

Gold Commissioner's Office VANCOUVER, ECCOCHEMICAL AND GEOLOGICAL ASSESSMENT REPORT

on the

# DEER LAKE PROPERTY

Kamloops Mining Division, B.C. NTS 92P/9W

for

# ELECTRUM RESOURCE CORP. #912 – 510 West Hastings Street Vancouver, B.C. V6B 1L8

Prepared by:

GEOQUEST CONSULTING LTD. GEOLOGICAL SURVEY BRANCH W. Gruenwald, P. Geo., FGACESESSMENT RUPORT March 16, 2000



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### SUMMARY

The Deer Lake property is situated 16 kilometres northwest of the community of Little Fort in southern British Columbia. Highway 24 and numerous logging roads provide easy access. A total of 234 units comprise the property which is 100% owned by Electrum Resource Corp. of Vancouver, B.C.

The area first received attention in the 1930s with the discovery of gold mineralized skarns near Deer Lake. From the late 1960s to late 1980s several companies directed exploration efforts more toward porphyry copper mineralization. The most recent exploration was completed by Teck Corporation who conducted programs including drilling directed toward porphyry and skarn targets in the central to eastern portions of the property.

The Deer Lake property is situated within a northwesterly trending belt of late Triassic to early Jurassic volcanics and sediments (Nicola Group). These rocks are transected by large north-northwesterly faults and intruded by several granitic intrusions ranging from small plugs to batholiths. Rock outcroppings on the property are scarce due to the extensive glacial till cover. Numerous roads and clearcuts however have provided many new exposures.

Mineralization is present in several areas of the property with the gold-copper skarns in the Deer Lake area being the most documented. Sulphide mineralization is associated with garnet-diopside skarns that have developed in calcareous sediments near the contact with a mafic intrusive. Several other showings are found outside of the Deer Lake area, however little is known of these occurrences. In 1991, glacially transported gold mineralized float comprised of altered and brecciated intrusive and Nicola volcanics was discovered 1.4 km southeast of the property. The source of this material is unknown, however it is possible that it may have originated from within or near the Deer Lake property.

During the fall of 1999 a property wide program of stream sampling and prospecting was completed. Two areas with stream samples containing high gold content were identified. Visible and often angular gold was identified in eight stream samples. The nature of the gold suggests that the transport distance is short. In addition to anomalous gold, several drainages in the southwestern sector of the property also contain anomalous amounts of zinc and arsenic. Prospecting resulted in the discovery of mineralized float, the most significant being located in the southwestern sector "up ice" of two anomalous drainages. The appearance and highly elevated gold and molybdenum content of this float is suggestive of a strong hydrothermal system possibly associated with an intrusive. Geochemical and geological evidence northerly (up ice) of this float lends support to this hypothesis.

Additional work is definitely recommended and should focus on tracing the source of gold mineralization found in streams and the mineralized float in the southwest. Detailed geochemical sampling (stream, soil, basal till) and prospecting are warranted. An airborne geophysical survey would greatly assist in identifying lithologic and structural features in the wide areas of glacial cover.



### INTRODUCTION

### **General Statement:**

During the period October 11 to October 19, 1999, the writer and Mr. Rob Montgomery were contracted to conduct an assessment work program on the Deer Lake property. The property, owned by Electrum Resource Corp., is situated in southern British Columbia near the community of Little Fort. A program of detailed stream sampling and prospecting was conducted over the entire property. The primary objectives of the program were:

- 1. Provide comprehensive stream geochemical data utilizing a wide spectrum of analytical techniques.
- 2. Identify areas of potential beyond the known mineral occurrences.

Exploration targets included vein, precious and/or base metal skarn and intrusion related gold deposits. A review of assessment reports, Minfile and a recently released basal till survey was conducted for this report.

### Location and Access:

The Deer Lake property is located approximately 16 kilometres northwest of the community of Little Fort in southcentral British Columbia. Little Fort is located 100 kilometres north of Kamloops along Highway 5 (Figure 1). Geographic co-ordinates for the property are 51°31' north latitude and 120°24' west longitude on NTS Map 92P/9W. Highway 24 heads westerly from Little Fort to 100 Mile House, and transects the southern border of the property. The Taweel Lake logging road and numerous branch roads provide excellent access to many parts of the property. In the past three years, new logging roads have been constructed in the western and northern portions of the property.

### **Physiography and Vegetation:**

The Deer Lake property is characterized by broad, rolling terrain of the Thompson Plateau. Numerous lakes and streams are found throughout the property representing the headwaters of Latremouille and Nehalliston Creeks both of which flow easterly to the North Thompson River. Creek and lake names referred to in this report are shown on Figure 2. Slopes range from gentle to moderate with only a few steep slopes in the southwestern and extreme eastern portions of the property. Topographic relief is approximately 400 metres ranging from 1200 metres in Nehalliston Creek to 1600 metres on a hilltop in the southwest.

Glaciation of the Thompson Plateau has resulted in extensive till cover. The till ranges from very thin (<1 m) cover on ridge tops and knolls to deposits tens of metres thick in major valley bottoms and lake filled depressions. According to the Geological Survey of Canada the indicated ice flow direction was 165° to 175° (Figure 3). Local deviations to this trend are evident and were likely influenced by topographic features such as the larger drainages. Examples of such deviations in ice direction are seen in the western portion of the property along upper Latremouille Creek where directions of 130° are recorded.

The property is forested with fir, spruce, balsam and pine along with minor deciduous vegetation. Commercial harvesting was taking place near Deer Lake in the fall of 1999. The numerous clearcuts and logging roads provide easy access to many parts of the property.



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### **Claims:**

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The Deer Lake property consists of 19 modified grid claims and 6 two post claims totalling 234 units. The claims are located in the Kamloops Mining Division and are 100% owned by Electrum Resource Corp. of Vancouver, B.C. Details of the claims are as follows:

Claim Name	Tag No.	Tenure Number	No of Units	Expiry Date
Fort 7	7269	216687	4	Dec 30, 2000
Fort 9	7273	216702	4	Jun 25, 2000
Tun I	27470	216957	16	Sep 08, 2000
Tun II	27471	216958	20	Sep 08, 2000
Nuf #1	7822	216959	15	Sep 09, 2000
Vit 1	126997	217793	20	May 29, 2000
Vit 2	126998	217794	20	May 29, 2000
Vit 3	126999	217795	18	May 29, 2000
Vit 4	127000	217796	20	May 29, 2000
Vit 5	127401	217797	15	May 29, 2000
Vit 6	127402	217798	10	May 29, 2000
Vit 7	251411M	217799	1	May 29, 2000
Vit 8	250596M	217800	1	May 29, 2000
Vit 9	117451	218830	10	Sep 30, 2000
Vit 10	117452	218831	4	Oct 02, 2000
Vit 11	117453	218832	12	Oct 03, 2000
Vit 12	117454	218833	12	Oct 02, 2000
Vit 13	117455	218852	8	Oct 25, 2000
Vit 14	117456	218853	4	Oct 26, 2000
DL 1	200057	219046	16	Feb 03, 2001
Hook 1	689345M	373514	1	Nov 21, 2000
Hook 2	689346M	373515	1	Nov 21, 2000
Hook 3	689347M	373516	1	Nov 21, 2000
Hook 4	689348M	373517	1	Nov 22, 2000
Hook 5	689349M	373518	1	Nov 22, 2000
Hook 6	684896M	373519	1	Nov 22, 2000

### History:

The Deer Lake Property and surrounding region has witnessed exploration by individuals and companies intermittently since the 1930s. The known mineral occurrences for the region are shown on Figure 3. Early exploration focussed on gold bearing, sulphide rich skarn zones near Deer Lake. During the 1960s and 1970s the focus was shifted toward porphyry style mineralization associated with intrusions found on the property and in the surrounding region. Several drilling programs were conducted with emphasis in the Deer Lake area and areas of sedimentary rocks (Figure 4). Table I outlines the historical exploration activity on the Deer Lake property.

### **Current Exploration Program:**

During the period October 11 to October 19, 1999 the writer and Rob Montgomery conducted a program of detailed stream sampling and prospecting over the Deer Lake property. The key objective of the program was to identify areas of mineral potential beyond those areas previously explored. John Barakso collected 11 rock samples from the Deer Lake showing area. In addition, six lake water samples were collected from the central and eastern sectors.

### **GENERAL GEOLOGY**

The Deer Lake property is situated in the southern extension of the Quesnel Trough. Volcanic and sedimentary rocks of the late Triassic to early Jurassic Nicola Group underlie much of the region (Figure 5). These and other Mesozoic assemblages form a structurally complex north-northwesterly trending belt situated between Proterozoic to Paleozoic metamorphosed rocks (Shuswap Metamorphic complex) to the east and extensive Tertiary "plateau" volcanics to the west. Numerous granitic bodies ranging from small plugs to batholiths intrude this belt. The Thuya Batholith, a large (2000 km<sup>2</sup>) intrusion comprised of diorite, granodiorite, monzonite and gabbro occurs near the south boundary of the Deer Lake property. A number of smaller, granitic intrusions have been mapped in the region north of the Thuya Batholith. Faulting is extensive in the region with the North Thompson River fault being the dominant structure. Regional mapping indicates a number of northwesterly trending splay faults.

### LOCAL GEOLOGY

### Lithology:

Due to the extensive glacial till cover, rock outcroppings on the Deer Lake property are scarce. Most rock exposures are found along logging roads, on ridge tops and locally in creek gullies. Recently constructed logging roads in the central and western portions of the property have created new bedrock exposures.

The majority of the Deer Lake property is underlain by Nicola Group rocks that have been intruded by several granitic to mafic intrusions (Figure 5). Andesitic flows and lesser pyroclastic rocks are among the most common lithologies observed. The volcanics are most common in the central to eastern portions of the property. Intercalated within the volcanics are thin to wide bands of sediments comprised of argillite, calcareous siltstone, limestone and cherty tuffs. A report by Westerman (1988) describes the stratified rocks in the central and northern part of the property as trending west-northwest with steep dips to the north. Field observations during the 1999 program revealed that the sedimentary rocks are most common in the central, western and southwestern portions of the property. Bands of these rocks also occur northwest of Deer Lake. The most common sedimentary rock observed consists of black, often limonitic argillite with interbeds of calcareous siltstone and cherty argillite.



# HISTORICAL WORK ON THE DEER LAKE PROPERTY

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YEARS	WORK BY	AREAS EXPLORED	SCOPE OF WORK	RESULTS	DOCUMENTATION
1933	Prcmier Gold Mines	Deer Lake (Lakeview)	• Short adit and several small pits.	<ul> <li>Assays to several oz/ton Au reported</li> <li>Small shipment(s) of high-grade material made.</li> </ul>	No data
1966/67	Anaconda Copper	Deer, Nora (Hook) and Laurel Lake	<ul> <li>Geochem, mapping, P, trenching</li> <li>Six DDHs totalling 610 metres.</li> </ul>	• Unknown.	Assessment Reports: #905, 907, 910, 1123
1967/68	Royal Canadian Ventures	South and north of Long Island Lake	<ul> <li>Stream/soil sampling-Cu, Mo, Zn</li> <li>IP survey on Eagle Creek Group</li> </ul>	<ul> <li>Company reported previous work done on EC 60 Pb showing on slope north of Long Island Lake.</li> </ul>	Assessment Reports: #1055, 1639
1968	United Copper	As above	<ul> <li>Geochem, mapping, mag, trenching, drilling</li> </ul>		Assessment Reports: #2712
1972	Barrier Reef Resources	Heidi Lake	<ul> <li>Detailed grid, mapping, soil sampling (As, Cu, Pb, Mo, Hg), EM surveys.</li> <li>Three short DDHs.</li> </ul>	<ul> <li>Large zone of anomalous Zn, As, Hg, and Cu.</li> <li>High As values WNW of No Fish Lake.</li> <li>No mention of Au analysis, no drill hole info.</li> </ul>	Assessment Reports: #4028, 4062, 4262
1973/74	Rio Tinto	Goose, Thumb and Laurel Lake area	<ul> <li>IP, mag surveys.</li> <li>9 percussion holes totalling 457 metres. Holes all &lt;75 m deep.</li> </ul>	<ul><li>No significant copper intersected.</li><li>No Au analysis conducted.</li></ul>	Assessment Reports: #4264, 4835, 4947, 5424, 5425, 5734
1977	Meridian Resources	McLeod, No Fish and Deer Lakes	<ul> <li>Soil sampling, mag survey.</li> <li>Two percussion holes (455 metres) within Fort claim west of Deer Lake.</li> </ul>	<ul> <li>Sporadic Au, As, Cu anomalies in soils.</li> <li>First hole contained strong Cu below 70 m.</li> <li>No mention of Au analysis.</li> </ul>	Assessment Reports: #6586, 8880
1980	Tunkwa Copper Mines Ltd.	Fort 7, 9; Tun I, II and Nuf #1 claims	<ul> <li>Wide spaced (200 m) grid lines.</li> <li>7 DDHs near Lakeview showings.</li> </ul>	<ul> <li>Delineated 7 linear Au soil anomalies, 4 are up to 1 km.</li> <li>Partial coincidence with As, Zn.</li> <li>No public records.</li> </ul>	
1987	Vital Pacific Resources Ltd.	Heidi Lake area Deer Lake area	<ul> <li>Soil and IP survey and backhoe trenching (Heidi Lake).</li> <li>Two DDHs totalling 433 metres.</li> </ul>	• IP delineated SE of Heidi Lake	Assessment Reports: #16134, 16223
1988	Vital Pacific Resources Ltd.	Between Porphyry and Nora (Hook) Lakes. Heidi Lake	<ul> <li>IP and mag survey over Lakeview showing (Deer L Grid).</li> <li>IP, Mag, VLF-EM on 200 m spaced lines between Porphyry and Nora Lakes.</li> <li>16 holes totalling 1896 m.</li> </ul>	<ul> <li>Large chargeability anomaly with sporadic coincidence with mag and VLF-EM south of Deer Lake. Open to NW and SE.</li> <li>Drilling at Lakeview skarns intersected .105 opt Au/4m (DDH 88-8); 0.169 opt Au/4m (DDH 88-9) and 0.17% Cu/25m, (DDH 88-12) in South Lakeview showing.</li> <li>DDH 88-10 SE of Heidi Lake encountered hornblende diorite</li> <li>IP source reported to be 3 m siltstone band with 5-10% pyrrhotite and trace chalcopyrite at depth &gt;100 m.</li> </ul>	Assessment Reports: #18796
1989/90	Teck Corporation	East of Iron Lake and along road south of Nora (Hook) Lake	<ul> <li>Geological, geochemical, geophysical surveys, trenching and diamond drilling.</li> <li>14 DDHs totalling 1952 metres.</li> <li>Total expenditure \$424,000.</li> </ul>	<ul> <li>Delineated coincident chargeability, magnetic and VLF-EM anomalies reflecting skarn and possible porphyry style mineralization.</li> <li>Trenching encountered magnetite-pyrrhotite skarn breccia averaging 0.3% Cu. No significant Au.</li> <li>Drilling intersected magnetite-pyrrhotite skarn with up to 0.13% Cu over 13 m.</li> <li>Drilling of chargeability anomalies did not indicate significant potential for porphyry style mineralization.</li> </ul>	Assessment Reports: #20014, 20020

Veinlets and irregular stringers of calcite and/or quartz are locally common. In the southwestern portion of the property, a float boulder of a chert pebble conglomerate (RMR-05A) was found near a road cut of rusty argiilite. This glacially transported, subangular boulder suggests that the sediments contain coarser clastic beds. Field observations indicate that the sedimentary sequence trends roughly west-northwesterly. Bedding attitudes range from a westerly to north-northwesterly strike and dip steeply, often to the south.

Previous mapping indicates intrusive rocks in the central and northern portions of the property. The largest intrusion occurs 1.5 kilometres southwest of Deer Lake and consists of coarse-grained pyroxene diorite and gabbro. This mid-Jurassic intrusion is thought to be the source of dyke swarms in the Deer Lake area and was responsible for hornfelsing and skarn formation in the sediments near Deer Lake. Two small hornblende granodiorite plugs are also documented between Deer and Iron Lakes and in drill core southeast of Heidi Lake. These slightly younger rocks have been correlated with the Thuya Batholith to the south.

During the 1999 program intrusive rocks were observed in the central, southern and southwestern portions of the property. Located in the extreme southwest corner of the property is a granodioritic to dioritic intrusion. These rocks intrude a predominantly sedimentary sequence. Situated easterly and along the southern boundary of the property is a recent road cut of feldspar porphyry that intrudes volcanic rocks. Whether this intrusion is related to a granodiorite mapped along Highway 24 west of Lynn Lake is unknown.

Given the extensive glacial cover, there is the possibility of other intrusives. In 1991, numerous gold mineralized float boulders were discovered by the writer 1.4 km southeast of the Deer Lake property (Figure 4). Many of these often-large boulders consist of altered and often brecciated felsic intrusive and lesser porphyritic volcanic rock. The geologic evidence suggests that the source of this float may be a hydrothermally altered intrusive that intruded the Nicola volcanics. The observed brecciation may be related to a fault structure and/or the emplacement of the intrusive. The source of these boulders has not been found, however the glacial directions would suggest an "up ice" area from north-northwest to northwest. It is conceivable that the source is on or near the Deer Lake property.

### Structure:

The structural history of the Deer Lake property is not well understood. Drilling in 1988 by Vital Pacific Resources Ltd. (C.J. Westerman) reported a north trending fault cutting an intrusion south of Deer Lake. Near Heidi Lake, a road exposure of sediments is cut by a fault that strikes westerly and dips steeply north. Figure 4 displays the major faults known or inferred in the area. A chain of lakes at the headwaters of Latremouille Creek forms a prominent linear feature that is mapped as a northwesterly trending fault. This fault can be traced for several kilometres and may be a splay off the North Thompson River fault. A similarly trending structure is indicated along Nehalliston Creek. These structures may be important controls for mineralization and the emplacement of small intrusions.

### Alteration:

Most lithologies have undergone varying types of alteration. Propylitic alteration of the volcanics ranges from generally weak to locally strong. This is evident in the eastern parts of the property. The sediments, especially the argillites, are often limonite stained due to weathering of fine grained, disseminated iron sulphides. Hornfelsing of the sediments is evident near intrusive contacts. The intrusive rocks for the most part are relatively fresh with minor chloritic alteration of mafic minerals. Some endoskarn is reported in the Deer Lake area

### **Mineralization:**

Gold  $\pm$  copper mineralization has been documented in six occurrences on the Deer Lake property (Figure 5). Virtually all mineralization occurs within the Nicola rocks, usually the sediments. The most documented occurrence, known as the *Lakeview*, consists of small, irregular garnet-diopside skarn zones containing magnetite, pyrrhotite, pyrite, chalcopyrite and lesser arsenopyrite. Mineralization occurs in calcareous rocks near their contact with a dioritic intrusive. Early records (1930s) indicated grades of several ounces/ton gold from arsenopyrite rich material. Small shipments of high-grade material were reportedly made. Previous drilling failed to develop any sizeable zones, encountering instead narrow areas of relatively low grade gold-copper mineralization. Located 500 metres south, the Lakeview South (Iron Lake) skarn occurrence consists of magnetite bearing breccia containing minor gold.

Another skarn showing related to the mafic intrusive is situated west of Deer Lake. Known as the *PYCU*, this showing occurs in Nicola volcanics with 1 to 10% pyrite and pyrrhotite. Only low levels of gold were reported. The *Red* occurrence, located between Deer and Nora Lakes is described as an iron rich skarn within Nicola volcanics near a pyroxene diorite. Minor amounts of copper are reported. Located near the south boundary of the claim block is the *Jan* showing, described as disseminations and fracture fillings of pyrite and chalcopyrite in sediments and volcanics. No reference to gold content is mentioned. Approximately two kilometres west-northwest of the Jan showing is an occurrence referred to as the *EC 60*. A 1967 assessment report describes minor pyrrhotite, pyrite and galena in a north-south fracture zone within Nicola Group cherty shale or tuff. No analysis for gold was mentioned.

### **EXPLORATION WORK - 1999**

### Stream Sampling:

A primary focus of the 1999 program was detailed sampling of all available drainages. Only streams that contained actively transported sediment were sampled. Stream sediment was wet screened to -10 mesh with sample weights usually in the 800 to 1000 gram range. At selected drainages a heavy mineral sample was collected by panning stream gravels to produce a 15 to 25 gram concentrate. A total of 59 silt and 43 panned concentrates were collected. Field descriptions for all samples are found in Appendix A. The silt samples were submitted to TSL Assayers in Vancouver, B.C. for gold and ICP analysis. Panned concentrates were microscopically logged (Appendix A) and submitted to Activation Labs in Ancaster, Ontario for neutron activation analysis (INAA). In October 1999 Mr. J. Barakso collected six orientation lake water samples from the eastern sector of the property. Complete analytical data and methodologies are presented in Appendix C.

### **Prospecting:**

Prospecting was conducted concurrently with the stream sampling program and concentrated on examining road cuts, logged areas and drainages. Any suspicious float or bedrock was sampled and submitted to TSL Assayers for gold and ICP analysis. A total of 54 rock samples were collected. In most cases hand specimens were collected and cut for future reference. Rock descriptions and analytical data are found in Appendix B and C respectively.

### RESULTS

### Stream Sampling:

The stream geochemical data for gold, copper, zinc, silver and arsenic are presented on Figures 6 to 11. Results are outlined as follows:

### Gold:

- sampling yielded 16 samples >50 ppb Au.
- scattered over much of property with weak clustering in central and eastern sectors.
- · most anomalies are in drainages with predominantly volcanic/sedimentary float.
- highest values extend from Deer Lake southcasterly to Thumb Lake.
- some anomalies are related to known mineral occurrences (i.e. Lakeview, PYCU) near Deer Lake.
- anomalous cluster in Thumb, Nora, Laurel Lakes are underlain by volcanics and minor sediments.

### **Gold in Panned Concentrates:**

- anomalous sites are scattered throughout, with a weak clustering in the central and SW sectors.
- highest gold content occurs in the SW sector underlain by sediments and intrusives.
- of the 43 samples collected, 8 contain visible gold and 4 of these have correspondingly high gold in the silt.
- two areas of note are Nora Lake (DWPC-08, 08A) and the SW sector (DRPC 18, 19, 35)
- most visible gold observed is quite angular and occasionally occurs with attached quartz.

### **Copper:**

- distinct cluster in the vicinity of Deer Lake representing the known skarn mineralization.
- moderately anomalous copper along the drainage below the chain of lakes in the SW sector.
- · weak coincidence between copper and gold.

### Zinc:

- pronounced tendency toward the central and western sectors.
- strong association with sedimentary rocks.
- Samples DRS-18, 19, 20 and 35 in the SW sector are the most anomalous area of the property.
- three of these sites have panned concentrates containing very high gold and two contain visible gold.

### Silver:

- strong concentration in the SW sector in predominantly sedimentary terrane.
- fair correlation with base metals, especially zinc. Poor correlation with gold.

#### Arsenic:

- clustering in the central and western sectors usually underlain by sediments.
- weak correlation with gold, copper and zinc.

### Molybdenum:

- no data is plotted as only 6 samples are >2 ppm
- anomalous sites are DRS-23 (10 ppm) in the SW area and DWS-11 (12 ppm) at the north end of Laurel Lake.

### Lead:

- · no data is plotted as values are quite low and have a small range
- fair coincidence with zinc, weak coincidence with gold.

The six water samples collected from the central and eastern sectors of the property did not yield any significant metal values. This may have been a result of dilution due to the high lake levels.

### **Prospecting:**

In the central portion of the property, mafic intrusive float boulders (WGR-14) were found west of Porphyry Lake. This float contains disseminations and semi-massive pyrite and minor chalcopyrite. Anomalous copper, arsenic, silver and gold were reported. There appears to be evidence of old trenches in this area. Sulphide rich rock samples collected from the Lakeview showings contain up to 11.87g/T Au, and 3.87 % Cu (Appendix C)

A sample of stream float (DWR-12) collected near the northwest end of Laurel Lake was found to contain anomalous amounts of gold. This rock is described as a pale, limonitic, fine-grained felsic volcanic with fine quartz veinlets. The upstream/up ice source is likely close to areas previously explored by Teck et al. Found in a gravel pit in the south-central sector was a large float boulder of pyritic skarn (WGR-23). This float contains anomalous copper and moderately elevated gold and silver. The source is likely to the north-northwest near the contact of the mafic intrusive (Figure 5).

The most significant mineralization encountered was float found along a recently constructed logging road in the southwest sector of the property. Sample RMR-05 consists of altered, quartz stockwork, veined and brecciated siliceous rock containing highly anomalous gold and molybdenum. This float does not resemble the nearby sediments and appears to have been glacially transported. Other unusual and weakly mineralized float found in the vicinity (RMR-05A, 05B) is also suspicious. The appearance and geochemical signature of the RMR-5 float could conceivably be related to a hydrothermal system associated with an intrusive. Interestingly, northerly or "up ice" of this float is an area where an intrusive was intersected by drilling (1988). Stream sampling north-northwesterly of RMR-05 yielded anomalous amounts of gold, arsenic, molybdenum and zinc.

### **Basal Till Survey:**

In January, 2000 the Geological Survey Branch released the results of a basal till survey for part of map sheets 92P/8 and 92P/9. Those samples within and adjacent to the property are displayed on the geochemical plans. Selected basal till data is found in Appendix C. The results show strongly anomalous copper and gold in the vicinity of Deer and Silver Lakes representing down ice dispersion from mineralized zones in these areas. In the southwest sector, several till sites contain anomalous arsenic, zinc and gold. Potentially significant, is the fact that till sites "up" and "down ice" of the RMR-05 float are weakly anomalous for gold and moderately anomalous for molybdenum. In the southeastern area of the property, basal till sites are scarce and thus the potential for an "up ice" source of the nearby-mineralized intrusive/volcanic float shown on Figure 4 remains unresolved.

### CONCLUSIONS AND RECOMMENDATIONS

The 1999 program was successful in identifying gold and base metal potential outside of the more explored areas of the property. Two areas of significance are the Nora-Thumb Lakes area and the southwestern sector of the property. The Nora-Thumb Lakes area is predominantly underlain by Nicola volcanics and hosts four sample sites containing visible gold. The Nora Lake (Hook Lake) site contains angular gold, in some cases attached to quartz that is highly suggestive of a nearby source. The southwest sector of the property is host to seven gold anomalous stream sites three of which contain visible gold. The physical nature of the gold also suggests a short transport distance. Sediments, minor volcanics and several intrusives underlie this area. This sector of the property also displays the highest zinc values encountered in the program. Evidence of previous work is minimal and did not appear to focus on gold mineralization.

Prospecting resulted in the discovery of mineralized float, the most significant occurring in the southwest sector. Gold-molybdenum mineralized float was discovered northerly of two highly anomalous (gold) drainages. This glacially transported material has physical and geochemical characteristics suggestive of hydrothermal alteration, possibly associated with an intrusion. Geochemical and geological evidence "up ice" of this float lends support to this hypothesis.

Based on the findings of the 1999 program, further work is definitely warranted. The two areas outlined above should be investigated by follow-up geochemical soil sampling and prospecting. Investigations should address areas "up ice" of the anomalous sites. The use of detailed basal till sample lines perpendicular to ice flow should be considered. For the southwestern sector, the tracing of the mineralized float is a high priority. Prospecting, float mapping and soil/silt sampling are strongly recommended.

Given the geologic diversity of the property, the use of airborne geophysics should be considered. Magnetic, electromagnetic and radiometric data could serve to identify intrusives, both exposed and buried, structural features as well as magnetic and/or conductive skarn zones. Such a survey should utilize flight line spacings of 100 metres and be oriented northerly.



Warner Groenwald, P. Geo, FGAC March 16, 2000 APPENDIX A

SILT AND PANNED CONCENTRATE DESCRIPTIONS

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Cite	Elev Width Description		Au	Ag	As	Cu	Мо	Pb	Źn		
Sile	(m)	300100	(m)	Description	ppb	ppm	ppm_	ppm	ppm	ppm	ppm
DR-01	1390	245°	1.5	SITE: Deer Lake area							
				DRS-01: Angular to subangular mafic intrusive. Weakly magnetic. 25% pyroxene phenocrysts.	3	<0.2	15	155	<2	4	47
				DRPC-01: Low to moderate magnetite content. Magnetite very fine-grained (0.05-0.10 mm). Pale	<5	<0.2	12	44	<2	3	26
				green apatite crystals ≅ magnetite. No sulphides noted. Few larger (0.5 mm) "round" magnetite grains							
DR-02	1360	070°	0.3-0.6	SITE: South of Deer Lake							
	<u> </u>			DRS-02: Sediment, Fine silt layer overlying organics	2	<0.2	<5	85	2	4	33
DR-03	1415	<b>3</b> 12°	1.0	SITE: West of Deer Lake							
ļ				DRS-03: Noted outcrop on NE bank (RMR-01). Limonitic, locally brecciated argillite. Few quartz	13	<0.2	40	77	4	16	175
				veins (-1 cm wide).							
DR-04	1402	245°	1.0-2.0	SITE: Southwest of Deer Lake ~ 15 metres below old road and culvert.							
}	{	l		DRS-04:	20	<0.2	50	118	<2	14	161
				DRPC-04: Very low magnetite content. Fine-grained magnetite, Less apatite, increased quartz	337	<0.2	40	38	<2	7	64
				compared to DRPC-01. Few larger grains of quartzite. One small, multiple twinned, striated, oxidized							
				pyrite grain.							
DR-05	1384	<b>27</b> 0°	1.0	SITE: West of Latremouille Ck - centre of property							
l	Į	ļ	Į	DRS-05: Predominantly intrusive float, minor sediments.	166	<0.2	85	205	<2	12	125
				DRPC-05: Low magnetite content (higher than DRPC-04). Increase in variety of accessory minerals	13	<0.2	52	65	<2	6	73
				(predominantly apatite. Trace resinous red garnet(?)). Few small (0,1-0.2 mm) tarnished and twinned							
L	ļ			pyrite cubes. 1/2% clear quartz, trace pink (clear)quartz.							
DR-06	1335	298°	2.0	SITE: 200 metres upstream of lake. Northeast sector							
	ĺ			DRS-06: Fine-grained, medium-green volcanics > sediments and mafic intrusives. Few rounded	4	<0.2	<5	32	<2	10	78
	ļ			granite boulders.	<u> </u>	L					
DR-07	1274	360°	1.0-1.5	SITE: 70 metres upstream (north) of lake. Northwest of Thumb Lake	1						
				DRS-07: 50-60% medium-green, sub-angular to rounded volcanic flows, 20% siltstone, 20% other	13	<0.2	10	48	<2	10	78
				volcanics							
				DRPC-07: Low to moderate magnetite content. Fine- grained, octahedral magnetite crystals fairly	330	0.6	17	27	<2	10	57
ļ	ļ			common. Trace very fine-grained oxidized pyrite. ~1-2% clear yellow and pink tinted quartz. Low to	ļ	Į			l	ļ	ļ
<u> </u>	<u> </u>	<u> </u>		moderate apatite.	<u> </u>	L					ļ
DR-08	1262	320°	1.0	SITE: ~200 metres upstream of Thumb Lake.							
				DRS-08: Sub-rounded to sub-angular, fine-grained, medium-green volcanics and interbedded	383	<0.2	5	42	<2	10	86
				sediments, siltstone and chert.						i i	
				DRPC-08: Low to moderate fine-grained magnetite. One very small (-0.5 mm) flat grain of gold.	ব	<0.2	9	21	<2	5	226
<u> </u>	<u> </u>	<u> </u>		Few 0.1-0.2 mm (average) pyrite cubes. Trace to 1/2% clear/pink quartz. Moderate apatite.	<u> </u>	<u> </u>		<u> </u>			<u> </u>
DR-09	1256	260°	1.0-2.0	SITE: ~150 metres downstream of Thumb Lake.							
		1		DRS-09: Sub-angular cobbles and boulders of fine to medium-grained volcanics > sediments.	414	<0.2	<5	30	<2	10	63
				DRPC-09: Low magnetite content. Magnetite is fine grained with well formed crystals common -	11	<0.2	9	24	<2	4	59
]				one twinned. * This site has low fines content. Low to moderate fine, pale green apatite. One 0.3 mm							
		ļ	l	oxidized pyrite crystal.	ļ	l	[ _	ļ	l	l	ł

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# SILT AND PANNED CONCENTRATE DESCRIPTIONS

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Site	Elev	Source	Width	Description	Au	Ag	As	Cu	Мо	Pb	Zn
	(m)	Gource	(m)	Description	ppb	ppm	ppm	ppm	ppm	рртп	ppm
DR-10	1244	220°	1.0-2.0	SITE: Between Thumb and Tack Lake.							
				DRS-10: Sub-angular, fine to medium-grained volcanic flows. Trace very finely disseminated pyrite.	18	<0.2	<5	80	<2	10	97
				Silt is green - volcanic origin.							
1				DRPC-10: Medium-green (volcanic origin). Low, fine-grained magnetite. Increasing pyrite from	<5	<0.2	6	28	<2	2	46
L				previous P.C.s. Pyrite tends to be fresher, less oxidized. Minor apatite. Trace pink quartz.							
DR-11	1244	230°	0.8-1.0	SITE: 35 metres upstream of mouth at Tack Lake.							
				DRS-11: Sub-angular, medium-green volcanic flows and coarse fragmentals.	22	<0.2	10	71	<2	14	99
				<b>DRPC-11:</b> Low to moderate magnetite content. Pyrite cubes $(0.1 - 0.3 \text{ mm average})$ common (but	<5	<0.2	8	41	<2	7	49
				less than DRPC-10). Lower percentage of apatite than average. Trace clear pink quartz. P.C. is	ł						
		]		green/brown and predominantly of volcanic origin. Minor siltstone/quartzite25% of fragments are							
	I			limonitic.							
DR-12	1244	330°	0.5-1.0	SITE: 250 metres upstream of Tack Lake, very flat gradient, swampy.	1						
	·			DRS-12: No float noted at site. Silt forms as a thin veneer on top of organics.	53	<0.2	<5	29	<2	4	65
DR-13		285°	1.0	SITE: -200 metres upstream of creek mouth at Laurel Lake. Pronounced gully.	Î						
				DRS-13: Predominantly sub-angular volcanic cobbles and boulders.	23	<0.2	50	145	<2	10	129
		-		DRPC-13: Moderate fine to medium-grained magnetite content. P.C. is medium brown/green,	<5	<0.2	41	52	<2	7	77
				derived mainly from intermediate volcanics. Few 1-2 mm grains of magnetite.							
DR-14	1348	060°	0.3	SITE: Southwest property boundary.							
<b></b> .				DRS-14: Float is rare. Consists of sub-rounded pebbled of argillite/intrusive	8	0.2	10	51	2	8	87
DR-15	1399	0 <b>2</b> 0°	0.5-1.0	SITE: 25 metres upstream of road. Southwest sector. Rocky silt site							
				DRS-15: 70% sub-angular granitic/diorite intrusive, 20-30% sediments (argillite, calcareous	27	1.0	15	74	<2	20	184
				siltstone).							
DR-16	1436	070°	0.3-0.5	SITE: Upstream of DR-15 site							
				DRS-16: 80% sediments to argillite, calcareous siltstone, chert (some brecciated). 15-20% mixed	188	0.2	15	53	2	14	230
				volcanics and rounded intrusive fragments. ≤5% feldspar porphyry, -1% quartz pebbles.							
DR-17	1323	350°	1.0-1.5	SITE: Upstream of Walkin Lake. Southern sector.							
				DRS-17: Predominantly varicoloured volcanics with some mafic phenocrysts. 10-15% argillite,	121	0.2	65	134	<2	8	139
				some limey. Trace quartz. Few rounded intrusive pebbles, 10% limonitic fragments.					_		
				DRPC-17: Low magnetite content. Magnetite generally fine-grained. One 0.1 mm "U" shaped	6900	<0.2	32	29	<2	8	69
				grain of gold. Gold is very bright yellow, quite angular. One orange garnet crystal. Low to moderate					-	-	
				apatite. No sulphides.							
DR-18	1396	360°	0.3-0.5	SITE: 125m east of DRS-19. Near southern property border.			· · · · · ·				
				DRS-18: 15-20% sub-angular argillite, 50%+ andesitic, volcanics, minor feldspar porphyry. Few	14	0.2	120	58	<2	14	540
				chert pebbles. 10% limonitic fragments.							
				DRPC-18: High, fine to medium-grained magnetite content. One 0.5 mm elongate-round hackly	11200	<0.2	58	24	<2	6	201
				textured, angular gold/quartz grain. This grain consists of ~40% gold, 60% white to clear, semi-					-		
				opaque quartz. One red 0.2 mm almandine garnet. Yellow, pink and icy clear quartz common. No							
				sulphides.							

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Site	Elev	Source	Width	Description	Au	Ag	As	Cu	Мо	Pb	Zn
one	(m)	Source	(m)	Description	ppb	ppm	ррт	ppm	ppm	ppm	p <b>pm</b>
DR-19	1418	352°	1.0-2.0	SITE: Dry creek but with strong seasonal flow. Well defined gully.							
				DRS-19: Sub-angular float - 15-20% sediments (argillite>siltstone>chert). Some banded siltstone,	21	0,4	80	127	2	18	610
				chert. 60% mixed volcanics (fine-grained, green andesites > feldspar porphyry). 15%							
				limonite/hematite fragments							
				DRPC-19: Low to moderate magnetite content. One elongate (0.2 x 0.5 mm) flake of gold. This gold	1480	<0.2	35	42	<2	6	162
				is a pale whitish-yellow and more rounded than other visible gold noted in this survey. Also a 0.1							
				mm, round, sub-angular, moderately bright yellow gold grain. Both gold grains show oxide coating							
DR-20	1534	010°	0.5-0.8	SITE: 425 metres upstream of DRS-19.							
			ŀ	DRS-20: Similar to DRS-19 with higher sediments (~25% argillite). ~50% volcanics, few rounded	11	0.6	50	98	2	16	537
				intrusive fragments.							
				DRPC-20: Low magnetite content, mostly fine-grained. A few larger (0.5 mm) grains. 1-2% clear	167	<0.2	37	27	<2	7	189
				quartz. No sulphides.							
DR-21	1506	158°	1.0	SITE: Western sector of property					-		
				DRS-21: 40-50% sediments. Black argillite, few sub-angular cherty fragments. 50% volcanics and	4	<0.2	20	36	2	10	177
				intrusives . 1% sub-angular to sub-rounded white quartz.							
				DRPC-21: Moderate, fine-grained magnetite. One 0.25 mm gold/quartz grain. (~50% moderately	120	<0.2	24	21	<2	4	89
				bright yellow gold and 50% dirty white quartz). Grain is sub-angular with one sharp point. Few deep							
				red 0.1 mm (average) garnets.							
DR-22	1524	150°	0.5	SITE: Upstream of DR-21							
				DRS-22: 40-50% sediments (argillite >siltstone>>chert). Slightly less angular than DRS-21.	129	<0.2	30	53	2	16	127
				Remaining is variable coloured volcanics, few rounded intrusive pebbles. 5% limonitic, trace quartz.							
DR-23	1512	55°	0.3-0.5	SITE: West central sector of property.							
				DRS-23: Predominantly argillite (75-80%), quite angular, some with limonitic fractures and	3	<0.2	125	28	10	16	481
				brecciation.							
DR-24	1457	224°	1.5-2.0	SITE: 75 m upstream of large lake. Northwest sector. Rocky, high organics							
				DRS-24: Almost exclusively argillite- near bedrock. Large boulders. Trace limonite, pyrite on	8	<0.2	10	13	<2	6	138
				fractures.						1	
				DRPC-24: Low, fine-grained magnetite content. Moderate pale green/yellow apatite. High quartz	<5	<0.2	15	4	<2	<2	61
				content ( $-15-20\%$ clear $\cong$ white).							
DR-25	1493	235	0.5	SITE: Northwest sector of property.							
	1			DRS-25: Predominantly volcanic float, minor argillite. Angular limonitic blocks of altered	61	<0.2	10	42	2	14	237
				volcanic(?) with qtz veinlets and mariposite (?) -rock sample DRR-25							
DR-26	1482	220°	0.3	SITE: ~200 metres southwest of lake, small stream. Northwest sector.							Τ
				DRS-26: 50% sediments (argillite>siltstone). Some sub-angular limonitic argillite. ~40% sub-	4	0.2	15	36	2	16	149
	1			rounded volcanics, few quartz fragments.							
	1			DRPC-26: Low, fine-grained magnetite content. Minor apatite (small crystals (average 0.1 - 0.2	<5	<0.2	15	23	<2	10	95
				mm). No sulphides.							

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0.14-	Elev Source Width Description		Au	Ag	As	Си	Мо	Pb	Zn		
Site	(m)	Source	(m)	Description	ppb	ppm	рргп	ppm	ppm	ppm	ppm
DR-27	1448	150°	2.0-2.5	SITE: Large creek, high seasonal flows. Northwest sector along chain of lakes.							
				DRS-27: Almost exclusively sediments. Argillite with lesser siltstone. Minor limonite on fractures.	4	<0.2	35	16	<2	10	169
				Argillite often finely bedded, sub-angular.							
1				DRPC-27: Low to medium-grained magnetite content. Apatite a magnetite content. Trace pink	<5	<0.2	34	12	<2	3	120
				quartz. One 0.3 mm oxidized pyrite grain.	<u> </u>						
DR-28	1482	170°	1.0-1.5	SITE: Western sector near chain of lakes.							
				DRS-28: 80-90% argillite, some limonitic. Few quartz fragments (<1%). Rock angular to sub-	14	0.4	35	62	2	16	202
				angular.							
				DRPC-28: Very low magnetite content. Minor pyrite, some fresher, less oxidized. Overall sample is	<5	<0.2	26	24	<2	7	93
				quite coarse, fines fraction is small.							
DR-29	1329	0 <b>2</b> 0°	0.3-0.6	SITE: 30 metres north of main creek. Very small tributary. South central sector.							
				DRS-29: Rounded intrusive boulders and sub-angular volcanics.	14	0.4	65	196	<2	14	171
DR-30	1348	282°	1.0	SITE: Main creek southeast of chain of lakes, South central sector.							
				DRS-30: 70% green-brown, fine-grained volcanics, 10% sub-angular argillite, 10-15% limonitic.	41	0.4	65	115	2	16	275
	1			DRPC-30: Low, fine to medium-grained magnetite content. Sample quite coarse, few fines. Minor	33	<0.2	66	37	<2	6	157
				apatite. Quartz content lower than average.							
DR-31	1396	310°	0.8-1.0	SITE: On main creek, upstream of DR -30 site. No material to pan.							
				DRS-31: Few large rounded intrusive boulders.	8	<0.2	30	59	<2	10	175
DR-32	1476	220°	0.3-0.6	SITE Stream flowing into southeastern lake in northwest chain. West sector.						1	
				DRS-32: 60%+ volcanic, 20% rounded intrusive, 10% sediments.	12	<0.2	45	106	2	14	130
DR-33	1439	025°	1.0-1.3	SITE: 50-60 metres upstream of lake. Northwest sector of property.							
1				DRS-33: 50% green-brown, fine-grained volcanics, 40% sediments (argillite-siltstone) 5%	6	0.2	50	39	<2	10	135
				intrusives, 1% quartz.		-					
				<b>DRPC-33:</b> Low to moderate magnetite content. Mostly fine-grained with a few large $(1.0 - 2.0 \text{ mm})$	15	<0.2	45	16	<2	5	82
				grains. One 1.5 mm pyrite cube with striations, several smaller $0.2 - 0.5$ mm pyrite cubes. Low to							
				moderate apatite. larger fragments of siltstone/argillite and green volcanics.		<b> </b>					
DR-34	1470	020°	0.5-0.8	SITE: 425 metres upstream of DRS-33. Northwest sector.						i	
				DRS-34: 60% sub-angular sediments (argillite and siltstone). Rest is volcanic and rounded	118	<0.2	110	25	<2	10	119
				intrusives.			L		ļ		<b></b>
DR-35	1479	015°	0.7	SITE: 100 metres east of clearcut boundary. Southwest sector.							
				DRS-35: 70% sediments (subangular), 30% volcanics, moderate organics.	13	0.4	30	53	<2	14	236
				DRPC-35: Low, fine to coarse-grained (one grain 4 mm wide) magnetite. Trace very fine pyrite	7440	<0.2	29	21	<2	7	127
				cubes. Minor apatite, Trace pink/clear quartz.				ļ		1	<b></b>
DR-36	1320	330	1.5	SITE: Eastern sector on new claims. Upstream of DW-09 site.							
				DR8-36:	7	<0.2	<5	22	<2	8	96
		1		DRPC-36: Low to moderate, fine to medium-grained magnetite. One 0.2 mm x .05 mm angular,	<5	<0.2	4	15	<2	3	66
		1		very bright yellow, gold grain. Trace oxidized pyrite cubes (0.1 - 0.2 mm average). Trace pink		1					
				quartz. Moderate, fine-grained apatite.			I		1		

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Site	Elev	Source	Width	Description	Au	Ag	As	Cu	Мо	Pb	Zn
- Sile	<u>(m)</u>	Julice	(m)		ppb	ppm	ррт	ppm	ppm	ppm	ppm
DW-01	1295	330°	2.0	SITE: Between Walkin and Goose Lakes, southern property boundary						ł I	1
ł				DWS-01: Angular to sub-angular, green, fine-grained volcanics, 25-30% limonitic float.	11	<0.2	10	37	<2	6	97
Į		1	-	DWPC-01: Green-grey, low magnetite content. Majority of P.C. made up of mafic and accessory	32	<0.2	15	30	<2	6	80
				minerals. Trace clear pink quartz. Trace pyrite. Suspect angular grain gold(?).						<u> </u>	l
DW-02	1348	270°	1.3-1.5	SITE: ~75 metres upstream of Deer Lake, meandering stream.	]						l
l				DWS-02: Predominantly greenish, fine-grained volcanic flow with 20% siltstone/argillite.	12	<0.2	35	58	4	16	205
l			ļ	DWPC-02: Medium brown, limonitic P.C. Low magnetite content. ~50% of fragments are	14	<0.2	26	29	<2	8	114
				limonitic. Few oxidized 0.2 mm (average) pyrite cubes. Few pale green, elongate crystals.							l
DW-03	1378	225°	1.5	SITE: Northwest of Deer Lake, 25 metres upstream of new road.							Į –
ļ				DWS-03: Sub-angular to sub-rounded mafic rock. 30%+ fine-grained sediments (argillite/siltstone).	14	<0.2	25	45	2	12	149
			[	DWPC-03: Medium grey brown. Low magnetite content. Limonitic, sub-angular mixed volcanics	7	<0.2	33	34	<2	6	115
l				and siltstone/argillite. 1-2% white quartz. Trace very fine pyrite cubes. Pale green, stubby crystals		ļi	ļ	1	l i	<b> </b>	l
				(apatite?).	Ļ	i	[i		l		
DW-04	1372	315°	1.0-1.5	SITE: ~70 metres west of Deer Lake.					<u></u>		_
				DWS-04: Mixed green, fine- grained volcanic flows/tuffs. 60%+ argillite/siltstone and minor chert.	617	0.2	150	104	<2	26	122
		1	ł	DWPC-04: Brown P.C increasing magnetite (>DWPC 1-3). Trace to ½% pyrite cubes, some	16	<0.2	113	52	<2	18	91
				striated and twinned. Few larger 1-2 mm fragments magnetite. 1-2% white quartz. Trace clear quartz.				[]	l		
DW-05	1332	360°	1.5	SITE: Along on Latremouille Creek just east of Deer Lake Road.				_ ا	ļ _		
				DWS-05: Predominantly green, fine-grained volcanics (Nicola).	60	<0.2	65	144	2	14	117
			1	DWPC-05: Medium brown P.C. Low, very fine-grained magnetite content. ½% white quartz. Trace	40	<0.2	30	56	<2	8	76
				icy clear quartz. P.C. is predominantly pale green volcanics.						L	ļ
DW-06	1360	<b>27</b> 0°	1.5	SITE: Upper Latremouille Ck. Central sector of property.		-	1		1		1
		1		DWS-06: Predominantly mafic rich intrusive (angular) and felsic (DWR-06).	37	<0.2	60	175	2	16	109
		1		DWPC-06: medium brown P.C. Fine-grained magnetite (similar to DWPC-05). Trace hematitic	107	<0.2	53	94	<2	11	76
				coatings. One large (2 mm) fragment magnetite. 1% quartz (milky white > ice clear).One small, red			ł		ļ		
		<u> </u>		crystal (almandine gamet?).					l	Ļ	ļ
DW-07	1488	280°	1.5	SITE: Meandering, low slope stream. Northernmost sector of property.							Į
				DWS-07: Mixed, fine-grained sediments (argillite/siltstone) and fine-grained volcanic flows and	13	<0.2	45	41	4	14	179
				tuffs - minor pyrite in some volcanic and especially in one piece of grey chert/argillite greywacke.		1	ł				1
				Float is angular to sub-rounded.			L			L	<u> </u>
DW-08	1348	338°	0.5-1.0	SITE: Northeast sector of property west of Nora (Hook) Lake.							
		1		DWS-08: Predominantly angular, pale green, intermediate volcanics.	404	<0.2	<5	61	2	8	95
				DWPC-08: Moderate magnetite content, generally fine-grained 4 grains of angular, bright yellow	3200	<0.2	3	45	<2	5	90
				gold. One grain of icy clear quartz with attached gold. Pale green hexagonal apatite with magnetite.			1		1		1
				Clear quartz content higher than previous P.C.s. Minor, bright, angular pyrite.							1
ĺ			ļ	DWPC-08A: 5 metres upstream of DWPC-8. One elongate, very angular 0.5 mm gold grain. Also	4810	<0.2	<2	144	<2	6	82
		1	1	a 0.2 mm and one 0.1 mm gold grain. All very bright yellow. Pale green apatite common in the		l l	ŀ				
	Í	1	1	heavy fraction. Also minor specular hematite ( $\leq$ 1.5 mm). Several angular pyrite grains.	1	1	1	l	1	1	1

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C#0	Elev	Source	Width	Au	Ag	As	Cu	Мо	Pb	Zn	
Sile	(m)	Source	(m)	Description	ppb	ppm	ppm	ррт	ppm	ppm	ppm
DW-09	1271	300°	1.0-1.3	SITE: Well developed creek gully in northeast sector of property.							
		-		DWS-09: Predominantly green, sub-angular to sub-rounded pebbles/cobbles of fine-grained volcanic	231	<0.2	<5	21	<2	5	84
				flows.							
			1	DWPC-09: Moderate magnetite content, generally very fine-grained, many grains with octahedral	130	<0.2	4	12	<2	.4	69
				crystal form. One 0.1 mm rectangular grain of gold. Angular, very bright yellow. Minor specular							
	ļ			hematite, trace oxidized pyrite, apatite with lesser epidote(?).							
DW-10	1238	020°	3.0-4.0	SITE: Well incised creek valley (Nehalliston Ck). Northeast corner of property.							
	L	ļ		DWS-10: Exclusively fine-grained, dark coloured volcanics (andesite-basalt)	7	<0.2	5	18	<2	5	96
DW-11	1329	040°	0.8	SITE: 380 metres downstream of road - no silt at proposed site.				:			
				DWS-11: Predominantly pale green, fine-grained sub-rounded volcanics.	13	<0.2	10	103	12	12	103
DW-12	1293	330°	1.0	SITE: Mouth of creek at northwest end of Laurel Lake.							
		-		DWS-12: Predominantly sub-angular to sub-rounded, green andesitic volcanics fine-grained feldspar	135	0.2	5	140	2	10	85
				porphyries, some limonitic. (SEE SPECIMEN DWR-12).							
				DWPC-12: Low magnetite content. Magnetite very fine-grained. Tr. specular hematite, less apatite	263	<0.2	10	21	<2	8	44
	ļ	ļ		than previous PCs. 1-2% (white>clear>>pink) guartz.	ļ					<u> </u>	
DW-13	1244	300°	2.5-3.0	SITE: ~50 metres upstream of Highway 24 on Latremouille Creek.							
				DWS-13: Fine-grained volcanics flows, lesser tuffs. Low fines content.	17	<0.2	25	49	<2	10	76
				DWPC-13: Low magnetite, v. fine-grained (.05-0.1 mm). Minor specular hematite. Mod. apatite and	<5	<0.2	30	31	<2	7	62
·	1			other accessory minerals. Minor biotite > chlorite.							
DW-14	1244	260°	1.3	SITE: Eastern border of property. Tributary of Nehalliston Creek.							
				DWS-14: Subangular to subrounded, green, fine-grained volcanic flows, minor agglomerate, basalt.	16	<0.2	5	52	<2	18	95
				DWPC-14: Low, fine-grained magnetite content (slightly higher than DWPC-13). Minor pyrite,	10	<0.2	11	36	<2	8	79
				usually oxidized with striations and occasional twinning. Trace clear and clear pink quartz. Sulphide						ĺ	}
	ļ			content above average.				1			
DW-15	1195	070°	4.0-5.0	SITE: Nehalliston Creek – very pronounced, deep canyon							
				DWS-15: Green volcanic and diorite, very little limonitic float.	19	<0.2	10	54	<2	16	85
			1	DWPC-15: Low, fine-grained magnetite content. Some well formed octahedrons. Minor pyrite	40	<0.2	14	34	<2	17	66
				cubes, usually quite tarnished. P.C. overall brown to dark grey.	<u> </u>			ļ			
DW-16	1220	345°	1.0-1.5	SITE: Downstream of Tack Lake. Eastern sector of property.	ĺ	ļ					
				DWS-16: Angular, epidotized andesite, minor tuffs (DWR-16).	23	<0.2	5	50	<2	14	123
1				DWPC-16: Low, fine-grained magnetite content. Trace specular hematite. Small (0.1-0.2 mm)	27	<0.2	12	23	<2	8	69
L				oxidized, striated pyrite cubes common. Low to moderate apatite ± epidote. Trace pink guartz.							
DW-17	1165	285°	1.5	SITE: 50 metres upstream of Nehalliston Creek. Eastern boundary of property.							
				DWS-17: Virtually all angular to subangular, brown-green volcanic flows minor tuff.	125	<0.2	<5	105	6	14	81
				DWPC-17: Low, fine-grained magnetite content. Perfect octahedrons common. Very small,	36	<0.2	9	39	<2	10	68
				tarnished pyrites cubes common (some perfect Carlsbad twins). One perfect six sided elongate apatite			1		1		
				crystal.				1		1	<u> </u>

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	Elev	Source	Width	Description	Au	Ag	As	Cu	Мо	Pb	Zn
Site	(m)	Source	(m)	Description	ppb	ppm	ppm	ppm	ppm	ppm	ррт
DW-18	1348	340°	0.8-1.0	SITE: Southwest border of property. DWS-18: 70% fine-grained sediments (argillite, siltstone, cherty equivalents). 30% volcanic and minor intrusive (25-30% limonitic and hematitic float).	9	<0.2	150	72	2	14	240
				DWPC-18: Moderate, very fine-grained magnetite content. One angular 0.1 mm, bright yellow gold grain. Trace pyrite cubes (very small, tarnished). Minor icy clear and pink quartz.	1120	<0.3	72	31	<2	9	116
DW-19	1378	040°	0.8	SITE: Southwest corner of property. DWS-19: 60% dark grey-black argillite, silty argillite, limey argillite and minor chert. Remainder is andesitic volcanic flows and tuffs5-10%+ intrusives. Sediments more angular than intrusive rocks.	66	0.2	10	44	2	12	166
				<b>DWPC-19:</b> Low to moderate, very fine-grained magnetite content. Fairly high white to clear quartz to ~3-5%	<5	<0.2	15	20	<2	8	111
DW-20	1268	030°	1.0	<ul> <li>SITE: Extreme southwest corner of property. Pyroxene diorite outcrop.</li> <li>DWS-20: Predominantly intrusive (50-60%). Remainder is argillitic sediments</li> <li>DWPC-20: Moderate magnetite content and variety of other opaques. No sulphides. Pale green apatite present. Magnetite estimated at 10-20% of opaque fraction. 3-5% (clear&gt;white) quartz.</li> </ul>	6 167	0.2 <0.2	20 37	47 13	· 4 <2	8 5	99 47
DW-21	1457	360°	1.5	SITE: Central portion of property, 30 metres upstream of lake. DWS-21: Predominantly sub-angular to sub-rounded, fine-grained volcanics. 5-8% diorite, 10% sediments (mainly black argillite). 10% of float is limonitic. DWPC-21: Low magnetite content, predominantly very fine-grained, trace pink and yellow clear mastz. Abundant fine-orained anatite crystals.	11	<0.2 <0.2	65 51	<b>41</b> 17	<2 <2	8	172 81
DW-22	1463	260°	0.8	SITE: Northwest and upstream of DWS-21. DWS-22: Subangular-angular sediments (65%) siltstone>argillite, 25% volcanics (green, fine- grained flows, tuffs), 10-15% m-grained dioritic rocks. DWPC-22: Very low, fine-grained (average 0.1 mm) magnetite content. 10% of grains limonitic, few grains with hematitic coatings.	5 <5	<0.2 <0.2	45 35	30 13	<2 <2	8	125 86
DW-23	1415	270°	0.8	SITE: Central sector of property. DWS-23: Sub-angular pebbles of predominantly intrusive (50%). Remainder is sediments >volcanics. Sediments – argillite, siltstone, minor chert	7	0.2	30	311	2	12	95
				<b>DWPC-23:</b> moderate, fine to medium-grained magnetite content. P.C. is quite limonitic (40-50% of grains limonitic). Minor fine-grained apatite, no sulphides.	141	<0.2	29	13	<2	2	86

APPENDIX B

**ROCK SAMPLE DESCRIPTIONS** 

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# ROCK SAMPLE DESCRIPTIONS

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
DRM-19	Float taken at DRS-19 sample site. Angular, buff coloured, fine-grained sediment(?). Limonitic fractures. Cut by quartz veinlets to 1 cm. Minor carbonate. Pyrite cubes to 1 mm.	6	<0.2	10	<b>4</b> 1	<2	12	28
DRR-25*	DRR-25A – Stream Float taken at DRS-25 site. Pale green-brown, weakly limonitic, altered, fine- grained <i>felsic rock</i> . Red-brown limonitic? clots throughout matrix. Mafics totally altered. Irregular clots of translucent quartz. Non-magnetic. Carbonate very weak. DRR-25B – Stream Float. Pale green, very fine-grained <i>felsic(?)</i> rock. Distinct 1 cm limonitic rind. Pale green blotches throughout. Fine-grained pyrrhotite <0.5%. Carbonate moderate. Analysis is composite of A and B samples.	4	<0.2	65	37	<2	10	100
DWR-06A*	<i>Float</i> taken at DWS-6 silt site. Angular, dark green, medium-grained, mafic rich intrusive rock (pyroxene <i>diorite/gabbro</i> ). Trace pyrite, chalcopyrite(?). Moderately magnetic.							
DWR-06B*	Float. Pale green-brown, fine-grained, altered intrusive(?). Feldspars stained pale brown. Disseminated fine-grained pyrite 2%. Very weakly magnetic. Nil carbonate.	6	1.6	40	22	<2	24	105
DWR-08*	<i>Float</i> collected at DWS-8 silt site. Pale brown-green, fine-grained <i>altered intrusive</i> . Mafics altered to chlorite. Many feldspars are coloured. Quartz >10%. Minor ( $\leq$ 1%) fine-grained pyrite. Some fracture faces slickensided. Disseminated magnetite 1%+. Moderate magnetism. Carbonate very weak.	6	<0.2	5	32	<2	18	68
DWR-08A*	<i>Float.</i> Limonite weathered, pale green, fine-grained, weakly micaceous volcanic(?). Disseminated, fine-grained magnetite 0.5% and minor coarse pyrite <0.5%. Cut by 3 mm quartz veinlet. Weakly magnetic. Carbonate moderate to high/strong (fractures).	9	0,2	<5	179	4	8	62
DWR-11	<i>Float</i> collected at DWS-11 silt site. Grey, fine-grained, dense, limonitic and <i>very siliceous volcanic</i> with very fine-grained disseminations of pyrrhotite (2%). Lesser fine-grained pyrite noted on fractures. Weakly magnetic. Nil carbonate.							
DWR-12*	<i>Float</i> collected at DWS-12 silt site. Buff coloured, limonitic, fine-grained, <i>siliceous (felsic) volcanic</i> cut by several, thin (<1.5 mm), white to translucent quartz veinlets. Disseminations of fine-grained pyrite cubes ( $\leq 0.5\%$ ). Non-magnetic. Carbonate weak in matrix, slightly greater on fractures/veinlets.	267	0.2	30	24	<2	10	44
DWR-19	Float. Located ~30 m at 200° from DWS-19 site. Area of abundant, subangular to subrounded, limonitic, very fine-grained quartzite(?). Disseminated, fine-grained pyrrhotite and pyrite, locally to 5%.	3	0.4	60	61	2	10	110
DWR-20*	<i>Outcrop</i> upstream and near DWR-20 silt site. Grey, fine to medium-grained unaltered <i>quartz diorite</i> . Mafics (predominantly pyroxene) comprise 40-50% of rock. Weakly magnetic. Carbonate weak.	3	<0.2	<5	46	6	2	50
RMR-01	<i>Outcrop</i> . 25 metres upstream of DRS-03. Dark grey to black <i>limonitic argillite</i> , locally finely laminated. Few 1 cm vuggy quartz veinlets. Locally well brecciated.	10	0.2	5	123	28	8	52
RMR-02	<i>Outcrop</i> . Upstream of DWS-06 silt sample. Green, medium-grained, intermediate to mafic intrusive with 25% euhedral pyroxene phenocrysts.	8	<0.2	5	105	<2	6	70
RMR-03	Outcrop. Banded chert/siltstone on south creek bank 50 metres east of DRS-07 site. Few crosscutting quartz stringers, locally disseminated pyrite to 1-2%.	39	0.2	<5	171	38	8	81
RMR-04*	Outcrop at southwest end of Thumb Lake. Green-grey, fine-grained intrusive "microdiorite". Limonite coated pyrite <0.5%. Non-magnetic. Carbonate very weak (predominantly along fractures).	5	<0.2	<5	53	<2	4	48

\* Hand specimen available

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# **ROCK SAMPLE DESCRIPTIONS**

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
RMR-05*	Float collected from clearcut approx. 300m NNW of DRS-20 silt site. Subangular, buff, limonite stained, quartz stockwork veined, altered and brecciated siliceous rock. Several veinlets from <1 mm to 1 cm. Disseminated fine-grained pyrite ~0.5%. Non-magnetic. Carbonate weak, locally moderate on fractures.	434	1.2	35	34	92	24	12
RMR-05A*	<i>Float</i> collected near RMR-5. Subangular, grey, <i>chert pebble conglomerate</i> . Matrix supported, generally subrounded to rounded clasts up to 2 cm. Few clasts of argillite and coarser sediments. Pyrrhotite grains up to 2 mm noted primarily in matrix, however some clasts contain fine-grained pyrrhotite. Weak to locally moderately magnetic. Carbonate moderate to high.	31	0.2	<5	149	2	8	70
RMR-05B*	<i>Float</i> collected near RMR-5,5A samples. Grey, fine-grained, pyritic, <i>altered tuff(?)</i> . Original components such as mafics are well altered. Disseminated pyrite (0.25-1 mm) ~5%. Distinct limonitic rind 1 cm thick. Non-magnetic. Carbonate weak to moderate.	9	<0,2	10	210	<2	10	62
RMR-06*	<i>Float</i> collected near DRS-28 silt site. Angular, limonitic <i>quartz breccia</i> . Several pieces up to 20 cm across. Limonite and carbonate infilling. No sulphides noted. Non-magnetic. Carbonate moderate, especially in breccia infilling	9	<0.2	5	36	2	12	11
RMR-07	<i>Outcrop</i> Along Blowdown Road approx. 450m north of DRS-17 silt site. Limonitic, weathered, well bedded <i>argillite and siltstone</i> . Attitude = 292°/80-85° south.	11	<0.2	85	29	84	52	65
WGR-01	<i>Outcrop</i> collected near south end of Deer Lake. Grey, medium-grained granodiorite. Very low sulphide content. Weakly magnetic.	12	<0.2	5	45	<2	2	56
WGR-02*	<i>Outcrop</i> near headwaters of Latremouille Creek. Green, fine to medium-grained <i>pyroxene diorite</i> , weakly magnetic. Very low sulphide content. Nil carbonate	15	<0.2	<5	130	<2	6	85
WGR-03*	<i>Outcrop</i> 900m WNW of north end of Deer Lake. Pale grey <i>siltstone</i> with disseminated 0.5-1.0 mm iron oxide coated pyrite cubes 2%. Weakly magnetic due to minor pyrrhotite ( $\leq 0.5\%$ ). Carbonate moderate to high especially along fractures. Bedding = $118^{\circ}/90^{\circ}$ .	9	0.2	50	85	2	6	31
WGR-04*	<i>Outcrop</i> near northeast corner of property. Green, medium-grained <i>dioritic intrusive</i> . Quartz deficient, mafics comprise 50% of rock. Minor rusty pyrite (0.5%), Non-magnetic. Carbonate weak to moderate throughout.	4	<0.2	<5	73	<2	12	138
WGR-05*	<i>Outcrop</i> along Nehalliston Creek near east property boundary. Green, medium-grained <i>diorite</i> . Mafics 50%± (pyroxene dominant). Non-magnetic. Nil carbonate.	10	<0.2	<5	8	<2	4	65
WGR-06*	<i>Outcrop</i> near eastern border of property. Green, massive <i>andesite</i> (?) with local zones of medium grained diorite. Trace pyrite. Moderately magnetic. Nil carbonate.	2	<0.2	<5	35	<2	2	50
WGR-07	<i>Outcrop.</i> Strongly epidotized <i>andesite</i> with minor pyrite. 50 metres upstream of DRS/PC-16 sample site. See DWR-16 for analysis of float.							
WGR-08*	Subcrop near western property boundary. Grey-green, fine to medium-grained <i>diorite</i> with rusty zones. Generally low sulphide content ( $\leq 1\%$ ). Secondary biotite alteration. Weakly magnetic. No carbonate.	3	0.2	<5	65	<2	6	30
WGR-09*	<i>Outcrop</i> in southwest area of property. Rusty weathering, green-grey, fine to medium-grained <i>diorite</i> . Quartz content 5-10%. 50%+ mafics. Disseminated pyrrhotite 1-2%. Trace chalcopyrite. Moderately magnetic. Nil carbonate.	5	0.4	5	73	2	12	4]

\* Hand specimen available

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# **ROCK SAMPLE DESCRIPTIONS**

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
WGR-09A*	<i>Float.</i> Located 125 metres, at 200° from WGR-09. Grey-green, medium-grained, <i>pyritic</i> <i>intermediate intrusive</i> (diorite). Vague mineral identification due to alteration of mafics and feldspars. Weakly silicified. Fgrained pyrrhotite found throughout (5%). Moderately magnetic	11	0.8	65	216	<2	16	57
WGR-10*	Outcrop between samples DWS-19 and DRS-35. Grey, fine-grained, dense siliceous tuff or sediment(?). Very finely disseminated pyrite 2-3% and lesser clots of chalcopyrite (<0.5%). Non-magnetic. Nil carbonate. Bedding at 348°/90°±.	17	1.2	10	122	6	84	378
WGR-11*	Subcrop in southwest sector of property. Grey, medium-grained bio-hornblende granodiorite. Variably porphyritic. Minor pyrite ~0.5%. Non-magnetic. Nil carbonate.							
WGR-12*	Outcrop west of Walkin Lake in southern sector of property. Pale grey-green feldspar porphyry.         White to buff feldspar phenocrysts to 4 mm. Chloritic alteration of mafics. Minor pyrite <1%. Non-						4	56
WGR-13A*	<i>Float/Subcrop</i> near DWS-21 sample site. Angular, green and buff coloured, coarse-grained <i>feldspar porphyritic hornblende monzonite</i> . Quartz content <10%. Predominantly K feldspar. Minor pyrite 0.5%. Non-magnetic. Carbonate weak along fractures only.	5	<0.2	25	84	<2	10	53
WGR-13B*	<i>Float</i> . Limonite stained, pale grey, fine-grained, altered <i>felsic intrusive</i> . Mafic content low. Small white feldspar phenocrysts common. Cut by 1 cm white quartz vein with limonite-siderite halo. Limonitic rind on rock 1.5 cm; contains 1 mm pyrite cubes. Non-magnetic.	14	<0.2	60	20	<2	10	105
WGR-14*	<i>Float</i> 500m NNW of WGR-13 site. Dark green, <i>mafic rich intrusive</i> (diorite/gabbro) with disseminated to semi-massive fine-grained pyrite and minor chalcopyrite. Sulphide content 15 to 30%+. Chlorite-epidote alteration. Outcroppings of chlorite altered diorite nearby. Moderately magnetic.	55	4.0	115	6813	<2	24	64
WGR-15*	<i>Outcrop</i> ENE of WGR-14 site. Dark green, coarse-grained <i>gabbro</i> . Trace very fine-grained chalcopyrite. Very magnetic due to high amount of magnetite (3 to 5%). Nil carbonate.	6	<0.2	<5	92	<2	4	72
WGR-16*	<ul> <li>WGR-16A – Outcrop in northern sector of property. Dark green, medium to coarse-grained gabbro.</li> <li>Very low sulphides. Moderately to strongly magnetic. Nil Carbonate.</li> <li>WGR-16B – Outcrop. Green, medium-grained diorite. Chlorite-epidote alteration. Very minor pyrite (&lt;0.5%). Non-magnetic. Nil carbonate. Collected near end of new logging road. Analysis is composite of A and B samples.</li> </ul>	3	<0.2	<5	89	<2	2	93
WGR-17*	<i>Outcrop</i> ENE of WGR-17 along new logging road. Dark green, massive, medium to coarse-grained <i>gabbro</i> . Disseminated pyrite cubes 1%. Trace chalcopyrite. Weakly magnetic. Carbonate is weak throughout. Collected along new logging road.	6	<0.2	15	103	<2	6	78
WGR-18	<i>Outcrop</i> east of WGR-17 site. Limonite weathered rock cut by narrow quartz veinlets. Minor pyrite cubes locally to 3%. Along new logging road.	3	<0.2	50	43	<2	10	67
WGR-19	<i>Outcrop</i> northeast of WGR-18 along new logging road. Pale grey, limonitic, fractured, fine-grained <i>intermediate intrusive</i> . Low quartz content. Mafics 25% appear to be hornblende. Disseminated pyrrhotite 1%. Weakly magnetic. Nil carbonate. Collected along new logging road.	14	0.4	5	106	<2	10	68
WGR-20*	Float. Angular, green-grey, very fine-grained siliceous rock (sediment?). Conchoidal fractures. Disseminated pyrite from very fine to cubes to 1 mm. Carbonate weak, moderate along fractures. Located 270 m NNW of DWS-08.	4	0.2	5	147	<2	4	78

\* Hand specimen available

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# **ROCK SAMPLE DESCRIPTIONS**

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
WGR-21*	<i>Float</i> located ~100 m east of WGR-20. Angular, green, fine-grained, <i>siliceous rock</i> (intrusive?) with disseminated fine-grained magnetite. Limonitic specks throughout rock. Minor $\leq 0.5\%$ pyrite cubes. Carbonate is moderate to high/strong, greater on fractures	6	<0.2	<5	74	<2	12	125
WGR-22*	<i>Float</i> located between WGR-20 and 21 sites. Subangular, strongly limonite weathered, pale green, fine-grained <i>volcanic</i> cut by irregular, thin quartz veinlets/microveinlets. Disseminated, very light coloured and fine-grained pyrite (1%). Green blotches resemble mariposite. Weakly magnetic. Carbonate is moderate along fractures.	6	0.2	<5	14	2	12	38
WGR-23*	<ul> <li>WGR-23A - Float found in gravel pit along Blowdown road 450m NNE of DRS-30. Subrounded, pinkish-green, dense, fine-grained pyritic skarn. Streaks and disseminations of fine-grained pyrite. Non-magnetic. Nil carbonate.</li> <li>WGR-23B - Pyrite rich specimen of above rock. Minor chalcopyrite. Chlorite-epidote alteration present. Nil carbonate. Analysis is composite of A and B samples.</li> </ul>	38	1.4	5	873	<2	26	34
WGR-24	Outcrop at end of logging road 400m NNE of DRS-35 sample site. Fractured, limonitic argillite and minor siltstone. Disseminations and stringers of pyrrhotite and pyrite.	8	0.4	<5	179	4	8	82
WP-131*	<i>Outcrop</i> along logging road NNE of RMR-5,5A,5B sample sites. Dark grey, massive weakly bedded <i>limey siltstone</i> . Very fine-grained pyrrhotite disseminated throughout 1%+. Weakly magnetic. High carbonate.	9	0.6	10	35	2	18	62

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APPENDIX C

ANALYTICAL DATA AND METHODOLOGY

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TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717

**TSL Assayers Swastika** 1 Cameron Ave. Swastika, Ontario POK 1TO Tel: (705) 642-3244 Fax: (705) 642-3300

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# Quality Assaying for over 25 Years

"Rocks"

# Geochemical Analysis Certificate

Company:	Electrum Resources
Project:	Deer Lake
Attn:	John Barakso

We hereby certify the following geochemical analysis of 24 samples submitted Oct-19-99 by Werner Grunwald.

Sample	Au	Au	Au grav	Cu	
Name	ppb	g/tonne	g/tonne	%	
JDR-1	11720		11.87	0.725	
JDR-1A	117				
JDR-2	954			1.290	
JDR-3	601			0.698	
JDR-4	3650	3.85		2.720	
JDR-5	4440	4.82		3.870	
JDR-5A	2870	2.76		2.760	
JDR-6	36				
JDR-7	438			0.247	
JDR-8	93				
JDR-9	23				
DRM-19	6				
RMR-1	10				
RMR-2	8				
RMR-3	39				
RMR-4	5				· · · · · · · · · · · · · · · · · · ·
RMR-5	434				
RMR-5A	31				
RMR-5B	9				
RMR-6	9				
RMR-7	11				
WGR-1	12				
WGR-2	15				
WGR-3	9				

9V-0408-RG1

Oct-28-99

**TSL Assayers Vancouver** 



Certified by\_

8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423



# Quality Assaying for over 25 Years

# Geochemical Analysis Certificate

Company:	Electrum Resources
Project:	Deer Lake
Attn:	John Barakso

# 9V-0408-RG2

Oct-28-99

We hereby certify the following geochemical analysis of 24 samples submitted Oct-19-99 by Werner Grunwald.

Sample	Au	Cu			
Name	PPB	%			
WGR-4	4			 	
WGR-5	10				
WGR-6	2				
ŴGR-7	4				
WGR-8	3				
WGR-9	5		······································	 	
WGR-10	17				
WGR-12	2				
WGR-13	5				
WGR-14	55	0.592			
WGR-15	6			 	
WGR-16	3				
WGR-17	6				
WGR-18	3				
WGR-19	14				
WGR-20	4			 	
WGR-21	6				
WGR-22	6				
WGR-23	38				
WGR-24	8				
DWR-8A	9				
DWR-16	6				
DWR-18	7				
DWR-19	3				

Certified by\_

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TSL Assayers Vancouver 8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423 TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717

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Quality Assaying for over 25 Years

# **Geochemical Analysis Certificate**

9V-0408-RG3

Company:Electrum ResourcesProject:Deer LakeAttn:John Barakso

Oct-28-99

We *hereby certify* the following geochemical analysis of 2 samples submitted Oct-19-99 by Werner Grunwald.

Sample Name	Au PPB	
DWR-20	3	
DRR-25	4	

Certified by

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TSL Assayers Vancouver 8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423 TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717



# Quality Assaying for over 25 Years

# **Geochemical Analysis Certificate**

### 9V-0408-LG1

Oct-28-99

Company:Electrum ResourcesProject:Deer LakeAttn:John Barakso

"Silts"

We *hereby certify* the following geochemical analysis of 24 samples submitted Oct-19-99 by Werner Grunwald.

Sample	Au	
Name	PPB	
DWS-01	11	
DWS-02	12	
DWS-03	. 14	
DWS-04	617	
DWS-05	60	
DWS-06	37	
DWS-07	13	
DWS-08	404	
DWS-09	231	
DWS-10	7	
DWS-11	13	
DWS-12	135	
DWS-13	17	
DWS-14	16	
DWS-15	19	
DWS-16	23	
DWS-17	125	
DWS-18	9	
DWS-19	66	
DWS-20	6	
DWS-21	11	
DWS-22	5	
DWS-23	7	
DRS-01	3	

Certified by\_

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TSL Assayers Vancouver 8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423 TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717

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Quality Assaying for over 25 Years

# **Geochemical Analysis Certificate**

9V-0408-LG2

Company:	Electrum Resources
Project:	Deer Lake
Attn:	John Barakso

# We hereby certify the following geochemical analysis of 24 samples submitted Oct-19-99 by Werner Grunwald.

		SILTS
Sample	Au	
Name	PPB	
DRS-02	2	
DRS-03	13	
DRS-04	. 20	
DRS-05	166	
DRS-06	4	
DRS-07	13	
DRS-08	383	
DRS-09	414	
DRS-10	18	
DRS-11	22	
DRS-12	53	
DRS-13	23	
DRS-14	8	
DRS-15	27	
DRS-16	188	
DRS-17	121	
DRS-18	14	
DRS-19	21	
DRS-20	11	
DRS-21	4	
DRS-22	129	
DRS-23	3	
DRS-24	8	
DRS-25	61	

Certified by

医弗尔氏 网络小石石 经公司公司公司 计运行 经资本法 网络小石石 网络马尔西西南部 网络马尔西南部马尔西南部马斯西部南部

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**TSL Assayers Vancouver** 8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423

TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717

TSL Assayers Swastika 1 Cameron Ave. Swastika, Ontario POK 1TO Tel: (705) 642-3244 Fax: (705) 642-3300

Oct-28-99



Quality Assaying for over 25 Years

# Geochemical Analysis Certificate

Company:	Electrum Resources
Project:	Deer Lake
Attn:	John Barakso

9V-0408-LG3

Oct-28-99

We *hereby certify* the following geochemical analysis of 12 samples submitted Oct-19-99 by Werner Grunwald.

Au	
PPB	
4	
4	
. 14	
14	
41	
8	
12	
6	
118	
13	
5	
30	·
	Au PPB 4 4 4 14 14 41 8 12 6 118 13 5 30

Certified by\_

TSL Assayers Vancouver 8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423 TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717

# **Electrum Resource Corp.**

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Attention: John Barakso

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Project: Deer Lake

Sample: .

# **Assayers Canada**

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8282 Sherbrooke St., Vanco	ouver, B.C., V5X 4R6	Report No	:	9V0408 LJ
Tel: (604) 327-3436 Fa	x: (604) 327-3423	Date	:	Oct-28-99

### **MULTI-ELEMENT ICP ANALYSIS**

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Bc ppm	Bi ppm	Ca %	Cd Co ppm ppm	Cr ppm	Cu ppm	Fe %	К %	Mg %	Mn ppm	Mo N ppm 9	a Ni ppn	P 1 ppm	Рь ррт	Sb ррт	Se ppm	Sn ppm	Sr ppm	Ti %	V ppm p	W Mar P	Y Z pm pp	n 2 m pj	Zr pm
DW\$-01	<0.2	1.33	10	50	<0.5	<5	0.61	<1 1	5 56	37	3.49	0.04	1.10	470	<2 0	01 :	23 830	6	<5	3	10	35	0.15	90	<10	5	92	4
DWS-02	<0.2	1.98	35	150	0.5	<5	0.81	<1 2	4 222	58	6.14	0.07	1.54	2845	4 0	01	55 1120	16	5	5	<10	44	0.11	125	<10	7 2	205	5
DW5-03	<0.2	1.78	25	110	0.5	<5	0.72	<1 2	0 238	45	5.92	0.07	1.46	1780	2 0	01 4	49 970	12	5	4	<10	38	0.12	122	<10	5 1	149	4
DWS-04	0.2	1.74	150	90	0.5	<5	1.05	<1 2	4 208	104	7.13	0.07	1.26	1205	<2 0	D1 4	1080	) 26	5	6	<10	55	0.11	127	<10	8 10 1	172	6
DW5-05	<0.2	1.70	55	100	0.5	<5	1.09	<1 2	Z 111	144	5.08	0,05	1.29	1800	2.0	01 4	46 1280	14	5	5	<10	61	0.11	115	<10	6 1	117	4
DW\$-06	<0.2	1.88	80	100	0.5	<5	0.94	<1 2	4 123	175	5.32	0.05	1.19	1575	ZĎ	.01 4	46 1050	) 16	<5	5	10	53	0.17	117	<10	5	109	4
DW\$-07	<0.2	1.97	45	160	0.5	<5	Q.87	<1 Z	0 132	41	5.59	D.07	1.35	3400	4 0	.01 4	44 1310	) 14	5	4	10	47	0.08	111	<1Đ	7	179	4
DWS-08	₹0.2	1.30	. <5	200	<0.5	<5	0,56	<1 1	6 54	61	4.D1	0.04	0.82	2710	2 0	.01 :	18 830	) 8	<5	2	10	34	0.07	75	<10	3	95	2
DWS-09	-0.2	1.39	<5	80	<0.5	<5	0:54	<1 1	4 210	21	4.07	0.04	1.34	680	<2 D	.01 4	42 630	) 8	<b>45</b>	3	<10	26	0 14	107	<10	3	84	3
DWS-10	<0,2	1.73	5	70	<0,5	<5	0;49	<1 1	4 224	18	4.27	0.05	1.99	800	<2 0	.01 (	53 910	) 6	5	4	10	27	0,10	116	<10	4	96	4
DWS-11	40.2	1.51	10	220	<0.5	<5	D.8D	1.2	1 56	103	4,47	0.04	0.94	4450	12 D	.01 4	4 520	12	c5	3	20	51	0 16	106	-č10	4	דמו	٦
DWS-12	0,2	1.58	5	100	<0.5	<5	Q,86	<1 2	4 137	140	4.84	0.05	1.13	1270	20	01	45 770	0 10	<5	4	10	46	0.14	116	<1Ð	6	85	4
DWS-13	<0.2	1,38	25	70	<0.5	<5	0,63	<1 1	7 61	49	4.63	0.05	1.17	1350	<2 0	.01 2	27 890	10	<5	4	10	38	0.15	119	<10	5	76	a
DW5-14	<0.2	1.65	5	140	< 0.5	<5	0.75	<1 2	0 176	52	4,51	0.07	1.69	1125	<2 D	01 5	50 1040	) 18	5	4	20	39	0.12	100	<10	5	95	3
DWS-15	<0.2	1.80	10	130	0.5	<5	C.81	<1 2	5 144	54	5.19	0.07	1.84	1590	<2 0	.01 4	45 1140	) 16	5	5	30	62	0.17	114	<1D	5	88	4
DWS-16	<0.2	1.78	5	140	Ð.5	<5	D.76	<1 2	3 66	50	4.72	0.09	1.33	1145	<2 0	01 2	29 900	14	<5	4	<10	45	0.12	100	<10	4 1	123	з
DW5-17	<0.2	1.87	<5	100	< 0.5	<5	0.90	<1 2	7 48	105	5.72	0.12	1.83	1270	6 D	01 .	23 1260	) 14	<5	4	10	64 ;	0.11	127	<10	4	81	4
DWS-18	<0.2	1.52	150	90	0.5	<5	0.77	<1 1	7 137	72	4.74	0.08	1.23	800	20	01 !	55 760	14	<5	4	<10	60	0.13	110	<10	6	240	4
DW5-19	0.2	1.46	10	90	<0.5	<5	D.88	1 1	4 89	44	3.92	0.05	0.97	625	2 0	D1 4	<b>1</b> 6 670	12	<5	3	~10	61	0.13	99	<10	4 3	166	4
DWS-20	0.2	1.39	20	110	<0.5	<5	0.77	<1 1	3 45	47	3.55	0.10	0.86	750	4 0	01 3	30 990	8	<5	3	<10	47	0,16	96	<id< td=""><td>5</td><td>99</td><td>3</td></id<>	5	99	3
DW5-21	<0.2	1.92	65	80	<0.5	<5	D.72	<1 1	8 117	41	4.61	0.04	1.60	750	<2 0	D1 3	38 1150	8	<5	4	<10	41	0.16	126	<10	5 1	122	з
DWS-22	<b>≺</b> 0.2	1.97	45	110	<0.5	<5	0.67	<1 1	5 86	30	4.37	0.04	1.65	755	<2.0	01 3	31 1290	8	<5	4	<10	38	0.13	116	<10	6 1	125	з
DWS-23	0.2	1.72	30	70	0.5	<5	0.76	<1 2	1 127	311	6.20	0.04	1.04	1420	20	.01 4	46 1130	12	×5	5	<10	37	0.19	178	<10	8	95	4
DR5-01	<0.2	2.41	:15	40	<0.5	<5	0.53	<1 3	2 587	155	5,47	0.20	2.88	675	<2 <0	.D1 10	0 450	4	5	4	<10	28	0.18	102	<10	5	47	4
DRS-02	K0,2	0.76	<5	40	<0,5	<5	0.85	<1	9 58	85	1.65	0.03	0.62	155	20	02 2	24 800	4	<\$	2	<10	45	0.15	62	<10	4	33	3
DRS-03	<0.2	1.90	40	150	0.5	<5	D.77	<1 24	4 191	.77	6.18	0.06	1.52	2510	4.0	01. 5	54 1130	16	5	5	<10	45	0.11	119	<10	6	175	4
DRS-04	<0.2	1.66	50	90	0,5	<5	1.14	<1 1	9 118	126	4.54	0. <b>0</b> 5	1.05	995	<2 0	O1 3	970	14	<5	4	<10	36	0,10	87	≺ID	5 5	161	4
DRS-D5	0.2	1.98	85	70	€.5	<5	0.87	<1 2	3 163	205	5.87	0.06	1.58	775	<z 0<="" td=""><td>01 5</td><td>52 1150</td><td>12</td><td>5</td><td>6</td><td>&lt;10</td><td>48</td><td>0.15</td><td>157</td><td><b>KI</b>0</td><td>8 1</td><td>125</td><td>5</td></z>	01 5	52 1150	12	5	6	<10	48	0.15	157	<b>KI</b> 0	8 1	125	5
DRS-06	<0.2	1.36	<5	120	<0.5	<5	0,49	<1 1	8 285	32	5.14	0.05	1.12	520	<2 0	01 4	1 430	10	5	3	<10	30	0.15	119	<10	3	78	4
DRS-07	<0.2	1.44	10	120	<0,5	<5	0.85	<1 2	0 177	48	5.33	0.05	1.16	1790	<2 0	01 3	88 480	10	<5	3	<10	37	0,15	127	<10	3	78	4
								1. s								100	i Nad		111								11.1	

A .5 gm sample is digested with 10 ml 3:1 HCl/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed:

# Electrum Resource Corp.

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Attention: John Barakso

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Project: Deer Lake

Sample: .

# Assayers Canada

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8282 Sherbrooke St., Vancouver, B.C., V5X 4R6	Report No	:	9V0408 LJ
Tel: (604) 327-3436 Fax; (604) 327-3423	Date	;	Oct-28-99

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### **MULTI-ELEMENT ICP ANALYSIS**

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Ст ррт	Cu ppm	Fe %	К %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Ті %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
DRS-08	<0.2	1.46	5	90	<0.5	<5	0.75	<1	18	184	42	5.0Z	0.06	1.51	840	<2	0.01	35	1250	10	5	4	<10	36	0.10	109	~10	4	86	4
DR5-09	<0.2	1.60	<5	80	< 0.5	<5	0.62	<1	18	69	30	5.06	0.05	1.56	385	<2	0.D1	23	1080	10	<5	4	<10	36	0.13	132	<10	4	68	4
DRS-10	<0.2	2.15	<5	50	<0.5	<5	0,86	<1	25	77	80	4.55	0.07	2.20	840	<2	0.01	38	1840	10	<5	5	<10	48	0.15	124	<10	5	97	4
DRS-11	<0.2	1.71	10	210	<b>&lt;</b> 0.5	<5	1.41	<1	32	95	71	7.78	0.07	1.16	2675	<2	0,01	35	1660	14	<5	4	<10	64	0.08	169	<10	5	99	6
DRS-12	<0.2	1.47	≮5	110	<0.5	<5	0.73	<1	15	79	29	3.37	0.04	1.32	600	<2	0.01	30	570	4	<5	3	<10	41	0.18	107	<10	3	65	3
DRS-13	<0.2	1.65	50	70	0.5	<5	0.87	<1	21	126	145	5,39	0.05	1.23	995	<2	0.01	49	99D	10	<5	4	<10	47	0.17	147	<10	5	129	. 4
DRS-14	0.2	1.57	10	110	<0.5	<5	0.87	1	14	74	51	3.76	0.08	0.94	620	z	0.02	37	75D	8	<5	3	<10	49	0,15	105	<10	5	87	3
DRS-15	1.0	1.92	15	110	0.5	<5	5.28	3	15	111	74	4.17	0.07	1.15	590	<2	0.01	62	1090	20	<\$	4	<10	130	0.09	78	<10	8	164	5
DRS-16	0.2	1.67	15	90	0.5	<5	1.07	1	15	103	55	4.19	0.06	1.09	695	2	0.01	53	850	14	<b>K</b> \$	3	~10	72	0.12	97	<10	5	230	4
DRS-17	0.2	1.93	65	100	0.5	<5	1.00	<1	18	111	138	4.35	0_06	1.20	655	<2	0.01	55	104D	8	<5	5	<10	47	0.12	110	<10	9	139	5
DR\$-18	0.2	1.52	120	50	<0.5	<5	0.86	<1	18	113	59	4.45	0.06	1.09	710	<2	0.01	44	820	14	5	4	<10	47	0.12	111	-<10	5.	540	4
DR\$-19	0.4	2.28	80	110	0.5	<5	1.13	<1	25	132	127	5.42	0.10	1.41	965	2	0.01	68	89D	18	<5	7	<10	71	0.1Z	119	<10	8.	610	6
DR5-20	0.6	2.17	50	120	0.5	<5	1.40	2	19	119	-98	5.01	0.08	1.14	1365	2	0.01	67	1150	16	s	5	<10	79	0.11	113	<10	8	537	5
DRS-21	<0.2	1.47	20	120	<0.5	<5	0.80	<1	16	96	36	4,28	0.04	1.14	2175	2	0.01	43	960	10	<5	3	<10	49	0.12	104	-<1Đ	5.,	177	з
DRS-22	<0.2	1.83	30	130	0.5	<5	1.15	<1	24	125	53	4.98	0.07	1.26	2510	2	0.01	46	130D	16	<5	4	<10	74	0.13	115	<10	6	127	4
DRS-23	<0.2	1.03	125	180	≪0.5	<5	0,94	1	19	76	28	4.63	0.04	0,62	3985	10	0.01	55	1200	16	<5	3	<10	49	0.17	121	<10	5	481	3
DRS-24	<0.2	1.47	10	110	<0.5	<5	D.66	<1	11	56	13	2.98	0.04	1.15	665	<2	D.01	21	1210	6	<5	2	<10	41	0.12	63	<10	6	138	3
DRS-25	<0.2	1.47	10	90	≪Q.5	<5	0.79	1	16	111	42	3.88	0.05	1.00	735	Z	0.01	41	820	14	<5	4	<10	64	0,12	89	<10	6	231	4
DRS-26	0.2	1.52	15	90	<0.5	<5	0.71	<1	12	88	36	3.91	0.04	0.96	955	2	0.01	33	820	16	5	3	<10	60	0.08	79	: <10	5	149	4
DRS-27	<0.2	1.84	35	60	<del>&lt;</del> 0.5	<5	0.51	<1	11	83	16	4.49	0.04	1.62	780	<2	0.01	25	1360	10	5	3	<10	36	0.06	81	<10	5	169	4
DRS-28	0.4	1.74	35	120	≪0.5	<5	0.86	<b>&lt;1</b>	15	98	62	5.01	0.04	1.46	1965	2	0.01	64	1950	16	5	4	<10	69	Ð.D4	73	-<10	11	202	6
DRS-29	0,4	1,74	65	100	<0_5	<5	0.89	<1	21	107	196	5.13	0.07	1.08	695	<2	D.D1	68	900	14	<5	4	<10	54	0.21	152	-<10	9	171	5
DRS-30	0.4	1.76	65	140	<0.5	<2	0.97	1	19	91	116	4.60	0,07	1.16	1000	2	0.01	60	920	16	S	5	<10	53	0.IQ	105	<b>≍10</b>	7	275	4
DRS-31	<0.2	1.46	30	70	<0.5	<5	0.68	<1	17	99	59	4.01	0.05	1.12	490	<2	0.01	39	1080	10	<5	4	<10	39	0.12	103	~10	5	175	4
DRS-32	<0.2	1.89	45	100	<0.5	<5	0.83	<1	23	119	106	4.71	0.10	1.39	790	2	0.01	54	1220	14	5	5	<10	46	0.10	103	~10	7	130	4
DRS-33	0.2	1.63	50	100	<0.5	<5	0.73	<1	15	94	39	4.21	0.05	1.17	1315	<2	0.01	37	930	10	5	3	30	49	0.10	96	<10	5	135	4
DRS-34	<0.2	1.52	110	50	<0.5	<5	Ø.55	<1	13	100	25	4.16	0.04	1.11	550	<2	0:01	31	930	10	<5	3	<10	36	0.12	108	<10	5	119	4
DRS-35	0.4	1.38	30	100	<b>≺</b> 0.5	<5	1.25	1	14	92	53	3.84	0.05	0.89	685	<2	0.01	39	<b>85</b> 0	14	<5	3	<10	88	0.10	88	<10	4	236	4
JDS-2	0.2	0.94	25	120	<0.5	<5	1.30	<1	11	47	157	2.64	0.04	0.65	560	4	0.01	24	790	14	<5	2	<10	53	0.07	53	<10	5	97	4
JDS-3	0.2	1.32	5	260	<0.5	<5	2.18	<1	12	34	303	2.19	0.03	0.67	190	4	0.01	20	<b>€9</b> D	12	<5	3	<10	83	0.06	56	<10	13	52	7

A .5 gm sample is digested with 10 ml 3:1 HCl/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

Signed:

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# **Electrum Resources**

"Rocks"

Attention: John Barakso

Project: Deer Lake

Sample: .

# **TSL Assayers Vancouver**

8282 Sherbrooke St., Vancouver, B.C., V5X 4R6	Report No	:	9V0408 RJ
Tel: (604) 327-3436 Fax: (604) 327-3423	Date	:	Oct-28-99

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### **MULTI-ELEMENT ICP ANALYSIS**

Aqua Regia Digestion

Sample Number	Ag ppm	AI %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
JDR-1	6.2	1.11	>10000	30	<0.5	5	4.55	<1	932	107	8663	>15.00	0.03	0.15	1115	2	<0.01	135	4000	50	10	2	<10	27	0.06	234	<10	e	204	76
JDR-1A	0.4	1.43	95	60	<0.5	15	6.40	<1	89	131	651	>15.00	0.12	0.43	1945	4	0.01	68	>10000	36	10	3	<10	81	0.07	164	~10	15	63	20
JDR-2	13.0	0.65	250	20	<0.5	20	3.11	<1	174	59	>10000	>15.00	0.02	0.10	715	<2	<0.01	135	2310	70	10	1	<10	17	0.04	210	~10	د. ۸	260	22
JDR-3	9.4	0.60	15	30	<0.5	20	3.02	1	156	45	8504	>15.00	0.03	0.07	590	<2	<0.01	131	1410	62	10	1	<10	17	0.04	151	~10		104	24
JDR-4	40.6	0.90	95	20	<0.5	10	4.86	2	84	72	>10000	12.31	0.01	0.10	855	<2	<0.01	33	1890	50	5	1	<10	5	0.02	79	<10	4	493	28 18
JDR-5	59.4	0.65	65	20	<0.5	15	3.66	10	104	43	>10000	14.67	0.02	0.07	605	<2	<0.01	54	2490	66	s	1	<10	8	0.02	86	<10	2	1308	10
JDR-5A	38.0	0.79	75	20	<0.5	5	4.49	5	132	73	>10000	13.10	0.01	0.07	625	<2	<0.01	51	1950	52	5	1	<10	4	0.02	100	~10	~	074	10
JDR-6	0.8	0.76	30	20	<0.5	15	4.41	<1	49	61	727	>15.00	0.04	0.25	1025	2	0.02	217	3040	30	5	3	<10	30	0.04	170	~10	 E	47	19
JDR-7	0.4	0.71	120	20	<0.5	15	6.38	<1	34	77	2951	>15.00	0.01	0.12	1100	<2	0.01	72	3310	42	10	1	<10	22	0.03	70	~10	-	41	20
JDR-8	0.4	2.09	30	10	<0.5	<5	0.23	<1	208	33	317	>15.00	0.05	1.92	765	2	0.01	36	470	26	10	3	<10	15	0.22	105	<10 <10	<1	. 59	18
JDR-9	0.6	0.58	<5	60	<0.5	15	6.58	<1	75	46	674	>15.00	0.02	0.15	1155	<2	<0.01	14	370	32	10	<1	<10	4	0.03	129	<10	17	17	10
DRM-19	<0.2	0.39	10	50	<0.5	<5	5.11	<1	15	83	41	4.06	0.06	1.24	825	<2	0.05	13	290	12	<5	7	<10	563	0.01	36	~10	7	20	70
RMR-1	0.2	1.42	5	120	<0.5	<5	0.16	<1	8	80	123	5.00	0.25	0.91	345	28	0.02	21	650		<5	2	<10	7	0.01	70	~10	,	20	
RMR-2	<0.2	1.91	5	40	<0.5	<5	0.91	<1	20	152	105	4.39	0.11	1.75	565	<2	0.04	39	1410	6	< 5	2	<10	42	0.34	110	~10		32	
RMR-3	0.2	0.81	<5	100	<0.5	<\$	2.68	<1	12	174	171	4.25	0.13	0.59	700	38	0.02	46	1500	8	5	2	<10	70	0.03	85	<10	10	81	8
RMR-4	<0.2	1.39	<5	40	<0.5	<5	0.92	<1	14	62	53	3.10	0.11	1.06	510	<2	0.05	13	1590	4	<b>~</b> 5	,	~10	01	0.15	64	~10			-
RMR-S	1.2	0.06	35	60	0.5	<5	5.83	<1	10	96	34	3.55	0.04	2.93	1475	92	0.01	21	340	74	5	4	<10	124	-0.01	57	~10		40	2
RMR-5A	0.2	1.71	<5	50	<0.5	< 5	2.89	<1	15	99	149	4.81	0.13	1.90	740	2	0.03	71	1180		5	5	~10	54	~0.01	140	~10	د م	70	3
RMR-58	<0.2	1.44	10	60	<0.5	<5	5.63	<1	33	34	210	7.75	0.32	2.79	1585	<2	0.02	22	2020	10	5	12	~10	766	-0.01	143	~10	°	/0	8
RMR-6	<0.2	0.11	5	50	<0.5	<5	2.19	<1	3	238	36	1.48	0.02	<b>80.</b> 0	630	2	0.03	8	170	12	5	2	<10	199	<0.01	90 90	<10 <10	5	62 11	2
RMR-7	<0.2	0.54	85	70	<0.5	<5	0.83	<1	11	118	29	2.05	0.06	0.26	420	84	0.02	52	1450	52	<5	1	<b>~10</b>	26	0.07	100	~10			
WĢR-1	<0.2	1.72	5	50	<0.5	<5	0.87	<1	13	87	45	3.62	0.12	1.18	505	<2	0.05	q	1310			;	~10	40	0.07	102	~10	3	65	8
WGR-2	<0.2	2.82	-5	30	<0.5	<5	1.55	<1	36	285	130	6.31	0.09	3.49	710	<2	0.02	58	920	6	5	7	~10	96	0.25	190	<10		20	
WGR-3	0.2	1.15	50	130	<0.5	<5	2.22	<b><i< b=""></i<></b>	13	53	85	4.83	0.28	1.40	1040	2	0.02	74	640		5	,	~10	84	<0.01	100	<10	2	85	-
WGR-4	<0.2	2.59	<5	40	<0.5	<5	1.95	<1	29	51	73	4,49	0.05	2.41	800	<2	0.04	9	1100	12	<5	4	<10	121	0.25	123	<10 <10	6	31 138	7 5
WGR+5	<0.2	2.31	<5	20	<0.5	<5	1.05	<1	22	76	8	4,24	0.03	2.03	660	<2	0.03	12	760	4	<b>~</b> 5	3	~10		0.22	<b>6</b> 7				_
WGR-6	<0.2	2.29	<5	40	<0.5	<5	1.37	<1	26	52	35	4,20	0.09	2.07	530	<2	0.03	21	980	2		5	~10	07 07	0.22	97	<10	Z	65	6
WGR-7	<0.2	2.09	<5	40	<0.5	<5	1.36	<1	21	49	89	4.35	0.10	1.82	780	<2	0.04	R	2010	,	~5	-	~10	73	0.15	112	<10	ک	50	4
WGR-8	0.2	1.56	<5	220	<0.5	<5	1.10	<1	14	76	65	2.63	0.38	0.74	265	<2	0.13	10	070	2 F	~ 2 5	2	~10	110	0.10	//	<10	6	5Z	5
WGR-9	0.4	0.93	5	50	<0.5	<5	0.44	<1	14	79	73	3.16	0.15	0.78	175	2	0.04	46	970	12		1	~10	24	0.20	78	<10	4	30	3
						-		-								-	010 T	-711	220		~ 3	1	~10	24	0.12	44	<1U	3	41	5

A .5 gm sample is digested with 10 ml 3:1 HCI/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

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Signed:\_

# **Electrum Resources**

Attention: John Barakso

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Project: Deer Lake

Sample: .

# **TSL Assayers Vancouver**

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8282 Sherbrooke St., Vancouver, B.C., V5X 4R6	Report No	:	9V0408 RJ
Tel: (604) 327-3436 Fax: (604) 327-3423	Date	:	Oct-28-99

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### **MULTI-ELEMENT ICP ANALYSIS**

Aqua Regia Digestion

Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ċa %	Ćd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	К %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Şr ppm	Ti %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
WGR-10	1.2	0.85	10	80	<0.5	<5	0.57	2	14	150	122	2.89	0.16	0.75	280	6	0.04	46	1070	84	5	з	<10	28	0.16	77	<10	g	378	5
WGR-12	<0.2	1.59	5	90	<0.5	<5	0.60	<1	9	64	29	3.35	0.10	1.03	720	<2	0.04	7	810	4	<5	2	<10	31	0.11	78	<10	4	56	3
WGR-13	<0.2	1.45	25	50	<0.5	<5	1.07	<1	11	47	84	3.26	0.11	1.03	810	<2	0.04	12	2840	10	<5	2	<10	51	0.12	74	<10	17	53	-
WGR-14	4.0	1.29	115	40	<0.5	<5	3.70	<1	215	74	6813	11.16	0.02	0.45	305	<2	0.01	322	3730	24	5	2	<10	29	0.08	19	<10		64	26
WGR-15	<0.2	2.88	<5	50	<0.5	<5	0.72	1	40	534	92	5.58	0.01	4.96	915	<2	0.01	186	520	4	10	2	<10	15	0.06	83	<10	2	72	4
WGR-16	<0.2	2.83	<5	40	<0.5	<5	0.78	<1	32	82	89	5.50	0.05	2.90	750	<2	0.03	29	1230	z	<5	2	<10	50	0.22	157	<10	4	93	5
WGR-17	<0.2	2.85	15	20	<0.5	< 5	1.55	<1	52	348	103	6.80	0.02	3.23	745	<2	0.02	95	670	6	5	2	<10	32	0.20	151	<10	3	78	5
WGR-18	<0.2	0.52	50	80	<0.5	<5	4.81	<1	21	66	43	4.93	0.15	1.41	1170	<2	0.02	16	1380	10	5	10	<10	201	< 0.01	25	<10	8	67	3
WGR-19	Q.4	1.64	5	40	<0.5	<5	1.22	<1	32	54	106	4.16	0.10	1.18	525	<2	0.04	26	1430	10	<5	4	<10	76	0.17	77	<10	5	68	10
WGR-20	0.2	0.53	5	60	<0.5	<5	Q.79	<1	22	109	147	2.52	0.03	0.48	270	<2	0.05	7	590	4	<5	2	<10	49	0.11	23	<10	9	• 78	6
WGR-21	<0.2	1.04	<5	210	0.5	<5	2.45	1	18	67	74	5.50	0.25	1.07	2185	<2	0.04	17	1600	12	<5	5	<10	108	0.01	64	<10	11	125	6
WGR-22	0.2	0.23	<5	360	0.5	<5	4.11	<1	20	55	14	5.51	0.21	2.41	765	2	0.02	111	930	12	5	14	<10	145	< 0.01	32	<10	5	38	7
WGR-23	1.4	1.40	5	20	<0.5	5	5.10	<1	89	101	873	13.72	0.01	0.49	1505	<2	0.01	32	620	26	5	з	<10	7	0.09	407	<10	21	34	25
WGR-24	0.4	0.92	<5	170	<0.5	< 5	6.45	<1	11	112	95	2.90	0.15	0.94	755	2	0.03	40	710	12	<5	5	<10	529	0.18	65	<10	10	46	
DWR-8A	0.2	0.53	<5	190	<0.5	<5	3.25	<1	18	37	179	4.48	0.31	0.98	2625	4	0.03	10	1800	8	5	4	<10	158	0.01	25	<10	9	62	5
DWR-16	<0.2	2.48	<5	60	<0.5	<\$	1.38	<1	22	32	102	5.59	0.14	2.32	860	<2	0.03	7	2710	4	<5	4	<10	70	0.18	93	<10	10	65	6
DWR-18	0.4	0.80	60	120	<0.5	< 5	0.47	<1	8	92	61	2.79	0.16	0.67	530	z	0.03	27	400	10	5	3	<10	41	0.09	35	<10	9	110	5
DWR-19	0.4	1.15	<5	160	<0.5	<5	0.51	1	16	100	146	3.67	0.51	1.15	500	8	0.04	62	1060	10	<5	5	<10	29	0.16	86	<10	7	93	6
DWR-20	<0.2	1.55	<5	170	<0.5	<5	1.33	<1	14	103	46	3.01	0.24	1.23	395	6	0.08	14	1410	2	<5	4	<10	63	0.15	101	<10	5	50	5
DRR-25	<0.2	1.47	65	110	<0.5	<\$	5.51	<1	22	324	37	4.80	0.10	4.13	1295	<2	0.02	140	510	10	5	16	<10	206	< 0.01	60	<10	5	100	5

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Electrum R Attention: John	<b>esour</b> Barakso	ce (	Cort	).						8282 T(	Sherb el: (60	<b>As:</b> rooka 4) 32	<b>saye</b> e St., 2 <b>7-</b> 343	e <mark>rs (</mark> Vanc 36 F	Cana couver Fax: (6	<b>da</b> , B.C (04) 3	., V5 27-34	X 4R	6					<b>Rep</b> Date	ort N	0:	: 91 : D	7 <b>0464</b>	<b>RJ</b> 99
Project: Deer L	et: Deer Lake																												
Sample: rock										ML	ILTI-	ELI Aq	EME jua Re	CNT egia I	ICP Digesti	AN/ on	ALY	SIS											
Sample Number	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	К %	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc Sn ppm ppm	Sr ppm	11 %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
DWR-6B	1.6	1.35	40	170	) <0.5	i <5	1.88	<1	12	117	22	Э.86	0.13	1.73	510	<2	0.05	19	83D	24	5	6 <10	122	<0.01	51	<10	į :	3 105	9
DWR-8	<0.2	1.41		110	). Q,5	5 <5	2.94	1	15	84	32	4.37	0.23	1.36	1360	<2	0.05	10	1450	18	5	7 - 11	105	0.01	. 71	<10	t 11	66	4

1.81 0.03 0.57

20 5.97 0.18 1.85 1145

216 4.95 0.17 0.59

35 1.83 0.04 0.11

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A .5 gm sample is digested with 10 ml 3:1 HCl/HNO3 at 95c for 2 hours and diluted to 25ml with D.I.H20.

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DWR-12

WGR-9A

WGR-13B

WGR-131

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0.2 0.17

D.8 0.79

<0.2 0.58

0.6 0.24

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90 < 0.5

30 <0,5

<5

<5

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Signed:

DEC-08-19	99 17:23	TSL Assayers	604 327 3423 P.03							
S S A	YERS		<b>TSL Assayers Vancouver</b> 8282 Sherbrooke St. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423							
Quality Assaying for over 25 Years										
Geoc	hemical Analy	sis Certificate	9V-0471-LG1							
Company: Project: Attn:	Geoquest Consult #78 Warner Gruenwald	ing Ltd.	Dec-08-99							
We hereby submitted )	<i>certify</i> the following Dec-06-99 by W. Gr	geochemical analysis of 1 si uenwald.	lt sample							
Sample Name		Au PPB								
DRS-36	م دادهای نیزیان با است. مرابع	7	······································							
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Certified by

TSL Assayers Vancouver 8282 Sherbrooke SI. Vancouver, B.C. V5X 4R6 Tel: (604) 327-3438 Fax: (604) 327-3423

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TSL Assayers Saskatoon #2 - 302 East 48th Street Saskatoon, Saskatchewan S7K 6A4 Tel: (306) 931-1033 Fax: (306) 242-4717

TSL Assayers Swastika 1 Cameron Ave. Swastika, Ontario POK 1T0 Tel: (705) 642-3244 Fax: (705) 642-3300

Have been seen a

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02	Geoquest Consulting Ltd. Attention: Warner Gruenwald Project: #78	<b>TSL Assayers Vancouver</b> 8282 Sherbrooke St., Vancouver, B.C., V5X 4R6 Tel: (604) 327-3436 Fax: (604) 327-3423	<b>Report Ne</b> Date	: 9V0471 LJ : Dec-08-99
0	Sample: silt	MULTI-ELEMENT ICP ANALYSIS		
3423		Aqua Regia Digestion		

327	Number	ppm	A) %	Αs ppm	. ррті 1997 г.	ppm	, ppm	Са. . %	Cd ppm	.Co opm	Сг ррп	Cu ppm	Fe %	К %	Mg %	Mπ ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	.Sn. ppm	Sr ppm	<u> ।</u> %	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	1
604	DRS-36	<0.2	1.91		80	<0.5	<5	0.63	<1	20	310	22	5.03	.0.07	2.13	<b>66</b> D	<2	0.01	54	830	8	. 5	4	<10	28	0.19	122	<10	4	95	•	6

### A .5 gm sample is digested with 10 ml 3:1 HCI64NO3 at 95c for 2 hours and diluted to 25ml with DJ.H20.

DEC-08-1999 17:22

TSL Assayers

Page 1 of 1

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Activation Laboratories Ltd. Work Order: 19062 Report: 18920 Page:

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1 of 2

Sample description	AU	AG	AS	BA	BR	CA	co	CR	cs	FE	hf	HG	IR	MO	NA	NI	RB	SB	SC	SE	SR	TA	тн	υ
	PPB	PPM	PPM	PPM	PPM	*	FPM	PPM	PPM	*	PPM	PPM	PPB	PPM	*	PPM	PPM	PPM	PPM	PPM	4	PPM	PPM	PPM
DWPC-1	32	<5	15	1100	<5	8	26	197	<2	8.86	4	<5	<50	<20	2.35	<200	95	5.2	32.3	<20	<0.2	<1	3.5	1.5
DWPC-2	14	<5	26	1000	<5	5	34	488	<2	9.68	2	<5	<50	<20	2.46	<200	68	3.9	34.5	<20	<0.2	2	3.5	3.1
DWPC-3	7	<5	33	1100	<\$	4	33	285	5	8.47	2	<5	<50	<20	2.56	<200	57	4.1	29.3	<20	<0.2	<1	2.6	2.1
DWPC-4	16	<5	113	860	<5	9	40	393	<2	14.6	3	<5	<50	<20	1.93	<200	97	5.6	31.6	<20	<0.2	<1	3.0	3.8
DWPC-5	40	~5	30	750	<5	10	38	329	2	11.6	3	<5	<50	<20	1.83	<200	<50	5.0	37.8	<20	<0.2	<1	2.4	3.2
DWPC-6	107	<5	53	690	<5	8	44	328	3	13.0	2	<5	<50	<20	1.83	<200	<50	4.6	34.5	<20	<0.2	<1	2.7	2.6
DWPC-8	3200	<5	3	590	<5	4	33	227	<2	11.6	6	<\$	<50	<20	2.79	<200	59	4.4	26.9	<20	<0.2	<1	4.4	3.4
DWPC-8A	4610	<5	<2	420	<5	4	38	192	<2	11.9	4	<5	<50	<20	2.98	<200	75	4.6	28.2	<20	<0.2	3	4.9	<0.5
DWPC-9	130	<5	4	590	<5	8	39	1220	4	12.3	5	<\$	<50	<20	1.92	<200	<50	з.0	49.6	<20	<0.2	<1	2.2	2.0
DWPC-12	263	<5	10	700	<5	9	44	464	<2	13.6	2	<5	<50	<20	1.87	<200	<50	6.0	42.4	<20	<0.2	<1	2.4	1.6
DWPC-13	<5	<5	30	810	<5	7	31	135	4	9.80	3	<5	<50	<20	2.36	<200	<50	4.5	33.7	<20	<0.2	<1	3.0	1.9
DWPC-14	10	~5	11	810	<5	7	36	509	3	10.2	2	<5	<50	<20	2.19	<200	<50	4.0	42.1	<20	<0.2	<1	5.0	<0.5
DWPC-15	40	< 5	14	840	<5	6	37	330	3	9.37	2	<5	<50	<20	2.12	290	61	4.2	41.0	<20	<0.2	<1	4.8	1.5
DWPC-16	27	<5	12	800	<5	5	39	305	3	10.4	2	<5	<50	<20	2.16	<200	91	3.9	36.3	<20	<0.2	<1	4.4	<0.5
DWPC-17	36	<5	9	530	<5	8	37	110	4	10.8	2	<5	<50	<20	1.96	<200	64	4.8	38.3	<20	<0.2	<1	2,4	1.8
DWPC-18	1120	<5	72	870	<5	11	39	825	<2	15.0	4	<5	<50	<20	1.54	<200	<50	5.3	42.0	<20	<0.2	<1	4.7	3.0
DWPC-19	<5	<5	15	960	<5	8	36	378	<2	10.9	4	<5	<50	<20	2.07	228	66	3.8	36.1	<20	<0.2	<1	4.2	3.3
DWPC-20	<5	< 5	11	1000	<5	6	22	148	<2	7.50	5	<5	<50	<20	2.43	<200	<50	2.3	33.2	<20	<0.2	<1	6.5	2.4
DWPC-21	7	~5	51	590	<\$	6	33	425	<2	9.67	3	<5	<50	<20	1.83	292	<50	4.4	35.8	<20	<0.2	<1	2.8	1.7
DWPC-22	<5	<5	35	770	<5	6	26	195	3	8.00	3	<5	<50	<20	2.43	300	<50	4.5	31.3	<20	<0.2	<1	3.6	2.5
DWPC-23	141	<5	29	530	<5	7	46	303	4	12.7	3	<5	<50	<20	1.79	<200	<50	4.1	35.2	<20	<0.2	<1	3.5	1.0
DRPC-1	<5	< 5	12	720	<5	13	65	3220	<2	14.8	ı	<5	<50	<20	1.10	<200	68	1.9	63.8	<20	<0.2	<1	1.7	<0.5
DRPC-4	337	<5	40	370	<5	22	21	313	4	10.0	2	<5	<50	<20	0.76	<200	<50	3.3	26.9	<20	<0.2	<1	4.5	2.7
DRPC-5	13	<5	52	890	<5	В	45	320	3	13.3	2	<5	<50	<20	2.03	<200	<50	3.6	44.2	<20	<0.2	<1	2.7	2.1
DRPC-7	330	<5	17	660	<5	ġ	44	1020	<2	17.1	6	<5	<50	<20	1.87	<200	59	6.2	45.8	<20	<0.2	2	6.2	<0.5
DRPC-8	<5	<\$	و	870	<5	8	24	455	<2	9.65	4	<5	<50	<20	2.07	<200	90	6.5	39.5	<20	<0.2	<1	2.8	2,1
DRPC-9	11	<5	9	820	<5	7	27	205	3	11.8	3	<5	<50	<20	2.63	237	<50	5.6	38.7	<20	<0.2	<1	2.8	3.5
DRPC-10	<\$	<5	6	750	<5	11	40	426	3	10.1	2	<5	<50	<20	2.03	220	<50	4.0	58.2	<20	<0.2	<1	2.7	3.0
DRPC-11	<5	<5	8	700	<5	11	44	136	3	15.9	2	<5	<50	<20	1.56	<200	<50	4.B	47.5	<20	<0.2	<1	2.0	<0.5
DRPC-13	<5	<5	41	730	<5	7	31	267	<2	10.8	2	<5	<50	<20	1.95	<200	<50	3.8	35.0	<20	<0.2	<1	2.3	1.6
DRPC-17	6900	<5	32	580	<5	15	36	767	3	17.4	5	<5	<50	<20	1.26	253	~50	5.9	44.3	<20	<0.2	<1	4.1	3.3
DRPC-18	11200	<5	58	750	<5	10	34	608	<2	18.3	5	<5	<50	<20	1,44	<200	<50	6.0	34.9	<20	<0.2	<1	4.3	<0.5
DRPC-19	1480	<5	35	850	<5	10	40	605	3	16.0	4	<5	<50	<20	1.57	<200	<\$0	5.6	37.3	<20	<0.2	<1	3.3	4.6
DRPC-20	167	<5	37	920	<5	10	38	355	3	11.8	3	<5	<50	<20	1.88	<200	57	5.5	34.3	<20	<0.2	<1	2.7	2.5
DRPC-21	120	<5	24	970	<5	8	35	443	3	12.8	4	<5	<50	<20	1.87	<200	61	5.1	37.8	<20	<0.2	<1	4.4	3.7
DRPC-24	<5	<5	15	1000	<5	7	21	126	3	6.53	5	<5	<50	<20	2.68	<200	<50	1.6	24.8	<20	<0.2	<1	4.1	1.6
DRPC-26	<5	<5	15	1300	<5	5	24	355	<2	7.19	4	<5	<50	<20	2.29	<200	83	3.9	29.8	<20	<0.2	<1	4.7	4.3
DRPC-27	<5	<5	34	1000	<5	4	23	200	<2	7.49	4	<5	<50	<20	2.38	<200	84	4.0	28.0	<20	<0.2	<1	3.9	2,1
DRPC-28	<5	<5	26	1200	<5	0	25	250	<2	8.47	2	<5	<50	<20	1.75	<200	<50	11.5	31.0	<20	<0.2	<1	3.0	2.2
DRPC-30	33	<5	66	850	<5	7	33	188	<2	7.83	2	<5	<50	<20	2.30	<200	<50	7.1	28.3	<20	<0.2	<1	2.4	1.6
DRPC-33	15	<5	45	880	<5	6	35	445	<2	9.99	3	<5	<50	<20	2.16	<200	52	4.9	35.5	<20	<0.2	<1	4.1	2.4
DRPC-35	7440	<5	29	1300	<5	7	30	234	<2	9.23	3	<5	<50	<20	2.23	<200	94	5.0	31.1	<20	<0.2	<1	2.8	2.8
DRPC-36	<\$	<5	4	900	<5	9	35	827	<2	9.26	2	<5	<50	<20	2.17	<200	73	2.8	45.2	<20	<0.2	<1	2.1	<0.5

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Sample description	W	ZN	LA	CB	ND	SM	EU	TB	YB	LU	Mass
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	g
DWPC-1	4	211	19	32	20	4.5	1.3	<2	2.4	0.36	19.90
DWPC-2	9	<200	20	38	23	4.3	1.3	<2	2.0	0.34	20.07
DWPC-3	4	204	16	31	13	3.8	1.2	<2	1.8	0.29	23.91
DWPC-4	6	<200	22	41	14	4.7	1.4	<2	2.4	0.36	16.40
DWPC-5	5	<200	20	31	20	4.6	1.4	<2	2.4	0.34	19.54
DWPC-6	<4	<200	17	30	<10	4.1	1.3	<2	2.1	0.32	19.97
DWPC-8	22	269	26	47	27	5.0	1.6	<2	2.5	0.42	15.53
DWPC-BA	9	283	30	47	19	5.3	1.4	<2	2.6	0.47	13.08
DWPC-9	15	202	20	38	22	4.4	1.3	<2	2.2	0.28	18.62
DWPC-12	<4	<200	14	28	16	3.9	1.4	<2	1.8	0.35	19.64
DWPC-13	4	<200	16	28	13	4.2	1.4	<2	2.0	0.30	22.19
DWPC-14	20	<200	27	47	23	4.7	1.4	<2	2.2	0.34	23.85
DWPC-15	6	<200	27	43	20	4.3	1.4	<2	1.9	0.30	24.77
DWPC-16	9	<200	22	38	18	4.4	1.3	<2	2.5	0.34	17.77
DWPC-17	<4	<200	17	32	19	4.4	1.5	<2	1.8	0.25	21.17
DWPC-18	13	359	26	47	18	4.8	1.4	<2	2.5	0.36	20.02
DWPC-19	4	273	22	36	19	4.3	1.4	<2	2.4	0.37	19.28
DWPC-20	<4	<200	27	48	20	5.7	1.4	<2	2.8	0.46	18.61
DWPC-21	10	<200	21	35	17	4.2	1,2	<2	1.9	0.32	20.04
DWPC-22	5	<200	20	34	20	4.4	1.3	<2	2.2	0.32	19.54
DWPC-23	<4	228	25	36	25	4.3	1.3	<2	1.8	0.29	23.29
DRPC-1	<4	285	6	<3	14	2.7	0.9	<2	1.6	0.24	15.87
DRPC-4	7	<200	12	27	13	4.6	1.5	<2	2.9	0.43	27.20
DRPC-5	<4	215	18	38	24	5.3	1.7	<2	2.8	0.37	17.95
DRPC-7	12	<200	31	60	23	6.5	2.0	<2	2.9	0.40	14.84
DRPC-8	28	<200	18	39	27	5.3	1.6	<2	2.6	0.33	15.42
DRPC-9	7	<200	21	45	26	6.2	2.2	<2	2.8	0.41	14.56
DRPC-10	<4	205	25	49	35	7.1	2.3	<2	2.8	0.45	14.64
DRPC-11	<4	<200	13	25	<10	4.6	1.5	<2	2.1	0.31	19.36
DRPC-13	₹4	<200	17	33	14	4.8	1.5	<2	2.2	0.41	20.98
DRPC-17	23	238	31	57	27	6.7	2.1	<2	3.9	0.50	17,98
DRPC-18	11	360	24	46	26	5.6	1.7	<2	2.7	0.42	23.39
DRPC-19	11	329	22	38	14	5.4	1.8	<2	2.8	0.44	20.46
DRPC-20	<4	318	22	49	20	5.2	1.7	<2	2.7	0.42	21.50
DRPC-21	<4	258	31	59	28	5.9	1.7	<2	3.3	0.54	19.03
DRPC-24	<4	<200	24	49	26	5.5	1.6	<2	2.7	0.37	19.87
DRPC-26	<4	<200	24	44	25	5.2	1.6	<2	2.5	0.33	19.78
DRPC-27	7	271	24	45	23	5.7	1.7	<2	3.0	0.47	17.69
DRPC-28		<200	20	33	32	5.2	1.8	<2	2.6	0.38	22.65
DRPC-30	4	266	16	34	18	4.2	1.4	<2	2.3	0.36	24.61
DRPC-33	<4	238	25	46	27	5.5	1.7	<2	2.5	0.46	21.28
DRPC-35	4	320	19	36	29	5.1	1.6	<2	2.7	0.39	21.17
DRPC-36	8	224	14	26	13	4.4	1.4	<2	2.1	0.30	18.76

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SAMPLE	Ag	Cđ	Cu	Mn	Mo	Ni	Pb	Zn	S
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DWPC-1	.0.2	0.5	30	480	-2	25	6	80	311
DWPC-2	-0.2	-0.5	29	951	2	39	8	114	211
DWPC-3	-0.2	0.6	34	1942	3	37	6	115	152
DWPC-4	-0.2	0.7	52	1111	-2	34	18	91	1282
DWPC-5	.0.2	-0.5	56	620	.2	34	8	76	651
DWPC-6	0.2	0.9	94	771	3	42	11	76	1619
DWPC-8	-0.2	0.5	45	517	-2	14	5	90	115
DWPC.84	.0.2	-0.5	144	648	.2	14	6	82	325
DWPC-9	0.2	0.5	12	467	-2	28	4	69	180
DWPC-12	-0.2	-0.5	21	745	-2	39	8	44	194
DWPC-13	-0.2	-0.5	31	710	.2	21	7	62	115
DWPC-14	0.2	0.6	36	733	.2	34	8	79	1205
DWPC 15	.0.2	0.5	34	788	.2	33	17	65	2259
DWPC-16	-0.2	07	23	502	.2	26	8	69	2482
DWPC-16/R	0.2	07	26	513	.2	25	Ř	75	2419
DWPC-17	.0.2	.05	30	827	.2	19	10	68	340
DWPC-18	0.3	12	31	510	-2	37	9	116	955
DWPC-19	.0.2	07	20	745	.2	38	8	111	124
DWPC-20	.0.2	.05	13	327	.2	ĩě	5	47	71
DWPC.21	0.2	-0.5	17	501	-2	24	4	81	104
DWPC-22	-0.2	.0.5	13	554	.2	21	2	86	113
DWPC.23	.0.2	-0.5	127	1555	2	40	6	69	472
DRPC-1	-0.2	-0.5	44	394	.2	51	3	26	58
DRPC-4	0.2	-0.5	38	539	.2	15	7	64	66
DRPC.5	0.2	0.8	65	663	-2	36	6	73	143
DRPC-7	0.6	-0.5	27	494	.2	30	10	57	1066
DRPC-8	0.2	-0.5	21	455	.2	24	5	65	226
DRPC-9	-0.2	-0.5	24	580	.2	18	4	59	192
DRPC-10	.0 2	-0.5	28	370	-2	18	2	46	978
DRPC-10/R	-0.2	-0.5	42	351	-2	17	3	46	1697
DRPC-11	-0.2	-0.5	41	1031	-2	25	7	49	259
DRPC-13	-0.2	0.6	52	746	-2	35	7	77	72
DRPC-17	-0.2	-0.5	29	355	.2	27	8	69	82
DRPC-18	-0.2	1.0	24	465	-2	30	6	201	62
DRPC-19	-0.2	1.7	42	528	-2	39	6	162	156
DRPC-20	-0.2	2.1	27	1216	.2	48	7	189	160
DRPC-21	-0.2	0.6	21	730	-2	29	4	89	386
DRPC-24	-0.2	-0.5	4	377	-2	10	-2	61	116
DRPC-26	-0.2	0.6	23	773	2	28	10	95	566
DRPC-27	0.2	-0.5	12	724	-2	22	3	120	211
DRPC-28	-0.2	0.6	24	631	-2	33	7	93	294
DRPC-30	0.2	2.3	37	1397	-2	52	6	157	85
DRPC-33	-0.2	0.7	16	717	-2	27	5	82	183
DRPC-35	-0.2	1.7	21	1082	-2	29	7	127	82
DRPC-35/R	-0.2	1.4	21	979	-2	31	7	127	76
DRPC-36	-0.2	.0.5	15	512	·2	43	З	66	163

Clients are advised to obtain assays for Ag>100 ppm and Pb>5000 ppm due to potential solubility problems. Values for Cu, Ni, Zn, Mo greater than 1% should be assayed if accuracy better than+/-10-15% is required. Values above 1% are for informational purposes only and should not be relied upon for promotional or ore

reserve calculations.

Assays are recommended for this purpose.

Negative values indicate less than the detection limit 99999 indicates greater than 10%

Adrienne I. Rittau, . E.Sc. / C.Chem ICP Technical Manager

### Activation Laboratories Ltd. Work Order No. 19062 Report No. 18920B

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SAMPLE	Ag	Cđ	Cu	Mn	Mo	Ni	Pb	Zn	S
	ppm	ppm	ppm	ppm	ррт	ppm	ppm	ppm	ppm
METHOD REAGENT BLANK	-0.2	-0.5	-1	-1	-2	-1	-2	-1	-10
METHOD REAGENT BLANK	-0.2	-0.5	-1	-1	-2	-1	-2	•1	-10
GXR-6cert	1.3	(1	66	1008	2	27	101	118	160
GXR-6	0.3	0.7	64	962	-2	23	92	118	159
GXR-2cert	17.0	4,1	76	1008	2	21	690	530	313
GXR-2	18.1	4.4	75	937	-2	17	676	523	296
GXR-1cert	31.0	3.3	1110	853	18	41	730	760	2570
GXR-1	29.5	4.5	1076	703	17	35	640	654	2148
GXR-4cert	4.0	(.86	6520	155	310	42	52	73	17700
GXR-4	3.5	-0.5	5 <del>9</del> 55	138	301	37	46	71	17040

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Note: Certificate data underlined are recommended values; other values are proposed except those preceded by a "which are information values. Certificate Values are for a 'Total' analysis, whereas samples are extracted values.

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ACM	S ANALYTICAL LABORAT	FORIES LTD. 852 B. H	HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(60	4) 253-1716
	(ISO 9002 Accredite	ed Co.) GEOCI	CHEMICAL ANALYSIS CERTIFICATE	<b>Å</b> Å
14	È i i i i i i i i i i i i i i i i i i i	Barakso Consultants 912 - 510 W. Has	<b>s</b> PROJECT Deer Lake File # 9904015 (a) astings St., Vancouver BC Submitted by: John Barakso	TT
SAMPLE#	Ag Al As Au B Ba	Be Bi Br Ca Cd Ce C	C1 C0 Cr Cs Cu Dy Er Eu Fe Ga Gd Ge Hf Hg Ho I In Ir K La Li Lu Mg	Mn Mo Na Nb
	ppb ppb ppb ppb ppb ppb	ppb ppb ppb ppb ppb ppb pp	pm ppb ppb ppb ppb ppb ppb ppb ppb ppb p	ppb ppb ppb
JDW-1 JDW-2 JDW-3 JDW-4 JDW-5	<ul> <li>&lt; 05</li> <li>17</li> <li>1&lt; 05</li> <li>6</li> <li>2&lt; 05</li> <li>10</li> <li>13.42</li> <li>&lt; 05</li> <li>30</li> <li>2&lt; 05</li> <li>&lt; 10</li> <li>13.62</li> <li>&lt; 05</li> <li>4</li> <li>&lt; 05</li> <li>&lt; 10</li> <li>8.07</li> <li>&lt; 05</li> <li>4</li> <li>&lt; 05</li> <li>&lt; 10</li> <li>&lt; 10</li> <li>80</li> </ul>	<pre>&lt;.05~.05 112 57333 &lt;.05 .01 118.7 &lt;.05~.05 105 50339 &lt; 05&lt;.01 123.3 &lt;.05~.05 05 99 49829 &lt;.05 .02 118.4 &lt;.05~.05 99 49829 &lt;.05 .02 118.4 &lt;.05~.05 78 26033 &lt;.05&lt;.01 103.4 &lt;.05~.05 78 26033 &lt;.05&lt;.01 103.4 </pre>	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	9.38         1.9         1427<.01
JDW-6	<pre>&lt;.05 1 2&lt;.05 &lt;10 &lt;.05</pre>	5 <.05<.05 48 <50 <.05<.01 115.	0.3       <.02       .7<.01       .8<.01<.01<.01       .65<.02       .02       .1<.01       .01<.05<.01       .60         0.4       <.02       .5<.01       .8<.01<.01       .65<.05<.01       .05<.02       .1<.01       .01<.05       .50<.01       .50       .01       .50         1.4       .02       .5<.01       .8<.01       .01       .55<.05       .01       .05       .02       .1<.01       .01       .05       .50       .01       .01       .02       .01       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50       .01       .50	<.05 <.1 <50<.01
RE JDW-6	<.05 1 3<.05 <10 <.05	5 <.05< 05 46 <50 <.05<.01 119.		.06 <.1 <50<.01
STANDARD	168.47 526 273<.05 759 899.89	9 143.53<.05 <5 111 49.58 .02 2.		.98.35 579.7 66 .01

Standard is STANDARD WASTWATR1.

GROUP 2C - ANALYSIS AS RECEIVED BY 1CP-MS. - SAMPLE TYPE: WATER <u>Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.</u>

DATE RECEIVED: OUT 19 1999 DATE REPORT MAILED: Otal 29/99

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

Data - FA

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ACME ANALY	TICAL	LABORA	TOR	IES Co.)	LTE	).		852	E.	HASI	INGS	ST.	VANC		BR E	C ett	V6A J	R6 TE		P	HONE	3 ( 6	04)253-3158	FAX (604	) 253	-1716	
<b>££</b>			<u>B</u>	arak	csc	<u> </u>	<u>ons</u> 712	<u>ult</u> - 510	:an W. 1	ts P Hasting	ROJE	CT I Vanco	Deer uver B	La C	a <u>ke</u> Subm	F	ile d by: Jo	# ⊆ shn l	990 Baral	40 kso	15		(b)		<u> </u>	ŤŤ	•
SAMPLE#	Nd ppb	Ni Os ppb.ppb	P P	Pb ppb p	Pd pb p	Pr ppb p	Pt xpb	Rb ppb p	Re opb p	Rh Ru opb ppb	St ppt	s Sc ppb	Se ppb	Si ppb	Sm ppb	Sn ppb	Sr ppb	Ta ppb	Tb ppb	Te ppb	Th. ppb-p	Ti ppb	TL Trn U ppb ppb ppb pp	v v v aqqdqqd	Yb ppb	Zn Z ppb ppl	г 6
JDW- 1 JDW- 2 JDW- 3 JDW- 4 JDW- 5	.01 <.01 <.01 <.01 <.01	<1<.05 <1<.05 <1<.05 <1<.05 <1<.05 <1<.05	<50 <50 <50 <50 <50	<2<. <2<. <2<. 2<. <2<.	05< 05< 05< 05< 05<	.01<. .01<. .01<. .01<.	.01 .01 1 .01 1 .01 1 .01	.60<. .18<. .32<. .60<, .95<.	.01<. .01<. .01<. .01<. .01<.	.01<.05 .01<.05 .01<.05 .01<.05 .01<.05	.06 <.05 <.05 <.05 <.05	5.61 3.14 2.28 1.82 2.23	.8 .5 .5 <.5	8208 6095 4782 4339 6181	<.05 <.05 <.05 <.05 > .05	.05 .05 .05 .05	118.46 103.24 106.28 67.75 183.15	.05 .05 .05	<.01 <.01 <.01 <.01 <.01	<.05 <.05 <.05 <.05 <.05	.05 .05 .05 .05 .05	<10 <10 <10 <10 <10	<.01<.01 .07 <.01<.01<.05 <.01<.01<.05 <.01<.01<.05 <.01<.01<.05 <.01<.01 .06	3 <.1 .02 3 <.1<.01 3 <.1 .02 2 <.1 .01 3 <.1 .01 3 <.1<.01	<.01 <.01 <.01 <.01 <.01	2.3 <.5 1.5 <.5 2.5 <.5 3.1 <.5 3.1 <.5	5 5 5 5 5
JDW-6 Re JDW-6 Standard Wastwa	<.01 <.01 (R1 .01	<1<.05 <1<.05 713.0<.05	5 <50 5 <50 5 <50	<2< . <2< . 478< .	.05< .05< .05<	.01<. .01<.	01 01 01	<.01< <.01< .04<	.01< .01< .01<	.01<.05 .01<.05 .01<.05	<.0 <.0 200.5	i .45 i .36 2 .37	<.5 <.5 245.1	15 1 155 235	<.05  <.05    <.05	:.05 :.05 .07	. 05+ . 02+ 104 . 14+	.05 .05 .05	<.01 <.01 <.01	< .05 < .05 < .05	<.05 <.05 <.05	<10 <10 <10	<.01<.01<.05 <.01<.01<.05 264.47<.01<.05 7	3 <.1<.01 3 <.1<.01 20 <.1 .02	<.01 <.01 <.01	2.0 <. 2.0 <. 455.8 <.	5 5 5

GROUP 2C - ANALYSIS AS RECEIVED BY ICP-MS. - SAMPLE TYPE: WATER

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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Data 1 FA

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

# B.C. GEOLOGICAL SURVEY (1999)

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# Basal Till Samples from Deer Lake Property and Area

ID	Easting	Northing	Au PPB	Ag PPM	As PPM	Cu PPM	Mo PPM	W PPM	Zn PPM
989156	677225	5712109	30	0.7	29	209	-1	3	225
989158	676294	5712679	24	0.1	34	151	-1	-1	148
989162	676411	5711306	27	1.4	35	156	5	6	236
989164	676954	5710606	65	0.8	70	194	10	- l	214
989165	678202	5710803	44	1.0	59	178	4	4	153
989166	679355	5710415	44	0.7	49	179	5	-1	192
989167	678550	5709233	47	0.3	50	175	-1	- I	213
989168	680476	5709986	54	0.3	54	242	-1	-1	153
989169	681490	5709664	29	0.1	45	145	-1	-1	99
989170	681798	5710688	327	0.3	43	289	-1	-1	148
989172	680990	5711340	37	0.3	83	279	5	-1	144
989173	67999 <b>2</b>	5712030	20	0.1	40	124	-1	-1	113
989174	679322	5711762	34	0.3	30	183		-1	99
989175	681211	5712852	53	0.3	38	189	4	-1	144
989176	681211	5712852	42	0.3	32	188	-1	6	133
989177	680382	5712958	53	0.1	22	91	3	8	145
989178	680748	5714280	70	0.3	28	238	-1	7	123
989179	679486	5714643	64	0.6	60	248	-1	-1	160
989185	681987	5714285	195	0.3	99	225	8	-1	184
989189	682948	5714542	77	0.3	36	126	3	8	124
989192	682405	5712213	115	0.6	50	257	3	-1	137
989193	681681	5711988	59	0.3	43	210	-1	-1	150
989194	682124	5711658	58	0.3	52	176	. 6	1	174
989195	682421	5711750	360	0.7	52	1067	13	5	126
989196	682775	5711145	121	0.2	24	272	-1	-1	109
989197	684139	5711700	39	0.3	17	97	-1	4	101
989198	684139	5711700	25	0.3	16	100	5	-1	114
989199	683890	5712497	18	0.3	23	111	-l		176
989226	677774	5709009	66	0.5	65	215	5	-1	551
989227	676853	5708912		0.6	54	159		-1	267
989228	677237	5708327	23	0.5	47	122		3	214
989229	678457	<u>5</u> 708255	78	1.2	122	204	-1	-1	347
989230	679880	5708053	47	0.7	77	151	7	<u>-l</u>	161
989231	681444	5708306	119	0.1	50	135	8	-1	1/0
989232	680725	5708757	62	0.3	57	193		- 1	134
989233	680725	5708757	49	0.3	47	199	4	4	206
989234	679828	5709176	54	0.3	72	166	4	-1	202
989235	682515	5708464	56	0,1	23	117	4	-1	123
989240	683673	5709171	54	0.3	20	147	- l	-1	138
989302	683110	5713370	68	0.3	53	250	-l	-l	156
989343	686453	5710260	43	0.3	35	[59	<u> </u>	-[	180
989344	686427	5709397	50	0.2	31	262	6	-1	244
989345	682093	5709571	31	0.1	29	105	9	6	76
989351	684967	5708192	67	0.2	16	298	-1	7	184
989352	686102	5707371	51	0.2	10	226	-1	-1	129
989353	686102	5707371	57	0.2	7	265	15	-1	164
989569	682473	5713106	29	4.0	58	347	4	-1	230

# CANADA

### **Procedure Summary:**

30 Element Aqua Regia Leach ICP-AES Analysis

### **Elements Analyzed:**

Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sn, Sr, Th, Ti, U, W, Zn

# **Procedure:**

0.500 grams of the sample pulp is digested for 2 hours at 95°C with an 1:3:4 HNO<sub>3</sub>:HCl:H<sub>2</sub>O mixture. After cooling, the sample is diluted to standard volume.

The solutions are analysed by Perkin Elmer Optima 3000 Inductively Coupled Plasma spectrophotometers using standardized operating conditions.

# CANADA

8282 Sherbrooke Street Vancouver, B.C Canada V5X 4R Tel: 604 327-343 Fax: 604 327-3423

### **Procedure Summary:**

Gold (Au) Geochemical Analysis

### Element(s) Analyzed:

Gold (Au)

### Procedure:

Samples are dried at 65°C. Rock & core samples are crushed with a jaw crusher. The 1/4 inch output of the jaw crusher is put through a secondary roll crusher to reduce it to 1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 gram sub-sample. This sub-sample is then pulverized on a ring pulverizer to 95% - 150 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Soil and stream sediment samples are screened to - 80 mesh for analysis.

The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the precious metal beads are transferred into new glassware, dissolved with aqua regia solution, diluted to volume and mixed.

These resulting solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 2 standard deviations of its known or the whole set is re-assayed.

A minimum of 10% of all assays are rechecked, then reported in parts per billion (ppb). The detection limit is 1 ppb.

# Instrumental neutron activation in geoanalysis

### Eric L. Hoffman

Activation Laboratories Ltd., 1336 Sandhill Drive, Ancaster, Ontario, Canada, L9G 4V5 (Received 30 April 1990; accepted after revision 15 August 1991)

### ABSTRACT

Hoffman, E.L., 1992. Instrumental neutron activation in geoanalysis. In: G.E.M. Hall (Editor), Geoanalysis. J. Geochem. Explor., 44: 297-319.

Theoretical aspects of instrumental neutron activation analysis (INAA) are discussed. Various applications of INAA to exploration geochemistry are described demonstrating its capabilities and its limitations.

Cost, turnaround time, high sensitivity for certain elements, the non-destructive nature of analysis and its precision and accuracy have combined to make INAA an indispensible method for multiclement determination on virtually all geological matrices. Humus, vegetation, heavy minerals, lake bottom aediments as well as rocks and soils comprise the major sample types analyzed by INAA. As many

as 50 elements can be determined routinely and easily by INAA.

### INTRODUCTION

Instrumental neutron activation analysis (INAA) is an analytical technique which is dependent on measuring primarily gamma radiation induced in the sample by irradiation with neutrons. The primary source of neutrons for irradiation is usually a nuclear reactor. Each element which is activated emits a "fingerprint" of gamma radiation which can be measured and quantified. Multielement analysis of practically any material from the smallest sample which can be weighed accurately to very large samples of up to 1 kg have been analyzed routinely by INAA. The method is highly selective and extremely sensitive for a wide range of elements.

### INSTRUMENTATION

The process of activating samples is inherently simple. The samples are encapsulated and placed into or near the core of a neutron source. The pri-

Correspondence to: E.L. Hoffman, Activation Laboratories Ltd., 1336 Sandhill Drive, Ancaster, Ontario, Canada, L9G 4V5.

mary neutron source is usually a nuclear reactor and we will limit further discussion to reactor-induced NAA. The neutrons interact with the target nucleus, thereby converting the latter into a radioactive nucleus. Figure 1 illustrates a typical neutron capture reaction and the subsequent radiation which is emitted. The capture gamma-rays emitted (Fig. 1) usually have extremely short half lives on the order of ms and can be measured during irradiation utilizing a technique called prompt gamma activation analysis (PGAA). PGAA is described in detail by Chrien (1984) and by Lindstrom and Anderson (1985). For geological samples the main application of PGAA is in the determination of B and Gd. As the radioactive nucleus decays back to a stable state, decay gamma-rays are emitted. It is these decay gamma-rays which are measured and quantified by INAA. Each radioactive nuclide which is formed during irradiation decays with a specific half-life emitting gamma rays of characteristic energy. Measurements of the gamma radiation can be used to both identify and accurately quantify the nuclides present in the sample.

Subsequent to irradiation, the samples can be measured instrumentally simply by placing the sample on a high resolution germanium detector, or for better sensitivities, chemical separations, can be performed for reducing interferences, with subsequent measurement. The latter type of analysis termed radiochemical neutron activation analysis (RNAA) is discussed elsewhere in this volume (Parry, 1992).

Prior to the 1960's, sodium iodide (NaI) detectors were commonly used for measurement of gamma-rays; however the resolution of these detectors was and still is at least an order of magnitude poorer than the Ge(Li) detectors which followed in the 1960's. As a result, radiochemical separations were







Fig. 2. Diagrammatic scheme for a germanium detector counting system (Bode et al., 1990).

quite popular and necessary in the 1950's and 1960's. The advent of high resolution solid state Ge(Li) detectors allowed INAA to develop and flourish. Over the last decade significant advances in the manufacture of high purity Ge detectors with very good resolution and also able to process high incident count rates have provided the necessary detection equipment for high quality, high volume INAA. Micro and minicomputers developed during the same period allowed for rapid on-line analysis of gamma spectra from the activated samples. A diagrammatic scheme of a typical Ge detector and associated electronics is shown in Fig. 2. Further details on the technical operation of activation equipment is available in Bode et al. (1990).

### PRINCIPLES

The relatively high neutron flux, derived from the fissioning process of the U-235 contained in the reactor core, has associated neutron energies ranging up to 15 MeV with an average energy of 2MeV. As the neutrons move out from the core, elastic collisions with the reactor moderator (water or heavy water) thermalize the neutrons creating a broad energy distribution with three principal components: thermal, epithermal and fast neutrons.

For INAA, the thermal neutrons are the most important, and are defined as those neutrons having energies below 0.5 keV. This is the upper energy limit established by which neutrons will pass through a cadmium foil 1 mm thick ("cadmium threshold"). A typical 2 MW research reactor will have a thermal neutron flux of  $2 \times 10^{13}$  n cm<sup>-2</sup> s<sup>-1</sup>. Epithermal neutrons are those which have been only partially moderated and their energies range from the

# APPENDIX D PERSONNEL

W. Gruenwald, P. Geo.									
Oct 10-26, Nov 18-30,1999	20 days								
Jan 1-23, Feb3-26, Mar 15-16, 2000									
R. Montgomery, B. Sc.									
Oct 10-19,1999	9 days								
C. Staargaard, P.Gco.									
Oct 14-17, Nov 15-22, 1999	4 days								
J. Barakso									
Oct 8-14,1999	7 days								

# APPENDIX E STATEMENT OF EXPENDITURES

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Consulting Fees/Labour:		
Geoquest Consulting Ltd., Vernon, B.C.:	\$12,184.62	
the second Quele size is	0 5 <b>7</b> 0 00	
Staargaard Geological:	2,568.00	
Barakso Consultants Ltd.	<u>4,494.00</u>	\$19,246.62
Analytical Costs:		
TSL Assayers, N. Vancouver, B.C.	2708.70	
Activation Labs, Ancaster, ON	1196.26	
Acme Analytical, Vancouver, B.C.	<u>156.52</u>	4,061.48
Transportation Costs:		
Geoquest Consulting Ltd.	799.30	
Barakso Consultants Ltd.	<u>247.70</u>	1,047.00
Accommodation/Meals:		
Geoquest Consulting Ltd.	499.10	
Barakso Consultants Ltd.	<u>670.65</u>	1,169.75
Equipment Rental:		90.00
Supplies and Miscellaneous:		
Field supplies, freight, telephone		109.34
Report Compilation:		
Secretarial, drafting, photocopies, maps		<u>301.41</u>
	TOTAL:	<u>\$26,025.60</u>

# APPENDIX F REFERENCES

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Bruland, Tor (1990)	Drilling report of the Lake Property.
	B.C. Ministry of Energy and Mines, Assessment Report #20020
Bruland, Tor (1990)	Diamond Drilling, Geological, Geochemical and Geophysical Report on the Haida Property.
	B.C. Ministry of Energy and Mines, Assessment Report #20014.
Gruenwald, W. (1992)	Geochemical, Geophysical and Geological Report on the "G" Claims, Little Fort, B.C. B.C. Ministry of Energy and Mines Assessment Report.
Gruenwald, W. (1999)	Discussion on the Mineralized Float Occurrences near Little Fort, B.C. Internal report for Electrum Resource Corp.
Lloyd, J.; Westerman, C.J. (1988)	Drilling report on the Haida Gold Property.
	B.C. Ministry of Energy and Mines, Assessment Report #18796
Llovd, J: Westerman, C.J. (1988)	Drilling Report on the Haida Gold Property.
	B.C. Ministry of Energy and Mines, Assessment Report #18796.
Navlor, H: White, L.G. (1972)	Geological and Geophysical Report Deer 1-35; United 1-8 Inclusive
	Mineral claims.
	B.C. Ministry of Energy and Mines, Assessment Report #03545
Paulen, R.C.; Bobrowsky, P.T.; Lett, R.E.; Jackaman, W; Bichler, A.J.; Wingerter, C. (2000)	Till Geochemistry of the Chu-Chua-Clearwater Area, B.C. Parts of NTS 92P/8 and 92P/9. Open file 2000-17
wingener, C. (2000)	
Staargaard, C.F. (1999)	Evaluation of the Deer Lake Property, Little Fort Area, B.C.
	Internal report for Electrum Resource Corp.
Watson, R.K. (1973)	Report on Airborne Geophysical Survey – Laurel Lake area. B.C.
	Ministry of Energy and Mines, Assessment Report #4264
Woodard, J. (1968)	Induced Polarization on the 92P-8 Eagle Creek Group, Little Fort Area. B.C. Ministry of Energy and Mines, Assessment Report #01639

# APPENDIX G CERTIFICATE

# I, WARNER GRUENWALD OF THE CITY OF VERNON, BRITISH COLUMBIA HEREBY CERTIFY THAT:

1. I am a graduate of the University of British Columbia with a B. Sc. degree in Geology (1972).

2. I am a registered member of the Professional Engineers and Geoscientists of British Columbia (#23202).

3. I am a fellow of the Geological Association of Canada (F2958)

4. I am employed as consulting geologist and president of Geoquest Consulting Ltd., Vernon, and B.C.

5. I have practiced continuously as a Geologist for the past 27 years in western Canada and the US.

6. I was actively involved in the 1999 exploration program on the Deer Lake property.















