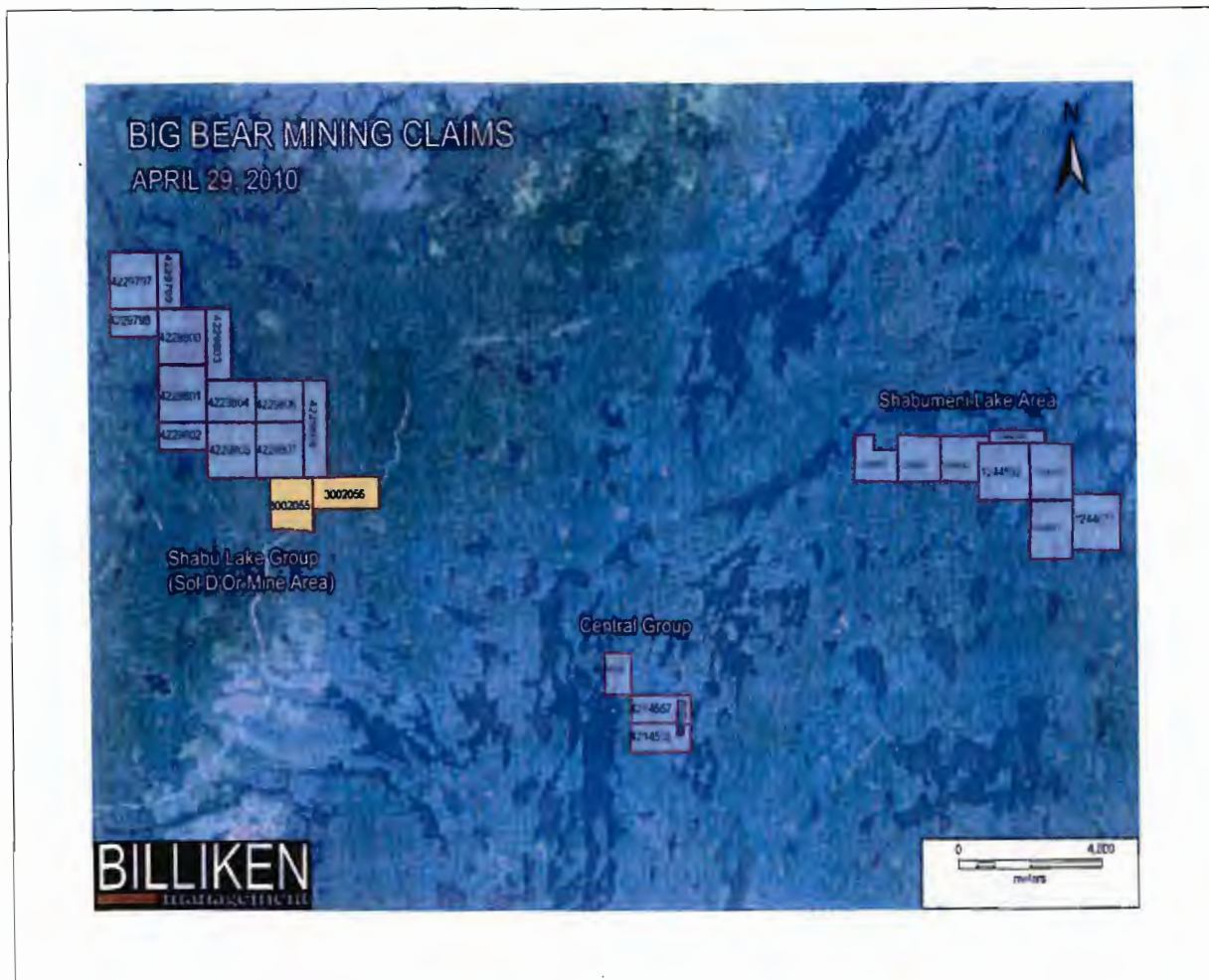
### Shabu Lake Group (Sol D'Or Mine Area)

Township/Area	Claim Number	Recording Date	Claim Due Date	Status	Percent Option
Skinner	3002055***	APR 15-02	APR 15-10	Active	100%
Skinner	3002056***	APR 15-02	APR 15-10	Active	100%
Shabu Lake	4229797	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229798	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229799	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229800	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229801	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229802	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229803	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229804	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229805	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229806	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229807	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229808	OCT 19-09	OCT 19-11	Active	100%

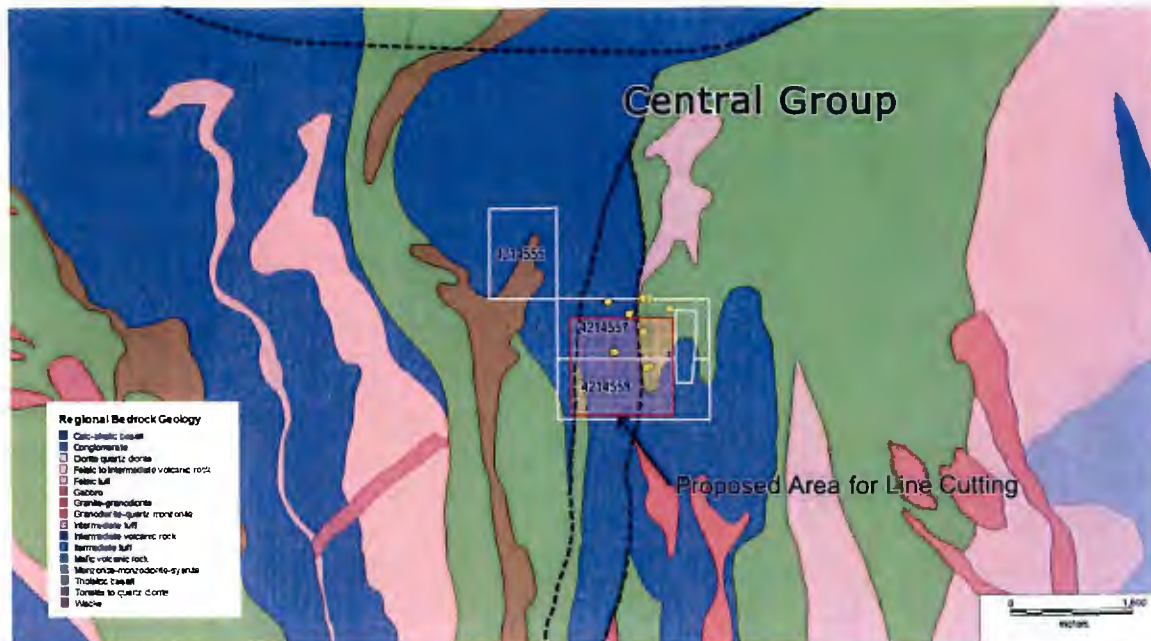
Total work required to keep all claims in good standing = \$116,000 (290 claim units)



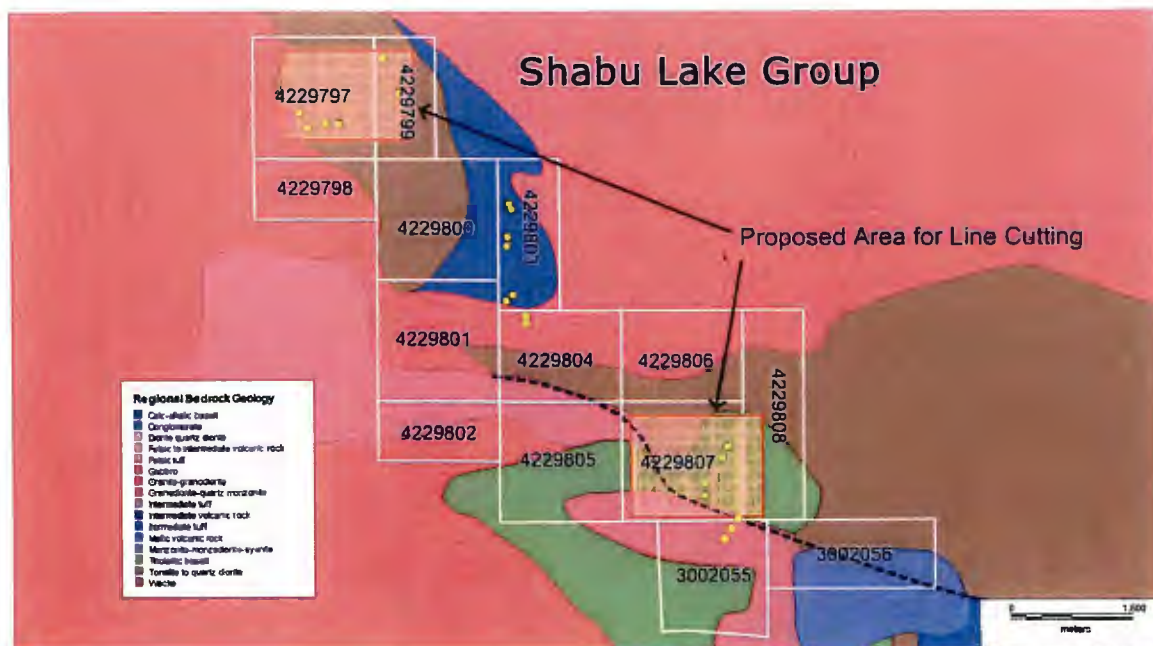
The Big Bear Mining Claim Groups are illustrated on the map below and detailed in the table following.



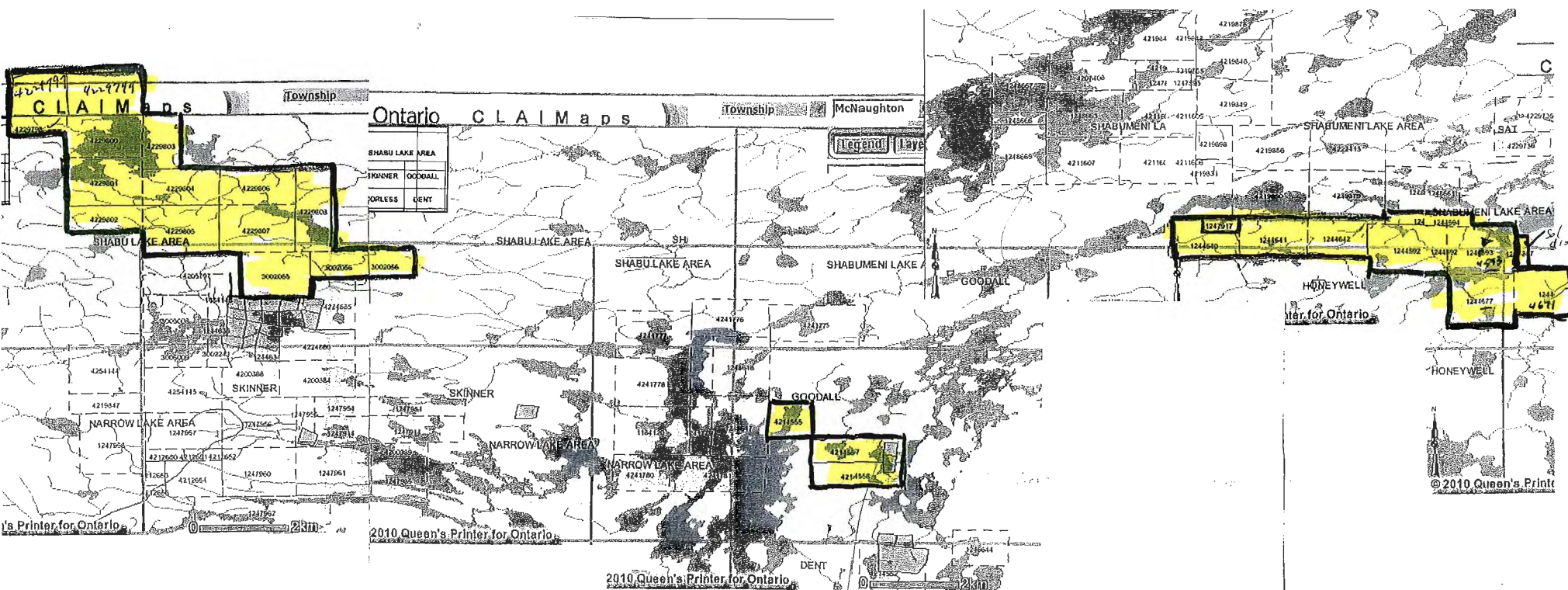
### Central Claim Group:



### Shabu Lake Claim Group:









Date / Time of Issue: Mon Apr 26 10:49:58 EDT 2010

TOWNSHIP / AREA  
SHABU LAKE AREA

PLAN  
G-1880

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division  
Land Titles/Registry Division  
Ministry of Natural Resources District

Red Lake  
KENORA  
RED LAKE

TOPOGRAPHIC

- ☐ Administrative Boundaries
- ☐ Township
- ☐ Concession, Lot
- ☐ Provincial Park
- ☐ Indian Reserve
- ☐ GR, PR & Pile
- ☐ Contour
- ☐ Mine Shaft
- ☐ Mine Headframe
- ☐ Railway
- ☐ Road
- ☐ Trail
- ☐ Natural Gas Pipeline
- ☐ Utilities
- ☐ Tower

Land Tenure

Freehold Patent

- ☐ Surface And Mining Rights
- ☐ Surface Rights Only
- ☐ Mining Rights Only

Leasehold Patent

- ☐ Surface And Mining Rights
- ☐ Surface Rights Only
- ☐ Mining Rights Only

Licence of Occupation

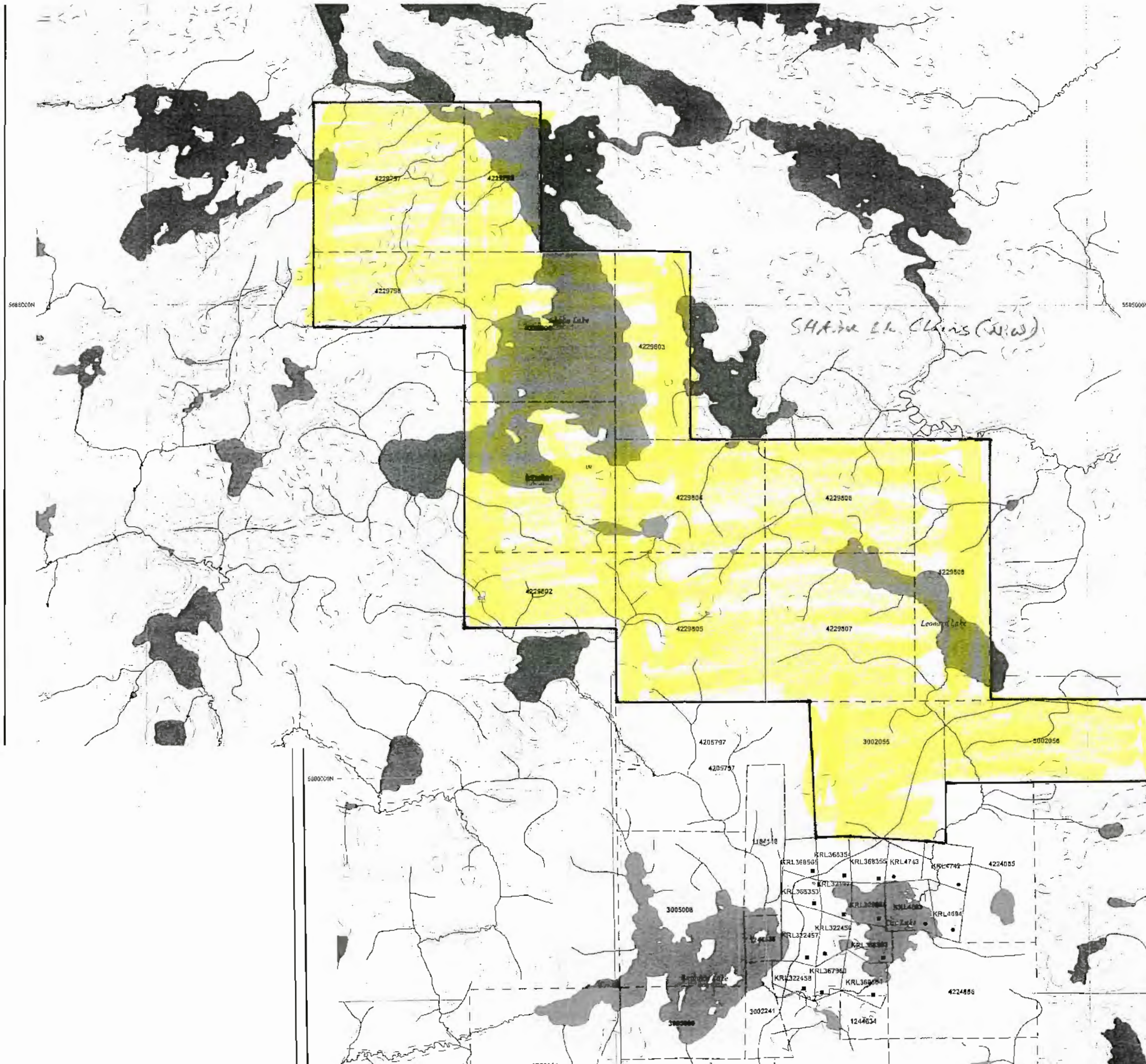
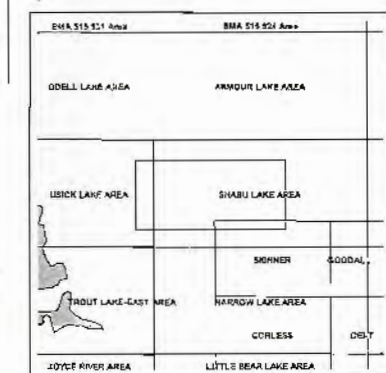
- ☐ Use Not Specified
- ☐ Surface And Mining Rights
- ☐ Surface Rights Only
- ☐ Mining Rights Only
- ☐ Land Use Permit
- ☐ Order in Council (Not open for taking)
- ☐ Water Power Lease Agreement

- ☐ Mining Claims
- ☐ Pled Only Mining Claims

LAND TENURE WITHDRAWALS

- ☐ Areas Withdrawn from Disposition
- ☐ Mining Act Withdrawal Types
- ☐ Surface And Mining Rights Withdrawal
- ☐ Surface Rights Only Withdrawal
- ☐ Mining Rights Only Withdrawal
- ☐ Order in Council Withdrawal Types
- ☐ Surface And Mining Rights Withdrawal
- ☐ Surface Rights Only Withdrawal
- ☐ Mining Rights Only Withdrawal

IMPORTANT NOTICES





Date / Time of Issue: Mon Apr 26 10:47:55 EDT 2010

TOWNSHIP / AREA  
GOODALL

PLAN  
G-3750

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division  
Land Titles/Registry Division  
Ministry of Natural Resources District

Red Lake  
KENORA  
RED LAKE

TOPOGRAPHIC

Administrative Boundary

Township

Concession, Lot

Provincial Park

Indian Reserve

C&M, Pit & Pile

Contour

Mine Shaft

Mine Headframe

Railway

Road

Trail

Natural Gas Pipeline

Utilities

Tower

Land Tenure

Freehold Patent

Surface And Mining Rights

Surface Rights Only

Mining Rights Only

Leasehold Patent

Surface And Mining Rights

Surface Rights Only

Mining Rights Only

License of Occupation

Uses Not Specified

Surface And Mining Rights

Surface Rights Only

Mining Rights Only

Land Use Permit

Order In Council (Not open for staking)

Water Power Lease Agreement

Mining Claim

Filed Only Mining Claims

LAND TENURE WITHDRAWALS

1234 Areas Withdrawn from Disposition

Mining Act Withdrawal Types

Surface And Mining Rights Withdrawn

Surface Rights Only Withdrawn

Mining Rights Only Withdrawn

Order In Council Withdrawal Types

Surface And Mining Rights Withdrawn

Surface Rights Only Withdrawn

Mining Rights Only Withdrawn

1234

IMPORTANT NOTICES

ARMOUR LAKE AREA

LITTLE SHABUMEN LAKE AREA

SHABU LAKE AREA

SHABUMEN LAKE AREA

SKINNER

GOODMALL

HONEYWELL

NARROW LAKE AREA

CORLESD

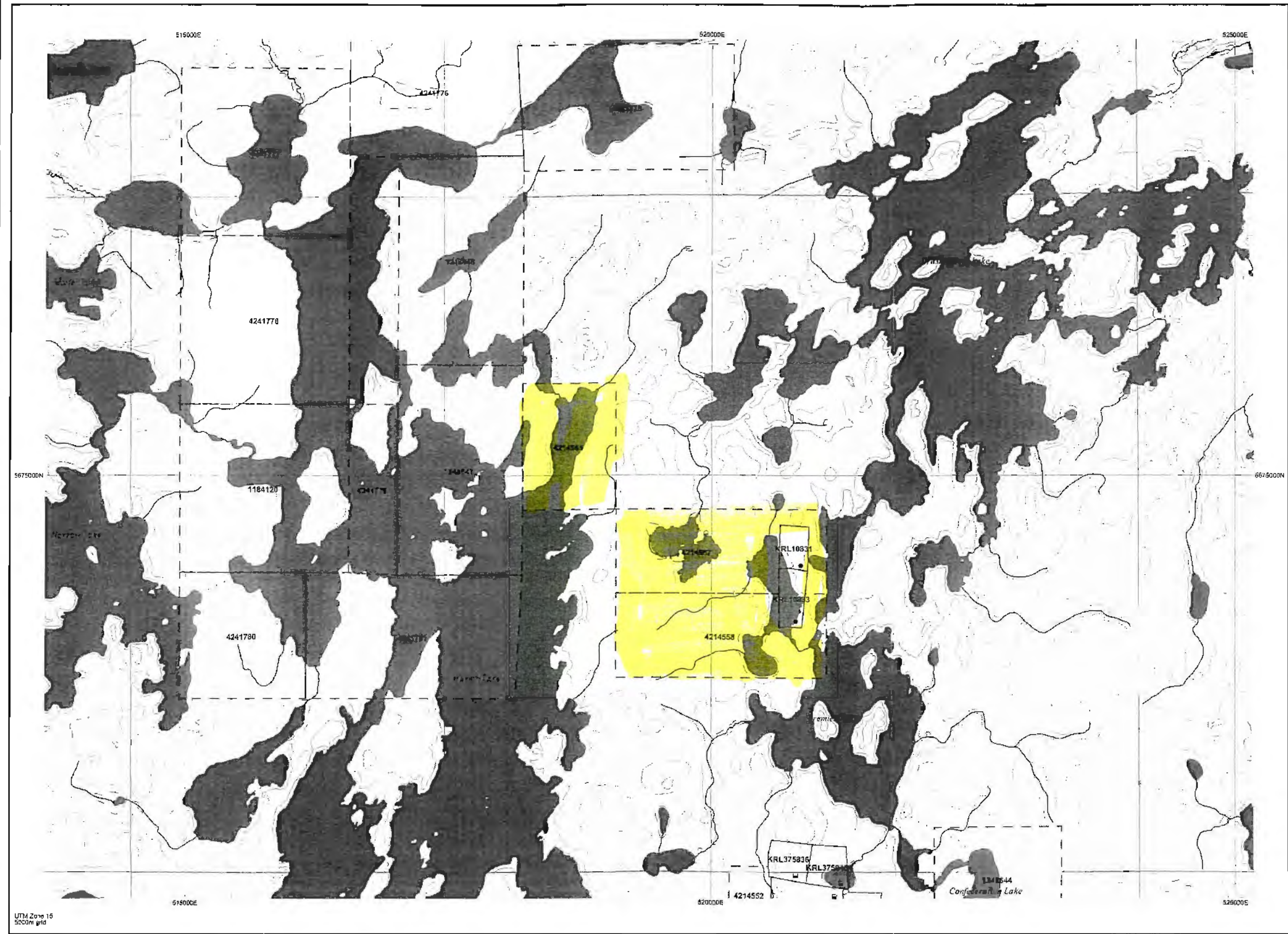
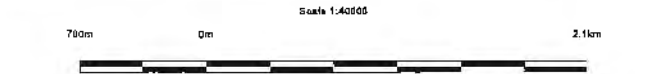
DENT

AGNEW

LITTLE BEAR LAKE AREA

MITCHELL

BCH LAKE AREA



Those wishing to stake mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Northern Development and Mines web site.

General Information and Limitations

Contact Information:  
Provincial Mining Recorders' Office  
Wilket Green Miller Centre 933 Ramsay Lake Road  
Sudbury ON P3E 8B5  
Home Page: [www.mndm.gov.on.ca/MNDM/MINES/LANDS/mismpage.htm](http://www.mndm.gov.on.ca/MNDM/MINES/LANDS/mismpage.htm)

Toll Free  
Tel: 1 (888) 415-9845 ext 5742  
Fax: 1 (877) 870-1444

Map Datum: NAD 83  
Projection: UTM (8 degree)  
Topographic Data Source: Land Information Ontario  
Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land tenure and interests in land including certain patents, leases, easements, right of ways, flooding rights, licences, or other forms of disposition of rights and interest from the Crown. Also certain land tenure and land uses that restrict or prohibit free entry to stake mining claims may not be illustrated.



Date / Time of Issue: Mon Apr 26 10:46:20 EDT 2010

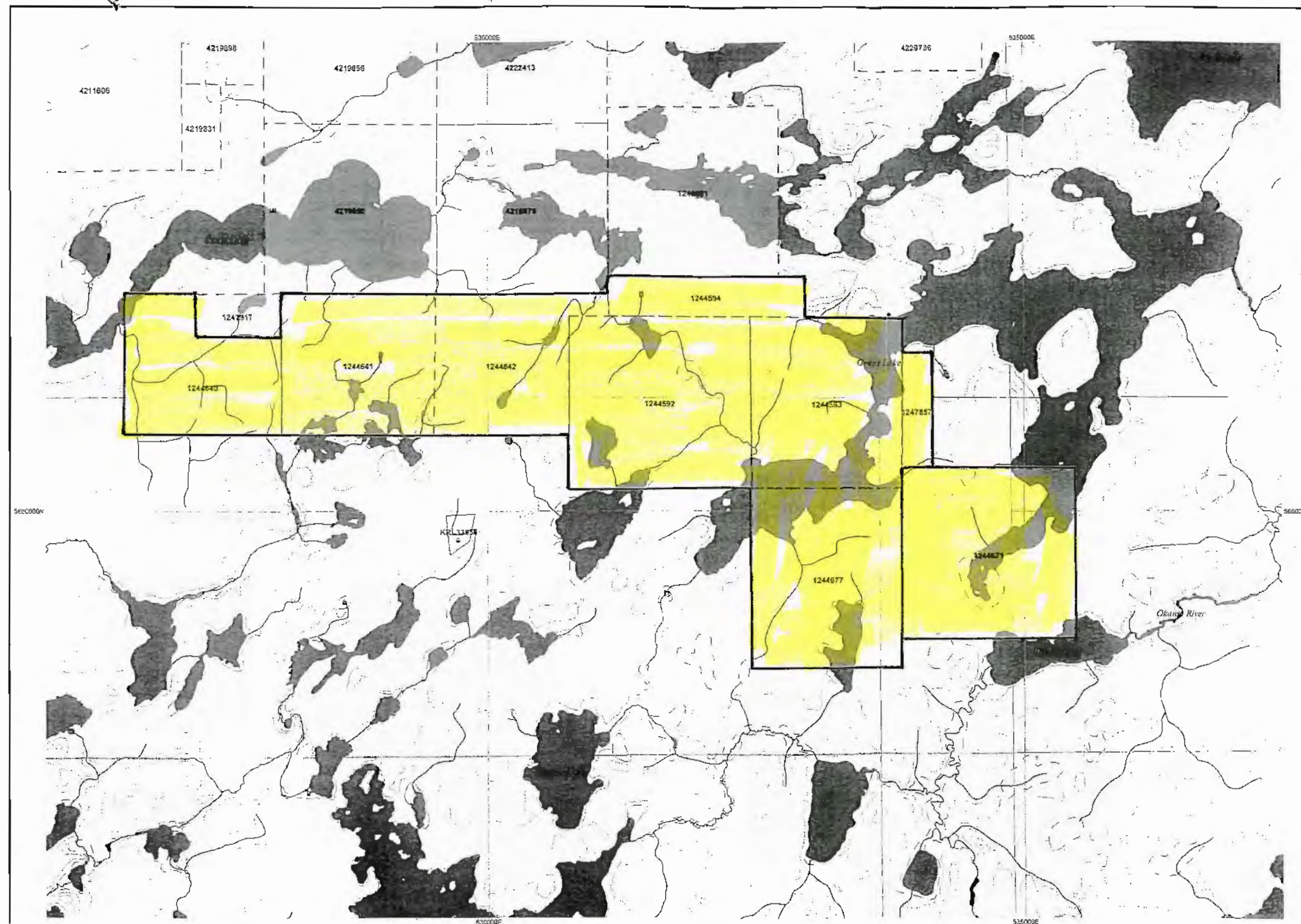
TOWNSHIP / AREA  
SHABUMENI LAKE AREA

PLAN  
G-1881
















## ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division  
Land Titles/Registry Division  
Ministry of Natural Resources District

Red Lake  
KENORA  
RED LAKE



## TOPOGRAPHIC

- |   |                           |
|---|---------------------------|
|  | Administrative Boundaries |
|  | Township                  |
|  | Concession, Lot           |
|  | Provincial Park           |
|  | Indian Reserve            |
|  | Clt. Pl. & Ptz.           |
|  | Contour                   |
|  | Mine Shafts               |
|  | Mine Headframe            |
|  | Railway                   |
|  | Road                      |
|  | Trail                     |
|  | Natural Gas Pipeline      |
|  | Utilities                 |
|  | Tower                     |

## Land Tenure

Freehold Patent

- |                          |                           |
|--------------------------|---------------------------|
| <input type="checkbox"/> | Surface And Mining Rights |
| <input type="checkbox"/> | Surface Rights Only       |
| <input type="checkbox"/> | Mining Rights Only        |

## Larschold Poland

- ☒ Surface And Mining Rights
- ☐ Surface Rights Only
- ☐ Mining Rights Only

Licence of Occupation

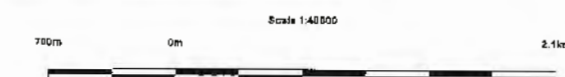
- |   |   |
|---|---|
|  | Uses Not Specified                      |
|  | Surface And Mining Rights               |
|  | Surface Rights Only                     |
|  | Mining Rights Only                      |
|  | Land Use Permit                         |
|  | Order In Council (Not open for staking) |
|  | Water Power Lease Agreement             |

LITTLE SHAZUEH LAKE AREA	CADUMMIT LAKE AREA
SHASUMIT COZ AREA	SACKETT LAKE AREA
GOODMILL	MONROVILL
DENT	ACNEW
MITCHELL	COSTELLO
MOON LAKE AREA	LAKESVILLE LAKE AREA
	ANDRETT

## LAND TENURE WITHDRAWALS

- |      |                                     |
|------|-------------------------------------|
| 1234 | Assets Withdrawn from Disposition   |
|      | Mining Acts Withdrawal Types        |
| Wsm  | Surface And Mining Rights Withdrawn |
| Ws   | Surface Rights Only Withdrawn       |
| Wm   | Mining Rights Only Withdrawn        |
|      | Order In Council Withdrawal Types   |
| W'sm | Surface And Mining Rights Withdrawn |
| W's  | Surface Rights Only Withdrawn       |
| W'm  | Mining Rights Only Withdrawn        |

## No. IMPORTANT NOTICES





### Claims for Work Proposal

#### N.E. Group - Shabumeni Lake Area (Sol D'Or Occurr.)- Rd Accessible

Township/Area	Claim Number	Recording Date	Claim Due Date	Status	Percent Option
McNaughton	1244671	June 20, 2003	June 20, 2011	Active	100%
McNaughton	1244677	June 20, 2003	June 20, 2011	Active	100%
Shabumeni Lk.	1247857 ***	June 20, 2003	June 20, 2011	Active	100%
Shabumeni Lk.	1244594	July 17, 2002	July 17, 2011	Active	100%
Shabumeni Lk.	1244593 **	June 21, 2002	June 21, 2011	Active	100%
Shabumeni Lk.	1244592	June 21, 2002	June 21, 2011	Active	100%
Shabumeni Lk.	1244642	Sept 24, 2002	Sept. 24, 2011	Active	100%
Shabumeni Lk.	1244641	Sept 24, 2002	Sept. 24, 2011	Active	100%
Shabumeni Lk.	1244640	Sept 24, 2002	Sept. 24, 2011	Active	100%

#### Central Group – (near Washagemis Lake)-newly Staked- Trail Access.

Township/Area	Claim Number	Recording Date	Claim Due Date	Status	Percent Option
Goodall	4214555	Mar. 17, 2009	Mar. 17, 2011	Active	100%
Goodall	4214557	Mar. 17, 2009	Mar. 17, 2011	Active	100%
Goodall	4214558	Mar. 17, 2009	Mar. 17, 2011	Active	100%

#### N.W. Group – Shabu Lake Area – Fly-in Group

Township/Area	Claim Number	Recording Date	Claim Due Date	Status	Percent Option
Skinner	3002055	APR 15-02	Ext. Time	Active	100%
Skinner	3002056	APR 15-02	APR 15-11	Active	100%
Shabu Lake	4229797	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229798	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229799	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229800	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229801	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229802	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229803	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229804	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229805	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229806	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229807	OCT 19-09	OCT 19-11	Active	100%
Shabu Lake	4229808	OCT 19-09	OCT 19-11	Active	100%

Note: \*\* denotes claim has banked credits on file for applying assessment credits this year but credits cannot be transferred from N.W. Group to the other two groups

Total work required to keep all claims in good standing = \$116,000 (290 claim units)

\*\*\* denotes claim was designated wrongly-typo error corrected to Cl. 1247857

#### Items for discussion- Shabu/Shabmeni-Goodall Expl. Program

- new airborne survey over the area covering the three claim groups – approx. cost @ \$120/line km.
- Room/Board at Kabeelo's Lodge - @ \$92.50/man/day American Plan
- 4 X 4 vehicle for ground support @ \$1250/mo. rental rate + kilometers
- lodge is 60 kms. N.E. of Ear Falls (closest town/support services-gas, food, repairs etc.)
- fly-in and outpost cabins available through Kabeelo's or Woman Lake Lodge near Kabeelo's
- helpers and staker/line cutter available locally at \$200-250/day
- boats, motors available locally
- drilling crew available locally @\$85/metre all in for drilling (ie. Magnuson Drilling Th. Bay; Mallette drilling-Kenora; CorePro Drilling, Dryden)
- Discovery Geophysics available from Winnipeg, Man.
- Air service available to Red Lake, Dryden from Th. Bay, Winnipeg
- Drive to Lodge from TH. Bay approx. 5.5 hrs., from Winnipeg 4.5 hrs.
- Closest Resident's Geol. Office Red Lake (office for this area), Kenora, Ont., or Th. Bay, Ont.
- Closest Lab facility is SGS in Red Lake; otherwise Accurassay in Th. Bay; Act Labs in Th. Bay at competitive rates; Manitoulin or Gardewein Transport will pick up in Ear Falls at their depot

# Geologist Report - Big Bear Res. Program

## Daily Report

**Wed. Aug. 4:** Flew from Toronto 9:30 a.m.-Winnipeg, picked up vehicle, made 2 stops (Winn.+Kenora) then arrived Ear Falls 8 p.m., had dinner then arrived Kabeelo's 9 p.m.-checked in with Jamie Graff; thunderstorms intermittently

**Thurs Aug, 5<sup>th</sup>:** up 6:30 a.m. reviewed property maps/reports/Pat Chances work; prepped for field excursion to revue geology at known gold occurrence; prepped 4-wheeler and boat/motor for field work; up to Red Lake in P.M. to get supplies, maps, pickup truck for field work; linecutter/chain saw expert (Luc Gagnon) arrived 7:30 p.m.; clear, cool no rain

**Friday Aug. 6<sup>th</sup>:** GPS'd road access to Sol D'Or property (Grace Lake/Honeywell twp. area) and to the central property access point on Woman Lake (upper end) (8 a.m.-2 p.m.); clear, cool, no rain/sunny all day; P.M. did west circuit up to top ed of Woman Lake to see of Boat access into Woman River/Swain Lake/Washagomis Lk. plus Shabumeni River for access to Shabu Lake (N.W. Property) drove approx. 180 kms.; GPS's track on both sides

**Sat. Aug. 7<sup>th</sup>:** over cast day, intermittent rain in a.m.; drove to Shabu Group (N.W.) and did reccy traverse in S.E. part of claim group (ie. drill hole trail); marked down core at camp site, found boat for lake traverse for Sunday; walked Car Lake outcrops, 3 stripped mineralized areas, took pics/ checked trails into top end Woman Lake; reserved cabin at Woman Lake Lodge for Tues./Wed./Thurs for Goodall Group plus west end of Shabumeni group (area around Swain Lake); p.m. was clear, sunny; GPs'd roads in the N.W. quadrant for access; some roads have been blocked for access by MNR and culverts pulled; boat and 25 h.p. motor for trip will be ready Mon. night; have 8 h.p. and boat ready for Leonard Lk. for Sunday.

**Sun. Aug. 8<sup>th</sup>:** Did further reconnaissance from 8 a.m. to 3 p.m. on the Shabu Group over Leonard Lake by boat; mapped in claim lines/posts(GP'sd), outcrops around lake and found/sampled one interesting and new qtz. breccia at the top end of the lake on contact between acid/mafic volcs.; took pics/ samples of interesting outcrops; started raining/thundershowers at 3 p.m.till nightfall; 105 kms on truck + ATV used

**Mon. Aug. 9<sup>th</sup>:** Crew flew into Washagomis Lk. to reconnoitre Sol D'Or Mine area (9 a.m.-5 p.m.pickup); picked up qtz. vng/samples, tracked trenches, GPS'd point; Luc cut trail to shore for air pickup by chain saw; very hot, humid day, sunny; picked up fuel boat and motor for Goodall Twp. trek Tues.; called ahead to Tom Seebeck to reserve cabin at Woman Lake Lodge at top end Woman Lake

**Tuesday Aug.10<sup>th</sup>:** Took off at 11 a.m. for Woman Lake Lodge; packed 2 boats, motors, food, sleep gear etc.; arrived 2 p.m.; set up camp and then worked from 3-7 p.m. walked into west side Goodall Group to Stevens Lake Showings; hard walking from west side; hot humid; back by 8 p.m. had late dinner; showings not very evident/poorly exposed/long period of no work; found 2" qtz vein in Andesites

**Wed. Aug. 11<sup>th</sup>:** Took 2 boats, 2 crews, over to Washagomis Lk. to split up and recon. east side of claim group; two gold showings indicated; found one where it was shown on OGS Prel. Map

sampled 2-3 " qtz vein in fract./slightly shrd andesite/dacitic rock; other crew discovered new showing on the S.E. end of lake but not the one on the west side of MacDonald Lake; no access southward into Premier Lake; after 3 p.m. check other access to Swain Lake to the east; started raining at 3 p.m. return to Woman Lake Lodge at 5 p.m.; hard walking due to windfall trees in area

**Thurs. Aug. 12<sup>th</sup>:** 2 boats + 2 motors to east end and south side Swain Lake (west end showings); poor exposures (old); no sign of past drill roads; lot of blowdown; took few samples of min. Andesite and one Pyroxenite but no qtz. veining obs.; tried to go further east into top end of Grace Lake (can only get here by plane thru Birch Lake chain; portage at Swain lake visible for trail up to Birch lake and well cut out (winter use); first trek lasted from 10-2 p.m.; spent rest p.m. looking at local geology around lake/access routes/local discussions with cottager (Mr. Howard-Iowa)

**Friday Aug. 13<sup>th</sup>:** demob out of Woman Lake Camp at 10 a.m.; arrived dockside (Woman Lk. Landing) at 12 noon; did laundry; cleaned-up; catalogued samples; Luc to town for maps, laundry etc.; went to view Bobjo Point geology/stripped area 2-6 p.m. took pics/samples; talked to Mike Koski next door in private cabin

**Sat Aug. 14<sup>th</sup>:** overcast to broken, intermittent thunder storms and rain; JA, Jamie and Francis up to Leonard lake; took motor/boat/gear; traversed to find drill road and drill stations/geology on local rock units; took samples of crystal/pyroclastic tuffs, andesites, mafic volc. flows (drilling appears to be cross-sectioning the strata from east to west with little assayed of the qtz veining (from core boxes); some foliation/shrg evident; were out from 9 a.m.- 4:30 p.m.; also re-viewed the Car Lake/Bathurst Mine stripping to see what was sampled/assayed; lot of gabbro/pyroxenite and minor lamp dikes evident; some shrg. in volcs along south side of exposure (2-3 m. wide and consistent); QFP evident cross-cutting main volc. units with rusty/min. sections where contorted/folded; qfp's seem to be further cross-cut by qtz. veining and finally the lamp. Diking (last event) although some dikes are truncated or offset by (Az. 085 ) shearing dipping steeply north ; other pits/trenches on Bathurst property well exposed but veining/shearing/ qfp's not as well developed (this would be to the west of the mineralized trenched/shaft area- possible that the better area to check would be a sub-parallel structure or east along strike (out under Car Lake)

**Sunday Aug. 15<sup>th</sup>:** Fly-in day with 2 crews; one going to Grace Lake/Sol D'Or area again with motor and tank for boat at path to do rec. on south east end Sol D'Or and other to Shabu lake to take boat reconnaissance of 3-5 lakeside showings in area; unfortunately weather socked I and plans grounded-no flights and crews stranded in at camp ; rained all day/all night with intermittent thunder showers

**Monday Aug. 16<sup>th</sup>:** rained all day with intermittent thunder and lightning-planes grounded and winds expected to be +80 knots in afternoon; decided to pack up and head fro Winnipeg/demob crews and return in 1-2 weeks to complete program for 2 days (Shabu and Grace lake traverses)- arrived in Winnipeg @ 7 p.m.-stayed at Canada Inns in south end of city

**Tuesday Aug. 17<sup>th</sup>:** Return flight to Toronto with 2 junior geologists +J. Archibald-arrived Toronto 4:45 p.m. and taxi to apt. arrived 6:30 p.m.; next two days in office re-organizing receipts/sample logs/calling lab re analysis/sorting maps and discussions with Pat Chance and Brian Newton; making up excel table of GPS locations/site/road locations



### Discussion of Reconnaissance Field Program

- the following outlines the work progress in bullet form
- **Wed. Aug. 4<sup>th</sup>**; arrival to Kabeelo's camp on Aug. 4<sup>th</sup> –met with Kabeelo's owner, 2 junior geologists, unpacked and reviewed P.Chance data package and maps
- **Thurs. Aug. 5<sup>th</sup>**, discussed program outline with junior geologists, waited for Luc Gagnon (brusher/cutter) arrived 6 p.m. from Nestor Falls in own vehicle; visited Regional Geol. office for maps/plans/reports in Red Lake/picked up pickup truck returned for supertime (drove approx. 150 kms in v + 80 kms in pickup) ; filled vehicles as well as jerry cans(3)
- **Friday Aug. 6<sup>th</sup>**; did road reconnaissance up the east side (North of South Bay) to establish road system, look at regional geol. setting and determine bush conditions up to the Swain Lake/Sol D'Or property (Shabumeni Lk. Prop)-obs. lot blowdown over wide swaths of ground around Okanse Lake in a.m.(drove approx. 82 kms.); In p.m. did the west side(up from the forks at the Joyce Rd. turnoff to see about access to the Shabu Lk. and Goodall twp properties; visited Bathurst/Car lake occurrence, several road trenches/pits, qtz. pits – drove approx. 90 kms.
- **Sat. Aug. 7<sup>th</sup>** : Drove up Leonard Lk. road, checked all access routes, sampled showings, located Frontier Res. core , Leonard Lk. access trail, numerous roads and drill roads and took GPS stations; walked drill road into S.E.. end Shabu Property to check for drillholes, outcrops(wet, swampy) drove approx. 229 kms.
- **Sunday Aug. 8<sup>th</sup>**: traversed Leonard Lk. road and accessed Leonard Lake by boat; GPS'd etc., sampled, located claim lines and found new qtz. breccia showing at top end (N.W.) corner of the Lake (Leonard)-had problems with the 8 h.p electronic starter; paddled 1.5 kms down lake; did 105 kms on pickup
- **Monday Aug. 9<sup>th</sup>** ; Fly-in reconnaissance from Kabeelo's lodge for the day; recon on Sol D'Or property (east side) from lake up to shaft /then east-west from the shaft; sampling/pictures/GPS locations; spent from 9 a.m.-5 p.m.; picked +12 samples of qtz. vein(multiples) and mineralized wall rock (mainly andesites/dacites)
- **Tuesday Aug. 10<sup>th</sup>**: packed up 2 boats with gear, sampling equipment , gas and headed up river (35 kms) to Woman Lake Lodge at top end Woman Lake (Tom Seebek's camp) ; arrived 12-1 noon; decamped, set up lodging/lunch/ then did traverse into west end Goodall group via boat (3-7 P.M.); saw 2 showings(one 2"qtz vein at top end Stevens Lake)
- **Wed. Aug. 11<sup>th</sup>**: accessed east end Goodall group around from Washagomis Lake across to MacDonald Lake to obs./find two-three reported Au showings on east side Goodall group; found one old center-mid MacDonald Lake(2"qtz. vein) and one new vein at southeast end MacDonald Lake; poor bush, hot humid and interm. rain al day
- **Thurs. Aug. 12**: accessed northwest end Sol D'Or Gp.(S.of Swain Lake) to find etc./drillhole collars ; spent 8-3 p.m searching; sampled few etc. but disappointing; mainly min. mafic volc. w., some gabbro/pyrox. Intrusives; rain strted 3 p.m.(out of bush)
- **Friday Aug. 13<sup>th</sup>**: demobbed from Woman Lake Camp 10 a.m.-arrived landing 12 noon and transported samples, boats, motors to Kabeelo's ; Luc to Red Lake Res. Geol's office for maps, laundry; JA+ boys to Bobjo Point for field excursion/sampling of well-min. qtz. veining; out of bust at 6 p.m.; weather changing(cooler, windy, wet)
- **Sat. Aug 14<sup>th</sup>**: overcast/to broken windy, traverse up the west side of Leonard Lake including drill road on west side; found 2 holes, etc.(sampled) and took GPS of claim lines; road etc.; spent 8-3 pm. at site; intermittent thunder/lightning and rain
- **Sun. Aug. 15<sup>th</sup>**: weather socked in; rain; cold, windy no planes flying-waited to see if weather would break to do Shabu Lake and Grace Lake traverses in one plane load(one day standby); rained through evening

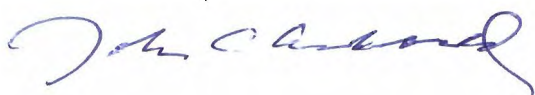
- Monday Aug. 16<sup>th</sup>: still overcast/ zero visibility and wind increasing in p.m.-no planes flying so decided to pack up and head for Winnipeg (de-Mobbed) for return next week to complete 1-2 day fly-in work; flew out Tuesday 12 noon for Toronto (3 persons) and Luc Gagnon returned Mon. Aug. 16<sup>th</sup> to Nestor Falls

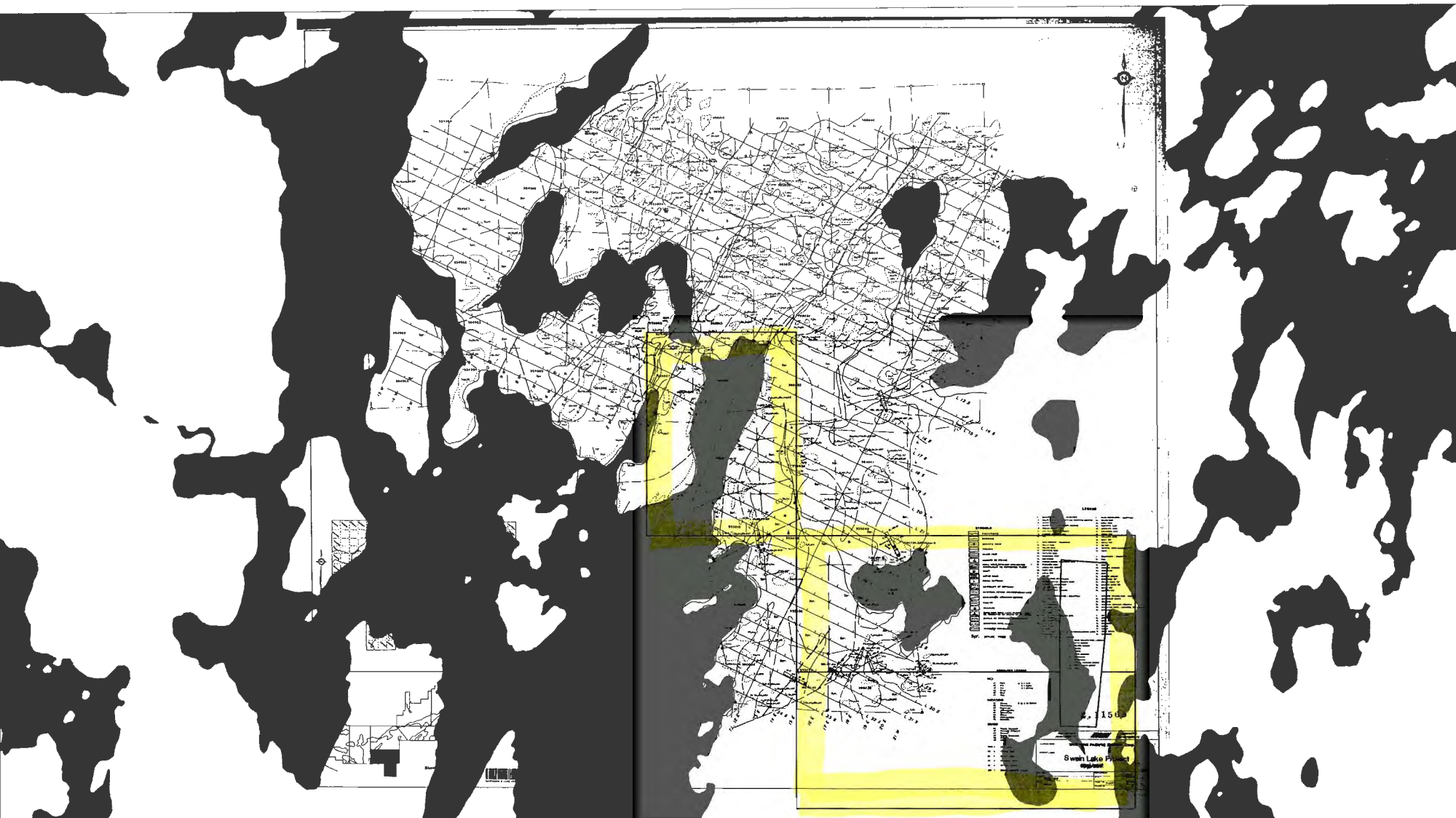
## General Observations

- the best property with the most interesting geological structure or potential of the three would be the Sol D'Or property due to its historical work (obs. numerous qtz. vein/tension gashes, old shaft (filled-in) and a reasonable amount of infrastructure and work previously carried out on it; the veining is narrow (sub-meter) but is en-echelon and carries for some hundreds of meters along strike; the geology is interesting in that there are several contact zones and differing types of units coming into contact (volcanics/granites and metasediments such as conglomerates at the juncture) where the good veining occurs; the area needs to be mapped in detail, stripped/cleaned and property sampled with control lines cut over the previous work area; access is by boat or floatplane but there is an outpost camp on the lake as well as the possibility of boat/motor rental locally. More time is required to prospect the areas around the known veining and to the east and west along strike; the historical geology map indicates a mix of Diorites/gabbros, granites, tuffaceous fragmentals, mafic volcanics and possibly quartzites?; the west end of this property is boat accessible but hard to walk due to tree windfall and old growth; the potential for py-po VMS type mineralization is possible since this was found west of here by Noramco/Teck in the past and pyroxenite/gabbro intrusives were observed intruding into the mafic flows
- the next property of interest would be the Shabu Lake/Leonard Lake property; although access is poor and rock outcrops fairly hard to find as one goes north around the lakes rock is available and contacts/lineation is in a N.W.-S.E. direction; a new find of qtz. breccia near a mafic/felsic contact at the N.W. end of Leonard lake shows potential for this unit to widen/extend up towards Shabu Lake - more prospecting will be required and the bush is not that onerous (less blow-down obs.); due to the short-lived weather problem the trip into Shabu Lake where there is a Cabin (Green's) and a boat available to do the reconnaissance around the lake more geological exposures may be available; what was observed along the drill-road up from the Joyce road to the west side of Leonard Lake was a cross-section of int.-mafic volcanic flows and some tuffaceous interflows between Int.volcs and rhyolitic phases; the contact with the sediments to the northeast was not observed; several more days of reconnaissance exploration is required to assess the northwest corner of the property around Shabu Lake
- the smallest property and most disappointing was the Goodall group in the central part of the belt; It can be accessed by boat from either the west or east side with a +500 to 70 metre walk in from the lakeshore; outcrop exposures are prevalent around the lakeshores on both Stevens and MacDonald Lake but showings are hard to find, where qtz.veining was indicated there was only 1-2" wide narrow veins in mainly mafic andesites to dacitic pillowed volcanics; little structure of observed intrusive material such as qtz.feldspar porphyries were seen and samples looked poorly mineralized (although some people have reported high-grade grab samples from this area as reported in older reports on the property) work is old, trenches poorly defined and filled with refuse; the powerline crosses the property in a north-south direction over the western end of Stevens Lake (Non-functional but the high tension lines are still strung up through the trees and most posts are still standing)

- after reviewing several of the known showings/occurrences in the immediate area as a comparison, one has to note several common characteristics; both the Car Lake and Bobjo have far more exposure of quartz with mineralized quartz veining cross-cutting their geological units; both have lamprophyre dikes cross-cutting the deposits; both have gabbros intrusive material intruding into the system; both have altered to sugary/smokey quartz close to or where the high grade gold exists; both have weak structural features assoc. with their deposits (gen. E-W veining, some shearing along mafic contacts, stretching of pillowed volcanics, multiple qtz. slashes(tension fracture filling) qtz. feldspar porphyry close to or along main contacts, some alteration and silification/sericitization obs.; the Bobjo mineralized qtz. veining is close to the mafic/unconformity between interflow units, and they both have the smoky blue qtz. with finely diss. pyrite mineralization in their main production veins in common
- the best factors for these three properties are their assoc./relationship to the Swain Lake deformation zone which trends east-west across the top end of Swain and Woman Lakes over to Shabu Lake which follows the general trend of the volcanic/sedimentary contact between the major units; in places py-po mineralization has been observed with base metal potential and possibly gold
- especially if the movement along the contacts has created tension fractures or void that could have been filled with late stage hydrothermal mineralizing fluids and quartz; qtz. breccias and QPF's would be the units to prospect for and sample any that appear mineralized
- we have approximately 45 samples out for analysis at a qualified lab(Act Lab) in Thunder Bay with gold determinations (Fire assay with an AA Finish) and a number of samples in for multi-element determinations including gold, silver, zinc, nickel, cobalt, lead, copper, platinum and palladium and in some cases rare-earth elements

Respectfully Submitted,  
John Archibald, P.Geo.





## Picture Captions:

<u>Picture Number</u>	<u>Caption for the Picture</u>
531	- Core Cross-Stacked (Frontier Development-2004 Series +8 Holes) located at S.E. end Leonard Lake
534	- Drill Road to Holes P-04-01 to P 04-08 (Fronteer Program-2004) Southwest side of Leonard Lake
541	- Shaft at the Car Lake Occurrence-Planked/fenced/posted but partially caving in
543	- Sheared/stripped Mafic Volcanic Flows to East of Car Lake Shaft area-rusty, silicified, carbonated, mineralized with vertical dip
555	- Qtz.Breccia at N.W. End of Leonard Lake-New showing in felsic volcanic flows
556	- Felsic Flows in contact with mafic volcanics/rusty, altered mafic (dike?); N.W. end of Leonard Lake
564	- Sol D'Or Shaft- re-habilitated with mine rock; vertical pipe acting as venting to shaft
566	- Sol D'Or Mine Dump; waste and ore from Underground workings (+- 20 ft. high)
572	- Qtz/Silicified Acid Volcanics along strike to Main Sol D'Or Vein towards the west
580	- Sol D'Or Mine ; Qtz. Vein almost vertical in contact with silicified Acid Volcanics
584	- East Side of MacDonald Lake (Goodall Property); Qtz. Vein in side of old pit/trenched area
590	- Bobjo Point Occurrence; Mafic (Lamprophyre) Dike typically cross-cutting variolitic basalts in area
614	- Car Lake Occurrence - Old Pit cross-sectioning the silicified qtz. vein+ shrd. ankeritic mafic volcanic flows + Q.F.P. (at east end of stripped area)
615	- Car Lake Occurrence; sharp contact with Q.F.P. + Qtz. Veining- note foliation in Mafic Volcs. at low angle to contact
617	- Car Lake Occurrence; sheared/foliated mafic volcanic Flows with boudinaged qtz. veining all through; parallel to foliation direction
622	- Sample for Analysis: Qtz. Breccia from Silica Quarry-note black smoker/massive pyritic nodules
623	- Sample for Analysis: Smokey, blue qtz. Vein from Car Lake Occurrence - Main Vein where high grade was first discovered

### **GPS Points for the Traverses/Claim Posts/ Physiological Features:**

<b><u>GPS Coords.</u></b>	<b><u>Description of Site(s)</u></b>
15U0505757E / 5673550N	- E-W Banded Iron Fm. on Joyce Rd. (1st Showing apprx. 6 km fr. south Bdry. Leonard Lk. Gp (@ Km.31 on Joyce Rd.)
15U0507225E / 5679054N	- Drill-Hole Collar-Sabena Property(SGS0519)
15U0500920E / 5670400N	- Joyce Rd. Forks (Start @ 0.0. km.)
15U0506714 / 5677564	- Core Shack (Sabena Silver) @ Km.36 - Car Lake Bathurst Mine @ Km.36.5 (15U0507422/5678859) - south Bdry. of Property @ km.38
15U0509154 / 5680595	- Fronteer Dev. Core/Camp (8 Holes-2004) - Mosier Lk. turnoff @ km. 33 (to Woman Lk. Lodge) - Spud Lk. Turn-off @ km. 21.0 - Corless Lk. Rd. turnoff @ km. 17
15U0503664 5662927	- Quartz Quarry + massive sulph. on Granite contact



**Sun. Aug. 8<sup>th</sup>, 2010 : Leonard Lake Traverse**

- |                       |  |
|-----------------------|--|
| 15U0508981<br>5681229 | - Line Post on Leonard Lk. shoreline<br>L. Post 668 m. N. to # 2 Post Cl.4229808   |
| 15U0508955<br>5681262 | - C.Post #2 -#2 Witness Post for #3 cl. 3002053<br>Loc.#1 -Int-mafic volcs + qtz.eyes,sil., lin.@(EW) Az.090                       |
| 15U0508852<br>5681334 | - Loc #2 - Int-Acid Volcs(dior.look)+odd diss. py<br>along east shore Leonard Lk.  |
| 15U0508852<br>5681898 | - Loc#3 - cherty Frag And. volcs.; lin.@ AZ.090<br>L.P. for Cl.4220507 (1300 m. N. to post#4)<br>L.P. for Cl. 4229807 + 4229808    |
| 15U0507351<br>5682152 | - Loc.#4 ; L.P. for Cl. 4229806 (Post #2)<br>acid volcs.   |
| 15U0507394<br>5682235 | - Location #5;Brecc. qtz.vng. in int.-mafic <u>volcs.@ sed.</u><br>contact   |
| 15U0508180<br>5681663 | - Witness post for Claim post mid-lake on west side for<br>cl.4229807/9808<br>Location #6 mafic volcs. on w.s.w. side Leonard Lake |
| 15U0508063<br>5679528 | - Otc./trench work @ south end Shabu Prop. off Joyce Rd.<br>mafic volc./gabbro;massive-poorly mineralized                          |
| 15U0507420<br>5678856 | - Otc.+Tr. south end Bathurst Creek (3 tr. in shrd. mafic<br>volcs. + 1 ft. qtz. vn.(E-W) ;sample Bath.#2                          |
| 15U0507422<br>5678859 | - Car Lake Stripping   |
| 15U0506714<br>5677564 | - Core shack on Joyce Rd.(Sabena Silver) (@ Km. 36)  |



### **Traverse on East Side-Okanse Lake Rd. north of South Bay Mine**

- 15U0523070 - start of Traverse (South Bay Rd. Turnoff)  
5661475
- Okanse Lake Rd. turnoff @ Km.10
  - 'Y' Turn (NW vs NE) @ km. 85 (1 km. north Okanse Turnoff)
  - End of Driveable Rd. (NW Track) @ km. 92 approx. 18 kms. n of South Bay turnoff

### **Traverse on West End Swain Lake -Thurs August 12**

15U0588600 - last sample W538029

### **Traverse August 14<sup>th</sup>-Leonard Lake-West side (see Map ref.)**

- 15U0508454 - Location #1 - etc.; mafic volcs/fragmental with diss.cubic pyrite  
5681394 (Sample W 538032 taken)
- 15U0508388 - Otc. -mafic volcs.; non-mineralized/no qtz. vng.or shrg.  
5681474
- 15U0508365 - Claim Line #3/Location #3 E-W Location Line/Line Post  
5681719
- 15U0808159 - Line Post @ 576 m. south to #1 Post of Cl. 4229807  
5681864 (Location #4)
- sample @ drill Hole P 04-08 shrg/contact in pyroclastic flows @ N 40E -65 degr. Dip; siliceous w. qtz. eyes/frags;foliation @ NNE

### **Traverse on August 10<sup>th</sup>-Woman Lake-Goodall Twp. Property**

(from west side to n. end Stevens Lk.)

- 15U0518726 - Boat Landing  
5673762
- 15U0519391 - Power line (N-S) on west end Stevens Lake  
5674188
- 15U0519484 - Claim Line on north end Stevens Lk. (Cl.3004807- 400 m. E.  
5674524 of Post #3 )
- 15U0519559 - North end Stevens Lk. @ Au showing- gabbro/rusty diorite  
5674509 @ sample W 538020
- 15U 0519582 - 3 sample taken : center of otc. W 538021  
5674537 (15U0519575/5674549)
- N. side of otc.-2" qtz. vein (prev. sample W538008-Fe stained Gb)
  - S side otc.,-qtz. vn 1-2" in EW direction @2 ribbon Location(blue/red) W538022

**Traverse on Sol D'Or Property** (Shaft and qtz. veining) – August 13/10

- 15U0533225E -old trail/Landing area on Grace Lake (start of trail to north)  
5680400N
- 15U0533153 - Sample W 538009 – Trench #1, Sample #1; wall rx. Hanging  
5680750 wall (n-side)
- 15U0533153 - Sample W538010 ; Tr.#1, Sample#2 – qtz. vein (2") milky  
5680750 white bull qtz.
- 15U0533153 - Sample W 538011 ; Tr.#1, Sample #3 ; footwall acid volcanics  
5680743
- 15U0533106 - Sample W 538012 ; Tr.#2, Sample #1 ; Hangingwall (N-side)  
5680743 acid volcanics
- 15U0533106 - Sample W 538013 ; Tr.#2, Sample #2; qtz. vn. (bull qtz.)  
5680743
- 15U0533111 - Sample W 538014; Tr.#3, Sample #1; hangingwall (N-side)  
5680734 acid volcs. < 1% pyrite content
- 15U0533111 - Sample W 538015; Tr.#3, Sample # 2; c.g.bull qtz. + minor  
5680734 diss. py (<1%)
- 15U0533111 - Sample W538016: Tr.#3, Sample #3; Footwall light grey acid  
5680734 volcs.
- 15U0533098 - Sample W538017: Tr.#4, Sample #1; sil. acid volcs.+diss. py  
5680716 (1-2%, cubic)
- 15U0533098 - Sample W 538018: Tr.#4, Sample #2; acid volcs+qtz. vng.+  
5680716 1-2% py

**Traverse across end of Leonard Lake - Aug. 7<sup>th</sup>/10**

15U0509434E - Shabu Property drill-hole  
5681238N

15U0509088E - BL 0 -north of Boat landing on Leonard lake  
5680900N

15U0507908 - Line Post for #3 Post (800 m. East) on Cl. 3002055  
5679385

15U0508676 - Line Post on road (between #1 and #2 Posts Cl 3002055  
5680636

15U05010640 - # Post of Cl. 3002056  
5680665

15U0509143 - Access Rd. to Leonard Lk.  
5680743

15U0509050 - Line Post for Cl. 3002056 (400 m. East of #4 Post)  
5680720

**BobJo Point Occurrence:**

15U0526217 - Core Racks on Point  
5661125

15U0526234 - Shaft Collar  
5661117

15U0526276 - Main Sulphide Trench- Sample W538030 (Sample#1)  
5661013

15U0526285 - Main Gold Trench - Sample W538031 (Sample #2)  
5661130

**Important Maps for Reconnaissance Work**

Goodall Twp. Prelim. Geology Map P.763

Dent Twp. Prelim. Geology Map P.1059

Confederation Lake - 1;50,000 Topo Series Map 2498 (NTS 52 N/2)

Woman and Narrow Lakes -Prelim. Geology Map 37H (1927)

### **Photo Log – Description for all Pictures**

<b><u>Picture No.</u></b>	<b><u>Description</u></b>
0530	- reviewing the core (Fronteer Development Corp.-2004 Series-8 holes) @ South end Leonard Lk.
0531	- core cross-stacked (8 drill-holes) from Fronteer Dev. Corp. 2004 Program on south end of Leonard Lk.
0532	- same as above
533	- Fronteer Dev. Core-Leonard Lk. camp site; well labeled,stacked;vintage 2003-2004
534	-drill road to Holes P-04-01 to P 04-08
535	- Qtz. veining(micro) along foliation in mafic volc. flows; Rd. showing on Bathurst property
536	- stripped etc.on Car Lake Occurrence; not distinct contacts between volcs/qfp's+x-cut Qtz. veining
537	- main vein +open cut on Car Lake Occur.; note stamp mill on left of cut; 1-2' blue Qtz. vn on f.w.side
538	- extension of Qtz. vn. along main zone @ Car Lk.Occur.(east of shaft); note old pit, shrg., breccia + rusty carb. envelope around Qtz. vng.
539	- multiple sets Qtz. vng.in f.g. gabbro/mafic volcs. in tension fractures/gashes; post depositional to volcs.(Car Lk. Occ.)
540	- lge felsic dike/qfp cross-cuts volcs w. late stage into of bull Qtz. vng. at high angle cutting both units(Car Lk. Occ.)
541	- Shaft @ Car Lk. Occur.;planked/fenced/posted-but partially caved-looking eastward
542	- old mining equip. on car Lk. site;skip'1-ton muckers,hoisting bucket
543	- shrd/stripped mafic volcs flows to east of shaft-rusty,siliceous, carb., mineralized(ankeritic) w. vert dip
544	- same as above (Car Lk. Occur.) note qfp paralleling strike along left of photo+blebs/frags/incl. Qtz vng.+micro-fracts.
545	- variolitic basalts+alt. in massive volc. flows ; note rusty shrg. (<1 ft.) on left+ incl/tension gashes w. Qtz.filling along contacts/selveges/flows-Car Lk. Occur.
546	- Road cut on Sabena (Car Lk. Occur.) +1500 ft. west of main Occur.;note similar hi angle shrd. sil. mafic volc flows(+10 ft. wide)looking west
547	same as above; looking east;blasted/pitted/right angles to main showing
548	- Qtz silica pit; off claims near Corless turnoff off Joyce Rd.(@ 14.5 km.);high-grade silica in contact w. granites
549	same as above; prospecting crew viewing pit/quarry
550	- Qtz. Pit -flooded(looking S.E.)
551	- same as above (looking N.E. from south end quarry)
552	- Qtz. Quarry(looking N.E. from South end quarry)
553	- travel by boat to upper N.W. end Leonard Lake
554	- south end Leonard Lake

- 555 -qtz. breccia in felsic flows at N.W. end Leonard Lk.  
new showing
- 556 - felsic flow in contact w. mafic volc.  
flows/rusty,altered; N.W. end Leonard Lk.
- 557 - sharp contact;note felsic volc, >sil., brittle fract. w.  
micro-qtz. filling@ low angle to contact(N.W. Leonard  
Lk.)
- 558 - same Location as above; lge xenoliths/frags. incorp. w.  
mafic flows; foliated/stretched w. odd x-cutting qtz. vn.
- 559 - otc. ridge on west side Leonard Lk.-moss carpeted  
forest
- 560 - low ground-west side Leonard Lk.-best bush obs. to  
date
- 561 - core shack on Joyce Rd.-(Sabena Silver Res.)
- 562 - Kabeelo's Beaver aircraft-pre-Sol D'Or traverse
- 563 - Kabeelo's(Billiken) Cabin; "Geological Support Office"
- 564 - Sol D'Or Shaft - rehabilitated w. mine muck, vent pipe
- 565 - Sol D'Or Mine area;overgrowth around mine area;  
tr/otcs. covered or overgrown; buildings gone
- 566 - Sol D'Or Mine dump: waste and ore from U.G.  
Workings(+20 high)
- 567 - Sol D'Or Mine area; scrap pile(track/steel)
- 568 - same as above
- 569 - Sol D'Or Mine area: rock dump note qtz. vn+wall rock  
(ore?)
- 570 - Sol D'Or Mine; brecc. qtz vng.in otc exposure w.  
tourmaline along contacts+qtz. intermixed in sil.  
and/dacitic rock to acid volcs(N. side hangingwall)
- 571 - same as above; sil. acid volcs. along qtz. vng./slightly  
rusty/ankeritic look
- 572 - qtz/sil.acid volcs.along strike to Sol D'Or Mine(Vn. to  
west)
- 573 - 2-5"qtz. vng. along strike to shaft area(to West)
- 574 - close-up of qtz.vng.;brecc./fract.volcs. w. qtz. vng.  
intruding into wall rx.(slight bluish caste-secondary  
qtz. vng.?)
- 575 - Sol D'Or qtz. vng.-similar to last picture;brecc/fract.  
filling w. qtz.
- 576 - Sol D'Or Mine area;qtz.vng. width inconsistent along  
strike ; some location as above;close to minor qtz.  
frac. Filling
- 577 - Sol D'Or Mine area; (not focused) NOTE:  
brush/overgrowth in old trenches
- 578 - Sol D'Or Mine area; second growth in tr./pits/along  
trail to lake-requires re-cutting, clearing fro property  
sampling
- 579 - Sol D'Or Mine; typical qtz. vng in trenches;bluish tinge  
to white qtz. tourmaline+diss. minor py-likely  
sphal./Pb/Ag/as accessory minerals
- 580 - Sol D'Or Mine area; qtz. vein almost vert.in contact  
with sil. acid volcs.;some shrg./foliation in qtz. vng.
- 581 - Sol D'Or Mine area; narrow qtz. vn.(3-6") mainly bull

qtz. w. tourmaline inclusions/along contacts w. mafic  
volcs. flows(shrd./brecc.)

- 582 - Woman Lake Camp; true Bachelors working after long  
day in the field
- 583 - East side MacDonald Lk. (Goodall prop.) qtz. vn. (2-3")  
brecc. mafic volc. flows
- 584 - qtz. breccia in mafic flows-MacDonald Lk.-Goodall  
prospect
- 585 - Bobjo Point Occurrence; core racks from 2007 Series  
drilling
- 586 - Bobjo Point; core racks; same as above
- 587 - Bobjo Point; refuse pile + stripped etc.
- 588 - Bobjo Point; view to south of stripped etc. area
- 589 - Bobjo Point; rusty variolitic basalts near unconformity  
contact with porphyritic andesites
- 590 - Bobjo Point; mafic (Lamp.) dike x-cutting variolitic  
basalt flows
- 591 - Bobjo Point; view to north along unconf. Contact cut by  
qtz, vng. + micro-fracturing (tension fracture filling)
- 592 - Bobjo Point; Main qtz. vein/Main Zone looking s.w.;  
hi-grade pit
- 593 - mafic frags. in qtz. vng. @ hi-grade showing-qtz.  
ankerite
- 593 - Bobjo Point; mafic frags. in qtz/carb. vng./pit looking  
N.W.; note series of qtz. vns dipping 45 to N.E. into  
Trench Zone
- 594 - Bobjo Point; 3 left over fuel drums @ shaft area
- 595 - Bobjo Point Area; looking S.E. across stripped area
- 596 - Bobjo Point area; looking east from Main tr. area towards Lost Bay
- 597 - Bobjo Point; panoramic view from last picture; flat qtz. vng. on  
surface cuts into main shaft area
- 598 - Bobjo Point; panoramic view of main shaft area + Min. zone
- 599 - Travel to N+W end Leonard Lk.-trail to core/s.e. Leonard Lk.
- 600 - core in clearing at s. end Leonard Lk.
- 601 - Leonard Lk. traverse; inspect rock from etc. on west side Leonard  
Lk.
- 602 - West side Leonard Lk.; old trenching in o.b. (overgrown/water filled)
- 603 - West side Leonard Lk.; lot of windfall along ridge tops; etc. exp. poor
- 604 - West side Leonard Lk.; windfall and poor exposure
- 605 - West side Leonard Lake; porph. sil. andesite/dacite volcs., massive  
with minor tension fractures/qtz filling/alt. along fractures/foliation
- 606 - Fish Pictures
- 607 - fish pictures
- 608 - fish pictures
- 609 - fish pictures
- 610 - Car Lake Mine; old steam Jenny @ mine site
- 611 - Car Lake Mine; brecc. fracture mafic volc. flows w.  
inclusions/xenoliths of qfp x-cutting foliation
- 612 - Car Lake Mine; channel sampling of rusty mafic volc. + qtz. + felsite dike  
paralleling qtz. vn; note X-cut lamp. dike truncates qtz. vng.
- 613 - Car Lake Mine; old pit x-cut the sil. qtz. vein + shrd ankeritic mafic  
volcs. + qfp (east end stripped area)

- 614 - sharp contact with qfp+mafic volcs.+qtz. vng.; note foliation in mafic volcs @low angle to contact
- 615 - QFP in trench; intrude into mafic volcs.;looking west on Car Lk. Mine;looking west on east end trenching
- 616 - Car Lake Mine: shrd., foliated mafic volcs. w. boudinaged qtz. vng all thru, parallel to foliation; almost vertical
- 617 - Car Lake stripping; shrd. ankerite qtz. vng.in shrd. mafic volcs. +oddfelsite dike/mafic dike (on west end onroad cut)
- 618 - Car Lake Mine: looking west on west side Joyce Rd.; shrd. rusty ankeritic mafic flows w. qtz, vng. intruded into shrd/blocky/brecc. volcs.
- 619 - Car Lake Occur.: note erratic size to pillowed volcs. w. rusty ankeritic inclusion in upper right of picture;lot qtz. carb. fracture filling around/thru pillows
- 620 - sample for sanalysis; qtz. breccia with massive sulphides ( black smoker ?)
- 621 - Sample for analysis; from silica quarry
- 622 - smokey blue qtz. from Car Lake Mine main open cut where high-grade was mined



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## BIG BEAR PROJECT MEMO

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TO: STEVE RIX  
FROM: BRIAN NEWTON, JOHN ARCHIBALD  
SUBJECT: PROJECT UPDATE  
DATE: AUGUST 20, 2010

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The preliminary field program has just been completed. The crews were mobed out of the filed yesterday. A first draft report of their activities is expected to be completed over the next week or so. As outlined in the original work proposal this program consisted of the following:

Reconnaissance prospecting and sampling of showings and trenched areas found on the properties. Focus was on areas of historical work that indicated. They were systematically sampled, GPS'd and general geological descriptions of the rock types were taken using field notes. Any physiological features, structural features and claim lines/claim posts were noted and GPS'd as well

The following are the preliminary observations and comments from the field that outline their findings.

### General Observations

- The best property with the most interesting geological structure or potential of the three would be the Sol D'Or property due to its historical work (obs. numerous qtz. vein/tension gashes, old shaft (filled-in) and a reasonable amount of infrastructure and work previously carried out on it; the veining is narrow(sub-meter) but is en-echelon and carries for some hundreds of meters along strike; the geology is interesting in that there are several contact zones and differing types of units coming into contact (volcanics/granites and meta-sediments such as conglomerates at the juncture) where the good veining occurs.
- The area needs to be mapped in further detail, stripped/cleaned and properly sampled with control lines cut over the previous work area. Access is by boat or floatplane but there is an outpost camp on the lake as well as the possibility of boat/motor rental locally. More time is required to prospect the areas around the known veining and to the east and west along strike. The historical geology map indicates a mix of Diorites/gabbros, granites, tuffaceous fragmentals, mafic volcanics and possibly quartzites?; the west end of this property is boat accessible but hard to walk due to tree windfall and old growth.

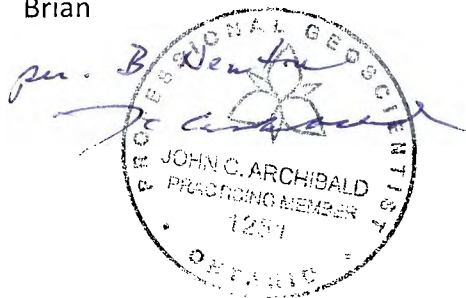
- The potential for py-po VMS type mineralization is possible since this was found west of here by Noramco/Teck in the past and pyroxenite/gabbro intrusives were observed intruding into the mafic flows.
- The next property of interest would be the Shabu Lake/Leonard Lake property; although access is poor and rock outcrops fairly hard to find as one traverses to the north around the lakes, rock outcrops are visible with contacts/lineation oriented in a N.W.-S.E. direction.
- A new find of quartz breccia near a mafic/felsic contact at the N.W. end of Leonard lake shows potential for this unit to widen/extend up towards Shabu Lake. More prospecting will be required and the bush is not that onerous (less blow-down obstructions.). A trip into Shabu Lake where there is a Cabin (Green's Fly-in Outpost Camps) and a boat available to do the reconnaissance around the lake is required. The field crew not make it in this round due to some very severe weather that restricted flying for several days. More geological exposures may be available beyond what was already observed along the drill-road up from the Joyce road to the west side of Leonard Lake. There was a cross-section of int.-mafic volcanic flows and some tuffaceous inter-flows between Intermediate volcanics and rhyolitic phases. The contact with the sediments to the northeast was not observed. Several more days of reconnaissance exploration are required to assess the northwest corner of the property around Shabu Lake.
- The smallest property and most disappointing was the Goodall group in the central part of the belt; It can be accessed by boat from either the west or east side with a +500 to 700 metre walk in from the lakeshore.
- Outcrop exposures are prevalent around the lakeshore on both Stevens and MacDonald Lake, but showings are hard to find. Historic work indicated veining systems. The quartz veining we found was very minor and consisted of 1-2" wide narrow veins in mainly mafic andesites to dacitic pillowed volcanic.
- Minimal structure was observed. Abundant intrusive material such as quartz intrusive feldspar porphyries were seen and samples looked poorly mineralized, although some people have reported high-grade grab samples from this area as reported in older reports on the property. The trenches are poorly defined and filled with refuse. The power line crosses the property in a north-south direction over the western end of Stevens Lake. The line is non-functioning, but the high tension lines are still strung up through the trees and most posts are still standing.
- After reviewing several of the known showings/occurrences in the immediate area as a comparison, one has to note several common characteristics. Both the Car Lake and Bobjo have far more exposure of quartz with mineralized quartz veining cross-cutting their geological units. Both have lamprophyre dikes cross-cutting the deposits. Both have gabbroic intrusive material intruding into the system. Both have altered to sugary/smokey quartz close to or where the high grade gold exists. Both have weak structural features associated with their deposits (gen. E-W veining, some shearing along mafic contacts, stretching of pillowed volcanics, multiple quartz slashes (tension fracture filling) quartz feldspar porphyry close to or along main

contacts, some alteration and silification / sericitization observed. The Bobjo mineralized quartz veining is close to the mafic/unconformity between interflow units, and they both have the smoky blue quartz with finely diss. pyrite mineralization in their main production veins in common.

- The most intriguing factors on these three properties are their association/relationship to the Swain Lake deformation zone which trends east-west across the top end of Swain and Woman Lakes over to Shabu Lake which follows the general trend of the volcanic/sedimentary contact between the major units. In certain places py-po mineralization has been observed with base metal potential and possibly gold. Especially if the movement along the contacts has created tension fractures or voids that could have been filled with late stage hydrothermal mineralizing fluids and quartz, quartz breccias and quartz feldspar porphyries - these would be ideal units to prospect for and sample any that appear mineralized.
- Approximately 45 samples were collected during this program and sent out for analysis at a qualified lab (Act Lab) in Thunder Bay with gold determinations (Fire assay with an AA Finish) and a number of samples in for multi-element determinations including gold, silver, zinc, nickel, cobalt, lead, copper, platinum and palladium and in some cases rare-earth elements

John is presently working on the answers to you questions from the other day. They will be submitted shortly.

Brian



**Big Bear Resources****Oct. 12-15<sup>th</sup>, 2010.****Sol d'Or Property/ Goodal Property/ Shabu Property****District of Red Lake, Ontario****SUMMARY**

John C. Archibald, P.Geo., and Brian Newton, P.Geo. travelled to the project site from Oct. 12-15<sup>th</sup>, 2010 in order to show the client (Steve Rix, Pres. and John Glascock, Pr. Geol.) the three properties belonging to Big Bear Resources.

During the author's visit to the property, a number of strategic samples were taken from outcrop exposures on and along strike to the quartz vein mineralization on the Sol d'Or property. The sampling was used to re-affirm the analytical results from past geological reconnaissance survey that was done over the subject property during the summer (August, 2010). Included in this report is a location plan for the four veins outlined over the Shaft area of the property.

The claims are held in good standing by Perry English, the Optionor for the property, and the legal entity on title with the Ministry of Northern Development and Mines for Ontario.

There are no known environmental liabilities or public hazards associated with this property as indicated by the property visit and public archive information. Work permits are only required when diamond drilling or heavy equipment mechanical work is contemplated.

The author feels that the sampling program determined that the main showing hosts a series of en-echelon quartz veins intercalated with the intermediate and felsic volcanic units that may in fact carry for kilometers in strike length and ultimately join up at some point underground close to or within the Swain Lake Deformation Zone which resides just north of the property in a line that separates the volcanic units within the boundaries of the property with the younger sedimentary and granitic intrusive units to the north of this contact.

**PROPERTY DESCRIPTION AND LOCATION**

The Sol d'Or property is located due east of the town of Red Lake, Ontario, at a point roughly 90 kilometres by air. The claim group is comprised of ..... un-patented mining claims of roughly four, square kilometres each, for more than 7,231 acres.

The site is accessible by float-plane or helicopter in the summer months and skidoo or helicopter in the winter months. Red Lake is accessible by commercial flights on a daily basis or by air charter services from Winnipeg or Thunder Bay, Ontario and by local float plane from Ear Falls or Red Lake through the many outdoor fishing outfitters and camps that dot the area.

## **PROPERTY STATUS**

The claims are held in good standing at the writing of this report and are registered in the name of Perry English and are illustrated in Fig. 4 in this report. A list of the claims are also shown in Table 1 in this report along with the acreage, NTS reference, Recording and Expiry dates and work requirements per year in dollar amounts. The estimated assessment credits are due by September 30, 2009 in the amount of **\$28,924** in order to keep the claims (ZAC 1, 2 and 3) in good standing for the upcoming year.

A standard property option agreement exists between Marcelle Hauseux and Mr. Norman Brewster giving the Mr. Brewster 100% ownership in the property for annual work commitments and a planned program of exploration.

There are no environmental liabilities or known public hazards that exists on the property under the present Option Agreement and if any hazards are left on the property by the optionee then they are deemed responsible for cleaning up such spills or hazards as they occur at the optionee's expense. The author notes that 'Notice of Work' permits or 'Notification of Exploration' is required to be submitted to the Mineral Resource Division of the Indian and Northern Affairs Canada offices in Nunavut prior to commencing any ground work in the area.

## **ACCESS, CLIMATE AND PHYSIOGRAPHY**

The Victory Lake property is located approximately 175 kilometres due west of the town of Rankin Inlet in Nunavut in the District of Kivalliq. One can access the property by float-plane to Victory Lake or numerous other sizeable lakes in the area or by helicopter directly onto the property. Winter access is by snow-machine or by helicopter but due to the winds and inhospitable weather conditions this is not advisable. There are a number of motels, hotels, and tourist operators in the Baker Lake and Rankin Inlet area that have both summer and winter accommodation. There is also a fishing Lodge operator with two cabins located at the outflow of Kaminuriaq Lake approximately 10 kilometres from the ZAC claim group which could be used in the summer months as a staging point for exploration.

The topographic features and vegetation on the property is generally low, rolling hills of less than 100 metres in height with outcrop only visible along the ridges. There is no tree cover of any kind with low muskeg, lichens and meager grasses covering the lower wetland areas. Approximately 70% of the land area of the property is covered by overburden consisting of glacial tills, boulders and gravels. Approximately 30% of the property is underlain by water from small lakes, rivers, and minor creek drainages. The largest lake in the area is Victory Lake that abuts the western edge of the property and extends northwest to southeasterly for roughly ten kilometers by five kilometers wide. The few outcrop areas are generally common on the higher points such as ridges and hill-tops with a thin mantle of boulder and gravels covering the lower relief areas.

The climate is typical of the western Hudson Bay area with a continental climate consisting of warm to summers and frigid arctic winters. Precipitation is typically in the 25-75 centimetres per year range although some summers can be dry. The lack of

vegetation reduces the risk of fire hazards for working.

### **Rock Types**

The samples were bagged, tagged, written up on assay tickets and ultimately shipped to an accredited lab in Toronto, Canada (SGS Labs). The results showed very close relationships to the previous sampling program and the grades were significant (see Table 6 in Appendices) as values as high as 2.96% Cu, 6.59% Pb, 21.8% Zn, 3.5 gms./ton Au and >300 gms./ton Ag were reported. The high zinc value was taken close to/at a point where previous sampling indicated similar high zinc values from grab sampling. The consistency of the high-grade values determined from this sampling program taken independently of the previous sampling indicates there's a lot of potential in this area especially for the fact that the zone(s) continue for over 1700 metres in strike length, have similar geological characteristics and appear close to the intrusive gabbro contact lying just north of the sulphide exposures. This may indicate a potential resource target(s) lying along this contact or down dip under the hanging-wall of this gabbroic intrusion.

The sampling during the reconnaissance field sampling trip made by the author to the Zac group of claims produced 24 samples that were analyzed for various VMS-style base metal elements including zinc, lead, silver, copper and gold. The sampling was conducted over a wide section of the zones previously mapped on the property and in close previous samples were taken (often aluminum tags were visible at positions where samples were taken along the trenching/pitting years after the sample team had last visited the property). Although the analytical numbers were not exact, the relative numbers were close in value of similar elements (see Table 6 in Appendices). This supports the reproducibility of the values and verifies that the property has significant values in these elements. Due to the discontinuity of some of the surface trenches and outcrop exposures, it could not be ascertained whether these mineralized systems were in fact one or several en-echelon mineralized systems. Further trenching and subsurface investigation will have to be made to prove this out.

The past airborne geophysics, carried out over the property, indicated several strong conductors coincident with mineralization and geological contacts on the property. The ground surveys also came up with similar linear conductors (HLEM) but the Magnetometer work seemed to be the least effective tool in finding conductors and anomalous targets. The Gravity survey was a qualified success but only 6.1 kilometres was run over the two main showings and yet several large gravity targets were indicated lying northeast of the surface expressions of the mineralization. Diamond drilling was never carried out to test a number of these zones and targets at depth.

Closer attention should be placed on the structural control for any mineralization. With this in mind, additional detailed geological mapping, sampling, surface stripping and



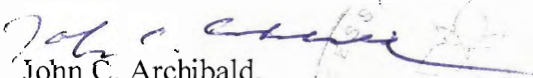
trenching is required along strike to some of the structural features and mineralized zones. The detailed mapping should also include digitizing all the exploration data, re-establishing the old survey grid (lines and pickets are still standing but numbers are obliterated) including GPS coordinates of all baseline stations and cross lines; GPS surveying the existing surface trenches and sample locations for precision and accuracy; detailed I.P. and gravity work beyond the scope of the last program to pick up on any extensions of the conductors and mineralization; and once diamond drilling is done, carry out a down-hole geophysical survey for a closer interpretation of the conductors and sulphide mineralization at depth. A proper mineral lineation survey will also assist in determining the correct plunge and rake to any of the existing mineralized zones on surface.

For better efficiency, this work should be carried out during the summer months when snow doesn't hinder the mapping and trenching program and weather conditions are far more hospitable.

Contingent on the surface trenching, sampling, mapping and ground geophysical programs being successful, and if the findings of the Phase 1 indicate a number of first class drill targets, diamond drilling of at least 10,000 feet will be required to test the structures and mineralized zones to depth.

At some point in the future, a larger regional exploration program should be conducted along the unconformable horizon to determine if there are mineralized occurrences along strike to the known mineralized zones. This will require a larger expenditure and the use of detailed ground geophysics due to the poor bedrock exposure on surface. Previously, the surface geological mapping was limited thus geophysics and drilling will be the primary tools for exploring for the Zn-Pb-Cu-Ag-Au mineralization.

Respectfully submitted,



John C. Archibald,  
Honours, B.Sc., P.Geo.  
Toronto, Canada  
Oct. 15, 2010.

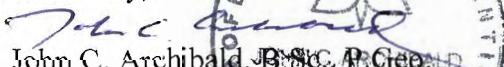
## Phase II Program

1. 10,000 ft. of diamond drilling to test a number of geophysical and geological targets on the property:  
     10,000 ft. @\$0.35/foot (Approx. \$120/m.).....\$ 350,000.00  
     Mob/Demob of Drill/men/supplies.....\$ 50,000.00
  2. Logging, sampling the core:  
     2 men \$750/day x 2 months.....\$ 45,000.00
  3. Analysis of the samples/core:  
     Approximately 500 samples @ \$40/sample.....\$ 20,000.00
  4. Shipment of samples to the Lab.....\$ 5,000.00
  5. Work and site expenses:  
     Local room and Board: 2 mo. x 2 men @ \$300/day/man.....\$ 36,000.00  
     Local travel, gas, fuel, supplies.....\$ 14,000.00
  6. Helicopter and Fixed wing support:  
     2 months charter of helicopter @ 3 hr. min/day x 60 days.....\$ 324,000.00  
     Jet A Fuel: 2.5 /day x \$800/brl. x 60 days.....\$ 130,000.00
  7. Office support, overhead, accounting, supplies.....\$ 15,000.00
  8. Engineering, supervision, travel etc.....\$ 50,000.00
- Sub-total of the above program.....\$ **989,000.00**  
 10% Contingency on the above expenses.....\$ **98,900.00**

Total for the Phase II Program .....\$ **1,087,900.00**

Total for Phase I + II .....\$ **1,563,650.00**

Submitted by,

  
 John C. Archibald, B.Sc., P. Geo.  
 Toronto, Ontario  
 Sept. 15, 2009.



**Memo to Brian Newton:**

**Trip to Red Lake to view the three Big Bear properties from Oct. 12-15<sup>th</sup>, 2010**

- accompanied Steve Rix (Pres./Director) and John Glascock (Geologist/Director) of Wyoming
- left Winnipeg at approx. 11:30 a.m.(Oct. 12) to Red Lake by SUV vehicle
- stopped in Kenora, Ont. for lunch + to pick up geological sampling gear and bags
- arrived in Red Lake at 6 p.m. and checked in to Norseman Motel;
- phoned Green's Airways to confirm flight for next days trip
- up at 7 a.m.(Oct. 13<sup>th</sup>) to Green's by 9 a.m. for flight to Sol d'Or property (9 claims)
- viewed the 4 vein systems and shaft/ waste rock area from 10-1 p.m.including on-site discussions and sampling of the veins
- flew over the Goodall (3 claim) property and viewed MacDonald Lake/Stevens Lake area-took aerial photos
- flew next over the Shabu Lake/Leonard Lake property (14 Claims) to view the claims from the air and took photos (hunters in the camp on Shabu Lk.)
- arrived back in Red Lake approx. 3 p.m., stopped for a takeout lunch and proceeded by vehicle to the Leonard Lake (core) and Car Lake Occurrences
- arrived at core site set-up at 4:30 p.m. viewed core in racks and took pictures and one sample(conglomerates)
- drove to Car Lake Occurrence and viewed the washed and sampled outcrops; discussed the geological aspects of the site and proximity and relevance to the Big Bear property (Shabu Lk.Gp.)
- returned to Red Lake and arrived at 8 p.m. for late dinner
- had discussion in SUV about the days findings and potential of the properties
- up at 6 a.m.(Oct. 14) for return trip to Winnipeg (arrived 12:30 p.m.) for changed flight plan (2 p.m. take-off for Steve R and John G.)
- Brian and John A. changed flight for 4 p.m. departure to Toronto-Arrived at 7:30 p.m.

**Recommendations/Findings**

- pleasantly surprised by the good weather and ease of viewing on the Sol d'Or property
- discussion of the potential, possibility of further veins along strike and north of the existing workings, values in gold that were encountered, the lack of extensive work and geological evidence of a large mineralized system, the proximity of the Swain Lake deformation zone to the north and its effects, the possible use of linecutting, ground mag, Max-Min E.M. geophysics in the late winter (since the Labine winter road will pass close to the site and access is relatively cheap and do-able without requiring extensive camp planning, mob-demobilization etc.),

discussion of side scan Mag to find structure within an airborne survey over the property

- discussion of the Goodall property which resulted in poor/no follow-up to the summer program unless some other "new" evidence is found to promote the ground
- view of the Leonard Lake/Shabu property especially after seeing the Car Lake Occurrence first hand lent itself to a possible extension of this mineralization up and across the lower southwest side of the Shabu ground or repeats of the structure sub-parallelizing the Car Lake; the geology, structure, shearing, alteration, intrusive rock units all lend credence to deep seated structural influences to this showing and the Shabu Gp.; the view of the core at Leonard Lake showed some units were not even sampled or were sampled for geochemical reasons rather than structural/qtz.veining; this opened the next stage to linecutting, airborne side-scan magnetic survey, ground geophysics(Max-Min and Mag., surveys) and more detailed ground prospecting/sampling along the unconformity between the volcanics and sediments(north end Leonard Lake and Shabu Lakes) with a program starting in the winter months and ending in prospecting during the warmer summer months
- keeping the claims in good standing by filing the summer work program to the MNDM
- **follow-up:** on looking for additional data on the Car Lake Deposit from Sabena Silver and potentially enquiring as to its status (for possible Option)
- looking for other prospects in the immediate area or in the Red Lake camp to option for the client and its ongoing exploration
- keeping the client informed on the findings, regular discussions on the project and provide analytical data from the sampling
- recommending the next stages of exploration on the three groups
- following up with Jack Green on his data portfolio (providing copies to John Glascock) and returning same to Green's office; follow-up of his mention of three groups of patent claims available in the Red Lake Camp ( 1.- the Fairly Twp. group of 5 claims; 2. - the Slate Lake group to 20 claims ; 3. - the claim available west of Mega's deep drill program called the McManus claim); sending copies of the Fronteer Dev. Reports to John G. for viewing

Respectfully submitted,

John Archibald

**Items for discussion- Shabu/Shabumeni-Goodall Expl. Program**

- new airborne survey over the area covering the three claim groups – approx. cost @ \$120/line km.
- Room/Board at Kabeelo's Lodge - @ \$92.50/man/day American Plan
- 4 X 4 vehicle for ground support @ \$1250/mo. rental rate + kilometers
- lodge is 60 kms. N.E. of Ear Falls (closest town/support services-gas, food, repairs etc.)
- fly-in and outpost cabins available through Kabeelo's or Woman Lake Lodge near Kabeelo's
- helpers and staker/line cutter available locally at \$200-250/day
- boats, motors available locally
- drilling crew available locally @\$85/metre all in for drilling (ie. Magnusson Drilling Th. Bay; Mallette drilling-Kenora; CorePro Drilling, Dryden)
- Discovery Geophysics available from Winnipeg, Man.
- Air service available to Red Lake, Dryden from Th. Bay, Winnipeg
- Drive to Lodge from TH. Bay approx. 5.5 hrs., from Winnipeg 4.5 hrs.
- Closest Resident's Geol. Office Red Lake (office for this area), Kenora, Ont., or Th. Bay, Ont.
- Closest Lab facility is SGS in Red Lake; otherwise Accurassay in Th. Bay; Act Labs in Th. Bay at competitive rates; Manitoulin or Gardewein Transport will pick up in Ear Falls at their depot

## **Big Bear Resources- Significance and Work Recommendations**

as of June 3, 2010.

**N.E. Group** (Sol D'Or Mine Area Claims- Shabumeni Lake Area which covers Swain and Grace Lake Gold Occurrences and Reports)

### General Comments

First five maps/plates are good for general discussions and location and are self-explanatory and color coded; a few comments for discussion below:

- all properties are covered by several major unconformities (see Regional Geology Map-Ref. Sandborn-Barrie and is underlain by three phases of volcanism from the Confederation and Balmer series metavolcanics similar to Red Lake geology)

Note : Regional geology map shows yellow dots (gold Occur.??- see pg.6)

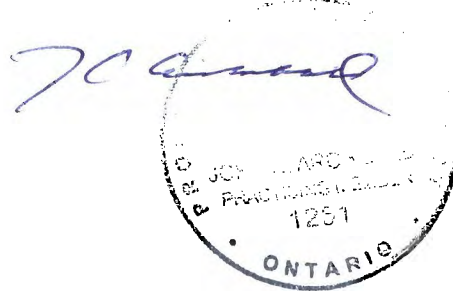
- Regional Map #2 has yellow dots and Ident. Letter- add legend (star is deposit/past producer, dot is gold occurrence but show references on same page if possible) (combine pgs. 7 + 8)
- Regional Mag Map (Pg.9) shows major unconformity (Def. Zone) between the volcs. south of the Swain Lk. Def. and the volcs. on the north side; Goodall claims straddle major fault lineament trending north-south; Shabu claims cover western extension of same major fault/unconformity
- Regional Derivative Air Mag surveys defines areas of high magnetic content (likely BIF zones) and potential Keating coefficient targets for potential diamond pipes (pg.10) in relation to the subject's property
  - Airborne EM Survey in ref. to subject property, shows EM linears in relation to major faulting/deformation/unconformities;  
Note eastern portion has been filtered but faulting does coincide with EM Conductors (good expl. target areas)
  - Page 13 has detailed Geology of Shabu Area claims but yellow dot is not referenced in the legend (likely work areas or D.H. done on property)
  - Page 14 is good-Mag Intensity over the N.W. Claim group identifies a number of High Magnetic targets (likely UM to Mafic Intrusions)
  - Same with Page 15 with Vertical Mag Derivatives-several BIF's likely as well as several discrete Mag highs (intrusive circular bodies)
  - Sol D'Or Mine area (pg. 20) shows concentrations of yellow dots where previous work has been done-trends appear to be located near/on contacts and in qtz. diorites but not on/in the major deformation/fault zones
  - Total Mag Intensity Map shows gold Occurrences close to/around high mag intensity areas or where units deformed/faulted
  - Same with Central Gp.(Goodall Claims); high Mag intensity and EM corresponds to geological contacts/boundaries and linear faults; Note further ground work needed to precisely define these units/contacts and linears
  - Ground mapping and geophysics will give better controls on the relationship to the gold emplacement and the underlying geological units and mapping the gold occurrences to the structural features (which are likely late stage) will likely show that structure rather than geology plays a larger role in the gold mineralization (and will be a better guide as to where to look laterally for other economic potential)



### **General Exploration Work Recommendations**

(based on the geological/geophysical/geochem. Information found in the Assessment/Gov't files)

- Produce base maps for each of the property areas at a working/field scale
- Accurately GPS the corner posts of the claims (all three groups) to be sure of the claim location in the field
- Find the best surface route into each of the three groups (preferably by road, trail, boat versus fly-in to save exploration funds)
- Cut and grid each claim group in order to tie in geology, geophysics, mapping and mineralized occurrences; use GPS to tie all features in on the base maps/plans
- Map topographic features, geology and sample each property; also tie in any results with GPS coordinates
- Determine if ground geophysics is warranted at this time to fill in some of the airborne survey data at a more detailed scale; additional airborne geophysics may be contemplated if gaps/previous data cannot be re-interpreted (some databases are available from the MNDM that can be purchased and interpreted beyond what is available from the assessment files presently)
- Determine if ground coverage/overburden coverage warrants a soil geochemical program at this time
- Carry out a detailed sampling (incl. stripping, trenching, backhoe program over some of the mineralized zones) for better exposure and interpretation
- From the above information and assay results determine if diamond drilling is warranted on some of the past/new showings uncovered in the first phase program covering each of the three claim groups; note that some of the areas are covered by swamps and lakes and this may necessitate winter drilling to test a number of the target areas
- Depending on the Company's budget, the diamond drilling may go into a detailed/systematic step-out phase if sufficient economic potential and assay results warrant it
- Each of the above recommendations for work can be priced and placed into a 2-3 phase field budget for the client and work going forward will depend on the Company's budget at the time



**Big Bear Resources- Report References** (List taken from Flash Drive and CD Disk)

**\*\*** - Denotes client's property covered (or partially covered) by this report  
Numbered (1., 2., 3., etc.) represents List of Reports on File covering subject's claims

1. **Rpt. on Airborne Mag** -Kidd Creek Mines by Questor Surveys Dec/85 - M.W. Zang;  
Satterly and Shabumeni Lks.covers parts of clms. 720355-357, 794, 328-344...etc.  
**Ref. File # 2.8728**  
Note: to the N.E. of Sol d'or Property
2. **\*\* Line Cutting, Gd. Geophysics** (Mag-Fluxgate) on Swain Lk. Property- Sherritt Gordon  
Mines Project 1243 - 1980 by Rod Kunpett; **Ref. File 2.4096** ; note: covers Sol d'or Property
3. **\*\* Magnetometer Survey-Swain Lake Property**; Sherritt-Gordon Mines; Oct. 21/81 by  
D.Clement : Map sheet M-2665 NTS 52N-7-SE; **File # 2.4225** ; impinges on west side of  
present claim Gp.
4. **\*\* Geology Report on Grace Lake Claims-** Sherritt Gordon Mines by Rand Hodgson,  
Aug. /85 NTS 52 N 07; **Ref. # 2.8396** -Yes near Grace Lk./East-central side of property
5. **Report on Airborne Mag Survey** - Kidd Creek Mines : NTS 52-N-8 Dec./85 by M.W.  
Zang; **Ref. File # 2.8728** ; just north of present property
6. **\*\* Expl. of Sol D'or Property-E.M. Survey;Geol. Mapping, Mag + EM, Geochem.,  
Surficial Geology** by Jim Tilsley for Parflo Mines +Energy Corp.; 1986-88 pages (Ref.  
63.2035)  
**Ref. File # 2.9998**
7. **\*\* Geophysical Report-Max-Min Horiz.Loop EM** for Kidd Creek Mines by Ray Band,  
Falconbridge, 1987 Hodgson option 19 pgs. NTS 52-N-7; Note was north, west, south of Sol  
D'Or shaft area **Ref. File # 2.10237**
8. **\*\* Geol.+Rock Geochem. Survey**; Goodall Twp. for TASU Res. by Neil Willoughby,  
Black Cliffs Mines Nov. 30, 87; Note was on NE-SW + EW shears-qtz.carb. alt.+1800 ft.  
length; covers our 2 Goodall claims to east; **Ref. File # 2.10703**; note drilling done (ie.  
1959-1 had 15 ft. of 0.046 opt Au; shear Zone was 3800 ft. long X 13 ft. wide with asp/py  
grading 0.02 to 0.2 opt up to 0.54 opt Au  
**Hard Copy Report - \*\* RL1155**-Report on **Geol.Mapping + Sampling** on Goodall  
Property, Nov./88 for Black Cliff Mines by Arpad Farkis (new report on Geology-  
(See Ref.2.10701)  
  
**Hard Copy Report - \*\* I.P Survey Ref. OM88-1-L-150**; Seperate **Report on Geophysics**  
for Black Cliff Mines 52N/SE/2, Oct.88 (see Ref. 2.10701)
9. **Geochem. Survey** by Falconbridge; incl. certs/analyses-19 pgs. May 20/88  
**File Ref. # 2.11500**

10. \*\* Report of 1980 **Expl. of Woman-Washagomis Lks.**, Goodall Twp. by Minorex Ltd. by Dennis Bray; Feb./81 (98 pgs) incl Geol. maps, Sampling, EM Surveys 5 d.d.h +logs (ie. G80-1 had 15 ft. of 0.06 opt Au) values of 0.07 to 3.12 opt across 30 ft. shearing **Ref. # 2.3754**; Note; Covers the Goodall Patents within the Clients property gp.
- **Hard Copy Report - \*\* Rpt on Property Examination-Washigomis Lk.** by R.Swanson Nov. 1985 ; Hagar/Crawford/Hermiston/Swanson covers part of Goodall Gp. (west of patents); note this report has copy of D.H.plan on claims G80-1 to G80-5 plus G80-8 cl. 4214557(41889 ?) see **Minorex Report**
11. \*\* Internal Report by J. Jessop/K.Peden; Memos to Minorex, July 18,81. 14 pgs. Note maps pgs. 11-14; File **Ref. # AFO 2.4176**
- **See Hard Copy Reports \*\* D.D.H. Assessment Filing – Minorex – Goodall Twp.** Feb.8/82 by Denis Bray Holes G 81-6 to G81-13 (1180 ft.) **Ref. KRL 509730** – covers claims 4214557 + 4558 in Goodall Twp.(ref. map M.2164) \*\* **Ref. AFO 2.4176 (RL 1167)**
  - **See Hard Copy Reports-** Minorex Res. **Duplicate of #11**, July 25/81 – Rpt. by Keith Peden, includes logs for G81-6 to G81-12 –covers Goodall Gp. (cl. 4214555, 4557, 4558)
  - **Hard Copy Report - \*\* Rpt on Property Examination-Washigomis Lk.** by R. Swanson Nov. 1985 ; **Ref. RL 1159**
  - Hagar/Crawford/Hermiston/Swanson covers part of Goodall Gp. (west of patents); note this report has copy of D.H.plan on claims G80-1 to G80-5 plus G80-8 Cl. 4214557(41889 ?) see **Minorex- Report RL 1159**
  - **Hard Copy Report -\*\* R.L. 2600**; Geol. Report on Grace Lk. Claims by R.Hodgson; Aug. 19/1985.covers East end of Swain Lake/Shabumeni claim block (Duplicate)
12. \*\* Goodall Area Maps – 4 pages copied from Ref. **File # 2.4336**
13. \*\* Expenses Report for CL. 788475 –NTS 52N-7 by Rand Hodgson, White Pine Res. Nov. 13/85. ; ie. assay costs; covers Grace Lake /Sol d’or Property Ref. **File # 2.8240**
14. **Logistical Report Vertical Gradient Mag and VLF Survey**; St. Joe Mining June/86 by Questor Surveys –80 pgs.(covers area to N.E. Grace Lk. above Sol d’or property) **Ref. File # 2.9268**
15. **Geophysical Surveys of Scott Waldie Property**, Skinner Twp.; Ground Mag + VLF, 1987; File **Ref. # 2.10158** ( Note: SE of client’s NW property in Skinner Twp. below Car Lake)
16. **Report on the A.Mag +VLF-EM Surveys** by Noramco over Shabumeni, Swain, Mosier Lks by Terraquest Ltd. Oct.16/87 in Goodall, Skinner and Honeywell Twps.(-note covers only west side of our Goodall Property) Ref. **File # 2.10520** (Qual. 2.8305)

17. **\*\*Geological Report on the Hodgson Option**, Swain Lk. NTS 52 N/7 by Ray Westerdorp, Falconbridge, Winnipeg, July 15/89; (Note covers D.D. + geol on west side of NE gp.(Sol Dór Property) File **Ref. # 2.11492**
- **Hard Copy Report** -\*\* D.H. Logs HO-1 to HO-6 + BL-1, BL-2 : **Ref. # 2.11492** (RL2468) –WO8902.081B (covers claims 788761+788762 (old #) which today is 1244594, 1244592, 1244641 in the Swain Lk. belt (Sol dór Property)
18. **\*\* Geological Report for the Mosier Lk. Property**; Skinner and Goodall Twp. by M.Stanley, June/88 for Noramco (note: Work is west of Skinner Lk. gp./SE of Shabu Lk. Gp.) File **Ref. # 2.11572** – 103 pgs.
- **Hard Copy Report** \*\* Noramco D.D.H. Logs for holes SH87-03 to SH88-17 by Greenstar Res. on their Shabumeni Lk. Claims (P.1476) (see Geol. rpt. by M. Stanley **Ref. 2.11572**)- covers claims 954746, 955038, 955037, 955042 etc.-old # -**Need the Location Plan for these holes**
19. **\*\* Sol D'or Property-Maple Mtn. Ltd.** by D. Patrie , Sept. 1996; Linecutting and I.P geophys. over Cl. 1143177 (9 units) owned by Jack Greene (Note; min. in fracture zone 350 ft. wide; 6 subparallel qtz. veins 10ft. wide dipping 40-70 deg. NE strikes N70W – tellurides noted) File **Ref. # 2.16803** – 27 pgs.
20. **\*\* Geology, Geochem., Geophysical Rpt. for Fronteer Development**, Robert Falls Dec. 2002 on Portage Property (Skinner, Goodall, and Shabu Lk. Twps.(Note part of surveys cover NSW corner of Shabu Lk. Gp.; noted Fugro survey, certs/analyses included File **Ref. # 2.25014**-188 pgs.
21. **\*\* Drilling Assessment Rpt. on Portage Property** (logs, assays, certs.)- 171 pgs. Mar.3, 2004 by Jeff Wilson for Fronteer Dev. Corp.; Note; Colored Geol Map Pgs. 179-182; File **Ref. # 2.2724**
22. **\*\* Airborne Geophysics Survey**; Falconbridge/Cdn.Aero Program # 9577 – 18 pgs., Oct.13/69. by J. Mekarski; Note covers Washagamis Lk. Area (Note; client's Goodall property) File **Ref. # 63.2789**
23. **\*\* Geology + Geochem** –Part of Birch Lake Project ; Technical Report for Fronteer Dev. Corp.by Allan Montgomery, June 25/02 – 110 pgs. Note; covers Swain E. property File **Ref. # (None Noted)**; maps, plates, geology incl.-does cover our Swain Lk. Property; Text from 12-59 pgs.; certs. fr.60-110 pgs.
- **Hard Copy Report** -\*\* **Geotech. Rpt. on 2004 Geophysics-Swain Lk. East Property** (Sol d'or Mine Area)for Fronteer Dev. Gp.by Rick Valenta, Mar.31/2004 **Ref. 2.277475** (RL2284) **See #23 + #26** (Covers Sol dór Property)
- **See hard Copy Reports** - \*\* **Ref. 63.2789 / Ref. 63.2716 (Duplicate #22) Airborne Geophysical Survey** –Swain Lk. Area Cdn. Aero forVanco/Falconbridge Project 9577; RL 2670 b J. Mekarski Dec.22/69; covers Shabumeni Lk.area S. of Swain Lk.

24. **\*\* Report for Gerry Strilchuk**; hand written Prospectors assess report; Skinner Twp. property; Prosp./stripping/blasting/sampling/assays; Note: lots of grab samples fr. 0.06-0.345 opt; 58 pgs. incl. assay certs.; Note: see areas '8', Area 'A', Area 2/Section 4/5; File Ref. # **OP 93-017**
25. **Reconnaissance Prospecting** on Swain Lk. Gold/Base Metal Prospect by Rand Hodgson (17 pgs.) June 12, 1998.; Phys. Work Report May 14/97; Not on subject property-noted discontinuity/unconformity/fault breccias between felsic pyroclastics and mafic volcs. with avg. 0.05 opt over 35 ft.; highest value 0.222 and 0.149 opt Au  
File Ref. # **2.17995**
- \*\* Geochem. Assessment Rpt.** for Fronteer Dev. Corp. on Portage Property by Richard Valenta, Mar.3/04 (155 pgs.); note that this covers portion of clients property  
File Ref. # **2.27325**
- \*\* Airborne Mag, EM and Gamma Ray Spec.** by Cdn. Aero Min. Surveys; Oct.10/69 by J. Mekarski; Note this report covers Swain Lk. + property to south (subject's ground); see Maps pgs.14-20; File Ref. # **63.2716**; covers map Sheet M 2665
26. **Interim Operational Rpt.** of Geophys. Surveys on Bathurst Lk. Properties for Eastmont Mines Ltd., by W.Barclay, Apr. 27/87.(36 pgs.); Mag/VLF Surveys  
File Ref. # **29991**
27. **Hand Written Prosp. Report** (for assessment wk) Skinner Twp.; see Gerry Strilchuk prev. Report (# 24); (36 pgs.) Jan. 4/93; Note; covers around/East of Car Lake (S.E. of subject's property in Shabu Lk. Area)

Note: Single snaps (PDF's) on Disk (64 pictures/plates in all)

**Pictures 1-25** are Maps, plans, plates for Black Cliff Res.Report (see Item #8; **File # 2.10703** by Neil Willoughby, Nov. 30/87 Report incl. maps, plates, geol. Mag, I.P.

**Pictures 26-29** Geol. of Swain Lk. Area (N+ S of Lake) by Vanco Expl.

**Pictures 30-31** Goodall blueprint (Claim Map)+ Goodall/Washagamis Lk. Sampling Map (clients area covered)

**Pictures 32-35** Mag Survey Maps for North and South of Swain Lake areas (clients area covered)

**Picture 36** – Shabumeni Lk. Area for Noramco's work (see File Ref. **2.10520**)

**Picture 37-40** SP Survey North and South of Swain Lk. by Vanco Expl.(covers clients property)

**Picture 41-** Swain Lk. Airborne Mag onto Air Photos

**Picture 42** – " " " " " "

**Picture 43-58** Woman Lk. Area (Goodall Property) plates for 1980 Report by Minorex Ltd. covering Geochem, sampling EM survey , 5 D.H. (G 809-1 to 5) by Denis Bray, 1981 **Ref.# 2.3754/ #2.4176)**

**Big Bear Hard Copy Data** (checked by Kathy Scott)

Note; Most of these hard copy reports have been ported/placed into the main body of the Reference material (Pgs.1-3)

1. **\*\*Ref.# RL 1163** Madsen Red Lk. Mines July 27/59 –J.L. Morton; 6 D.D.H. on cl. 41889; incl. assays, certs, reports #1,#2,#3 ie. values 0.15, 1.36, 1.84, 1.66, 1.34 o.p.t. Au and covers Goodall Gp. for client
2. **\*\* Goodall Twp. report #10** – by Lionel Dion Apr.2,1970 (**Ref.# RL 1158**) ; covers part of Goodall Twp. 2 D.H. of 7/8 packsack core on CL.4214557(cl. 41889)
3. **\*\* D.H.Assessment filing Ref. RL2464** (WO8802.88) Falconbridge/Kidd Creek Mines; D.H. HO-1 and HO-2 on Cl. 788762 and 785761; April 21/88.



**Big Bear Resources**

Nov. 15<sup>th</sup>, 2010.

**Sol d'Or Property/ Goodall Property/ Shabu Property**

**District of Red Lake, Ontario**

**SUMMARY**

During the summer work program carried out over the three properties, a number of strategic samples were taken from outcrop exposures on and along strike to the quartz vein mineralization on the Sol d' Or property, the historical trenches found on the Goodall property and in areas where diamond drilling was conducted over the south portion of the Shabu Lake property. The sampling was used to re-affirm the analytical results from past geological reconnaissance surveys and work done over the subject properties in the past and to determine the significance of the gold mineralization and whether follow-up work should be carried out in the future. Included in this report is a location plan for the grids that are recommended to be done over two of the three properties.

The claims are held in good standing by Perry English, the Optionor for the property, and the legal entity on title with the Ministry of Northern Development and Mines for Ontario.

There are no known environmental liabilities or public hazards associated with any of these properties as indicated by the property visits and public archive information. Work permits are only required when diamond drilling or heavy equipment mechanical work is contemplated.

The author feels that the surface sampling programs on all three properties play host to a series of en-echelon quartz veins intercalated with the intermediate and felsic volcanic units that may in fact carry for kilometers in strike length and ultimately join up at some point with the Swain Lake Deformation Zone which resides just north of the Sol d'Or property in a line that separates the volcanic units lying within the boundaries of the three properties and much younger sedimentary and granitic intrusive units to the north of this contact. The volcanic units appear to be the preferred units to host most of the gold occurrences in the area.

Of the three properties viewed only the middle or central property, the Goodall, appears to not live up to its past reputation for hosting significant gold values since two separate traverses across the property did not produce any significant gold values from the quartz-carbonate veining that was sampled. The best property with the most significant values in gold was the Sol d'Or near Swain and Grace Lakes along strike from the shaft and sub-parallel quartz veins, and with the Shabu Lake property, due to its proximity to the Bathurst/Car Lake Occurrence, warranting further investigations.

**PROPERTY DESCRIPTION AND LOCATION**

The three properties are located due east of the town of Red Lake, Ontario, at a point

roughly 90 kilometres by air. The claim groups are comprised of nine un-patented mining claim (Sol d'Or property), three un-patented claims (Goodall property) and the 14 un-patented claims (Shabu Lake Property) of roughly 141 units (5,640 acres), 24 units (960 acres) and 103 units (4,120 acres) respectively.

These properties are accessible by float-plane or helicopter in the summer months and skidoo or helicopter in the winter months. Red Lake is accessible by commercial flights on a daily basis or by air charter services from Winnipeg or Thunder Bay, Ontario and by local float plane from Ear Falls or Red Lake through the many outdoor fishing outfitters and camps that dot the area.

### **PROPERTY STATUS**

The claims are held in good standing at the writing of this report and are registered in the name of Perry English and are illustrated in Fig. 1, 2 and 3 in this report. A list of the claims are also shown in Table 1 in this report along with the Recording and Expiry dates and work requirements per year in dollar amounts. The first assessment work is due on or before June 20, 2011.

A standard property option agreement exists between Big Bear Resources and Mr. Perry English giving the Big Bear Resources 100% ownership in the property for annual work commitments and a planned program for a period of five years subject to a NSR Royalty on any minerals found and developed on the property.

There are no environmental liabilities or known public hazards that exists on the property under the present Option Agreement and if any hazards are left on the property by the optionee then they are deemed responsible for cleaning up such spills or hazards as they occur at the optionee's expense. The author notes that 'Notice of Work' permits or 'Notification of Exploration' is required to be submitted to the Mineral Resource Division of the Ministry of Northern Development and Mines of Ontario.

### **ACCESS, CLIMATE AND PHYSIOGRAPHY**

The three Red Lake properties are located approximately 75 kilometres due northeast of the town of Ear Falls near Red Lake, Ontario. One can access the property by float-plane to any of the three properties, by bush and gravel road to one of the properties (Shabu Lake) or by helicopter directly onto any of the three properties. Winter access is by snow-machine or by helicopter or by 4-wheel drive pickup from the Labine Ice Road. There are a number of motels and hotels operators in the Ear Falls, local tourist operators/ Fishing Lodges near the properties during the summer months or hotels in the Red Lake area that have both summer and winter accommodation.

The topographic features and vegetation on the property is generally low, rolling hills of less than 100 metres in height with outcrop only visible along the ridges. There is considerable coniferous tree cover with low muskeg and lakes covering over half of the property's surface areas. Approximately 70% of the land area of the property is covered by overburden consisting of glacial tills, boulders and gravels. Approximately 30% of the

property is underlain by water from small lakes, rivers, and minor creek drainages. The largest lake in the area is Woman Lake, Swain Lake, Leonard Lake, Shabu Lake and Grace Lakes that cover areas surrounding or within the claim areas of the properties. The few outcrop areas are generally common on the higher points such as ridges and hilltops with a thin mantle of boulder and gravels covering the lower relief areas.

The climate is typical of the Red Lake Area with a continental climate consisting of warm to summers and frigid arctic winters. Precipitation is typically in the 25-75 centimetres per year range although some summers can be dry. The predominance of coniferous vegetation increases the risk of fire hazards for working during hot, dry summer conditions.

### **Rock Types**

The samples were bagged, tagged, written up on assay tickets and ultimately shipped to an accredited lab in Thunder Bay, Canada (Act Labs). The results showed very close relationships to the previous sampling program and the grades were significant (see Table 2 in Appendices); multiple assays of greater than 3 grams per ton in gold on the Sol d'Or property greater reported. The high gold values were taken close to/at a point where previous sampling indicated similar high gold values from grab sampling. The consistency of the high-grade values determined from this sampling program taken independently of the previous sampling indicates there's a lot of potential in this area especially for the fact that the zone(s) continue for over 400 metres in strike length (see Sol d'Or Property), have similar geological characteristics and appear close to the intrusive gabbro contact lying just north of the main vein system previously discovered on the Sol d'Or property. This may indicate a potential resource target(s) lying along this contact or down dip under the hanging-wall of this gabbroic intrusion.

The sampling during the reconnaissance field sampling trip made by the author to the three groups of claims produced over 43 samples that were analyzed for various VMS-style base metal elements including zinc, lead, silver, copper and gold. The sampling was conducted over a wide section of the zones previously mapped on the property and in close previous samples were taken (aluminum tags were visible at positions where samples were taken along the trenching/pitting). Although the analytical numbers were not exact, the relative numbers were close in value of similar elements (see Table 3 in Appendices). This supports the reproducibility of the values and verifies that the property has significant values in these elements. Due to the continuity of some of the surface trenches and outcrop exposures, it could be indicative that these property-wide mineralized systems were part of a larger, regional structural feature or several en-echelon systems that traverse the area. Further trenching and subsurface investigation will have to be made to test this hypothesis.

The past airborne geophysics, carried out over the three properties, indicated several strong conductors coincident with mineralization and geological contacts on the properties. Follow-up ground surveys also came up with similar linear conductors (HLEM) but the Magnetometer work seemed to be the most effective tool in finding sulphide or high magnetite content in geological units associated with conductors and anomalous targets.



## Phase I Program

### 1. **Ground Geophysical Surveys:**

#### **Shabu Lk. Group – 56 kms.**

Max-Min VLF @ 150 m. spreads (Approx. \$175/km):

56 kms. X \$175/km kms.....\$ 9,800.00

Proton Magnetometer Survey: ( Mag @ \$150/km.):

56 kms. X \$150/km. ....\$ 8,400.00

Mob/Demob of Equip./men/supplies...(approx.).....\$ 5,000.00

#### **Sol D'Or Property – 40 kms..**

Max-Min VLF @ \$150 m spreads

40 Kms. X \$175/km..... \$ 7,000.00

Proton Magnetometer survey: (Mag @ \$ 150/km.)

40 kms. X \$150/km.....\$ 6,000.00

### 2. **Linecutting of grids; approx. kms.Grid 1+2 (Shabu Lake-56 kms.)**

+ 1 Grid (Sol d'Or Prop-40 kms.):

\$850/km. X 96 Kms. ....\$ 81,600.00

### 3. **Work and Local Site Expenses:**

Local room and Board: 1 mo. X 4 men @ \$100/day/man... \$ 12,000.00

Local travel, gas, fuel, supplies..... \$ 4,000.00

Pickup Truck and Skidoo Support: 2 trucks + 2 skidoos/Job

@\$100 day each..... \$ 12,000.00

### 4. **Office support, overhead, accounting, supplies..... \$ 15,000.00**

### 5. **Engineering, supervision, travel etc..... \$ 20,000.00**

Sub-total of the above program..... \$ **180,000.00**

10% Contingency on the above expenses..... \$ **18,000.00**

**Total for the Phase I Program .....\$ 198,000.00**

Submitted by

John C. Archibald, B.Sc., P. Geo.

Toronto, Ontario

Nov. 15, 2010.



**To:** Brian Newton

**Date:** 1 August 2010

**Copy:** John Archibald

**Client:** Big Bear Resources

Jamie Graff

Francis Newton

**From:** Patrick Chance

**Property:** Stevens Lake, Goodall Township, Red Lake MD

## Summary

### Property

The property comprises three staked claims acquired from Perry English, the staker. A corner post and several line posts were located close to positions shown on current claim maps. Posts and lines are marked as prescribed by the Mining Act.

An abandoned, north-south trending powerline crosses a little to the west of Stevens Lake.

<Insert table & map figure 2>

### Location and Access

The property lies to the west and north of Woman Lake (figure 1). The reported showings lie around Stevens Lake, a small lake situated a kilometre east of Woman Lake (figure 2).

Logging roads, extending northwards from the old South Bay Mine site, lie within two kilometres of the east property boundary, however, several small lakes and connecting creeks complicate access from this direction. Logging roads along the west side Woman Lake (Joyce and Spud roads) reach within 500 m of Shanty Bay on the SW side of the lake. This option requires a 50 km drive, half kilometre walk to the lake and a further 10 km up the lake to the property.

Kabeelo's Lodge (807-222-3246), lying ~20 km to south-southwest on the westernmost tip of Confederation Lake, offers Beaver charters and accommodation, including meals. Docking may be problematic if there are significant southwesterly or westerly winds. Alternatively a boat and motor can be rented from Woman River Camp, a 10 km drive west of Kabeelo's, (Paul & Debbie; [Info@WomanRiver.com](mailto:Info@WomanRiver.com), Phone 807-221-6570 (party line) or cell 807-221-6570 (leave a message)). Estimated travel time is about 45 minutes. Numerous beaver slides on the east shore of Woman Lake opposite the showings provide convenient landing spots.

Cover comprises first growth black spruce with thick moss under cover with local areas of blow-down. Old stumps and occasional plastic pipe indicate areas of historic exploration activity which

are obscured by second growth. Three of four showing areas sought were located with little difficulty, however, only one "shear" was located due to a thick moss cover.

## History

Holder Year	Reference(s)	Summary
Hurley Claims 1935	2.3754 OGS P1216	<p>Earliest recorded exploration the Hurley Claims which include the current Goodall Property.</p> <p>Gold-bearing quartz veins and shears were found in the vicinity of Stevens and MacDonald Lakes. Visible gold and panned colours was noted in many cases. No assays reported.</p>
Ben Rouillard 1939	2.3754 OGS P1216	<p>Trenching and sampling of mineralized quartz veins and shears between MacDonald and Washagomis Lakes [to the east of the current property]. Visible gold was reported in all trenches</p> <p>Work focused on the "Kelly Vein", a shear zone, hosted quartz vein near a diorite-metavolcanic contact which was traced for 4,000'.</p> <p>Gold assays to 1.86 oz. gold per ton were reported.</p>
Andy Hagar 1958	Private Files <sup>1</sup>	<p>Mr. Hagar collected 12 mineralized rock samples from trenches and pits on the property.</p> <p>J. L. Morton (Madsen RL GML) reported:</p> <ul style="list-style-type: none"> <li>• 0.23 and 0.17 oz/T Au in two pyrite and arsenopyrite-bearing of dark sheared rock samples of assayed. gold per ton. Another sample rich in returned</li> <li>• 5.14 oz/T Au from a sample containing sphalerite and chalcopyrite.</li> </ul> <p>The remaining samples returned assays ranging nil to 0.12 oz. gold per ton.</p> <p>The showings are situated on current claims 509733 to 509734.</p>
Madsen Red Lake Gold Mines Ltd. 1958-1961	2.3754 Norton's Report	<p>16 trenches or pits sunk on a "series of shears" over an 800' strike length.</p> <p>This company carried out some sampling of trenches/pits as well as limited diamond drilling on claims KRL 509733, 734.</p> <p>Quartz veins up to 2 ft. thick were reportedly hosted by rhyolite or silicified metavolcanics. Arsenopyrite and pyrite are ubiquitous to the quartz.</p> <p>Twenty-three samples were collected of which 80% assayed on average 0.03 oz. gold per ton. The best chip-channel sample assayed 0.08 oz. gold per ton over 5.8 ft. (Pit. J). A grab sample of dump material near Pit D returned 0.15 oz. gold per ton.</p> <p>A 178-foot diamond drill hole in the area intersected 15 ft. of 0.046 oz. gold per ton. (Hole 1959-1). 8.</p> <p>Madsen Red Lake Mines also sampled a 6-foot wide shear zone in a trench on Claim KRL509737. Assays of 1.00 to 1.84 oz. gold per ton over narrow vein widths (2") and host rock (andesite) assays of 0.01 to 0.06 oz. gold per ton over</p>

<sup>1</sup> Morton, J.L. 1958 Report on Geological Examination on claims 41889 and 41891, Goodall Township" *made available to Willoughby by Andy Hagar in February, 1987.*



		widths of up to 0.8 ft. were reported.
Lionel Dion 1959	DDH 10 OGS P1216	3 DDH (480'); two located ~400 m. NE of Stevens Lake, the third NW of MacDonald Lake.  The holes were drilled to test shears-quartz vein zones.  Hole 2 intersected 9 ft. of sheared dacite mineralized with disseminated pyrite and arsenopyrite. In the same hole a 4-foot quartz-carbonate (vein) zone containing pyrite and arsenopyrite is reportedly hosted by rhyolite.
Falconbridge Nickel Limited 1969	63.2789, OGS P1216	A fixed wing AEM survey over the W½ of the property detected four low order EM-conductors; two attributed to the abandoned power line. Two in the NW reflect a gabbro-metavolcanic contact.
Falconbridge Nickel Limited 1971	2.406 OGS P.1216	Ground magnetics and Afmag-Aflec EM detected three conductors to the NW attributing them to:  1) graphitic argillite containing disseminated magnetite and/or pyrrhotite and 2) shear zones within magnetite-bearing andesite.
Minorex Limited 1980	2.3754	Mapping, resampling of trenches and pits, VLF-EM and mag surveys and diamond drilling on the entire current Goodall Property.  Six gold-bearing shear zones were mapped in some detail.
Minorex Limited 1981	2.4674 2.4336 2.4176	Mapping and VLF extended over newly staked claims, and additional diamond drilling.  Seven diamond drill holes (1,028') various gold zones on the Hagar Option.  Hole 6 (Zone 1) intersected 12.1 ft. of brecciated and carbonatized andesite, dacite which contained scattered quartz veining and 2 to 5% pyrite, arsenopyrite. The following assays were reported.
Inlet Resources Ltd. 1987-88	52N07SE9868	Related companies Inlet Resources, Western Pacific Energy and Noramco held a large property centred on Swain lake whose southern tip included the western part of the current property.

## Geology

The property is underlain by north-south trending mafic volcanics, dominantly flows and related fragmentals. Some recent mappers show a grabbroic body lying along the west property boundary.

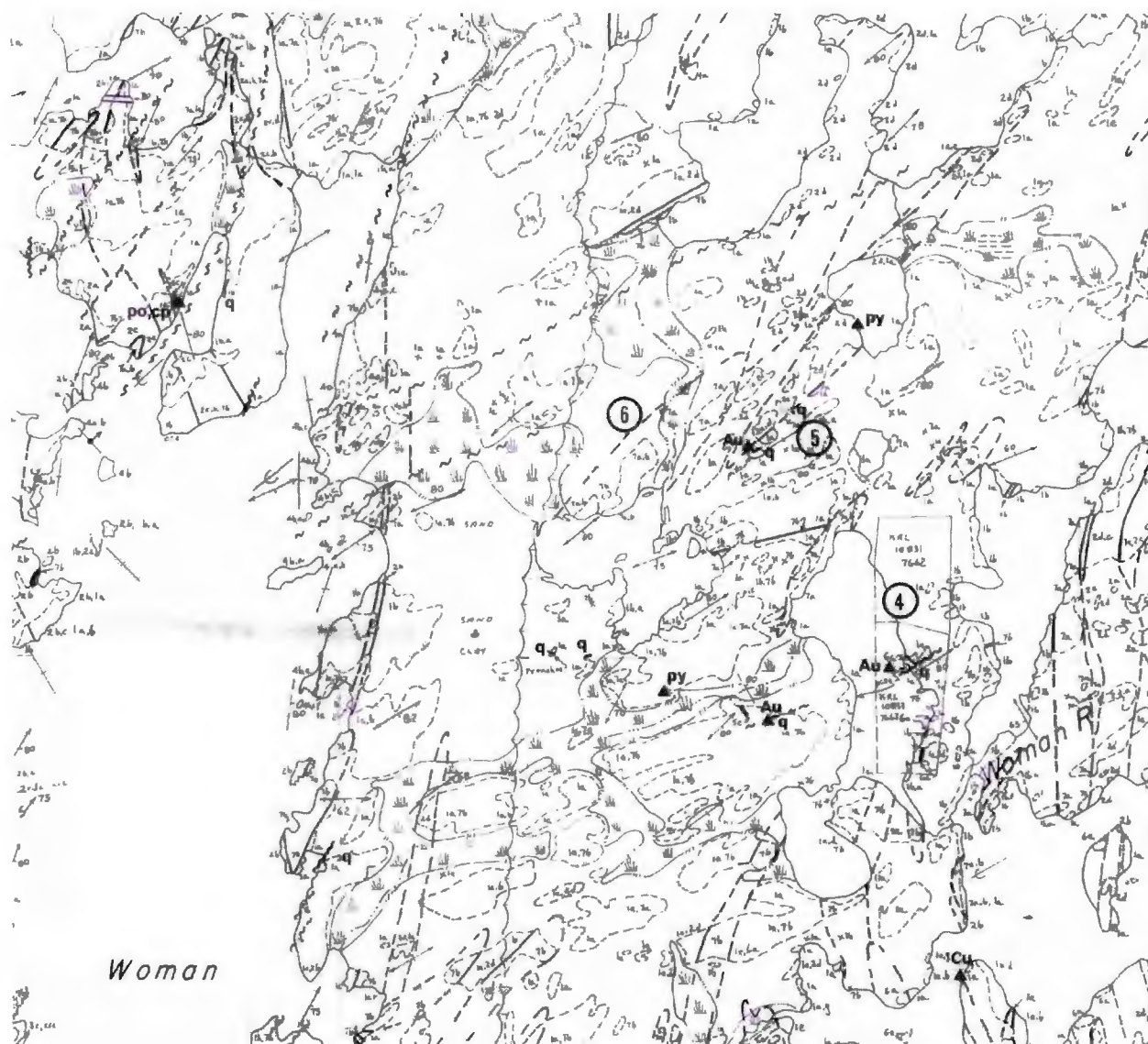


Figure A portion of geology of Goodall Township (Pryslak, 1971; P0763) centred on Stevens Lake. Properties (circa 1971) 4 - A. Clement; 5 - Lionel Dion; 6 - Falconbridge. (See legend on following page.)

## GOODALL TOWNSHIP

DISTRICT OF KENORA, PATRICIA PORTION

Scale 1 inch to  $\frac{1}{2}$  mile

NTS Reference: 52N  
ODM-GSC Aeromagnetic Maps: 872G, 873G  
ODM Geological Compilation Series Map: 2175

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Parts of this publication may be quoted if credit is given to the Ontario Division of Mines and the material is properly referenced.

### LEGEND

#### CENOZOIC<sup>a</sup>

##### QUATERNARY

###### RECENT

Swamp accumulations, sand, clay

###### PLEISTOCENE

Till, lacustrine clay, fluvial sand

Unconformity

#### PRECAMBRIAN

##### METAMORPHOSED MAFIC INTRUSIVE ROCKS

7

- 7 Unsubdivided
- 7a Diorite, quartz diorite
- 7b Gabbro

Intrusive Contact

##### METAMORPHOSED FELSIC INTRUSIVE ROCKS

6

- 6 Unsubdivided
- 6a Quartz porphyry
- 6b Feldspar porphyry
- 6c Quartz-feldspar porphyry
- 6d Chlorite granodiorite

Intrusive Contact

##### METAVOLCANICS AND METASEDIMENTS\*

###### CHEMICAL METASEDIMENTS

5

- 5a Iron formation
- 5b Marble
- 5c Chert

###### CLASTIC METASEDIMENTS

4

- 4 Unsubdivided
- 4a Conglomerate
- 4b Sandstone
- 4c Argillite

###### FELSIC METAVOLCANICS

3

- 3 Unsubdivided
- 3a Massive flows
- 3b Pyroclastic breccia
- 3c Tuff and lapilli-tuff
- 3d Spherulitic tuffs and flows
- 3e Porphyritic lava
- 3f Sericite schist

###### INTERMEDIATE METAVOLCANICS

2

- 2 Unsubdivided
- 2a Massive lava and tuffs
- 2b Pyroclastic breccia
- 2c Tuff and lapilli-tuff
- 2d Spherulitic flows and tuffs
- 2e Porphyritic flows
- 2f Amygdaloidal lava

###### MAFIC METAVOLCANICS

1

- 1 Unsubdivided
- 1a Massive lava and tuffs; in part possibly intrusive
- 1b Pillowed lava
- 1c Porphyritic lava
- 1d Variolitic lava
- 1e Amygdaloidal lava
- 1f Flow breccia
- 1g Pyroclastic breccia
- 1h Tuffs
- 1i Chlorite schist

a. Unconsolidated deposits occupying the area between outcrops.

\* Order within this group does not imply age relationships.



Figure. Property geology and showings with current claims (white) and traverse (grey dots)

## Showings

The following descriptions are taken, with minor modification, from the Minorex and Black Cliff reports.

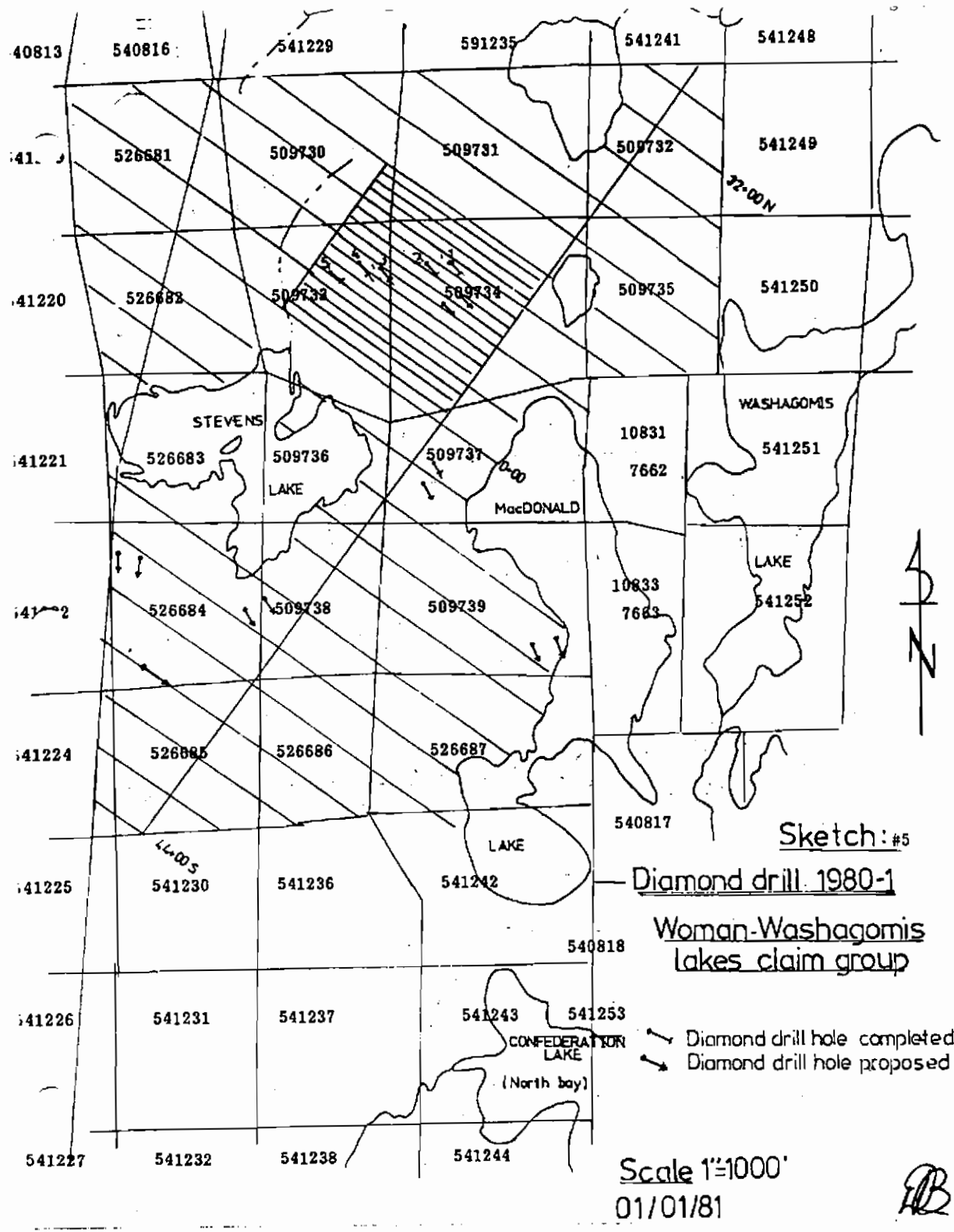


Figure Minorex (1980) drill plan (G-80-1 to 5)



## ZONE 1 (on Claims KRL 509733, 34 and KRL 526683)

This zone has been exposed over a length of 3,800 feet by 16 trenches. In 1958, Madsen Red Lake GML drilled one hole under "Trenches A-D", totalling 178 feet cutting the shear zone 60 feet below surface (0.046 oz/T Au over 15 feet). Sketch "A" of Madsen Red Lake G.M. Limited shows the location of trenches A to K and assay values. (See insert on geology map)

Between trenches A to K, the trend of the shear changes from an E-W strike west of trench D to N75°E between trench D-J and finally to N60°E east of trench J. The dip remains nearly vertical.

The shear is generally well silicified and locally, as in pit H and G, a silicified-feldspar zone reaches 13 feet wide and in pit J, the quartz-ankerite vein is six feet wide. Arsenopyrite and pyrite mineralization occurs throughout the shear, especially in the sheared andesite near the quartz veins or silicified sections. Arsenopyrite needles measuring 2 cm are present in pit L, 200 feet east of pit K.

Gold is found in all trenches but its grade is generally low (less than 0.05 oz/T). The highest gold values obtained seem to be closely related to the points of inflexion, that is, where the shear changes in direction, as in the vicinity of trenches D-E and of trench J. Three ore shoots, of unknown width and length are observed from surface sampling.

These are:

- i) Trenches A and B area, over a 30 foot long (open to the west) and a possible width of at least six feet.
- ii) Trenches D and E area, 75 feet east of (i), has a possible length of 60 feet and 15 feet breadth. Hole 59-1 (Madsen, 19??) cut 0.046 oz/T Au. over 15 feet.
- iii) Trenches J and L area, of unknown extent but with a minimum width of six feet.

Five short diamond drill holes (G-80-1 to 5; 761") were completed over a 1,300-foot strike length.

- Hole G-80-1 intersected a 30 foot silicified shear (103 to 134 feet) zone which returned a 15 foot section at 0.06 oz/T Au.
- Holes G-80-2, 3 and 4 intersected the shear zone, but with no or only low values and narrow sections of gold bearing rock.
- Hole G-80-5 intersected a carbonated shear zone from 91 to 109 feet with up to 201 sulphides (pyrite and minor arsenopyrite). This zone assayed only trace of gold. A section, from 135 to 201 feet is characterized by narrow shear zones and quartz-carbonate veins with minor pyrite. A 22 inch section returned .05 oz/T Au at 159 feet.

The results obtained from these five holes give only an objective comprehension of the gold occurrences in this zone, which seems to be controlled by the **degree of silicification** and of **sulphide content**.



## **ZONE 2 (On common boundary of Claim KRL 509733-34)**

This zone is only exposed in two trenches covering an area of approximately 50 feet. It is located 500 feet north of Zone 1 and is very similar in nature.

The shear zone is three feet wide and is almost completely replaced by a quartz-ankerite vein. The host rock is a coarse grained andesite with 3-5% pyrite and minor pyrrhotite, chalcopyrite, sphalerite and galena.

Interesting gold and silver values have been obtained from two grab samples.

## **ZONE 3 (On Claim KRL 509737)**

This zone is exposed at two localities by trenches for a strike length of 1,000 feet. The shear varies in strike from N62° to 72°E and dips from 70 to 85°N. The zone consists of schistose, friable, fine grained andesite and spherulitic andesite with several quartz-ankerite veins varying from 1 inch to over one foot wide.

Hole 59-7 of Madsen was drilled to test this vein at a depth of 25 feet below surface. J.L. Morton (Madsen Red Lake GML) reported that a six-foot wide shear zone was exposed in the trench. Quartz veining on the shear contact assayed from 1.00 to 1.84 oz/T Au over approximately 2 inches while the sheared andesite assayed 0.01 oz/T Au. The best values obtained in hole 59-7 was 0.06 oz/T Au over 9 inches.

## **ZONE 4 (On Claim KRL 509739)**

This zone is the west extension of the Ben Rouillard showing. (Refer to sketches 3 and 4)

The zone has been followed for 1,100 feet on strike by trenches. The strike varies from N82°E to S80°2 and dips from 77°N to vertically. The zone consists of sheared andesite varying from 2.5 to 5 feet wide with several narrow quartz stringers containing from 5 to 25% sulfides (pyrite-arsenopyrite).

## **ZONE 5 (On Claim boundary of KRL 509738 and KRL 526684)**

A 100 foot long by one foot wide shear zone in fine grained, dark green, carbonatized intermediate andesite is exposed for approximately 40 feet by trenches. In the trenches, a 3 inch quartz vein, at its maximum width, is well mineralized with fine grained sphalerite, galena and free gold. It seems the previous work here involved some high-grading.

The shear strikes N64°E and dips vertically to 70°S. To the northeast, the quartz vein splits into several quartz stringers. To the southwest, the shear lies under the overburden.

Zones 3 and 5 are on strike to each other, and the possibility of them being the same should be investigated.

## **ZONE 6 (On Claim KRL 526684)**

This 5 to 8 foot wide sheared andesite-rhyolite zone strikes N60-66°W and dips 60°NE. The shear includes 5-8% sulphides and quartz veins and silicified sections. To the northwest, a one foot offshoot of the main shear has been stripped and exposed several quartz stringers.

The gold values are common to the shear as a whole (6-8 feet) and is consistent over a length of at least 50 feet.

## **OTHER ZONES**

Several other gold bearing quartz veins or shear zones are present on the property as shown by sketches of the Hurley Claims, (1935) and of the Ben Rouillard Groups (see sketches 2 and 3 respectively). Also note figuring on the sketches is a shear zone with injected narrow quartz veins (locally called the "Kelly vein") located south of the Ben Rouillard claim No. 10833. A grab sample of quartz veins and sheared material assayed 0.06 oz/T Au.

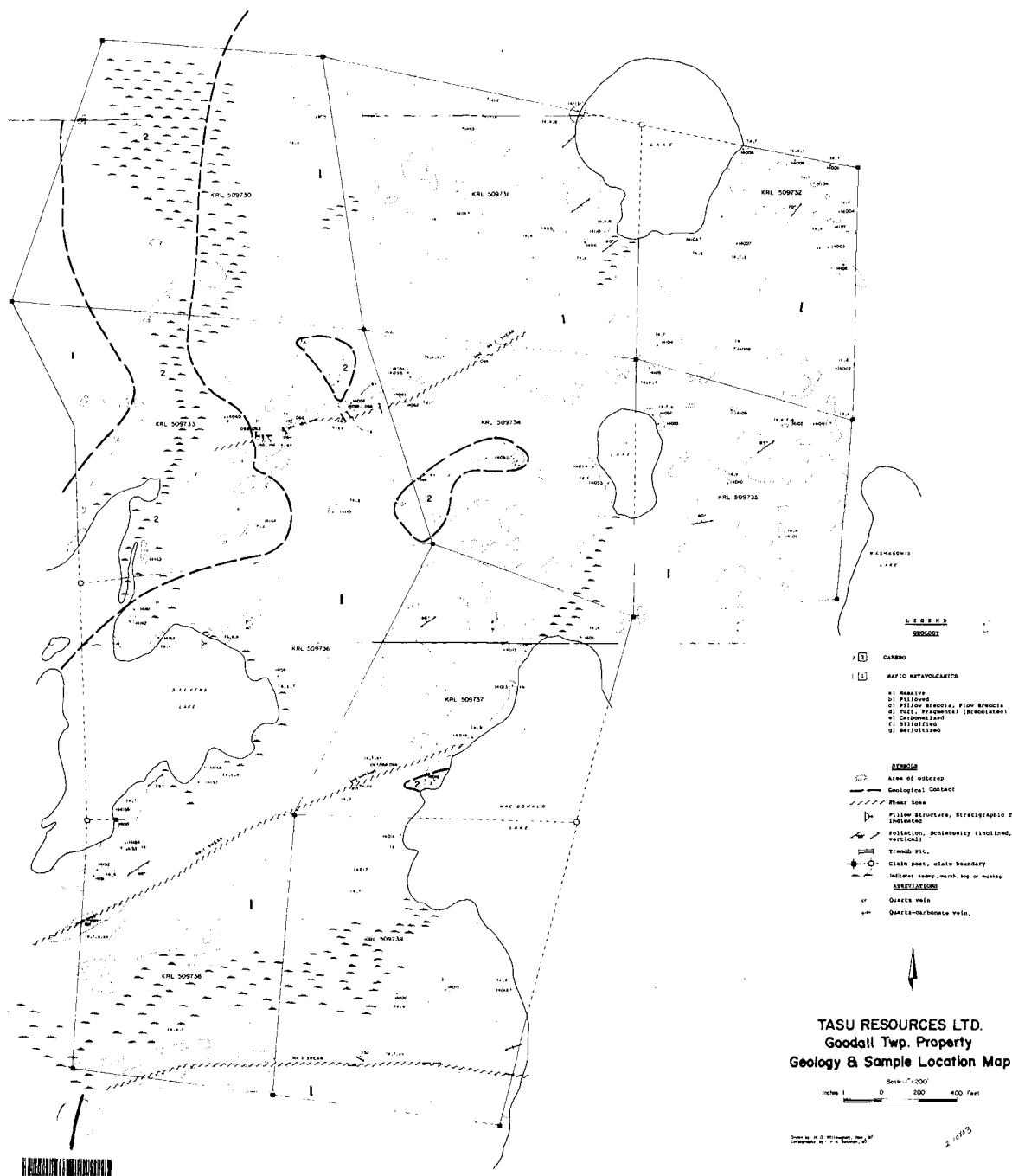


Figure Tasu Resources geology and sample locations (Willoughby, 1982)

### South Stevens Lake area

This zone of pyrrhotite, chalcopyrite, arsenopyrite, galena and tourmaline mineralization trends east-west, south of Stevens Lake (Location A, Figure 2.10). This trend is contrary to the strong 060° strike of the Stevens Lake Deformation Zone and is thought to be partially biased by an uneven distribution of surface and drill data. By considering known trends on the adjoining property (Tasu Resources, 1988), the 060° direction is preferred. The zone contains two significant gold showings;

### **Blue quartz vein showing (L29+20S, 17+00E),**

The blue quartz vein showing is an east-west-striking, 15 cm by 10 m vein in sheared diorite that contains 2% pyrite, trace arsenopyrite and galena.

Four of 10 grab samples returned between 120 and 6793 ppb gold. Follow up power stripping and blasting permitted larger, 1 m composite grab samples to be taken. These samples returned anomalous values ranging from 171 ppb gold to 2453 ppb gold (Table 2.4, Appendix E).

Drill hole NSL-87-02 was collared to undercut this showing vertically. The hole intersected 2 cm bands of massive pyrrhotite, trace-2% chalcopyrite and trace-2% pyrite with associated chlorite and quartz micro veining in sheared gabbro/diorite. Gold values up to 70 ppb were received from this zone.

### **Boundary showing (L28+20S, 21+00E).**

The boundary showing is similar to the blue quartz vein comprising an east-west-striking, 10 cm by 7 m quartz vein in sheared, pervasively epidotized diorite with epidote microveining proximal to the quartz vein. At the western end of the trench, a 260°-trending shear truncates the main system and the quartz vein deflects to a north-northeast trend.

Initial sampling produced significant assays from 3770 to 114,200 ppb gold (3.35 oz/ton) with one fleck of visible gold observed in the quartz. Washing, blasting and resampling confirmed gold ranging up to 6,682 ppb gold in the quartz with 294 to 399 ppb gold in the wall rock up to 3 m from the vein.

A short drill hole (NSL-87-03) tested for a vertical extension of this mineralization.

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An I.P. survey across the zone delineated a series of evenly spaced, 025°-trending chargeability features within a resistivity high.

Holes NSL-87-04 and NSL-87-05 tested two of these at points where they were coincident with surface geochemical anomalies. 1-3% pyrrhotite and pyrite with traces of chalcopyrite and native copper was intersected. Strong sericite, epidote and chlorite was associated with this mineralization.

### **North Stevens Lake**

The area north of Stevens Lake is characterized by a strong arsenopyrite–pyrite assemblage within quartz veins, and a strong chloritic shear (Location B). There are two predominant fabrics developed within the rock.

1. An 060° shear/foliation direction that parallels the deformation zone at the south end of the lake. Surface samples of material containing minor pyrite, tourmaline and carbonate a trench at L22+20S, 16+40E assayed 3602, 2299 and 1454 ppb gold. were associated (Table 2.5, Appendix E).
2. The second predominant fabric is a series of 025°-trending, quartz-filled shears.

3. A 3 cm wide, sulphide-bearing vein cross-cuts the 060° trend. This vein may be on strike with the vein at the western end of the boundary showing, south of the lake (Section 2.3). Samples of the arsenopyrite, galena, chalcopyrite and pyrite mineralization produced gold values from 1104 ppb to 7534 ppb. The vein varies from 6-15 cm in width and can be traced discontinuously for 100 m.
  - a. Drill holes NSL-87-01 and NSL-88-12 were targeted to intersect the arsenopyrite-rich shear zone.
  - b. NSL-87-01 was a 72 m vertical under-cut that intersected moderate chlorite shearing with 5% disseminated epidote and 1% disseminated pyrite.
  - c. NSL-87-12 was targeted for a 30 m vertical undercut and intersected sheared andesitic tuff with mafic intrusive dikes. Trace- 2% pyrite and trace arsenopyrite in an alteration assemblage of weak carbonate, epidote and sericite occurs locally. Gold values of 0.030 oz/ton (1034 ppb) and 0.067 oz/ton (2310 ppb) were obtained from quartz-flooded zones (Table 2.5, Appendix E). Values were isolated and are not thought to be the vertical extension of mineralization observed on surface.

## 3.2 Drilling Results

### *NSL-87-01*

This hole was collared to intersect the vertical down dip extension of a 2.0 m arsenopyrite-bearing shear zone (Section 2.5, North Stevens Lake). The strike of the shearing is 060°, with an interpreted vertical dip. The hole intersected moderate chloritic shearing with 5% disseminated epidote, disseminated pyrite was not auriferous.

### *NSL-87-02*

This hole was collared to test the blue (Section 2.5, South Stevens Lake). The target hole but drilling was extended to test the Lake Lineament. The hole intersected a diorite/gabbro complex with 1-3\* combined pyrrhotite. The entire hole is strongly silicified, and has a purple-green staining, and altered diorite was intersected from 47 assays up to 70 ppb were associated with banding. Quartz veining seen on surface in the showing was intersected 71 m down-hole (@ 060°). The Stevens Lake zone has strongly altered and/diorites with associated chalcopyrite/py, is carbonatized and highly fractured from widths of .6 to 55.7 m. and contains gold where strongly mineralized (mainly py/po)

### *NSL-87-03*

This hole was drilled within a sheared gabbro/diorite complex that extends north-south through the Stevens Lake Area.

The hole was targeted to intersect the boundary gold showing (Section 2.5, South Stevens Lake). Strongly foliated, quartz-carbonate altered intermediate volcanic rock with 1% pyrite mineralization was intersected. The hole did not intersect this auriferous quartz veining although there was an

increase in epidote content at the bottom of the hole. Alteration and mineralization suggest further drilling is warranted in the area.

#### ***NSL 87-04***

This hole was collared to intersect a strongly foliated intermediate flow beneath a surface gold anomaly of 1072 ppb. The strong east-west fabric is overprinted by a 025° trending chargeability anomaly. At 135 m downhole, a strong lineament of the Stevens Lake Deformation Zone was to be tested.

The hole intersected several zones of 1-3% pyrrhotite, 1% pyrite and trace-1\* chalcopyrite in strongly altered amygdaloidal flow and porphyritic gabbro. Grey and yellow-green sericite and carbonate are associated with the mineralization. The surface geochemical anomaly was intersected as a 1m wide shear. The I.P. chargeability feature was due to a 2.5 m zone of 10-20\* pyrite and magnetite associated with quartz. The surface lineament marks a zone of carbonate alteration with magnetite. Anomalous gold values up to 120 ppb were received.

#### ***NSL-88-12***

This hole was collared to test for a shallow vertical extension of the arsenopyrite, pyrite-rich shear zone (Section 2.5, North Stevens Lake). This hole is an over-cut of drill hole NSL-88-01, within the same cross-sections. Trace arsenopyrite within moderately sheared mafic rock indicates the hole may have intersected the edge of the target. Two values of 0.030 oz/ton gold (1034 ppb) and 0.067 oz/ton gold (2310 ppb) over 1.0 m intervals were associated with grey quartz-flooding.

#### ***NSL-88-13***

The hole was collared to test the area around drill hole NSL-87-02, where pyrite and pyrrhotite mineralization with strong silica and epidote alteration was intersected. This hole is within the South Stevens Lake Mineralization trend (Section 2.5).

The presence of solution breccia suggests that the hole intersected a local east-west fault. Epidote alteration, pyrrhotite and trace chalcopyrite mineralization were intersected. Gold values obtained near the bottom of the hole range between 20 and 230 ppb gold.

### **4.2 Gold-Potassium-Arsenic Geochemistry**

There are arsenic halos about auriferous quartz veins in the Stevens Lake area (Section 2.5) and it may be worth investigation of arsenic as an indicator element for gold.

### **4.3 Whole Rock Geochemistry**

The altered diorite/gabbro complex of Stevens Lake has elevated CaO\* (SL-04, SL-08, SL-10, SL-12) that is not reflected in the loss on ignition values.



## 5.1 Magnetometer Survey

### *Domain - A*

This portion of the property is divided into an east and west zone based on total field strengths. The eastern half is a series of broad highs that are generally contiguous but anastomosing in a northward trend. Magnetic highs shroud the Stevens Lake area, and correlate closely to the diorite/gabbro complex along the eastern property boundary. Extensive drilling within the high has shown the magnetism to be associated with two sources:

1. Drill hole NSL-87-02 intersected altered diorite and gabbro containing disseminated magnetite. With increasing epidotization and silicification, magnetic strength decreases. Drill hole NSL-87-03 intersected mafic flow with moderate magnetism. Again in strongly epidotized rock, the magnetic strength decreases. This suggests that these Cycle III intrusions and flows have a high primary magnetite content. Subsequent metamorphism has created an irregular field.
2. Drill holes NSL-88-04 and NSL-88-05 intersected intercalated diorite and mafic flow with 1-3% pyrrhotite mineralization. The pyrrhotite occurs as disseminations, stringers and massive 2 cm bands. This mineralization adds to the complex pattern of magnetic highs.

The zone of magnetic highs continues north from Stevens Lake to Graveyard Lake. The intrusive complex is sinistrally faulted to Dog Lake (Section 2.3), where the same rock types and mineralization are observed. This trend of magnetic highs is part of a regional pattern from the Jackson-Manion Mine through the Hudson Patricia Mine to the Swain Lake Fault. In Domain C, the total field remains elevated but with far less contrast to the regional background.

## 5.3 Induced Polarization (I.P.) Survey

A limited I.P. survey was done over the Stevens Lake area to assist in delineating auriferous quartz veins exposed on surface (Section 2.5). L20S, L22S, L24S, L27S, L28S, L29S, L30S, L31S, L32S, and L33S were surveyed from baseline 12+00E to the eastern property boundary. A small reconnaissance survey was completed on L11S from 12+00E to Dog Lake. South of Graveyard Lake L3N and L5N north were surveyed from the base line to 14+00 west.

Around Stevens Lake, eight distinct resistivity areas and seven chargeability zones (Zones CI through C7) were identified. Generally the zones have weak to moderate, well defined chargeability features with narrow widths and 400 meters strike lengths. Spectral M-IP suggests a low percentage sulphides with the coincident resistivity indicating associated silicification. The trend of the zones is conformable to rock unit contacts.

Holes NSL-87-04 and NSL-87-05 were drilled to test chargeability zones 4 and 6 respectively. NSL-87-04 intersected several zones of 1-3% pyrrhotite, 1% pyrite and trace-1% chalcopryrite. The surface expression of zone 4 was correlative with a 2.5 m zone of 10-20% pyrite-magnetite in a silicified matrix.

NSL-87-05 contained 2% pyrite with trace chalcopryrite in carbonate-healed fractures (Section 3.2). This mineralization is the source of the I.P. zone on the southern portion of the property.



## 6.0 INTERPRETATION AND ECONOMIC POTENTIAL

A second major shear, the southern branch, is interpreted to pass through the area of Stevens Lake and parallels the main fault system. In the mapping program, this structure was interpreted to be a 060°-trending shear of the northeast conjugate set. Correlation to the southern branch of the Swain Lake fault was made using interpretation of ERTS imagery for the Woman Lake Region (Beakhouse, 1987). A large northeast striking fault plane was interpreted to form Waque bay and continue across the property to Swain Lake. This structure, known as the Waque Fault, has also been correlated to a larger lineament defined by Thurston (1986). It is now interpreted that the Waque Fault is step faulted eastward to Washagomis Lake and then continues north of the Swain Lake Fault as the boundary between volcanic Cycles II and III. This is all part of Thurston's (1986) larger Shabumeni splay.

The Cycle III rocks are largely spherulitic and amygdaloidal flows which are suggestive of shallow water deposition. The thicker accumulations of sedimentary rock along the shore of Woman Lake suggest a change in the basin from the closed environment of Cycle II. The coeval diorite/gabbro complex is interpreted to be correlative with those observed at the Hudson Patricia Mine and those reported at the Jackson Manion Mine. **It is therefore suggested that there is a north-south, regional trend of mafic intrusions which play a significant role in the gold mineralization process.**

In consideration of the above factors, the following areas exhibit a moderate to high potential for gold mineralization.

### 1. South Stevens Lake:

This zone encompasses mineralization at both the Boundary and the Blue Quartz Vein showings. Also included are the 025°-trending I.P. chargeability zones that are pyrrhotite-pyrite-chalcopyrite-rich. At surface showings, the veins and local shear zones trend east-west although the dominant deformational fabric trends 060°. At the boundary showing a 025° shear plane appears to truncate the western extremity of the vein. Sulphide mineralization is within or proximal to the diorite/gabbro complex. Associated with this mineralization is C-prime deformational fabric with pervasive epidotization.

The 025° I.P. zones may reflect original concentrations of sulphide along stratigraphic horizons. Coeval with this was the emplacement of diorite/gabbro sills. A strong 060° deformation zone may have cross-cut the rock units, causing brittle fracture in the diorite and reconcentration of some sulphides. East-west Reidel shears opened and allowed emplacement of polymetallic quartz veins and gold. A late stage re-activation of the 025° plane would caused minor emplacement of quartz veins, as seen at the boundary showing. Gold may be found in either the east-west trending quartz-veins, or more diffusely where the 060° shear zones cross-cut the diorite. The latter is a larger and more attractive target.

## 2. North Stevens Lake:

This zone is completely analogous to its southern counterpart. The 025° shear plane has caused a stronger remobilization of quartz, resulting in a series of anomalous gold values along a north-northeast trend. The more attractive target within the area is the 2 m wide arsenopyrite-rich chlorite shear at L22+20S, 16 + 40E.

Samples of this rock assayed up to 3602 ppb gold in association with 10% pyrite-arsenopyrite. The trend of this shear is 060°, and it forms a strong topographical lineament to the northeast beyond the property. This shear, within strongly altered diorite, is interpreted to represent the favourable exploration target discussed in point 1 above. This 060° mineralized zone has confirmed gold values on the adjoining property (Tasu Resources, 1988), and should be considered a high priority target.

## 4. Washagomis Lake Shear:

Beyond the Stevens Lake area, the Washagomis Lake Shear zone is considered to have the highest gold potential. This zone of pyrite, arsenopyrite and tourmaline mineralization is associated with the strong northeasterly trending shear zone intersected in drill holes NSL-88-07 and NSL-88-11. The shear appears to have been compressional based on the strong flattening of varioles and sericite schist development. There is a marked increase in potassium content with an associated decrease in sodium as metamorphic grade increases. In drill hole NSL-88-07, a cross section of the alteration assemblage included an unusual tortoise shell texture with polygonal halos about pinkish-red centers. These centers are interpreted to be garnets and suggest the highest grade of alteration achieved on the claim block.

A program of re-mapping the Stevens Lake Arsenopyrite zone should be carried out from L21+00S to the southern boundary. Surface gold mineralization warrants detailed investigation of the 060°-trending deformation zone and associated alteration of the gabbro/diorite complex. Concurrent with this, drill holes NSL-87-01 and NSL-87-03 should be relogged and re-sampled as the chloritic zones of arsenopyrite mineralization are subtle. All rock analysis should include arsenic.

A program of power stripping should be carried out on the arsenopyrite-gold showing north of Stevens Lake (L22+70S, 15+70E). The 060°-trending shear underlying this showing has returned impressive results from the adjoining property and warrants further investigation. (High priority).

A program of power stripping should be completed at L16+00N, 4+00W, at the surface projection of gold mineralization intersected in drill hole NSL-88-08. An anomalous surface value was obtained to the west of this location. (Secondary priority).

Limited prospecting may be warranted north of Dog Lake. This area contains abundant pyrite-pyrrhotite mineralization, however; no anomalous gold assays were found. This area contains the northern extension of the diorite/gabbro complex which is a favourable rock type for gold mineralization in the Stevens Lake area. (Low priority).

The grid is poorly oriented for a VLF survey and available VLF data has been discounted as electromagnetic channelling effects. A useful geophysical survey might be max-min EM, since

spectral I.P. data suggests several zones of semi-massive sulphide mineralization in the Stevens Lake area.

## Work Completed

The author, assisted by Jamie Graff, landed at a point on the eastern shore of Woman Lake and traversed eastward to Stevens Lake, circumventing it and attempting to locate the historical showings observed on the Preliminary Geological series maps covering this property (P.0763-Pryslak, 1971), located several claim lines and claim posts and then followed the claim line eastwards

## Suggestions

- re-cutting a grid over the area between Stevens Lake and MacDonald Lake to cover the known gold showings at 100 m. intervals in a northwest-southeast direction and map, prospect, trench the known showings to determine if the indicated shearing is more pervasive than was previously indicated and see whether the gold mineralization extends along strike from the known showings
- carry out ground geophysics (Mag and VLF-E.M.) over the same grid to see if any conductors or structural features can be picked up through the geophysical signatures
- carry out stripping/trenching with a backhoe if available (winter access is desirable) with washing/sampling occurring in the late spring/early summer
- plan a number of shallow drill-holes to test the shearing/mineralization of the 2-3 zones that appear to be along strike and extensions of similar structures



## SAMPLE LOCATIONS

Sample Number (W)	Date	Location	Description	Analysis For
538001	Jul 29/10	Sol d'Or 15U 0533117 UTM 5680669	•	Au
538002	Jul 29/10	Sol d'Or Trench 2	•	Au
538003	Jul 29/10	Sol d'Or Trench 1	•	Au
538004	Jul 29/10	Sol d'Or Trench 4	•	Au
538005	Jul 29/10	Sol d'Or Trench 3	<ul style="list-style-type: none"> <li>• Tourmaline</li> <li>• Quartz</li> </ul>	Au
538006	Jul 29/10	Sol d'Or Trench 3	<ul style="list-style-type: none"> <li>• Quartz</li> <li>• Carbonate</li> </ul>	Au
538007	Jul 29/10	Sol d'Or Trench 3	• Bull quartz	Au
538008	Jul 30/10	Goodall North	• Quartz vein	Au
538009	Aug 4/10	Sol d'Or Trench 1 Sample 1 15U 0533153 UTM 5680750	<ul style="list-style-type: none"> <li>• Siliceous acid volcanic/dacite</li> <li>• North side footwall</li> <li>• Odd disseminated cubic pyrite</li> </ul>	Au
538010	Aug 4/10	Sol d'Or Trench 1 Sample 1 15U 0533153 UTM 5680750	• White milky quartz vein (2" wide)	Au
538011	Aug 4/10	Sol d'Or Trench 1 Sample 1 15U 0533153 UTM 5680750	<ul style="list-style-type: none"> <li>• Acid volcanic</li> <li>• Footwall</li> <li>• Disseminated cubic pyrite</li> </ul>	Au
538012	Aug 4/10	Sol d'Or Trench 2 Sample 1 15U 0533106 UTM 5680743	• Acid volcanic on north side (siliceous footwall contact)	Au
538013	Aug 4/10	Sol d'Or Trench 2 Sample 2 15U 0533106 UTM 5680743	<ul style="list-style-type: none"> <li>• White bull quartz</li> <li>• Coarse crystalline</li> <li>• No sulphides</li> <li>• Intergrowths of quartz crystals</li> </ul>	Au
538014	Aug 4/10	Sol d'Or Trench 3 Sample 1	<ul style="list-style-type: none"> <li>• Acid volcanic</li> <li>• Siliceous</li> <li>• Poorly mineralized</li> </ul>	Au

		15U 0533111 UTM 5680734	<ul style="list-style-type: none"> <li>• &lt;1% disseminated sulphides</li> </ul>	
538015	Aug 4/10	Sol d'Or Trench 3 Sample 2 15U 0533111 UTM 5680734	<ul style="list-style-type: none"> <li>• Quartz vein</li> <li>• Coarse grained</li> <li>• Crystalline quartz</li> <li>• Poorly mineralized</li> <li>• Bull quartz</li> <li>• Wall rock rusty &amp; siliceous</li> <li>• Minor disseminated pyrite</li> </ul>	
538016	Aug 4/10	Sol d'Or Trench 3 Sample 3 15U 0533111 UTM 5680734	<ul style="list-style-type: none"> <li>• Light grey</li> <li>• Acid volcanic</li> <li>• Sugary texture</li> <li>• Minor chlorite spots</li> <li>• Poorly mineralized</li> <li>• Very little pyrite, if any</li> </ul>	Au
538017	Aug 4/10	Sol d'Or Trench 4 Sample 1 15U 0533098 UTM 5680716	<ul style="list-style-type: none"> <li>• Siliceous acid volcanic</li> <li>• Disseminated cubic pyrite, 1-2% all through</li> <li>• Odd micro fracture with quartz</li> </ul>	Au
538018	Aug 4/10	Sol d'Or Trench 4 Sample 2 15U 0533098 UTM 5680716	<ul style="list-style-type: none"> <li>• Quartz veining plus altered acid volcanic</li> <li>• Disseminated cubic pyrite</li> <li>• Sugary texture</li> <li>• Pyrite in dark blue staining along fractures</li> </ul>	Au
538019 A	Aug 4/10	Sol d'Or Trench 4 Sample 3 15U 0533098 UTM 5680741	<ul style="list-style-type: none"> <li>• Wall rock</li> <li>• Siliceous acid volcanic</li> <li>• Odd disseminated cubic pyrite specs</li> <li>• Sugary texture</li> <li>• &lt;1% sulphides</li> </ul>	Au
538019 B	Aug 4/10	Sol d'Or Trench 4 Sample 3 15U 0533098 UTM 5680741	<ul style="list-style-type: none"> <li>• Quartz vein</li> <li>• White bull quartz</li> <li>• Poorly mineralized</li> </ul>	Au
538020	Aug 8/10	Goodall 15U 0519559 UTM 5674509	<ul style="list-style-type: none"> <li>• Mafic fragmental</li> <li>• Quartz eyes</li> <li>• Disseminated sulphides, 1-2%</li> <li>• Foliated</li> <li>• Rusty gabbro/andescite</li> </ul>	Multi Element, Geochem ICP
538021 (previously sampled)	Aug 8/10	Goodall 15U 0519582 UTM 5674537	<ul style="list-style-type: none"> <li>• Rusty stained gabbro</li> <li>• Disseminated cubic pyrite along foliated planes</li> </ul>	Multi Element, Geochem

			<ul style="list-style-type: none"> <li>• Glassy fragmental</li> <li>• &lt;1% pyrite</li> </ul>	ICP
538022	Aug 8/10	Goodall 15U 0519582 UTM 5674537	<ul style="list-style-type: none"> <li>• 1-2" east-west trending quartz vein</li> <li>• Foggy</li> <li>• Black</li> <li>• Tourmaline??</li> </ul>	Au
538023	Aug 8/10	Goodall 15U 0520795 UTM 5673625	<ul style="list-style-type: none"> <li>• Rusty</li> <li>• Dark</li> <li>• Disseminated cubic pyrite</li> <li>• Mafic volcanic</li> <li>• &lt;2% sulphides</li> <li>• Foliated &amp; sheared</li> </ul>	Au
538024	Aug 11/10	Goodall 15U 0520867 UTM 5673377	<ul style="list-style-type: none"> <li>• Siliceous volcanic/quartz vein</li> <li>• Disseminated fine pyrite</li> </ul>	Au
538025	Aug 11/10	Goodall 15U 0520883 UTM 5673380	<ul style="list-style-type: none"> <li>• Quartz vein</li> <li>• New trench/discovery</li> <li>• Silicified acid volcanic</li> <li>• Poorly mineralized</li> <li>• Low sulphide content</li> </ul>	Au
538026	Aug 11/10	Goodall 15U 0520787 UTM 5673897	<ul style="list-style-type: none"> <li>• Quartz vein 1-2"</li> <li>• Pit: 5x8x5'</li> <li>• Quartz breccia</li> <li>• Sheared mafic volcanics</li> <li>• Odd disseminated cubic pyrite along contacts</li> <li>• Some blueish quartz streaking (tourmaline??)</li> </ul>	Au
538027	Aug 11/10	Goodall 15U 0520758 UTM 5673964	<ul style="list-style-type: none"> <li>• 1-2" quartz vein</li> <li>• East-west sheared mafic volcanics</li> <li>• Dipping 85 N</li> <li>• Re-discovery</li> </ul>	Au
538028	Aug 12/10	Goodall 15U 0528580 UTM 5681901	<ul style="list-style-type: none"> <li>• Quartz vein</li> <li>• Rusty black clots of disseminated sulphides</li> </ul>	Au
538029	Aug 12/10	Stevens Lake 15U 0519100 UTM 5673800	<ul style="list-style-type: none"> <li>• Rusty mafic volcanic</li> <li>• Silicified andesite</li> <li>• Odd disseminated pyrite</li> </ul>	Au
538030	Aug 13/10	Bob Joe Point 15U 0526276 UTM 5661013	<ul style="list-style-type: none"> <li>• Massive sulphide trench</li> <li>• Pyrite, pyrrhotite, chalcopyrite</li> </ul>	Multi Element, Geochem ICP, Rare Earths
538031	Aug 13/10	Bob Joe Point	<ul style="list-style-type: none"> <li>• Main quartz vein</li> </ul>	Au, Ag, Pb,

		15U 0526285 UTM 5661130	<ul style="list-style-type: none"> <li>Brecciated wall rock fragments on main showing</li> </ul>	Zn, Cu
538032	Aug 14/10	Leonard Lake West side 15U UTM	<ul style="list-style-type: none"> <li>Silicified andesite flow/fragmental</li> <li>Disseminated cubic pyrite</li> </ul>	Au
538033	Aug 12/10	Stevens lake 15U 0519272 UTM 5673737	<ul style="list-style-type: none"> <li>Fine andesite</li> <li>Disseminated cubic pyrite</li> <li>&lt;1%</li> </ul>	Au
538034	Aug 12/10	Stevens lake 15U 0519360 UTM 5673890	<ul style="list-style-type: none"> <li>Intrusive pyroxenite</li> <li>Disseminated cubic pyrite</li> </ul>	Multi Element, Geochem ICP
538035	Aug 14/10	Leonard Lake West side 15U UTM	<ul style="list-style-type: none"> <li>Porphyritic mafic volcanic</li> <li>Streaks of pyrite and pyrrhotite</li> </ul>	Au, Multi Element, Geochem ICP
538036	Aug 8/10	Leonard Lake North end 15U 0507394 UTM 5682235	<ul style="list-style-type: none"> <li>Silicified andesite/ quartz breccia</li> <li>Poorly mineralized</li> </ul>	Au
538037	Aug 14/10	KaBeeLo Lodge Road	<ul style="list-style-type: none"> <li>Sulphide cons.</li> <li>Fine grained crush (tails??)</li> <li>Copper ore??</li> </ul>	Multi Element, Geochem ICP, Rare Earths
538038	Aug 8/10	Stevens Lake 15U 0519489 UTM 5674138	<ul style="list-style-type: none"> <li>Silicified dacite</li> </ul>	Au
538039	Aug 10/10	Stevens Lake 15U 0519325 UTM 5673895	<ul style="list-style-type: none"> <li>Intermediate to mafic volcanic</li> <li>Odd quartz slips</li> <li>Well sheared</li> </ul>	Au
538040	Aug 11/10	Car Lake 15U 0507422 UTM 5678859	<ul style="list-style-type: none"> <li>White bull quartz</li> <li>Saw marks</li> <li>Fine fracture filling with chlorite</li> <li>No visible sulphides</li> <li>Rusty on weathered surface</li> <li>Clots of tourmalene??</li> </ul>	Au
538041	Aug 4/10	Sol d'Or Dump	<ul style="list-style-type: none"> <li>Quartz veining</li> <li>Wall rock attached</li> <li>Clots of chlorite and tourmalene</li> <li>Rusty patches in quartz</li> </ul>	Au



			vein <ul style="list-style-type: none"> <li>• Not much visible sulphide</li> </ul>	
538042	Aug 8/10	Sol d'Or Dump	<ul style="list-style-type: none"> <li>• Fine grained silicified volcanic</li> <li>• Fine quartz rich fractures</li> <li>• &lt;1" dark milky quartz</li> <li>• Tourmaline/chlorite??</li> </ul>	Au

Activation Laboratories Ltd. Report: A10-4637

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	ppm
Detection Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1	0.001	3	5
Analysis Method	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	
W538001	467	0.4	1.60	31	84	< 1	< 2	2.31	< 0.3	4	36	11	1.07	5	< 1	0.25	0.43	272	< 1	0.92	12	0.188	27	< 5
W538002	> 3000	< 0.3	0.78	12	62	< 1	< 2	0.72	< 0.3	3	27	4	0.76	4	< 1	0.21	0.18	168	< 1	0.44	9	0.011	79	< 5
W538003	> 3000	1.7	0.84	19	46	< 1	< 2	0.34	< 0.3	1	28	3	0.71	4	< 1	0.18	0.12	115	< 1	0.58	6	0.007	26	< 5
W538004	> 3000	1.3	0.55	12	31	< 1	< 2	0.67	< 0.3	2	32	5	0.82	3	< 1	0.10	0.30	159	2	0.27	10	0.003	7	< 5
W538005	751	0.5	5.23	25	207	< 1	< 2	1.67	< 0.3	7	63	8	1.97	26	< 1	0.70	1.05	301	5	2.81	31	0.043	6	< 5
W538006	> 3000	4.6	0.59	14	45	< 1	< 2	1.03	< 0.3	3	39	5	0.90	3	2	0.13	0.32	236	2	0.38	10	0.006	13	< 5
W538007	> 3000	0.7	0.48	6	26	< 1	< 2	0.24	< 0.3	2	27	5	0.86	3	< 1	0.09	0.10	123	5	0.31	5	0.003	4	< 5
W538008	958	< 0.3	0.27	4810	27	< 1	< 2	0.25	< 0.3	2	37	3	1.46	3	2	0.12	0.06	168	< 1	0.06	3	0.048	4	< 5

Activation Laboratories Ltd. Report: A10-5243

Analyte Symbol	Au	Au	Pd	Pt	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm
Detection Limit	5	2	5	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1
Analysis Method	FA-AA	FA-ICP	FA-ICP	FA-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
W538009	1260				0.7	5.78	26	99	2	< 2	4.50	< 0.3	23	22	30	4.99	24	< 1	2.75	1.75	866	< 1	2.54	8
W538010	1850				0.6	2.03	24	228	< 1	< 2	1.85	< 0.3	7	15	6	1.75	9	< 1	0.72	0.64	292	< 1	0.99	8
W538011	52				0.4	5.21	21	232	< 1	< 2	2.22	< 0.3	11	45	29	1.38	18	< 1	0.72	0.55	311	< 1	4.17	27
W538012	< 5				0.5	6.13	9	455	< 1	< 2	1.47	< 0.3	8	56	22	1.35	22	< 1	1.45	0.74	223	< 1	3.80	36
W538013	32				< 0.3	0.41	5	15	< 1	< 2	0.03	< 0.3	1	17	3	0.74	3	< 1	0.06	0.01	108	< 1	0.33	4
W538014	280				0.4	5.12	20	232	< 1	< 2	1.13	< 0.3	5	62	14	1.34	23	< 1	0.86	0.70	221	< 1	4.72	27
W538015	31				0.8	2.56	6	87	< 1	< 2	0.22	< 0.3	4	146	6	1.03	10	< 1	0.31	0.19	130	2	2.01	16
W538016	< 5				0.5	5.58	21	326	< 1	< 2	1.24	< 0.3	6	60	22	1.48	22	< 1	0.96	0.81	231	< 1	4.09	33
W538017	21				0.4	4.23	50	744	2	< 2	5.75	< 0.3	28	95	49	4.52	22	< 1	2.46	2.77	974	< 1	0.89	44
W538018	229				0.4	5.98	25	283	< 1	< 2	1.29	< 0.3	8	48	15	1.11	21	< 1	0.99	0.65	228	< 1	4.61	30
W538019A	< 5				0.4	6.05	16	370	< 1	< 2	1.35	< 0.3	4	54	19	1.37	23	< 1	1.32	0.71	258	< 1	3.93	29
W538019B	< 5				< 0.3	3.04	9	142	< 1	< 2	0.24	< 0.3	2	36	6	1.06	10	< 1	0.45	0.17	136	1	2.27	14
W538020	< 5				< 0.3	4.54	< 3	166	1	< 2	2.78	0.9	17	13	< 1	8.95	29	< 1	0.33	0.97	1940	< 1	2.38	3
W538021	< 5				< 0.3	4.65	32	103	1	< 2	4.10	1.1	22	6	10	9.75	31	< 1	0.26	1.31	1760	< 1	1.99	2
W538022	< 5				< 0.3	2.00	< 3	14	< 1	< 2	0.84	< 0.3	8	119	2	4.73	19	< 1	0.04	0.66	892	< 1	0.74	5
W538023	< 5				0.5	5.23	< 3	58	< 1	< 2	3.30	0.7	32	11	35	10.6	31	< 1	0.22	1.66	2080	< 1	2.56	2
W538024	< 5				< 0.3	6.24	13	100	< 1	< 2	6.90	0.5	57	287	119	8.29	24	< 1	0.23	5.04	1340	< 1	1.68	181
W538025	< 5				< 0.3	3.70	< 3	172	< 1	< 2	10.5	< 0.3	32	175	91	5.32	18	< 1	0.75	3.12	1030	< 1	0.20	102
W538026	41				0.4	2.79	43	62	< 1	< 2	5.62	0.3	25	17	27	5.49	20	< 1	0.52	1.78	1120	< 1	0.44	28
W538027	88				< 0.3	0.25	123	10	< 1	< 2	0.05	< 0.3	1	8	3	0.75	2	< 1	0.03	0.07	235	< 1	0.18	2
W538028	< 5				< 0.3	2.30	79	58	< 1	< 2	0.55	< 0.3	11	46	8	2.77	10	< 1	0.10	0.51	745	< 1	1.15	37
W538029	< 5				< 0.3	4.46	< 3	149	2	< 2	2.10	< 0.3	9	9	11	6.73	31	< 1	0.39	0.38	516	1	3.10	3
W538030		84	< 5	< 5	4.4	0.53	43	14	< 1	6	0.05	0.7	101	18	54	29.0	8	< 1	0.26	0.02	63	< 1	0.33	27
W538031		2280	< 5	< 5	1.2	2.05	< 3	68	< 1	< 2	3.90	1.6	27	11	38	5.58	19	< 1	0.41	1.15	1200	< 1	1.04	12
W538032	< 5				0.3	5.78	18	< 7	< 1	< 2	4.34	0.8	55	197	129	9.12	22	< 1	0.02	4.85	1380	< 1	2.04	129
W538033	< 5				1.0	4.18	4	154	2	< 2	2.33	0.7	12	35	17	5.88	31	< 1	0.68	0.70	1080	< 1	3.29	4
W538034		4	< 5	< 5	0.6	5.09	< 3	233	< 1	< 2	5.08	0.4	49	16	62	11.3	30	< 1	0.68	2.46	1770	< 1	2.20	28
W538035		2	< 5	< 5	0.5	5.37	20	59	< 1	< 2	5.87	1.3	70	33	55	11.7	26	< 1	0.20	3.50	1520	< 1	1.17	46
W538036	< 5				< 0.3	4.69	< 3	85	1	< 2	1.27	< 0.3	4	27	11	0.93	11	< 1	0.32	0.38	235	1	4.71	6
W538037		2520	< 5	< 5	> 100	0.12	856	9	< 1	526	0.03	47.3	118	20	> 10000	28.1	27	6	0.04	0.01	21	3	0.05	< 1
W538038	29				21.8	5.27	13	162	< 1	2	8.59	0.9	39	329	2750	7.20	26	< 1	0.44	3.65	1030	< 1	1.52	100
W538039	< 5				2.6	5.77	14	107	< 1	< 2	4.41	0.9	51	234	353	7.99	24	< 1	0.50	4.48	1530	< 1	2.25	113
W538040	9				0.7	0.10	4	9	< 1	< 2	0.36	< 0.3	1	27	98	0.44	< 1	< 1	0.03	0.08	72	< 1	0.02	4
W538041	2150				1.0	3.96	129	296	< 1	< 2	4.80	< 0.3	28	340	56	4.33	21	< 1	1.46	3.68	713	< 1	0.76	147
W538042	< 5				0.8	4.98	49	295	< 1	< 2	1.42	< 0.3	9	53	42	1.15	19	< 1	1.02	0.66	256	< 1	3.72	28
W538043	> 3000				1.8	0.32	5	18	< 1	< 2	0.50	< 0.3	1	9	25	0.64	2	< 1	0.08	0.15	110	< 1	0.15	4
W538044		12	8	58	4.6	0.03	< 3	< 7	< 1	< 2	0.01	1.2	71	9	5430	9.16	10	< 1	< 0.01	< 0.01	71	3	0.01	32

Quality Analysis ...



Innovative Technologies

Date Submitted: 05-Aug-10

Invoice No.: A10-4637

Invoice Date: 20-Aug-10

Your Reference: Big Bear

Billiken Management Services  
1000-15 Toronto Street  
Toronto Ontario M5C 2E3  
Canada

ATTN: Mr. Brian Newton

## CERTIFICATE OF ANALYSIS

8 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A10-4637**

Code 1A2-Tbay Au - Fire Assay AA  
Code 1A3-Tbay Au - Fire Assay Gravimetric  
Code 1F2-Tbay Total Digestion ICP(TOTAL)

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.

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

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Eseme".

Emmanuel Eseme , Ph.D.

Quality Control



### ACTIVATION LABORATORIES LTD.

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Activation Laboratories Ltd. Report: A10-4637

Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	ppm
Detection Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1	0.001	3	5
Analysis Method	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
W538001	467	0.4	1.60	31	84	< 1	< 2	2.31	< 0.3	4	36	11	1.07	5	< 1	0.25	0.43	272	< 1	0.92	12	0.188	27	< 5
W538002	> 3000	< 0.3	0.78	12	62	< 1	< 2	0.72	< 0.3	3	27	4	0.76	4	< 1	0.21	0.18	168	< 1	0.44	9	0.011	79	< 5
W538003	> 3000	1.7	0.84	19	46	< 1	< 2	0.34	< 0.3	1	28	3	0.71	4	< 1	0.18	0.12	115	< 1	0.58	6	0.007	26	< 5
W538004	> 3000	1.3	0.55	12	31	< 1	< 2	0.67	< 0.3	2	32	5	0.82	3	< 1	0.10	0.30	159	2	0.27	10	0.003	7	< 5
W538005	751	0.5	5.23	25	207	< 1	< 2	1.67	< 0.3	7	63	8	1.97	26	< 1	0.70	1.05	301	5	2.81	31	0.043	6	< 5
W538006	> 3000	4.6	0.59	14	45	< 1	< 2	1.03	< 0.3	3	39	5	0.90	3	2	0.13	0.32	236	2	0.38	10	0.006	13	< 5
W538007	> 3000	0.7	0.48	6	26	< 1	< 2	0.24	< 0.3	2	27	5	0.86	3	< 1	0.09	0.10	123	5	0.31	5	0.003	4	< 5
W538008	958	< 0.3	0.27	4810	27	< 1	< 2	0.25	< 0.3	2	37	3	1.46	3	2	0.12	0.06	168	< 1	0.06	3	0.048	4	< 5

Activation Laboratories Ltd.

Report: A10-4637

Analyte Symbol	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au
Unit Symbol	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.03
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA
W538001	0.13	4	195	< 2	0.06	< 5	< 10	14	100	4	53	< 5	
W538002	< 0.01	< 4	65	15	0.03	< 5	< 10	10	< 5	< 1	46	10	14.9
W538003	< 0.01	< 4	58	9	0.03	< 5	< 10	8	< 5	< 1	34	12	17.2
W538004	< 0.01	< 4	74	4	0.03	< 5	< 10	14	< 5	< 1	6	8	9.50
W538005	0.04	8	395	< 2	0.17	< 5	< 10	82	8	4	47	71	
W538006	0.04	< 4	85	6	0.04	< 5	< 10	17	< 5	1	10	11	12.6
W538007	< 0.01	< 4	38	< 2	0.02	< 5	< 10	9	< 5	< 1	6	8	3.04
W538008	0.18	< 4	9	< 2	0.04	< 5	< 10	5	< 5	3	27	9	

Activation Laboratories Ltd. Report: A10-4637

Quality Control																								
Analyte Symbol	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb
Unit Symbol	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	ppm
Detection Limit	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1	0.001	3	5
Analysis Method	FA-AA	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
GXR-1 Meas		31.0	2.00	413	701	1	1390	0.89	3.3	8	17	1120	23.3	16	4	0.04	0.21	903	12	0.05	43	0.058	726	44
GXR-1 Cert		31.0	3.52	427	750	1.22	1380	0.960	3.30	8.20	12.0	1110	23.6	13.8	3.90	0.0500	0.217	852	18.0	0.0520	41.0	0.0650	730	122
DNC-1 Meas					97					54	260	95									266			< 5
DNC-1 Cert					118					57.0	270.0	100.0									247			0.96
GXR-4 Meas		3.8	5.43	104	132	2	9	1.05	0.5	14	68	6590	3.06	22	< 1	4.11	1.71	150	308	0.52	45	0.138	38	< 5
GXR-4 Cert		4.00	7.20	98.0	1640	1.90	19.0	1.01	0.860	14.6	64.0	6520	3.09	20.0	0.110	4.01	1.66	155	310	0.564	42.0	0.120	52.0	4.80
SDC-1 Meas		< 0.3	6.42	< 3	598	3	< 2	1.07	< 0.3	19	62	27	4.77			2.78	1.02	910	< 1	1.50	37	0.057	22	< 5
SDC-1 Cert		0.0410	8.34	0.220	630	3.00	2.60	1.00	0.0800	17.9	64.0	30.0	4.82			2.72	1.02	883	0.250	1.52	38.0	0.0690	25.0	0.540
SCO-1 Meas		< 0.3	5.81	< 3	534	2	< 2	1.96	< 0.3	11	63	25	3.57			2.28	1.62	391	< 1	0.67	29	0.077	28	< 5
SCO-1 Cert		0.134	7.24	12.4	570	1.84	0.370	1.87	0.140	10.5	68.0	28.7	3.59			2.30	1.64	410	1.37	0.670	27.0	0.0900	31.0	2.50
GXR-6 Meas		0.4	10.7	243	> 1000	1	< 2	0.18	< 0.3	14	87	68	5.68	35	< 1	1.89	0.61	1100	< 1	0.09	29	0.037	98	< 5
GXR-6 Cert		1.30	17.7	330	1300	1.40	0.290	0.180	1.00	13.8	96.0	66.0	5.58	35.0	0.0680	1.87	0.609	1010	2.40	0.104	27.0	0.0350	101	3.60
OREAS 13P Meas												2510	7.71								2260			
OREAS 13P Cert												2500	7.58								2260			
CDN-GS-7A Meas																								
CDN-GS-7A Cert																								
CDN-GS-7A Meas																								
CDN-GS-7A Cert																								
CDN-GS-1F Meas	1110																							
CDN-GS-1F Cert	1160.00																							
W538003 Orig																								
W538003 Dup																								
W538004 Orig																								
W538004 Dup																								
W538007 Orig																								
W538007 Dup																								
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	12	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	6	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	15	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	8	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	13	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	7	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	7	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	9	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	17	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	8	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	1	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	8	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	13	< 1	< 0.01	< 1	< 0.001	< 3	< 5	
Method Blank Method Blank	< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	6	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	15	< 1	< 0.01	< 1	< 0.001	< 3	< 5	

Quality Control													
Analyte Symbol	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	Au
Unit Symbol	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.03
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FA-GRA
GXR-1 Meas	0.23	< 4	294	15		< 5	30	85	157	30	722	27	
GXR-1 Cert	0.257	1.58	275	13.0		0.390	34.9	80.0	164	32.0	760	38.0	
DNC-1 Meas		31	140					151		20	55	36	
DNC-1 Cert		31	144.0					148.0		18.0	70.0	38	
GXR-4 Meas	1.81	8	219	< 2		< 5	< 10	90	41	17	73	38	
GXR-4 Cert	1.77	7.70	221	0.970		3.20	6.20	87.0	30.8	14.0	73.0	186	
SDC-1 Meas	0.05	15	172		0.07			31	< 5	40	104	30	
SDC-1 Cert	0.0650	17.0	183		0.606			102	0.800	40.0	103	290	
SCO-1 Meas		12	162		0.22			109	< 5	23	100	18	
SCO-1 Cert		10.8	174		0.380			131	1.40	26.0	103	160	
GXR-6 Meas	0.01	29	39	< 2		< 5	< 10	115	< 5	17	135	64	
GXR-6 Cert	0.0160	27.6	35.0	0.0180		2.20	1.54	186	1.90	14.0	118	110	
OREAS 13P Meas													
OREAS 13P Cert													
CDN-GS-7A Meas													6.97
CDN-GS-7A Cert													7.20
CDN-GS-7A Meas													6.92
CDN-GS-7A Cert													7.20
CDN-GS-1F Meas													
CDN-GS-1F Cert													
W538003 Orig													17.4
W538003 Dup													17.1
W538004 Orig													9.89
W538004 Dup													9.11
W538007 Orig													3.06
W538007 Dup													3.02
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													
Method Blank Method	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5	
Blank													



Quality Analysis ...



Innovative Technologies

Date Submitted: 24-Aug-10

Invoice No.: A10-5243

Invoice Date: 07-Oct-10

Your Reference: Big Bear

Billiken Management Services

65 Front Street E., Suite 304

Toronto Ontario M5E 1B5

Canada

ATTN: Mr. Brian Newton

## CERTIFICATE OF ANALYSIS

37 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A10-5243**

Code 1A2-Tbay Au - Fire Assay AA  
Code 1A3-Tbay Au - Fire Assay Gravimetric  
Code 1C-Exp ICPOES-Tbay Fire Assay ICPOES  
Code 1F2-Tbay Total Digestion ICP(TOTAL)  
Code 8-4 Acid-Tbay Total Digestion Code 8-4 Acid Total Digestion Assays  
Code 8-REE-Rare Earth Element Pkg Major Elements Fusion  
ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

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### Notes:

Total includes all elements in % oxide to the left of total.

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

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

CERTIFIED BY :

A handwritten signature in black ink, appearing to read "Emmanuel Eseme".

Emmanuel Eseme, Ph.D.

Quality Control

ACTIVATION LABORATORIES LTD.

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+1.888.228.5227 FAX +1.905.648.9613  
E-MAIL [Ancaster@actlabs.com](mailto:Ancaster@actlabs.com) ACTLABS GROUP WEBSITE [www.actlabs.com](http://www.actlabs.com)



Activation Laboratories Ltd. Report: A10-5243

Analyte Symbol	Au	Au	Pd	Pl	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm
Detection Limit	5	2	5	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1
Analysis Method	FA-AA	FA-ICP	FA-ICP	FA-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
W538009	1260				0.7	5.78	26	99	2	< 2	4.50	< 0.3	23	22	30	4.99	24	< 1	2.75	1.75	866	< 1	2.54	8
W538010	1850				0.6	2.03	24	228	< 1	< 2	1.85	< 0.3	7	15	6	1.75	9	< 1	0.72	0.64	292	< 1	0.99	8
W538011	52				0.4	5.21	21	232	< 1	< 2	2.22	< 0.3	11	45	29	1.38	18	< 1	0.72	0.55	311	< 1	4.17	27
W538012	< 5				0.5	6.13	9	455	< 1	< 2	1.47	< 0.3	8	56	22	1.35	22	< 1	1.45	0.74	223	< 1	3.80	36
W538013	32				< 0.3	0.41	5	15	< 1	< 2	0.03	< 0.3	1	17	3	0.74	3	< 1	0.06	0.01	108	< 1	0.33	4
W538014	280				0.4	5.12	20	232	< 1	< 2	1.13	< 0.3	5	62	14	1.34	23	< 1	0.86	0.70	221	< 1	4.72	27
W538015	31				0.8	2.56	6	87	< 1	< 2	0.22	< 0.3	4	146	6	1.03	10	< 1	0.31	0.19	130	2	2.01	16
W538016	< 5				0.5	5.58	21	326	< 1	< 2	1.24	< 0.3	6	60	22	1.48	22	< 1	0.96	0.81	231	< 1	4.09	33
W538017	21				0.4	4.23	50	744	2	< 2	5.75	< 0.3	28	95	49	4.52	22	< 1	2.46	2.77	974	< 1	0.89	44
W538018	229				0.4	5.98	25	283	< 1	< 2	1.29	< 0.3	8	48	15	1.11	21	< 1	0.99	0.65	228	< 1	4.61	30
W538019A	< 5				0.4	6.05	16	370	< 1	< 2	1.35	< 0.3	4	54	19	1.37	23	< 1	1.32	0.71	258	< 1	3.93	29
W538019B	< 5				< 0.3	3.04	9	142	< 1	< 2	0.24	< 0.3	2	36	6	1.06	10	< 1	0.45	0.17	136	1	2.27	14
W538020	< 5				< 0.3	4.54	< 3	166	1	< 2	2.78	0.9	17	13	< 1	8.95	29	< 1	0.33	0.97	1940	< 1	2.38	3
W538021	< 5				< 0.3	4.65	32	103	1	< 2	4.10	1.1	22	6	10	9.75	31	< 1	0.26	1.31	1760	< 1	1.99	2
W538022	< 5				< 0.3	2.00	< 3	14	< 1	< 2	0.84	< 0.3	8	119	2	4.73	19	< 1	0.04	0.66	892	< 1	0.74	5
W538023	< 5				0.5	5.23	< 3	58	< 1	< 2	3.30	0.7	32	11	35	10.6	31	< 1	0.22	1.66	2080	< 1	2.56	2
W538024	< 5				< 0.3	6.24	13	100	< 1	< 2	6.90	0.5	57	287	119	8.29	24	< 1	0.23	5.04	1340	< 1	1.68	181
W538025	< 5				< 0.3	3.70	< 3	172	< 1	< 2	10.5	< 0.3	32	175	91	5.32	18	< 1	0.75	3.12	1030	< 1	0.20	102
W538026	41				0.4	2.79	43	62	< 1	< 2	5.62	0.3	25	17	27	5.49	20	< 1	0.52	1.78	1120	< 1	0.44	28
W538027	88				< 0.3	0.25	123	10	< 1	< 2	0.05	< 0.3	1	8	3	0.75	2	< 1	0.03	0.07	235	< 1	0.18	2
W538028	< 5				< 0.3	2.30	79	58	< 1	< 2	0.55	< 0.3	11	46	8	2.77	10	< 1	0.10	0.51	745	< 1	1.15	37
W538029	< 5				< 0.3	4.46	< 3	149	2	< 2	2.10	< 0.3	9	9	11	6.73	31	< 1	0.39	0.38	516	1	3.10	3
W538030		84	< 5	< 5	4.4	0.53	43	14	< 1	6	0.05	0.7	101	18	54	29.0	8	< 1	0.26	0.02	63	< 1	0.33	27
W538031		2280	< 5	< 5	1.2	2.05	< 3	68	< 1	< 2	3.90	1.6	27	11	38	5.58	19	< 1	0.41	1.15	1200	< 1	1.04	12
W538032	< 5				0.3	5.78	18	< 7	< 1	< 2	4.34	0.8	55	197	129	9.12	22	< 1	0.02	4.85	1380	< 1	2.04	129
W538033	< 5				1.0	4.18	4	154	2	< 2	2.33	0.7	12	35	17	5.88	31	< 1	0.68	0.70	1080	< 1	3.29	4
W538034		4	< 5	< 5	0.6	5.09	< 3	233	< 1	< 2	5.08	0.4	49	16	62	11.3	30	< 1	0.68	2.46	1770	< 1	2.20	28
W538035		2	< 5	< 5	0.5	5.37	20	59	< 1	< 2	5.87	1.3	70	33	55	11.7	26	< 1	0.20	3.50	1520	< 1	1.17	46
W538036	< 5				< 0.3	4.69	< 3	85	1	< 2	1.27	< 0.3	4	27	11	0.93	11	< 1	0.32	0.38	235	1	4.71	6
W538037		2520	< 5	< 5	> 100	0.12	856	9	< 1	526	0.03	47.3	118	20	> 10000	28.1	27	6	0.04	0.01	21	3	0.05	< 1
W538038	29				21.8	5.27	13	162	< 1	2	8.59	0.9	39	329	2750	7.20	26	< 1	0.44	3.65	1030	< 1	1.52	100
W538039	< 5				2.6	5.77	14	107	< 1	< 2	4.41	0.9	51	234	353	7.99	24	< 1	0.50	4.48	1530	< 1	2.25	113
W538040	9				0.7	0.10	4	9	< 1	< 2	0.36	< 0.3	1	27	98	0.44	< 1	< 1	0.03	0.08	72	< 1	0.02	4
W538041	2150				1.0	3.96	129	296	< 1	< 2	4.80	< 0.3	28	340	56	4.33	21	< 1	1.46	3.68	713	< 1	0.76	147
W538042	< 5				0.6	4.98	49	295	< 1	< 2	1.42	< 0.3	9	53	42	1.15	19	< 1	1.02	0.66	256	< 1	3.72	28
W538043	> 3000				1.8	0.32	5	18	< 1	< 2	0.50	< 0.3	1	9	25	0.64	2	< 1	0.08	0.15	110	< 1	0.15	4
W538044		12	8	58	4.6	0.03	< 3	< 7	< 1	< 2	0.01	1.2	71	9	5430	9.16	10	< 1	< 0.01	< 0.01	71	3	0.01	32

## Activation Laboratories Ltd.

Report: A10-5243

Analyte Symbol	P	Pb	Sb	S	Sc	Sr	Te	Ti	Ti	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
W538009	0.198	5	< 5	2.03	14	581	4	0.40	< 5	10	150	11	14	63	134									
W538010	0.064	14	< 5	0.68	5	183	7	0.12	< 5	< 10	48	9	4	33	17									
W538011	0.054	< 3	< 5	0.30	5	335	< 2	0.18	< 5	20	44	15	5	26	83									
W538012	0.031	< 3	< 5	0.02	5	437	< 2	0.14	< 5	< 10	36	< 5	3	46	86									
W538013	0.002	< 3	< 5	< 0.01	< 4	28	< 2	0.01	< 5	< 10	5	< 5	< 1	2	6									
W538014	0.022	6	< 5	< 0.01	4	394	3	0.18	< 5	10	47	14	2	40	97									
W538015	0.007	3	< 5	< 0.01	< 4	166	< 2	0.08	< 5	< 10	22	10	1	20	39									
W538016	0.031	< 3	< 5	< 0.01	6	414	3	0.18	< 5	10	46	< 5	3	39	93									
W538017	0.145	< 3	< 5	0.49	16	445	< 2	0.38	< 5	10	159	15	10	30	97									
W538018	0.019	< 3	< 5	0.06	5	307	5	0.18	< 5	10	41	< 5	3	39	94									
W538019A	0.032	< 3	< 5	< 0.01	6	294	3	0.14	< 5	10	36	< 5	4	38	80									
W538019B	0.014	< 3	< 5	< 0.01	< 4	156	< 2	0.10	< 5	< 10	23	< 5	2	19	7									
W538020	0.226	< 3	< 5	0.01	28	167	4	0.26	< 5	< 10	4	< 5	62	95	47									
W538021	0.319	4	< 5	0.02	31	158	3	0.33	< 5	< 10	18	< 5	59	128	8									
W538022	0.085	< 3	< 5	0.02	7	10	< 2	0.23	< 5	< 10	11	< 5	13	66	< 5									
W538023	0.198	3	< 5	0.36	31	112	3	0.82	< 5	< 10	27	< 5	53	168	121									
W538024	0.021	< 3	< 5	0.12	32	130	< 2	0.48	< 5	< 10	232	< 5	10	65	23									
W538025	0.014	< 3	< 5	< 0.01	21	28	7	0.16	< 5	10	136	< 5	8	62	21									
W538026	0.092	10	< 5	0.31	17	97	11	0.68	< 5	10	70	41	16	92	94									
W538027	0.004	< 3	< 5	< 0.01	< 4	6	< 2	0.02	< 5	< 10	3	< 5	1	8	< 5									
W538028	0.010	< 3	< 5	0.02	8	102	< 2	0.13	< 5	< 10	72	20	3	28	11									
W538029	0.066	4	< 5	0.02	17	177	3	0.29	< 5	10	7	< 5	103	52	31									
W538030	0.009	178	< 5	> 20.0	< 4	6	12	0.06	< 5	< 10	12	11	9	295	47	29.54	1.32	44.82	0.025	0.03	0.07	0.45	0.32	0.084
W538031	0.014	5	< 5	0.55	14	94	5	0.49	< 5	< 10	63	< 5	10	410	85	69.01	4.85	8.25	0.171	1.83	5.27	1.37	0.47	0.914
W538032	0.029	< 3	< 5	0.33	43	170	3	0.61	< 5	< 10	337	< 5	15	91	24									
W538033	0.097	< 3	< 5	0.11	15	123	9	0.45	< 5	10	12	< 5	74	89	388									
W538034	0.078	< 3	< 5	0.10	34	157	< 2	0.63	< 5	10	250	< 5	48	103	166	52.12	12.41	16.59	0.236	3.72	6.90	2.85	0.74	1.682
W538035	0.052	4	< 5	0.38	50	182	7	1.46	< 5	< 10	775	< 5	26	115	46	46.29	12.91	18.57	0.220	5.60	8.75	1.66	0.23	2.499
W538036	0.107	< 3	< 5	< 0.01	< 4	328	7	0.12	< 5	10	28	< 5	3	21	78									
W538037	0.056	> 5000	29	> 20.0	< 4	7	4	0.01	< 5	< 10	11	< 5	7	8770	31	1.30	0.30	39.24	0.015	0.02	0.04	0.06	0.05	0.017
W538038	0.025	422	< 5	0.42	39	112	< 2	0.27	< 5	10	133	< 5	16	156	13									
W538039	0.031	62	< 5	0.07	36	53	3	0.45	5	< 10	199	< 5	16	147	65									
W538040	< 0.001	25	< 5	0.02	< 4	7	< 2	0.01	< 5	< 10	7	< 5	< 1	12	< 5									
W538041	0.070	27	< 5	0.02	16	402	12	0.30	< 5	10	123	11	9	72	85									
W538042	0.031	5	< 5	0.03	6	291	< 2	0.17	< 5	10	44	< 5	3	17	83									
W538043	0.002	40	< 5	0.08	< 4	9	< 2	0.01	< 5	< 10	8	< 5	< 1	17	< 5									
W538044	0.001	122	< 5	10.4	< 4	1	< 2	< 0.01	< 5	< 10	3	< 5	< 1	25	< 5	77.23	0.07	15.64	0.013	0.01	0.03	0.02	0.01	0.003

Activation Laboratories Ltd. Report: A10-5243

Analyte Symbol	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb
Unit Symbol	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01		0.01	1	1	5	20	1	20	10	30	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
W538009																								
W538010																								
W538011																								
W538012																								
W538013																								
W538014																								
W538015																								
W538016																								
W538017																								
W538018																								
W538019A																								
W538019B																								
W538020																								
W538021																								
W538022																								
W538023																								
W538024																								
W538025																								
W538026																								
W538027																								
W538028																								
W538029																								
W538030	0.02	23.71	100.4	2	< 1	19	< 20	106	30	60	360	4	1	15	3	6	9	46	3	< 2	2.2	< 0.2	24	3.0
W538031	0.05	8.06	100.2	14	< 1	67	< 20	21	< 20	40	470	11	1	5	11	99	26	101	18	< 2	0.7	< 0.2	3	< 0.5
W538032																								
W538033																								
W538034	0.19	2.01	99.44	31	< 1	316	< 20	42	40	70	120	22	2	12	28	158	47	185	9	< 2	1.0	< 0.2	2	2.5
W538035	0.12	3.53	100.4	44	< 1	824	30	66	60	70	160	19	2	34	12	199	27	90	5	< 2	< 0.5	< 0.2	1	2.9
W538036																								
W538037	0.04	22.53	63.61	2	< 1	15	< 20	111	< 20	> 10000	8050	48	5	931	< 2	20	8	47	1	4		23.9	648	3150
W538038																								
W538039																								
W538040																								
W538041																								
W538042																								
W538043																								
W538044	< 0.01	7.20	100.2	< 1	< 1	< 5	< 20	74	40	5160	30	< 1	< 1	< 5	< 2	2	< 2	4	< 1	4	0.8	< 0.2	< 1	2.1

Activation Laboratories Ltd. Report: A10-5243

Analyte Symbol	Cs	Ba	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Ti	Pb	Th	U
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	ppm
Detection Limit	0.5	3	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1
Analysis Method	FUS-MS	FUS-ICP	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
W538009																								
W538010																								
W538011																								
W538012																								
W538013																								
W538014																								
W538015																								
W538016																								
W538017																								
W538018																								
W538019A																								
W538019B																								
W538020																								
W538021																								
W538022																								
W538023																								
W538024																								
W538025																								
W538026																								
W538027																								
W538028																								
W538029																								
W538030	< 0.5	60	4.6	3.7	8.9	1.14	5.2	1.4	0.41	1.6	0.3	1.8	0.4	1.1	0.17	1.2	0.20	1.1	0.1	4	< 0.1	140	0.7	0.2
W538031	< 0.5	75	< 0.4	8.5	20.2	2.64	11.7	3.3	0.98	4.0	0.7	4.7	1.0	2.9	0.44	3.0	0.49	2.6	0.7	3	< 0.1	5	0.9	0.3
W538032																								
W538033																								
W538034	4.5	230	< 0.4	13.5	33.7	4.63	20.8	6.0	1.90	7.2	1.3	8.5	1.7	5.2	0.80	5.5	0.87	4.8	0.6	2	0.3	< 5	1.6	0.4
W538035	0.9	66	< 0.4	5.2	13.9	2.03	9.9	3.1	1.14	4.0	0.8	4.8	1.0	3.0	0.46	3.2	0.52	2.3	0.3	2	< 0.1	8	0.5	0.1
W538036																								
W538037	< 0.5	30	581	11.9	20.8	2.32	8.3	1.6	0.67	1.6	0.3	1.5	0.3	0.9	0.14	1.0	0.16	1.1	0.1	7	0.8	38200	0.5	0.2
W538038																								
W538039																								
W538040																								
W538041																								
W538042																								
W538043																								
W538044	< 0.5	3	0.7	0.2	0.4	< 0.05	0.2	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.04	< 0.2	< 0.1	2	< 0.1	136	< 0.1	< 0.1

## Activation Laboratories Ltd.

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Analyte Symbol	Ag	Cu	Zn	Pb	Au	As	Sb
Unit Symbol	ppm	%	%	%	g/tonne	ppm	ppm
Detection Limit	3	0.001	0.001	0.003	0.03	2	0.2
Analysis Method	ICP-OES	ICP-OES	ICP-OES	ICP-OES	FA-GRA	INAA	INAA

W538009

W538010

W538011

W538012

W538013

W538014

W538015

W538016

W538017

W538018

W538019A

W538019B

W538020

W538021

W538022

W538023

W538024

W538025

W538026

W538027

W538028

W538029

W538030

W538031

W538032

W538033

W538034

W538035

W538036

W538037189021.20.9334.598451810

W538038

W538039

W538040

W538041

W538042

W5380435.82

W5380440.595

## Quality Control

Analyte Symbol	Au	Au	Pd	Pt	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm
Detection Limit	5	2	5	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1
Analysis Method	FA-AA	FA-ICP	FA-ICP	FA-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
GXR-1 Meas					30.3	1.97	418	700	1	1310	0.90	3.3	8	16	1130	23.0	16	2	0.05	0.23	886	16	0.04	44
GXR-1 Cert					31.0	3.52	427	750	1.22	1380	0.960	3.30	8.20	12.0	1110	23.6	13.8	3.90	0.0500	0.217	852	18.0	0.0520	41.0
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas								96					56	168	94									256
DNC-1 Cert								118					57.0	270.0	100.0									247
GBW 07113 Meas																								
GBW 07113 Cert																								
GXR-4 Meas					3.3	4.87	89	158	2	7	1.02	0.5	15	59	6100	2.77	23	< 1	2.85	1.67	139	304	0.48	40
GXR-4 Cert					4.00	7.20	98.0	1640	1.90	19.0	1.01	0.860	14.6	64.0	6520	3.09	20.0	0.110	4.01	1.66	155	310	0.564	42.0
CZN-3 Meas																								
CZN-3 Cert																								
SDC-1 Meas					< 0.3	6.03	< 3	572	3	< 2	1.04	< 0.3	17	57	29	4.26			2.68	0.97	778	< 1	1.44	35
SDC-1 Cert					0.0410	8.34	0.220	630	3.00	2.60	1.00	0.0800	17.9	64.0	30.0	4.82			2.72	1.02	883	0.250	1.52	38.0
SCO-1 Meas					0.3	5.30	5	514	2	< 2	1.86	0.3	12	74	27	3.20			2.24	1.55	356	< 1	0.63	27
SCO-1 Cert					0.134	7.24	12.4	570	1.84	0.370	1.87	0.140	10.5	68.0	28.7	3.59			2.30	1.64	410	1.37	0.670	27.0
GXR-6 Meas					0.4	9.54	217	> 1000	1	< 2	0.17	0.3	14	86	65	5.08	37	< 1	1.84	0.59	1010	< 1	0.09	27
GXR-6 Cert					1.30	17.7	330	1300	1.40	0.290	0.180	1.00	13.8	96.0	66.0	5.58	35.0	0.0680	1.87	0.609	1010	2.40	0.104	27.0
CCU-1C Meas																								
CCU-1C Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																								
NIST 1633b Cert																								
CD-1 Meas																								
CD-1 Cert																								
CPB-1 Meas																								
CPB-1 Cert																								
PTC-1a Meas																								
PTC-1a Cert																								
W-2a Meas																								
W-2a Cert																								
OREAS 13P Meas															2480	7.00								2180
OREAS 13P Cert															2500	7.58								2260
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
BIR-1a Meas																								
BIR-1a Cert																								
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
MP-1b Meas																								
MP-1b Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								



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Quality Control																								
Analyte Symbol	Au	Au	Pd	Pt	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn	Mo	Na	Ni
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm	ppm	%	ppm
Detection Limit	5	2	5	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1	1	0.01	1
Analysis Method	FA-AA	FA-ICP	FA-ICP	FA-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
CDN-GS-7A Meas																								
CDN-GS-7A Cert																								
JR-1 Meas																								
JR-1 Cert																								
SARM 3 Meas																								
SARM 3 Cert																								
CDN-GS-1E Meas	1180																							
CDN-GS-1E Cert	1160.00																							
CDN-PGMS-18 Meas		465	1470	329																				
CDN-PGMS-18 Cert		517.00	1420.00	329.00																				
CDN-PGMS-18 Meas		498	1440	336																				
CDN-PGMS-18 Cert		517.00	1420.00	329.00																				
CDN-GS-1F Meas	1190																							
CDN-GS-1F Cert	1160.00																							
W538017 Orig					0.4	3.54	51	735	2	< 2	5.63	< 0.3	28	92	49	4.44	22	< 1	2.61	2.63	972	< 1	0.90	44
W538017 Dup					0.4	4.91	50	753	2	< 2	5.87	< 0.3	28	97	48	4.61	22	< 1	2.30	2.92	976	< 1	0.89	44
W538018 Orig	259																							
W538018 Dup	199																							
W538027 Orig	97																							
W538027 Dup	80																							
W538030 Orig					4.5	0.54	45	16	< 1	5	0.05	0.7	101	19	55	29.4	7	1	0.27	0.02	63	< 1	0.33	27
W538030 Dup					4.2	0.52	41	11	< 1	7	0.05	0.6	101	18	53	28.7	8	< 1	0.26	0.02	64	< 1	0.33	27
W538037 Orig		2520	< 5	< 5	> 100	0.12	856	9	< 1	526	0.03	47.3	118	20	> 10000	28.1	27	6	0.04	0.01	21	3	0.05	< 1
W538037 Split		2520	< 5	6	> 100	0.12	846	8	< 1	499	0.04	46.4	115	7	> 10000	27.6	29	< 1	0.04	0.01	17	3	0.04	< 1
W538042 Orig	6																							
W538042 Dup	< 5																							
Method Blank Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	4	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	3	< 1	< 0.01	< 1
Method Blank Method Blank					< 0.3	< 0.01	< 3	< 7	< 1	< 2	< 0.01	< 0.3	< 1	5	< 1	< 0.01	< 1	< 1	< 0.01	< 0.01	9	< 1	< 0.01	< 1
Method Blank Method Blank																								
Method Blank Method Blank																								
Method Blank Method Blank	< 5																							
Method Blank Method Blank	< 5																							
Method Blank Method Blank		< 2	< 5	< 5																				
Method Blank Method Blank		< 2	< 5	< 5																				
Method Blank Method Blank		< 2	< 5	< 5																				
Method Blank Method Blank																								

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Quality Control																								
Analyte Symbol	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
GXR-1 Meas	0.062	731	80	0.25	< 4	285	17		< 5	40	91	178	26	731	27									
GXR-1 Cert	0.0650	730	122	0.257	1.58	275	13.0		0.390	34.9	80.0	164	32.0	760	38.0									
WMG-1 Meas																								
WMG-1 Cert																								
NIST 694 Meas																11.20	1.89	0.75	0.007	0.35	44.06	0.84	0.54	0.118
NIST 694 Cert																11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110
DNC-1 Meas			< 5		32	130					153		15	56	36									
DNC-1 Cert			0.96		31	144.0					148.0		18.0	70.0	38									
GBW 07113 Meas																72.01	12.74	3.25	0.137	0.14	0.58	2.39	5.32	0.284
GBW 07113 Cert																72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300
GXR-4 Meas	0.133	39	< 5	1.71	8	196	6		< 5	< 10	89	34	12	67	41									
GXR-4 Cert	0.120	52.0	4.80	1.77	7.70	221	0.970		3.20	6.20	87.0	30.6	14.0	73.0	186									
CZN-3 Meas																								
CZN-3 Cert																								
SDC-1 Meas	0.054	21	< 5	0.06	15	160		0.08			29	< 5	30	92	21									
SDC-1 Cert	0.0690	25.0	0.540	0.0650	17.0	183		0.606			102	0.800	40.0	103	290									
SCO-1 Meas	0.082	27	< 5		12	151		0.26			119	< 5	18	94	73									
SCO-1 Cert	0.0900	31.0	2.50		10.8	174		0.380			131	1.40	26.0	103	160									
GXR-6 Meas	0.034	82	< 5	0.01	28	35	< 2		< 5	< 10	113	< 5	12	124	54									
GXR-6 Cert	0.0350	101	3.60	0.0160	27.6	35.0	0.0180		2.20	1.54	186	1.90	14.0	118	110									
CCU-1C Meas																								
CCU-1C Cert																								
LKSD-3 Meas																								
LKSD-3 Cert																								
NIST 1633b Meas																48.45	28.18	11.05	0.020	0.77	2.10	0.25	2.31	1.302
NIST 1633b Cert																49.2	28.4	11.1	0.0200	0.800	2.11	0.270	2.35	1.32
CD-1 Meas																								
CD-1 Cert																								
CPB-1 Meas																								
CPB-1 Cert																								
PTC-1a Meas																								
PTC-1a Cert																								
W-2a Meas																52.55	15.31	10.54	0.167	6.22	10.42	2.43	0.71	1.063
W-2a Cert																52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06
OREAS 13P Meas																								
OREAS 13P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas																50.01	20.73	6.21	0.107	0.52	8.01	6.87	1.70	0.292
SY-4 Cert																49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287
CTA-AC-1 Meas																								
CTA-AC-1 Cert																								
BIR-1a Meas																47.59	15.35	11.37	0.176	9.49	13.29	1.73	0.02	0.971
BIR-1a Cert																47.8	15.4	11.3	0.171	9.68	13.2	1.75	0.0300	0.960
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas																								
NCS DC70014 Cert																								
NCS DC70009 (GBW07241) Meas																								
NCS DC70009 (GBW07241) Cert																								
MP-1b Meas																								
MP-1b Cert																								
OREAS 100a (Fusion) Meas																								
OREAS 100a (Fusion) Cert																								

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Quality Control																								
Analyte Symbol	P	Pb	Sb	S	Sc	Sr	Te	Ti	Tl	U	V	W	Y	Zn	Zr	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2
Unit Symbol	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP
OREAS 101a (Fusion) Meas																								
OREAS 101a (Fusion) Cert																								
CDN-GS-7A Meas																								
CDN-GS-7A Cert																								
JR-1 Meas																								
JR-1 Cert																								
SARM 3 Meas																								
SARM 3 Cert																								
CDN-GS-1E Meas																								
CDN-GS-1E Cert																								
CDN-PGMS-18 Meas																								
CDN-PGMS-18 Cert																								
CDN-PGMS-18 Meas																								
CDN-PGMS-18 Cert																								
CDN-GS-1F Meas																								
CDN-GS-1F Cert																								
W538017 Orig	0.139	< 3	< 5	0.48	12	432	< 2	0.37	< 5	10	157	15	8	30	92									
W538017 Dup	0.150	3	< 5	0.51	21	458	< 2	0.39	< 5	10	161	16	12	31	102									
W538018 Orig																								
W538018 Dup																								
W538027 Orig																								
W538027 Dup																								
W538030 Orig	0.010	179	< 5	> 20.0	< 4	6	7	0.06	< 5	< 10	12	13	9	300	48									
W538030 Dup	0.009	176	< 5	> 20.0	< 4	5	16	0.05	< 5	< 10	13	9	9	291	46									
W538037 Orig	0.056	> 5000	29	> 20.0	< 4	7	4	0.01	< 5	< 10	11	< 5	7	8770	31									
W538037 Split	0.060	> 5000	41	> 20.0	< 4	7	8	0.01	< 5	< 10	11	< 5	7	8530	31									
W538042 Orig																								
W538042 Dup																								
Method Blank Method Blank	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5									
Method Blank Method Blank	< 0.001	< 3	< 5	< 0.01	< 4	< 1	< 2	< 0.01	< 5	< 10	< 2	< 5	< 1	< 1	< 5									
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Quality Control																								
Analyte Symbol	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba
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
Detection Limit	0.01	1	1	5	20	1	20	10	30	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP
GXR-1 Meas																								
GXR-1 Cert																								
WMG-1 Meas					710	200	2610	5970	120	10		8					5	< 2	1.9		3		< 0.5	
WMG-1 Cert					770	200	2700	5900	110	10.3		7.00					6.00	1.40	2.70		2.20		0.480	
NIST 694 Meas	30.14			1679																				
NIST 694 Cert	30.2			1740																				
DNC-1 Meas					270	58	250	100	80													0.7		
DNC-1 Cert					270.0	57.0	247	100.0	70.0													0.96		
GBW 07113 Meas	0.04	5	4	< 5										41	46	397								482
GBW 07113 Cert	0.0500	5.00	4.00	5.00										43.0	43.0	403								506
GXR-4 Meas																								
GXR-4 Cert																								
CZN-3 Meas																								
CZN-3 Cert																								
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
CCU-1C Meas																								
CCU-1C Cert																								
LKSD-3 Meas					70	30	50	30				26	73					< 2	2.5		3	1.1	2.2	
LKSD-3 Cert					87.0	30.0	47.0	35.0				27.0	78.0					2.00	2.70		3.00	1.30	2.30	
NIST 1633b Meas	0.55	41		304										1026										688
NIST 1633b Cert	0.530	41.0		296										1040										709
CD-1 Meas																								
CD-1 Cert																								
CPB-1 Meas																								
CPB-1 Cert																								
PTC-1a Meas																								
PTC-1a Cert																								
W-2a Meas	0.14	35	< 1	276	90	43	80	110	80	17	2	< 5	20	192	19	87	7	< 2	< 0.5				0.9	172
W-2a Cert	0.130	36.0	1.30	262	92.0	43.0	70.0	110	80.0	17.0	1.00	1.20	21.0	190	24.0	94.0	7.90	0.600	0.0460				0.990	182
OREAS 13P Meas																								
OREAS 13P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	0.14	1	3	< 5										1196	119	547								341
SY-4 Cert	0.131	1.1	2.6	8.0										1191	119	517								340
CTA-AC-1 Meas						< 1			40															
CTA-AC-1 Cert						2.72			38.0															
BIR-1a Meas	0.03	44	< 1	338	370	53	170	130	70	15	2	< 5	< 2	105	15	15	< 1	< 2	< 0.5		1		< 0.5	8
BIR-1a Cert	0.0500	44.0	0.580	313	382	51.4	166	126	71.0	16.0	1.50	0.440	0.250	108	16.0	16.0	0.600	0.500	0.0360		0.650		0.00500	7.00
NCS DC86312 Meas																								
NCS DC86312 Cert																								
NCS DC70014 Meas						26	70	2590	7400	25								270	16.7			180		
NCS DC70014 Cert						26.2	70.9	2600.00	7400.00	25.2								270.000	16.7			180.000		
NCS DC70009 (GBW07241) Meas					30	3	< 20	980	110	16	11	70	496						2.0		1.3	1700	2.7	43.5
NCS DC70009 (GBW07241) Cert					30	3.7	2.8	960.000	100.000	16.5	11.2	69.9	500.00						1.8		1.3	1701	3.1	41
MP-1b Meas																								
MP-1b Cert																								
OREAS 100a (Fusion) Meas						18		170										24						
OREAS 100a (Fusion) Cert						18.1		169										24.1						

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Quality Control																								
Analyte Symbol	P2O5	Sc	Be	V	Cr	Co	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba
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
Detection Limit	0.01	1	1	5	20	1	20	10	30	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP
OREAS 101a (Fusion) Meas						46		420										19						
OREAS 101a (Fusion) Cert						48.8		434										21.9						
CDN-GS-7A Meas																								
CDN-GS-7A Cert																								
JR-1 Meas					< 20	< 1	< 20	< 10	30	17	3	18	260				15	3	< 0.5	< 0.2		1.2	20.9	
JR-1 Cert					2.83	0.83	1.67	2.68	30.6	16.1	1.88	16.3	257				15.2	3.25	0.031	0.028		1.19	20.8	
SARM 3 Meas																	978							
SARM 3 Cert																	978							
CDN-GS-1E Meas																								
CDN-GS-1E Cert																								
CDN-PGMS-18 Meas																								
CDN-PGMS-18 Cert																								
CDN-PGMS-18 Meas																								
CDN-PGMS-18 Cert																								
CDN-GS-1F Meas																								
CDN-GS-1F Cert																								
W538017 Orig																								
W538017 Dup																								
W538018 Orig																								
W538018 Dup																								
W538027 Orig																								
W538027 Dup																								
W538030 Orig																								
W538030 Dup																								
W538037 Orig																								
W538037 Split																								
W538042 Orig																								
W538042 Dup																								
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Method Blank Method Blank					< 20	< 1	< 20	< 10	< 30	< 1	< 1	< 5	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5	
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Activation Laboratories Ltd. Report: A10-5243

Quality Control

Analyte Symbol	Bi	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Ti	Pb	Th	U	Ag	Cu
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	%
Detection Limit	0.4	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.1	0.1	3	0.001
Analysis Method	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	ICP-OES	ICP-OES	
GXR-1 Meas																								
GXR-1 Cert																								
WMG-1 Meas						2.4	0.74		0.5	2.4	0.5		0.19	1.3	0.19	1.5	0.3	1		20	1.2	0.7		
WMG-1 Cert						2.30	0.820		0.300	2.80	0.500		0.200	1.30	0.210	1.30	0.500	1.30		15.0	1.10	0.650		
NIST 694 Meas																								
NIST 694 Cert																								
DNC-1 Meas		3.7			5.2		0.55							1.8										
DNC-1 Cert		3.6			5.20		0.59							2.0										
GBW 07113 Meas																								
GBW 07113 Cert																								
GXR-4 Meas																								
GXR-4 Cert																								
CZN-3 Meas																							43	0.685
CZN-3 Cert																							45	0.685
SDC-1 Meas																								
SDC-1 Cert																								
SCO-1 Meas																								
SCO-1 Cert																								
GXR-6 Meas																								
GXR-6 Cert																								
CCU-1C Meas																								25.6
CCU-1C Cert																								25.6
LKSD-3 Meas		49.2	90.3		41.5	7.0	1.25			4.4				2.5	0.36	4.7	0.6	1		24	10.1	4.7		
LKSD-3 Cert		52.0	90.0		44.0	8.00	1.50			4.90				2.70	0.400	4.80	0.700	2.00		29.0	11.4	4.60		
NIST 1633b Meas																								
NIST 1633b Cert																								
CD-1 Meas																								
CD-1 Cert																								
CPB-1 Meas																								
CPB-1 Cert																								
PTC-1a Meas																							55	13.5
PTC-1a Cert																						56.0	13.51	
W-2a Meas	< 0.4	11.2	24.9		12.9	3.3	1.08		0.8	3.7	0.8	2.1	0.30	2.1	0.29	2.5	0.5		< 0.1	9	2.2	0.5		
W-2a Cert	0.0300	10.0	23.0		13.0	3.30	1.00		0.630	3.60	0.760	2.50	0.380	2.10	0.330	2.60	0.500		0.200	9.30	2.40	0.530		
OREAS 13P Meas																								0.242
OREAS 13P Cert																								0.250
OREAS 14P Meas																								1.02
OREAS 14P Cert																								0.997
SY-4 Meas																								
SY-4 Cert																								
CTA-AC-1 Meas		2160	3330		1120	164	44.8	128	14.8					10.8	1.11		2.7				22.7	4.0		
CTA-AC-1 Cert		2176	3326		1087	162	46.7	124	13.9					11.4	1.08		2.65				21.8	4.4		
BIR-1a Meas	< 0.4	0.5	1.7	0.33	2.3	1.0	0.47	1.6	0.5	2.4	0.5	1.5	0.23	1.6	0.23	0.6	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1		
BIR-1a Cert	0.0200	0.620	1.95	0.380	2.50	1.10	0.540	1.85	0.360	2.50	0.570	1.70	0.260	1.65	0.260	0.600	0.0400	0.0700	0.0100	3.00	0.0300	0.0100		
NCS DC86312 Meas		2400	189		1580			223	34.4	183	35.7	96.3	14.4	87.7	12.0									
NCS DC86312 Cert		2360.000	190.000		1600.000			225.0	34.6	183.00	35.70	96.2	15.1	87.79	11.96									
NCS DC70014 Meas	80.3	44.8	88.8	10.1	38.0	7.9	1.68	7.2	1.2	6.4	1.3	3.5	0.54	3.4	0.49					27200				
NCS DC70014 Cert	80.3	45.3	87.0	10.8	39.9	8.0	1.8	7.4	1.1	6.7	1.3	3.5	0.57	3.3	0.50					27200.00				
NCS DC70009 (GBW07241) Meas		23.2	59.6	7.55	30.6	12.0	0.11	13.8	3.2	19.8	4.1	12.1	2.24	15.4	2.14			2200	2.1		28.6			
NCS DC70009 (GBW07241) Cert		23.7	60.3	7.9	32.9	12.5	0.16	14.8	3.3	20.7	4.5	13.4	2.2	14.9	2.4			2200.00	1.8		28.3			
MP-1b Meas																							48	3.11
MP-1b Cert																						47.0	3.069	
OREAS 100a (Fusion) Meas		264	462	47.5	152	24.7	3.69	21.3	3.8	23.0	5.0	14.5	2.40	15.4	2.16						51.4	135		
OREAS 100a (Fusion) Cert		260	463	47.1	152	23.6	3.71	23.6	3.80	23.2	4.81	14.9	2.31	14.9	2.26						51.6	135		

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[illegible]



**Quality Control**

Analyte Symbol	Zn	Pb	Au	As	Sb
Unit Symbol	%	%	g/tonne	ppm	ppm
Detection Limit	0.001	0.003	0.03	2	0.2
Analysis Method	ICP-OES	ICP-OES	FA-GRA	INAA	INAA

GXR-1 Meas					
GXR-1 Cert					
WMG-1 Meas					
WMG-1 Cert					
NIST 694 Meas					
NIST 694 Cert					
DNC-1 Meas					
DNC-1 Cert					
GBW 07113 Meas					
GBW 07113 Cert					
GXR-4 Meas					
GXR-4 Cert					
CZN-3 Meas	51.0	0.113			
CZN-3 Cert	50.9	0.113			
SDC-1 Meas					
SDC-1 Cert					
SCO-1 Meas					
SCO-1 Cert					
GXR-6 Meas					
GXR-6 Cert					
CCU-1C Meas	3.99				
CCU-1C Cert	3.99				
LKSD-3 Meas					
LKSD-3 Cert					
NIST 1633b Meas					
NIST 1633b Cert					
CD-1 Meas				6640	> 10000
CD-1 Cert				6600	35700
CPB-1 Meas	4.43	64.6			
CPB-1 Cert	4.42	64.7			
PTC-1a Meas		0.055			
PTC-1a Cert		0.05			
W-2a Meas					
W-2a Cert					
OREAS 13P Meas					
OREAS 13P Cert					
OREAS 14P Meas					
OREAS 14P Cert					
SY-4 Meas					
SY-4 Cert					
CTA-AC-1 Meas					
CTA-AC-1 Cert					
BIR-1a Meas					
BIR-1a Cert					
NCS DC86312 Meas					
NCS DC86312 Cert					
NCS DC70014 Meas					
NCS DC70014 Cert					
NCS DC70009					
(GBW07241) Meas					
NCS DC70009					
(GBW07241) Cert					
MP-1b Meas	16.8	2.09			
MP-1b Cert	16.67	2.091			
OREAS 100a (Fusion)					
Meas					
OREAS 100a (Fusion)					
Cert					

**Quality Control**

<b>Analyte Symbol</b>	Zn	Pb	Au	As	Sb
<b>Unit Symbol</b>	%	%	g/tonne	ppm	ppm
<b>Detection Limit</b>	0.001	0.003	0.03	2	0.2
<b>Analysis Method</b>	ICP-OES	ICP-OES	FA-GRA	INAA	INAA

OREAS 101a (Fusion)

Meas

OREAS 101a (Fusion)

Cert

CDN-GS-7A Meas 7.04

CDN-GS-7A Cert 7.20

JR-1 Meas

JR-1 Cert

SARM 3 Meas

SARM 3 Cert

CDN-GS-1E Meas

CDN-GS-1E Cert

CDN-PGMS-18 Meas

CDN-PGMS-18 Cert

CDN-PGMS-18 Meas

CDN-PGMS-18 Cert

CDN-GS-1F Meas

CDN-GS-1F Cert

W538017 Orig

W538017 Dup

W538018 Orig

W538018 Dup

W538027 Orig

W538027 Dup

W538030 Orig

W538030 Dup

W538037 Orig 0.933 4.59

W538037 Split 0.906 4.59

W538042 Orig

W538042 Dup

Method Blank Method

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Method Blank Method 0.001 &lt; 0.003

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Final Report  
Activation Laboratories

Analyte Symbol	Au	Au	Pd	Pt	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	Mg	Mn
Unit Symbol	ppb	ppb	ppb	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	ppm
Detection Limit	5	2	5	5	0.3	0.01	3	7	1	2	0.01	0.3	1	1	1	0.01	1	1	0.01	0.01	1
Analysis Method	FA-AA	FA-ICP	FA-ICP	FA-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
W538009	1260				0.7	5.78	26	99	2	< 2	4.5	< 0.3	23	22	30	4.99	24	< 1	2.75	1.75	866
W538010	1850				0.6	2.03	24	228	< 1	< 2	1.85	< 0.3	7	15	6	1.75	9	< 1	0.72	0.64	292
W538011	52				0.4	5.21	21	232	< 1	< 2	2.22	< 0.3	11	45	29	1.38	18	< 1	0.72	0.55	311
W538012	< 5				0.5	6.13	9	455	< 1	< 2	1.47	< 0.3	8	56	22	1.35	22	< 1	1.45	0.74	223
W538013	32				< 0.3	0.41	5	15	< 1	< 2	0.03	< 0.3	1	17	3	0.74	3	< 1	0.06	0.01	108
W538014	280				0.4	5.12	20	232	< 1	< 2	1.13	< 0.3	5	62	14	1.34	23	< 1	0.86	0.7	221
W538015	31				0.8	2.56	6	87	< 1	< 2	0.22	< 0.3	4	146	6	1.03	10	< 1	0.31	0.19	130
W538016	< 5				0.5	5.58	21	326	< 1	< 2	1.24	< 0.3	6	60	22	1.48	22	< 1	0.96	0.81	231
W538017	21				0.4	4.23	50	744	2	< 2	5.75	< 0.3	28	95	49	4.52	22	< 1	2.46	2.77	974
W538018	229				0.4	5.98	25	283	< 1	< 2	1.29	< 0.3	8	48	15	1.11	21	< 1	0.99	0.65	228
W538019A	< 5				0.4	6.05	16	370	< 1	< 2	1.35	< 0.3	4	54	19	1.37	23	< 1	1.32	0.71	258
W538019B	< 5				< 0.3	3.04	9	142	< 1	< 2	0.24	< 0.3	2	36	6	1.06	10	< 1	0.45	0.17	136
W538020	< 5				< 0.3	4.54	< 3	166	1	< 2	2.78	0.9	17	13	< 1	8.95	29	< 1	0.33	0.97	1940
W538021	< 5				< 0.3	4.65	32	103	1	< 2	4.1	1.1	22	6	10	9.75	31	< 1	0.26	1.31	1760
W538022	< 5				< 0.3	2	< 3	14	< 1	< 2	0.84	< 0.3	8	119	2	4.73	19	< 1	0.04	0.66	892
W538023	< 5				0.5	5.23	< 3	58	< 1	< 2	3.3	0.7	32	11	35	10.6	31	< 1	0.22	1.66	2080
W538024	< 5				< 0.3	6.24	13	100	< 1	< 2	6.9	0.5	57	287	119	8.29	24	< 1	0.23	5.04	1340
W538025	< 5				< 0.3	3.7	< 3	172	< 1	< 2	10.5	< 0.3	32	175	91	5.32	18	< 1	0.75	3.12	1030
W538026	41				0.4	2.79	43	62	< 1	< 2	5.62	0.3	25	17	27	5.49	20	< 1	0.52	1.78	1120
W538027	88				< 0.3	0.25	123	10	< 1	< 2	0.05	< 0.3	1	8	3	0.75	2	< 1	0.03	0.07	235
W538028	< 5				< 0.3	2.3	79	58	< 1	< 2	0.55	< 0.3	11	46	8	2.77	10	< 1	0.1	0.51	745
W538029	< 5				< 0.3	4.46	< 3	149	2	< 2	2.1	< 0.3	9	9	11	6.73	31	< 1	0.39	0.38	516
W538030		84	< 5	< 5	4.4	0.53	43	14	< 1	6	0.05	0.7	101	18	54	29	8	< 1	0.26	0.02	63
W538031		2280	< 5	< 5	1.2	2.05	< 3	68	< 1	< 2	3.9	1.6	27	11	38	5.58	19	< 1	0.41	1.15	1200
W538032	< 5				0.3	5.78	18	< 7	< 1	< 2	4.34	0.8	55	197	129	9.12	22	< 1	0.02	4.85	1380
W538033	< 5				1	4.18	4	154	2	< 2	2.33	0.7	12	35	17	5.88	31	< 1	0.68	0.7	1080
W538034		4	< 5	< 5	0.6	5.09	< 3	233	< 1	< 2	5.08	0.4	49	16	62	11.3	30	< 1	0.68	2.46	1770
W538035		2	< 5	< 5	0.5	5.37	20	59	< 1	< 2	5.87	1.3	70	33	55	11.7	26	< 1	0.2	3.5	1520
W538036	< 5				< 0.3	4.69	< 3	85	1	< 2	1.27	< 0.3	4	27	11	0.93	11	< 1	0.32	0.38	235
W538037		2520	< 5	< 5	> 100	0.12	856	9	< 1	526	0.03	47.3	118	20	> 10000	28.1	27	6	0.04	0.01	21
W538038	29				21.8	5.27	13	162	< 1	2	8.59	0.9	39	329	2750	7.2	26	< 1	0.44	3.65	1030
W538039	< 5				2.6	5.77	14	107	< 1	< 2	4.41	0.9	51	234	353	7.99	24	< 1	0.5	4.48	1530
W538040	9				0.7	0.1	4	9	< 1	< 2	0.36	< 0.3	1	27	98	0.44	< 1	< 1	0.03	0.08	72
W538041	2150				1	3.96	129	296	< 1	< 2	4.8	< 0.3	28	340	56	4.33	21	< 1	1.46	3.68	713
W538042	< 5				0.6	4.98	49	295	< 1	< 2	1.42	< 0.3	9	53	42	1.15	19	< 1	1.02	0.66	256
W538043	> 3000				1.8	0.32	5	18	< 1	< 2	0.5	< 0.3	1	9	25	0.64	2	< 1	0.08	0.15	110
W538044		12	8	58	4.6	0.03	< 3	< 7	< 1	< 2	0.01	1.2	71	9	5430	9.16	10	< 1	< 0.01	< 0.01	71

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Analyte Symbol	Mo	Na	Ni	P	Pb	Sb	S	Sc	Sr	Te	Ti	Ti	U	V	W	Y	Zn	Zr	SiO2	Al2O3
Unit Symbol	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Detection Limit	1	0.01	1	0.001	3	5	0.01	4	1	2	0.01	5	10	2	5	1	1	5	0.01	0.01
Analysis Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	FUS-ICP	FUS-ICP
W538009	< 1	2.54	8	0.198	5	< 5	2.03	14	581	4	0.4	< 5	10	150	11	14	63	134		
W538010	< 1	0.99	8	0.064	14	< 5	0.68	5	183	7	0.12	< 5	< 10	48	9	4	33	17		
W538011	< 1	4.17	27	0.054	< 3	< 5	0.3	5	335	< 2	0.18	< 5	20	44	15	5	26	83		
W538012	< 1	3.8	36	0.031	< 3	< 5	0.02	5	437	< 2	0.14	< 5	< 10	36	< 5	3	46	86		
W538013	< 1	0.33	4	0.002	< 3	< 5	< 0.01	< 4	28	< 2	0.01	< 5	< 10	5	< 5	< 1	2	6		
W538014	< 1	4.72	27	0.022	6	< 5	< 0.01	4	394	3	0.18	< 5	10	47	14	2	40	97		
W538015	2	2.01	16	0.007	3	< 5	< 0.01	< 4	166	< 2	0.08	< 5	< 10	22	10	1	20	39		
W538016	< 1	4.09	33	0.031	< 3	< 5	< 0.01	6	414	3	0.18	< 5	10	46	< 5	3	39	93		
W538017	< 1	0.89	44	0.145	< 3	< 5	0.49	16	445	< 2	0.38	< 5	10	159	15	10	30	97		
W538018	< 1	4.61	30	0.019	< 3	< 5	0.06	5	307	5	0.18	< 5	10	41	< 5	3	39	94		
W538019A	< 1	3.93	29	0.032	< 3	< 5	< 0.01	6	294	3	0.14	< 5	10	36	< 5	4	38	80		
W538019B	1	2.27	14	0.014	< 3	< 5	< 0.01	< 4	156	< 2	0.1	< 5	< 10	23	< 5	2	19	7		
W538020	< 1	2.38	3	0.226	< 3	< 5	0.01	28	167	4	0.26	< 5	< 10	4	< 5	62	95	47		
W538021	< 1	1.99	2	0.319	4	< 5	0.02	31	158	3	0.33	< 5	< 10	18	< 5	59	128	8		
W538022	< 1	0.74	5	0.085	< 3	< 5	0.02	7	10	< 2	0.23	< 5	< 10	11	< 5	13	66	< 5		
W538023	< 1	2.56	2	0.198	3	< 5	0.36	31	112	3	0.82	< 5	< 10	27	< 5	53	168	121		
W538024	< 1	1.68	181	0.021	< 3	< 5	0.12	32	130	< 2	0.48	< 5	< 10	232	< 5	10	65	23		
W538025	< 1	0.2	102	0.014	< 3	< 5	< 0.01	21	28	7	0.16	< 5	10	136	< 5	8	62	21		
W538026	< 1	0.44	28	0.092	10	< 5	0.31	17	97	11	0.68	< 5	10	70	41	16	92	94		
W538027	< 1	0.18	2	0.004	< 3	< 5	< 0.01	< 4	6	< 2	0.02	< 5	< 10	3	< 5	1	8	< 5		
W538028	< 1	1.15	37	0.01	< 3	< 5	0.02	8	102	< 2	0.13	< 5	< 10	72	20	3	28	11		
W538029	1	3.1	3	0.066	4	< 5	0.02	17	177	3	0.29	< 5	10	7	< 5	103	52	31		
W538030	< 1	0.33	27	0.009	178	< 5	> 20.0	< 4	6	12	0.06	< 5	< 10	12	11	9	295	47	29.54	1.32
W538031	< 1	1.04	12	0.014	5	< 5	0.55	14	94	5	0.49	< 5	< 10	63	< 5	10	410	85	69.01	4.85
W538032	< 1	2.04	129	0.029	< 3	< 5	0.33	43	170	3	0.61	< 5	< 10	337	< 5	15	91	24		
W538033	< 1	3.29	4	0.097	< 3	< 5	0.11	15	123	9	0.45	< 5	10	12	< 5	74	89	388		
W538034	< 1	2.2	28	0.078	< 3	< 5	0.1	34	157	< 2	0.63	< 5	10	250	< 5	48	103	166	52.12	12.41
W538035	< 1	1.17	46	0.052	4	< 5	0.38	50	182	7	1.46	< 5	< 10	775	< 5	26	115	46	46.29	12.91
W538036	1	4.71	6	0.107	< 3	< 5	< 0.01	< 4	328	7	0.12	< 5	10	28	< 5	3	21	78		
W538037	3	0.05	< 1	0.056	> 5000	29	> 20.0	< 4	7	4	0.01	< 5	< 10	11	< 5	7	8770	31	1.3	0.3
W538038	< 1	1.52	100	0.025	422	< 5	0.42	39	112	< 2	0.27	< 5	10	133	< 5	16	156	13		
W538039	< 1	2.25	113	0.031	62	< 5	0.07	36	53	3	0.45	5	< 10	199	< 5	16	147	65		
W538040	< 1	0.02	4	< 0.001	25	< 5	0.02	< 4	7	< 2	0.01	< 5	< 10	7	< 5	< 1	12	< 5		
W538041	< 1	0.76	147	0.07	27	< 5	0.02	16	402	12	0.3	< 5	10	123	11	9	72	85		
W538042	< 1	3.72	28	0.031	5	< 5	0.03	6	291	< 2	0.17	< 5	10	44	< 5	3	17	83		
W538043	< 1	0.15	4	0.002	40	< 5	0.08	< 4	9	< 2	0.01	< 5	< 10	8	< 5	< 1	17	< 5		
W538044	3	0.01	32	0.001	122	< 5	10.4	< 4	1	< 2	< 0.01	< 5	< 10	3	< 5	< 1	25	< 5	77.23	0.07

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Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Sc	Be	V	Cr	Co	Ni	Cu	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	1	5	20	1	20	10	30
Analysis Method	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	FUS-MS
W538009																		
W538010																		
W538011																		
W538012																		
W538013																		
W538014																		
W538015																		
W538016																		
W538017																		
W538018																		
W538019A																		
W538019B																		
W538020																		
W538021																		
W538022																		
W538023																		
W538024																		
W538025																		
W538026																		
W538027																		
W538028																		
W538029																		
W538030	44.82	0.025	0.03	0.07	0.45	0.32	0.084	0.02	23.71	100.4	2	< 1	19	< 20	106	30	60	360
W538031	8.25	0.171	1.83	5.27	1.37	0.47	0.914	0.05	8.06	100.2	14	< 1	67	< 20	21	< 20	40	470
W538032																		
W538033																		
W538034	16.59	0.236	3.72	6.9	2.85	0.74	1.682	0.19	2.01	99.44	31	< 1	316	< 20	42	40	70	120
W538035	18.57	0.22	5.6	8.75	1.66	0.23	2.499	0.12	3.53	100.4	44	< 1	824	30	66	60	70	160
W538036																		
W538037	39.24	0.015	0.02	0.04	0.06	0.05	0.017	0.04	22.53	63.61	2	< 1	15	< 20	111	< 20	> 10000	8050
W538038																		
W538039																		
W538040																		
W538041																		
W538042																		
W538043																		
W538044	15.64	0.013	0.01	0.03	0.02	0.01	0.003	< 0.01	7.2	100.2	< 1	< 1	< 5	< 20	74	40	5160	30

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**Final Report**  
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Analyte Symbol	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	Bi	La	Ce
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.4	0.1	0.1
Analysis Method	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS
W538009																		
W538010																		
W538011																		
W538012																		
W538013																		
W538014																		
W538015																		
W538016																		
W538017																		
W538018																		
W538019A																		
W538019B																		
W538020																		
W538021																		
W538022																		
W538023																		
W538024																		
W538025																		
W538026																		
W538027																		
W538028																		
W538029																		
W538030	4	1	15	3	6	9	46	3	< 2	2.2	< 0.2	24	3	< 0.5	60	4.6	3.7	8.9
W538031	11	1	5	11	99	26	101	18	< 2	0.7	< 0.2	3	< 0.5	< 0.5	75	< 0.4	8.5	20.2
W538032																		
W538033																		
W538034	22	2	12	28	158	47	185	9	< 2	1	< 0.2	2	2.5	4.5	230	< 0.4	13.5	33.7
W538035	19	2	34	12	199	27	90	5	< 2	< 0.5	< 0.2	1	2.9	0.9	66	< 0.4	5.2	13.9
W538036																		
W538037	48	5	931	< 2	20	8	47	1	4		23.9	648	3150	< 0.5	30	581	11.9	20.8
W538038																		
W538039																		
W538040																		
W538041																		
W538042																		
W538043																		
W538044	< 1	< 1	< 5	< 2	2	< 2	4	< 1	4	0.8	< 0.2	< 1	2.1	< 0.5	3	0.7	0.2	0.4

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Analyte Symbol	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Th
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.05	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.1
Analysis Method	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
W538009																		
W538010																		
W538011																		
W538012																		
W538013																		
W538014																		
W538015																		
W538016																		
W538017																		
W538018																		
W538019A																		
W538019B																		
W538020																		
W538021																		
W538022																		
W538023																		
W538024																		
W538025																		
W538026																		
W538027																		
W538028																		
W538029																		
W538030	1.14	5.2	1.4	0.41	1.6	0.3	1.8	0.4	1.1	0.17	1.2	0.2	1.1	0.1	4	< 0.1	140	0.7
W538031	2.64	11.7	3.3	0.98	4	0.7	4.7	1	2.9	0.44	3	0.49	2.6	0.7	3	< 0.1	5	0.9
W538032																		
W538033																		
W538034	4.63	20.8	6	1.9	7.2	1.3	8.5	1.7	5.2	0.8	5.5	0.87	4.8	0.6	2	0.3	< 5	1.6
W538035	2.03	9.9	3.1	1.14	4	0.8	4.8	1	3	0.46	3.2	0.52	2.3	0.3	2	< 0.1	8	0.5
W538036																		
W538037	2.32	8.3	1.6	0.67	1.6	0.3	1.5	0.3	0.9	0.14	1	0.16	1.1	0.1	7	0.8	38200	0.5
W538038																		
W538039																		
W538040																		
W538041																		
W538042																		
W538043																		
W538044	< 0.05	0.2	< 0.1	< 0.05	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.04	< 0.2	< 0.1	2	< 0.1	136	< 0.1

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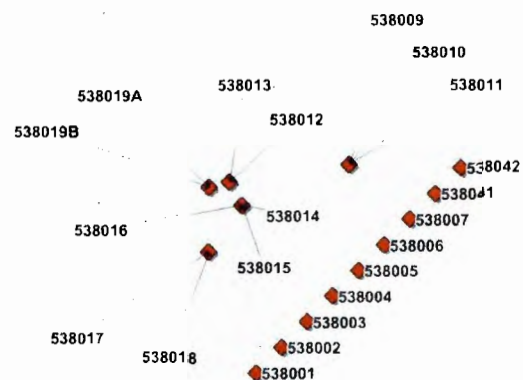
Analyte Symbol	U	Ag	Cu	Zn	Pb	Au	As	Sb
Unit Symbol	ppm	ppm	%	%	%	g/tonne	ppm	ppm
Detection Limit	0.1	3	0.001	0.001	0.003	0.03	2	0.2
Analysis Method	FUS-MS	ICP-OES	ICP-OES	ICP-OES	ICP-OES	FA-GRA	INAA	INAA
W538009								
W538010								
W538011								
W538012								
W538013								
W538014								
W538015								
W538016								
W538017								
W538018								
W538019A								
W538019B								
W538020								
W538021								
W538022								
W538023								
W538024								
W538025								
W538026								
W538027								
W538028								
W538029								
W538030	0.2							
W538031	0.3							
W538032								
W538033								
W538034	0.4							
W538035	0.1							
W538036								
W538037	0.2	1890	21.2	0.933	4.59		845	1810
W538038								
W538039								
W538040								
W538041								
W538042								
W538043						5.82		
W538044	< 0.1		0.595					



# Sol D'Or Claim Group

## Sample Locations - Eastern Locations

1244593



# Shabu Lake Claim Group Sample Locations

4229807

4229



0 200.0  
meters

538036

538035

538032

# Sol D'Or Claim Group

## Sample Locations - Western Locations

538028



1244641

0 140.0  
meters

Central Claim Group  
Sample Locations - Eastern Locations

214557

214558

538027

538026

538023



0 200.0  
meters

Central Claim Group  
Sample Locations - Western Locations

