



41116NW0061 2.14714 SHEPPARD

010

TECK EXPLORATION LTD.

NORTH BAY, ONTARIO

**2.14714**

ASSESSMENT REPORT ON  
THE EXPLORATION PROGRAM  
ON THE  
EMERALD LAKE PROPERTY  
SHEPPARD AND McCARTHY TOWNSHIPS, ONTARIO

by

A. Christopher

RECEIVED

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## SUMMARY

The Emerald Lake Property was acquired by Teck in 1990 to cover irregularities, with possible near surface sources, in the Emerald Lake magnetic anomaly.

The Emerald Lake Anomaly is attributed to a deep source (several kms) and is of interest due to its similarity to the Sudbury magnetic anomaly and the significant Ni-Cu-PGE deposits at Sudbury.

Subsequent to acquiring the ground in 1990 Teck completed magnetic modelling and an airborne magnetic and electromagnetic survey as well as funding, in conjunction with Falconbridge, a Seismic survey across the anomaly. Most recently a reconnaissance geological mapping and geochemical sampling program was completed. The costs for this program were \$37,439.39.

The geological mapping outlined a north-northwest trending fault zone (Harvey Lake Fault) with associated Sudbury-type breccia. Fault zones similar to the Harvey Lake Fault with associated breccia and soda alteration are known to be the focus for mineralization in the region although soda alteration and associated mineralization were not noted on the property.

Sampling in the vicinity of the Sirola Showing returned values up to 1.2% Cu but mineralization appears to be confined to narrow fracture zones and the tonnage potential is limited.

No additional ground work is recommended on the Emerald Lake property at the present.

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## INTRODUCTION

The Emerald Lake property, located in Sheppard and McCarthy townships (Figure 1), was staked by Teck Explorations Limited in 1990. Dr. Keevil Sr's long standing interest in the Emerald Lake magnetic anomaly coupled with a release of portions of the townships from the Indian Caution Area prompted Teck to acquire the property.

The property was staked specifically to cover irregularities in the Emerald Lake magnetic anomaly which may reflect near surface structures or mineral deposits related to the deep (several kms) seated source of the anomaly. Subsequent to staking by Teck Falconbridge Exploration Limited acquired most of the remaining areas of open ground covering the magnetic anomaly (Figure 2).

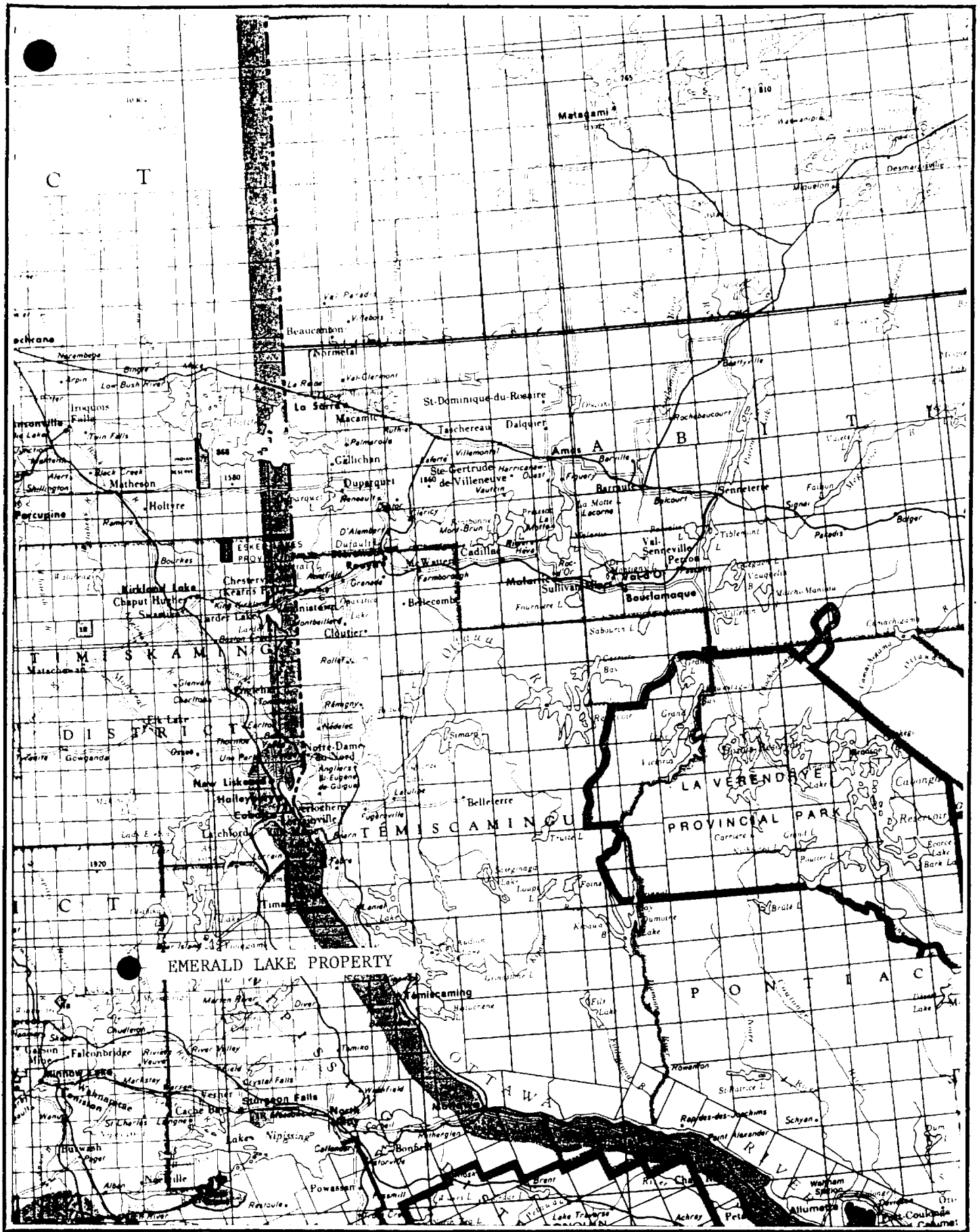
The following report presents the 1992 geological mapping and geochemical sampling program on the Emerald Lake property.

## LOCATION AND ACCESS

The property is located approximately 50 km northeast of Sudbury, Ontario in Sheppard and McCarthy townships. Seasonal access to the north part of the property is by old logging roads from Capreol or more preferably is along the Kukagami Lake road north from Hwy. 17 approximately 20 km west of Hagar. Access via the Kukagami Lake road was made possible by roads built for the Vibroseis Survey in 1991. Access to the south half of the property is by fixed wing aircraft to Harvey Lake or other lakes on the claim group.

## TOPOGRAPHY AND VEGETATION

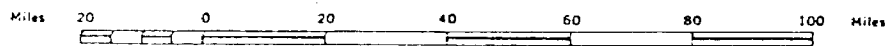
The topography of the Emerald Lake property varies significantly from north to south. The north part of the property (Sheppard township) is characterized by flat areas and rolling hills underlain by glacial deposits and outcrop exposure is sparse. The south part of the property (McCarthy township) is characterized by a much higher density of outcrop exposure, rugged hills and two significant chains of lakes. Elevations on the property range from 240 to 380 meters above mean sea level.

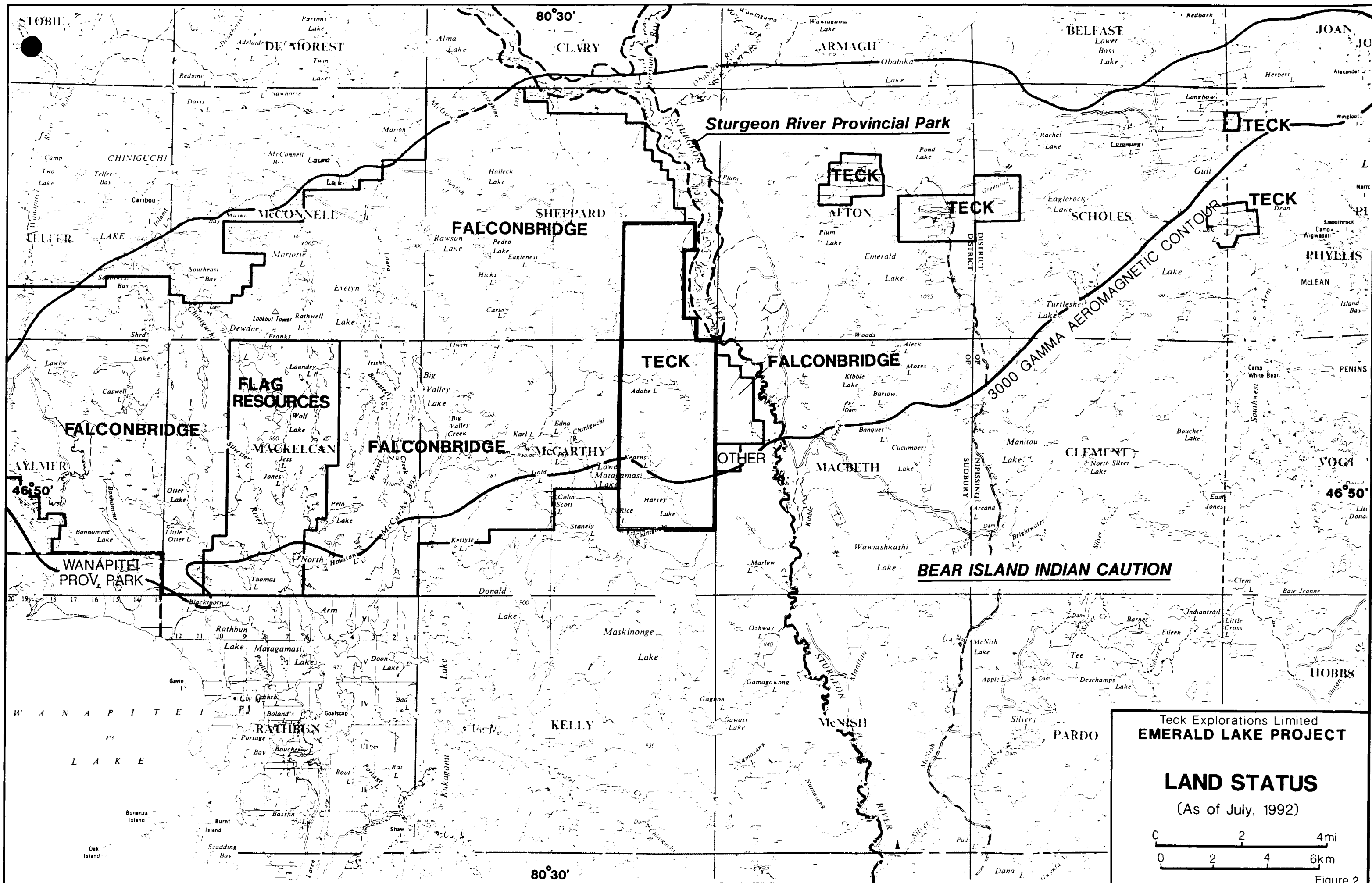


LOCATION MAP

Figure 1

1 inch equals approximately 32 miles





Teck Explorations Limited  
**EMERALD LAKE PROJECT**

**LAND STATUS**  
 (As of July, 1992)

0 2 4 mi  
 0 2 4 6 km

Figure 2

Vegetation cover is diverse with much of the area being covered by mixed forest, although mature stands of deciduous trees were noted. Tree species include birch, maple, oak, poplar, balsam, spruce and pine.

### CLAIM STATUS

The property consists of 233 (16 ha) claims (Dwg. 6812) and is owned by Teck Exploration Ltd. The claim status is presented in Appendix I.

### WORK HISTORY

Prior to Teck staking the claims in 1990 the only documented surficial work on the property occurred in the area of the Sirola prospect (northeast McCarthy township). In 1956-57 programs of geological mapping, magnetics and a partial self potential survey were followed up by 17 short drill holes (total 825 ft). The showing was also explored in 1972 when a small claim group was mapped and the showing trenched. One drill hole (193 ft) was completed at this time in the vicinity of the showing.

Subsequent to staking Teck's work has included a detailed analysis of the 1965 GSC magnetic data, a combined airborne magnetic and GEOTEM-EM survey and partial funding of a 29 km seismic survey completed by Falconbridge.

### 1992 PROGRAM

#### Geological Mapping

A program of reconnaissance geological mapping was completed between May 27, 1992 and June 30, 1992 (Dwg 6814). Traverses were completed on approximately 400 meter centers utilizing claim lines as well as old bush roads and lakeshore. Approximately 112.5 km of ground traverses were completed, 7.6 km of roads were mapped and 8.4 km of lakeshore was mapped utilizing a small boat on Harvey Lake. More detailed mapping was completed in the area of the Sirola Showing (Figure 3).



**Geochemical Sampling**

A total of 113 samples were collected for analysis during the mapping program (Dwg 6813; Appendix II). All samples were cut in half utilizing a diamond rock saw and one half of each sample was sent to Bondar-Clegg and Company Ltd. of Ottawa for analyses. Table I outlines the elements analyzed.

**TABLE I**  
**ASSAY DISTRIBUTION**

<b># Samples</b>	<b>Major Oxides</b>	<b>Sr</b>	<b>Zr</b>	<b>Co</b>	<b>Cu</b>	<b>Ni</b>	<b>Ag</b>	<b>Au</b>	<b>Pt</b>	<b>Pd</b>
72	Y	Y	Y	Y	Y	Y	Y			
6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	Y	Y	Y	Y	Y	Y	Y	Y		
24	Y	Y	Y							
8	Y	Y	Y					Y		
1				Y	Y	Y	Y	Y		
1								Y		
113	111	111	111	80	80	80	80	17	6	6

Major Oxides include SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, CaO, Na<sub>2</sub>O, K<sub>2</sub>O, MgO, TiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, MnO, Cr<sub>2</sub>O<sub>3</sub>, BaO and L.O.I.

**1992 Expenditures**

Expenditures incurred to complete the above program are \$37,439.39 and are presented in Table II.

**TABLE II**  
**1992 EXPENDITURES**

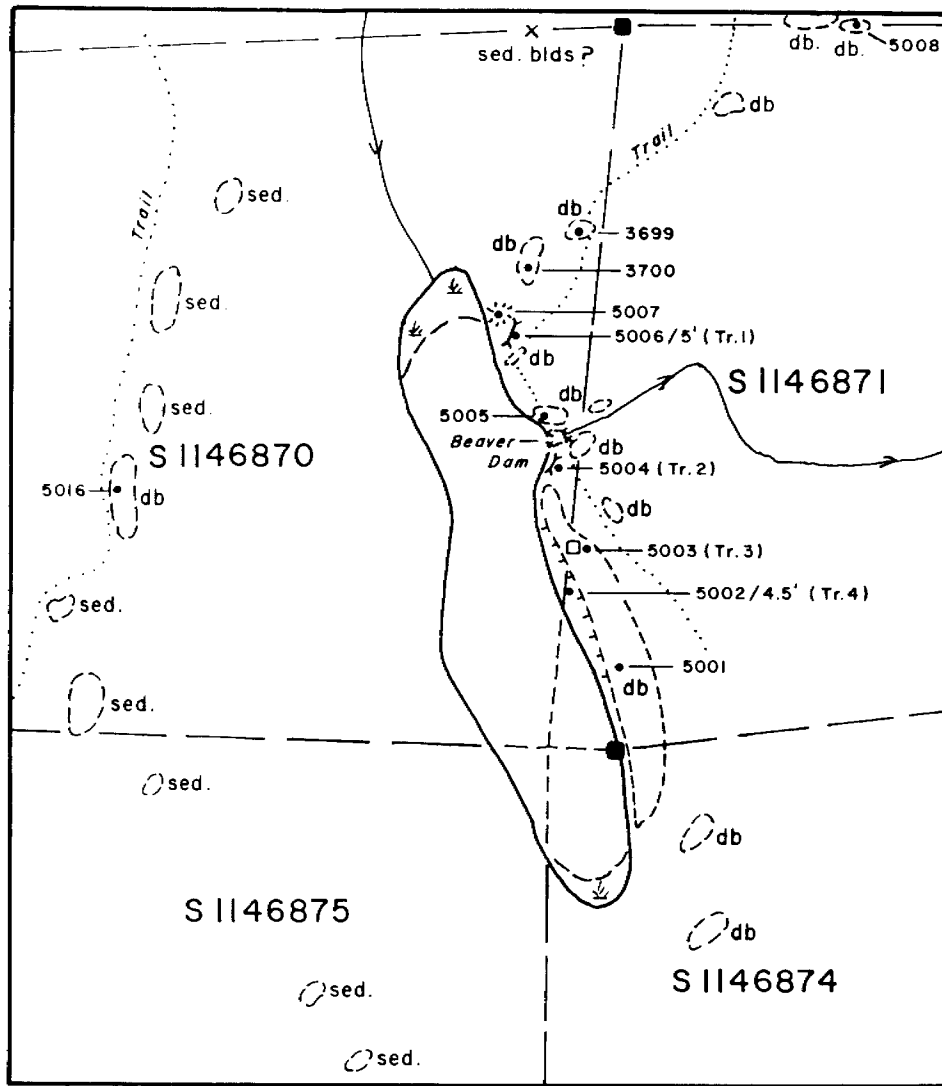
Supervision	\$ 3,316.36
Geology	19,085.68
Drafting	3,494.42
Travel and Transport	3,930.02
Living	1,205.09
Field Equipment and Expediting	2,043.83
Assays	3,280.53
Maps and Reports	849.90
Miscellaneous	233.56
Total	<u>\$37,439.39</u>

## **RESULTS**

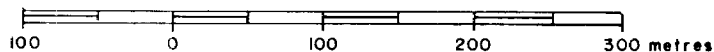
### **Geology**

Regionally the property is located in the south part of the Cobalt Embayment which lies within the Southern Structural Province of the Canadian Shield. The property lies just to the north (<25 km) of the Grenville Front tectonic zone and covers a portion of the Emerald Lake magnetic/gravity anomaly.

The property is dominated by supracrustal sedimentary rocks of the Gowganda Formation, part of the Huronian Supergroup. These rocks likely underwent a period of faulting and gentle folding (Card, 1973) prior to being intruded by sills, dykes and irregular bodies of Nipissing intrusive rocks. The Huronian and Nipissing rocks were block faulted and locally folded proximal to these (predominantly north-northwest trending) faults (Meyn, 1977). Sudbury-type breccias were then formed as a part of the Sudbury Explosive Event and the distribution of many of these breccias appears to be controlled by the north-northwest trending faults (Lane, 1992b). Later diabase and olivine diabase dykes of the "Sudbury Swarm" intrude all rock types. All pre-olivine diabase rocks have been subjected to lower greenschist metamorphism (Dressler, 1986).



Scale: 1 : 5000



	Cu (ppm)	Ni (ppm)	Ag (ppm)	Au (ppb)	Pt (ppb)	Pd (ppb)
3699	230	125	0.4			
3700	46	96	0.3			
5001	292	118	<0.1			
5002	3023	314	0.6	23	10	9
5003	11572	1386	2.9	95	22	34
5004	10113	1617	2.5	48	27	23
5005	272	142	<0.1	8	14	8
5006	4323	709	2.4	79	16	19
5007	7384	1641	2.1	108	28	28
5008	228	172	0.2			
5016	113	83	0.2			

Teck Exploration Ltd.

DETAILED GEOLOGY

Sirola Showing  
Emerald Lake Property

JUNE / 1992

15800

0411/15,16

Figure. 3

**TABLE III**  
**TABLE OF GEOLOGICAL FORMATIONS AND EVENTS**

<b>PHANEROZOIC</b>
<b>CENOZOIC</b>
<b>QUATERNARY</b>
<b>RECENT</b>
Fluvial gravel, sand, clay, silt and swamp deposits
<b>PLEISTOCENE</b>
Glacial and glaciofluvial sand, silt, gravel and till
<i>UNCONFORMITY</i>
<b>PRECAMBRIAN</b>
<b>PROTEROZOIC</b>
<b>MAFIC INTRUSIVES</b>
Late Diabase Intrusives
Diabase, olivine diabase
<i>INTRUSIVE CONTACT</i>
Na <b>METASOMATISM</b>
<b>SUDBURY EVENT BRECCIATION</b>
<b>MAFIC INTRUSIVES</b>
<b>NIPISSING DIABASE</b>
Diabase, gabbro, granophyre, pegmatite
<i>INTRUSIVE CONTACT</i>
<b>HURONIAN SUPERGROUP</b>
<b>COBALT GROUP</b>
<b>Gowganda Formation</b>
Greywacke, mudstone, siltstone, sandstone, arkose, pebbly greywacke, pebbly sandstone, pebbly mudstone

### **Gowganda Formation**

Rock types observed within this formation include greywacke, mudstone, siltstone, sandstone and arkose as well as pebbly ("dropstone") varieties of the above units. No distinct conglomerate units were noted during mapping although the Gowganda Formation

commonly contains such units (Dressler, 1982).

The dominant rock type of the Gowganda Formation observed on the claim group was massive wacke/mudstone/siltstone with lesser amounts of laminated or bedded wacke. The massive wackes commonly contain rafted pebbles, cobbles and boulders ("dropstones") ranging up to 1.5 meters in size. These clasts are generally granitic in composition although other rock types were observed.

The wacke units tend to be fine-grained to locally very fine-grained and range from dark grey to grey-green to locally light grey-buff. Megascopically the rocks most often appear featureless with no evident bedding or sedimentary structures. Where the units are laminated or bedded very little is seen within the individual beds/laminae except the odd "dropstone". In general bedding (where present) is gently dipping ( $<20^\circ$ ) to flat lying and no preferred orientation was noted. A number of outcrops in the vicinity of Harvey Lake exhibited much steeper dipping beds but as noted by Gates (1991) many of the strikes and dips from sedimentary units (may) represent only clasts within Sudbury breccia.

One outcrop of grey-black well bedded/laminated wacke/mudstone and conglomerate was noted. The conglomerate beds are up to 5 cm thick and are generally clast supported with greater than 85% subrounded to rounded pebbles up to 3 cm in size.

Lesser amounts of fine to medium-grained, light grey to grey-green to buff to locally pink sandstone/arkose and possibly quartzite were noted in the map area. These units are often sugary looking, blocky and massive. Some interbedded sandstone and wacke-mudstone was noted on the shore of Harvey Lake where sandstone beds several centimeters thick were present.

### **Nipissing Diabase**

Nipissing intrusive rocks occur as sills, dykes and irregular shaped bodies intruding the Huronian rocks. The emplacement of these intrusions is thought to be controlled in part by pre-Nipissing features (Dressler, 1982), notably north-northwest trending faults (Lane,

1992b).

Rocks of gabbroic (diabasic) composition are the dominant rock type within this unit although minor granophyric, pegmatitic and quartz diabase (diorite) phases were noted. Typically the gabbro is equigranular, although ophitic (diabasic) and varied-textured varieties were noted. Some fine-grained to very fine-grained phases were noted (likely contact zones) but the majority of the gabbros seen are medium-grained grey to grey-black and weather grey. At some locations the gabbro weathers brown and is friable (compared to the typical less weathered outcrops) and possibly represents a more orthopyroxene-rich variety.

Although textures of the gabbros vary across the property they generally contain 35-65% plagioclase with the remainder of the rock being composed of mafic minerals. Some outcrops are locally weakly to moderately magnetic but as a whole the Nipissing rocks on the property tend to be non-magnetic.

#### **Late Diabase Intrusives**

Olivine diabase and diabase dykes of the "Sudbury Swarm" intrude all rock types. Most notably two west-northwest trending magnetic olivine diabase dykes transect the south half of the claim group. These dykes were noted in outcrop and are easily traceable on the airborne magnetic survey.

The olivine diabase dykes are macroscopically similar to the Nipissing diabase. They are grey to black and medium-grained but contain olivine and are commonly magnetic. These rocks may have a blueish-green tinge and a higher apparent percentage of feldspar.

A number of other diabase dykes (generally <10m thick) noted may belong in this age group but they have been attributed to the Nipissing Intrusive event due to their chemical similarity.

## Structure

Faulting and minor folding have affected the rocks which underlie the property and faults have likely been reactivated a number of times. The emplacement of Nipissing intrusives as well as the distribution of Sudbury-type breccias have likely been controlled by these structures (Lane, 1992b).

### **Faulting**

Faulting in the area is the most important structural feature as regional structure is likely the key to mineral deposition in the area. Extensive block faulting has effected the whole area (Meyn, 1977) with vertical movements producing a series of horsts and grabens that strongly controlled the deposition of Huronian sediments. Hence the faults are pre-Huronian deposition although post-Huronian, post-Nipissing and post-late diabase movements have occurred (Card, 1973).

The dominant or most important set of faults are the north-northwest trending faults of the Onaping-Wanapitei-Timiskaming system (Lane, 1982b) although faults trending northwest, north and north-northeast are also present in the property area. The Harvey Lake Fault (Dwg 6815) is a good example of a north-northwest trending fault which has likely been activated a number of times and is the major structural feature on the property.

### **Brecciation**

Breccia similar to the Sudbury breccia was observed at a number of localities along the shores of Harvey Lake. The formation of this breccia along the Harvey Lake Fault is consistent with the theory that pre-existing faults often control the emplacement of the breccia.

Rocks of the Gowganda Formation make up by far the largest component of the breccia although in some areas Nipissing intrusives are also included. Rock fragments range from the cm scale to huge blocks several meters or tens of meters in size. Very fine-

grained black matrix makes up less than 5% of the rock and often it is difficult to recognize the breccia without extensive exposure. This fact, coupled with the lack of exposure in many areas, makes the actual extent of the breccia questionable. Gates (1991) notes that much more Sudbury-type breccia exists than is shown on maps but has not been recognized.

### **Mineralization**

Although minor sulphides (pyrite, chalcopyrite, pyrrhotite) related to small quartz veinlets were noted at a few localities and coarse (3 mm) cubic pyrite was noted in some wacke the only significant mineralization on the property was seen at the Sirola Showing. All gold and base metal (Cu, Ni) assays outside of the showing area returned low values.

#### **Sirola Showing**

The Sirola Showing consists of a number of pits and trenches along the shore of Jessie Lake in northeast McCarthy township (Figure 3). Mineralization is located in medium-grained Nipissing diabase and occurs as gossanous zones containing disseminated chalcopyrite and pyrrhotite with some areas containing small sulphide blebs up to 1 cm in size. The mineralized zones appear to be controlled by north to north-northeast trending vertical fractures or fracture systems. Sulphide content decreases away from the fractures and zones appear to be a maximum of 5 to 10 feet thick.

The previous work on this showing is not well documented (Appendix II) but assays in the 1% Cu, Ni combined range (0.85% Cu, 0.19% Ni) were returned from drilling. Samples taken during the 1992 mapping program assayed up to 1.16% Cu and 0.14% Ni from a grab sample at one of the trenches.

### **Geochemistry**

#### **Whole Rock**

Whole rock data was collected to aid in answering a number of questions. These



include: 1) Are the gabbro/diabase intrusives on the property typical Nipissing intrusions?; 2) Is there a significant variation in the chemistry of the intrusions on the property?; 3) Are the intrusions enriched in Cu, Ni?; and 4) Do the sediments or intrusions contain areas of soda alteration?

Samples were classified according to Table IV and plotted according to their general rock type (Nipissing, Gowganda, Olivine Diabase) in an attempt to identify altered samples


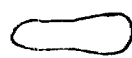

**TABLE IV**

**LEGEND FOR FIGURES 4a - 11b**

**Rock Type**

- △ Nipissing Diabase
- ▲ Nipissing Diabase (Contact phase)
- ▼ Magnetic Diabase (Nipissing?)
- Gowganda Greywacke
- Gowganda Altered or Mixed
- Gowganda Sandstone
- ◆ Olivine Diabase
- Norite
- + Granophyre (Nipissing)
- × Granite Rocks (Nipissing)

**Emerald Lake Data**

-  Gowganda Formation Field
-  Nipissing Intrusive Field
-  Olivine Diabase Field

as well as to enable a comparison with other rocks in the region. The data used for comparison comes from Card (1973), Dressler (1982), Meyn (1977), Gates (1991), Debicki (1990) and OGS (1984) and includes 163 samples.

On all plots (Figures 4a - 9d) each of the three broad rock types describes a discrete field within which the majority of the samples fall. Some samples consistently fall outside these fields and these samples are important to note as they are obviously different. Within the Nipissing intrusives category, samples 5011, 5062, 5068, 5078, 5085 and 5093 should be considered unique and within the Gowganda Formation category, sample 3700 is consistently different. Samples 5011, 5085 and 5093 are all fine-grained magnetic contact phases of the diabase and typically plot closer to the Gowganda field than the Nipissing field. Sample 5062 is a very coarse pegmatitic gabbro that likely accounts for the unique geochemical signature. Sample 3700 was probably poorly classified and is likely a fine-grained diabase as compositionally and spatially it fits the Nipissing intrusives category much better. Samples 5068 and 5078 have higher  $\text{SiO}_2$  and lower CaO values than the typical Nipissing rocks which reflects alteration or possibly a different phase of the gabbro.

A comparison of the Emerald Lake whole rock data with other rocks in the region indicates that the Nipissing intrusions on the property are likely average in composition (Table V). Slightly higher  $\text{TiO}_2$  and iron and lower MgO values are present but the difference is not considered significant. Apart from the seven samples discussed above, chemical variations within the Nipissing intrusion category are small. The Cu, Ni values (not shown graphically) show no significant enrichment and values are generally below 150 ppm Cu and 100 ppm Ni.

The possible presence of soda alteration and its importance are discussed below.

FIGURES 4a - d: WHOLE ROCK: JENSEN CATION PLOTS

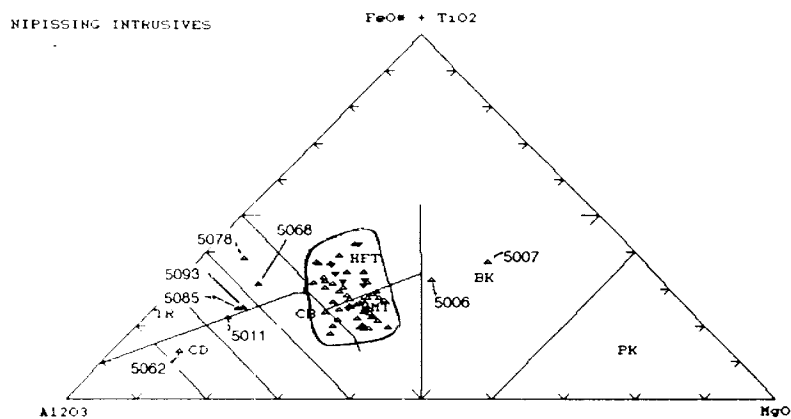


Figure 4a

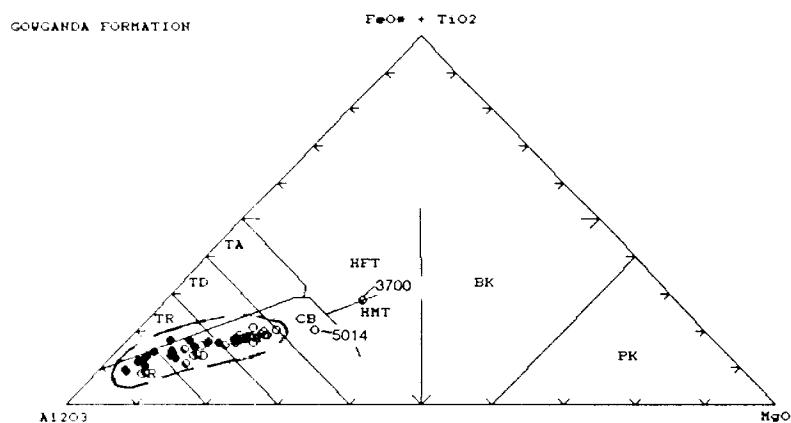


Figure 4b

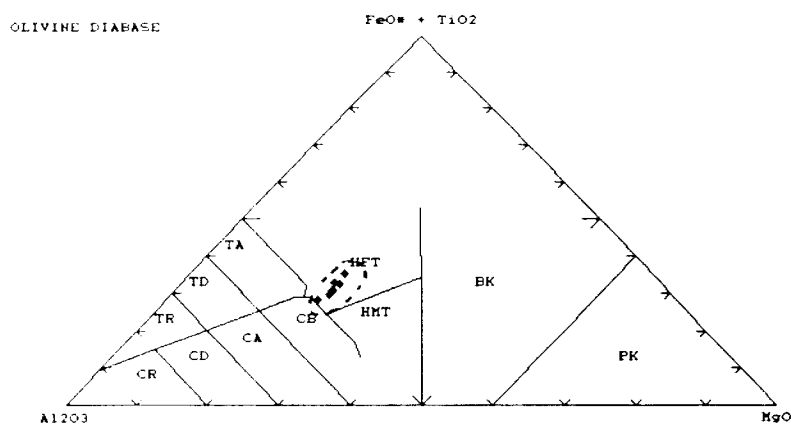


Figure 4c

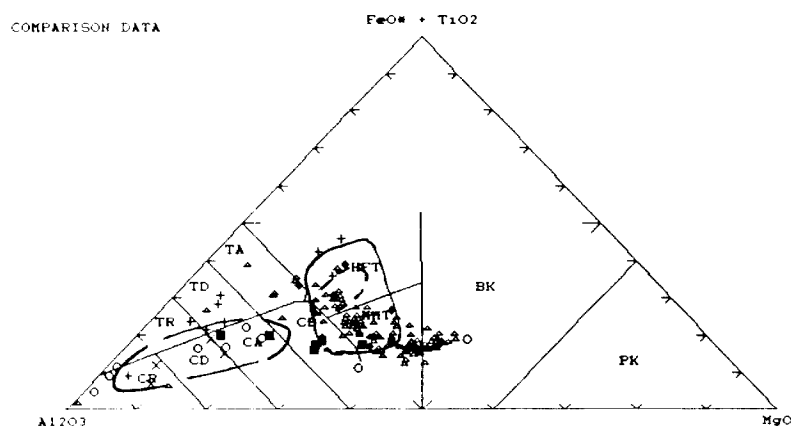


Figure 4d

FIGURES 5a - d: WHOLE ROCK: SiO<sub>2</sub> vs Na<sub>2</sub>O + K<sub>2</sub>O

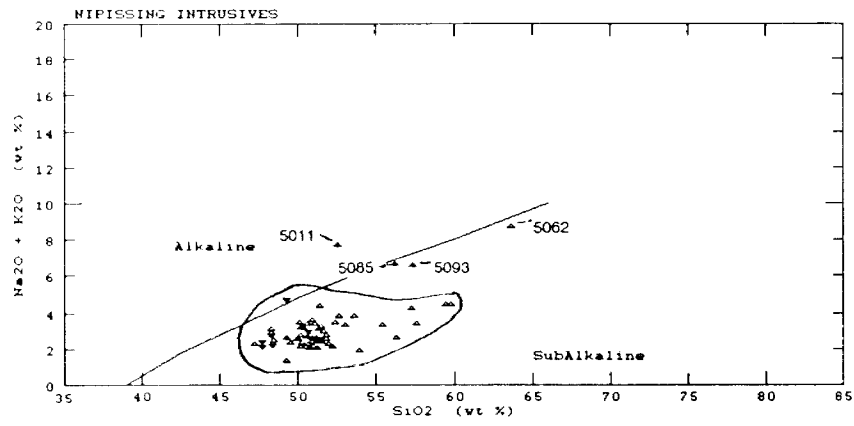


Figure 5a

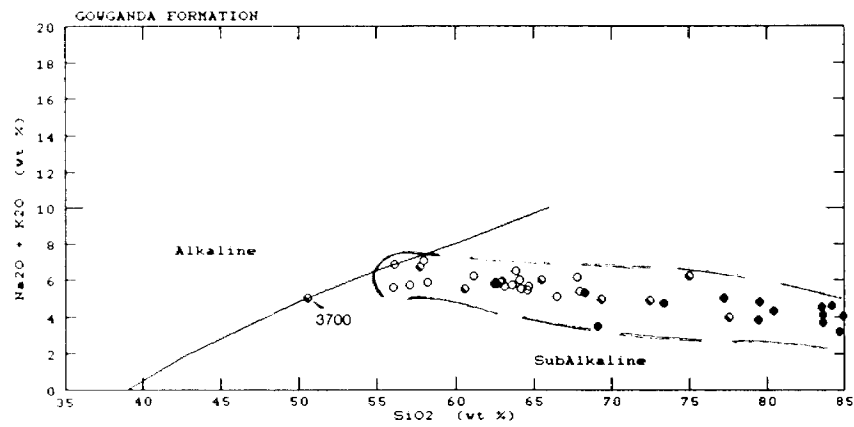


Figure 5b

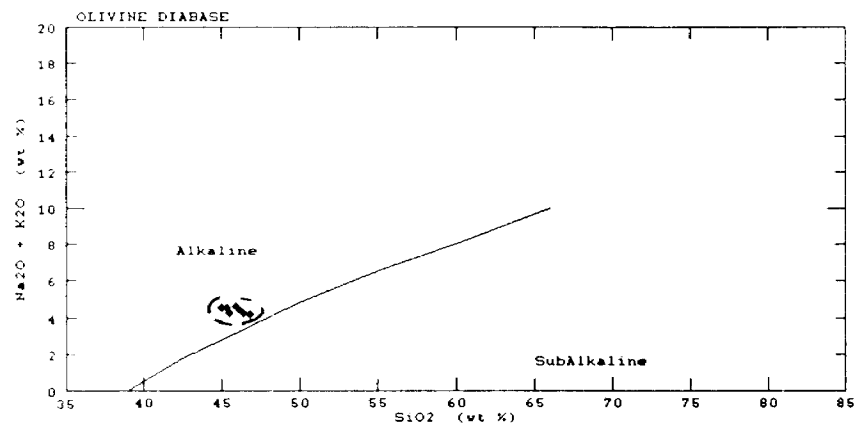


Figure 5c

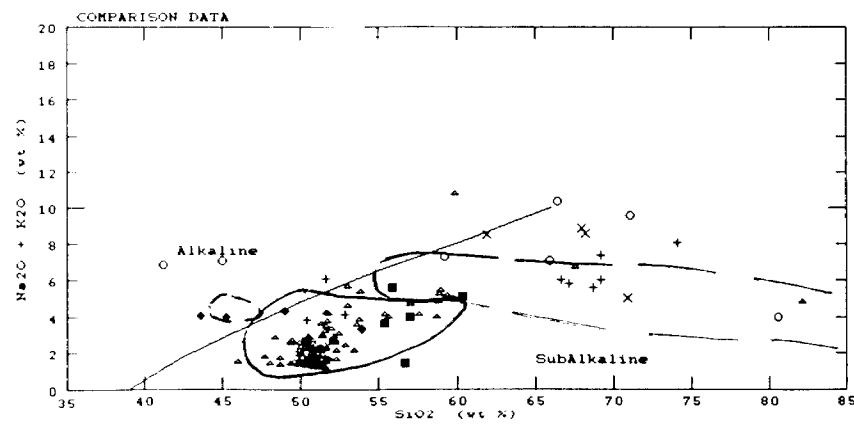


Figure 5d

FIGURES 6a - d: WHOLE ROCK:  $\text{SiO}_2/50 - \text{MnO} \times 10 - \text{P}_2\text{O}_5 \times 10$

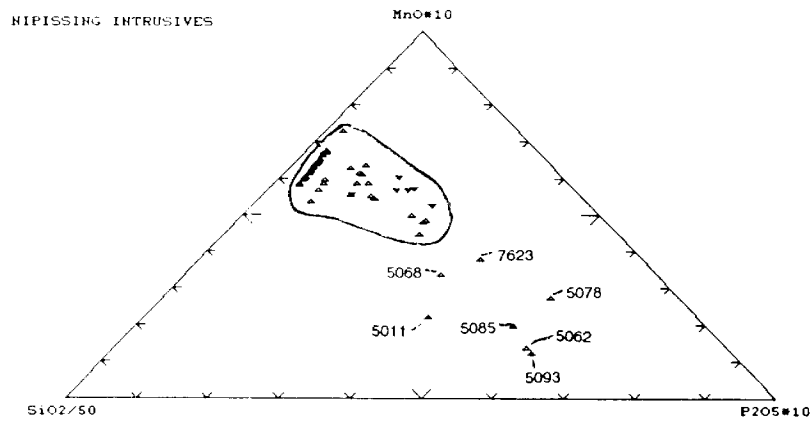


Figure 6a

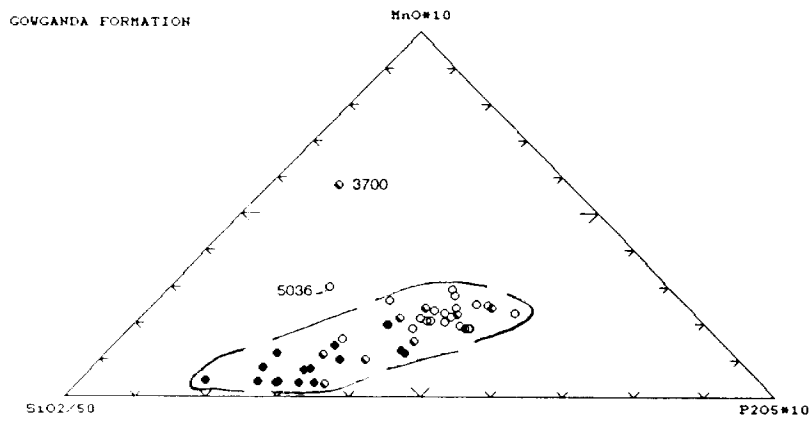


Figure 6b

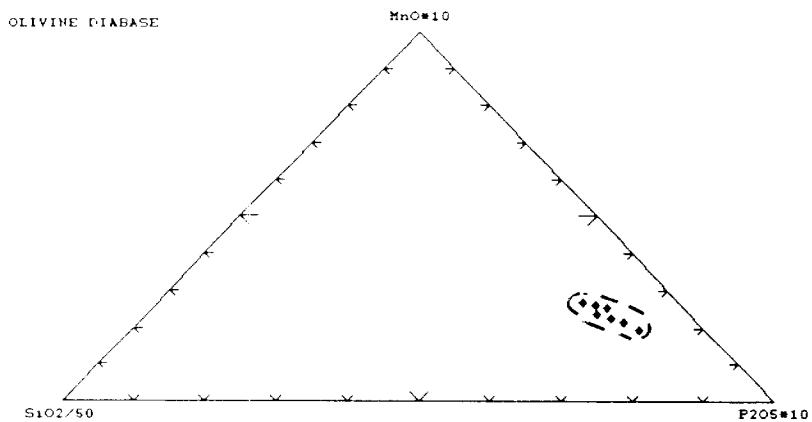


Figure 6c

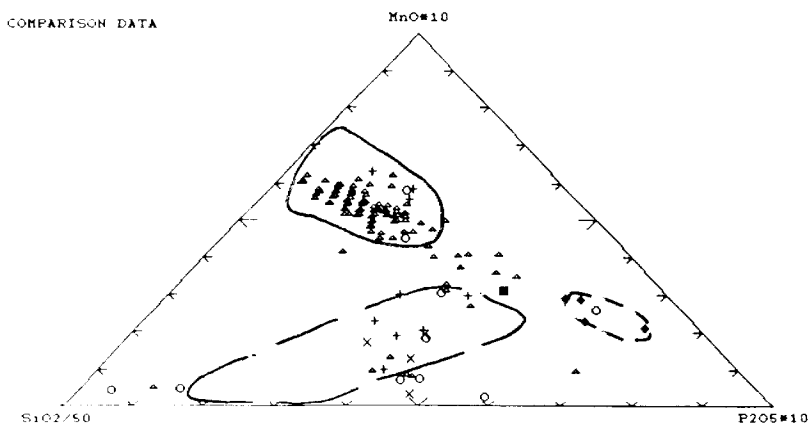


Figure 6d

FIGURES 7a - d: WHOLE ROCK:  $\text{SiO}_2/50 - \text{TiO}_2 - \text{P}_2\text{O}_5 \times 10$

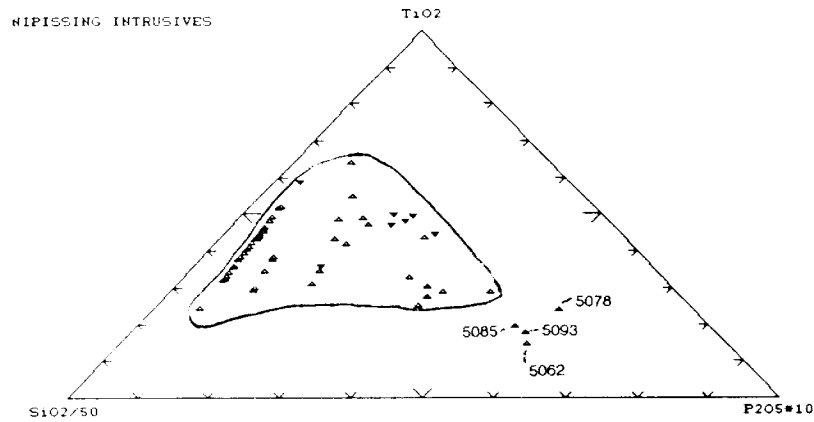


Figure 7a

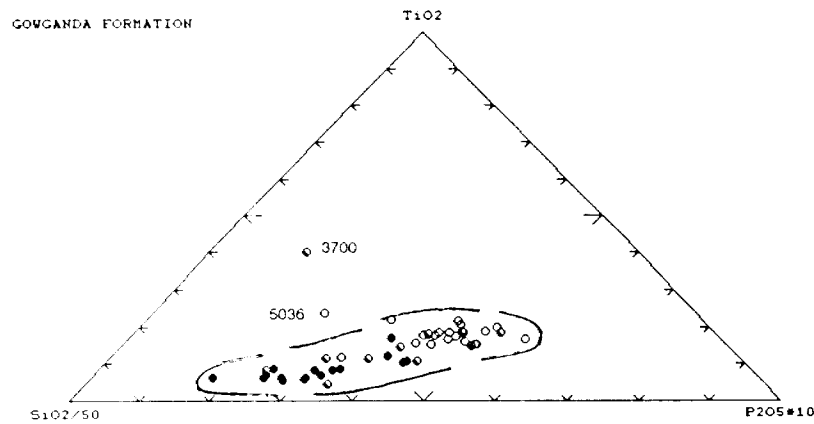


Figure 7b

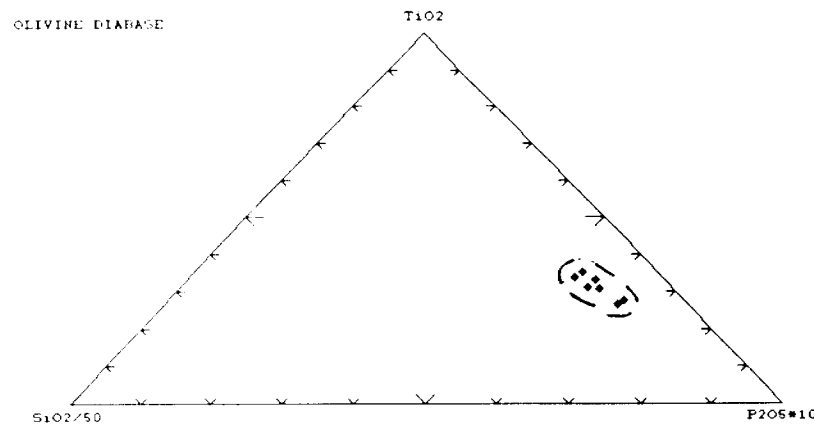


Figure 7c

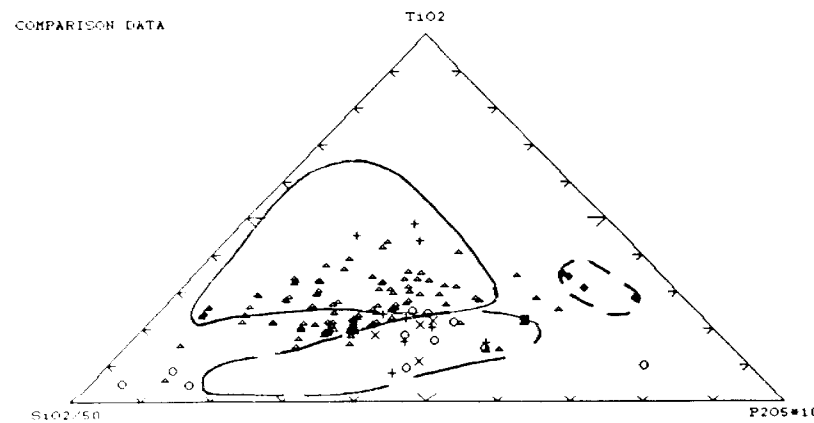


Figure 7d

FIGURES 8a - d: WHOLE ROCK: Zr vs CaO

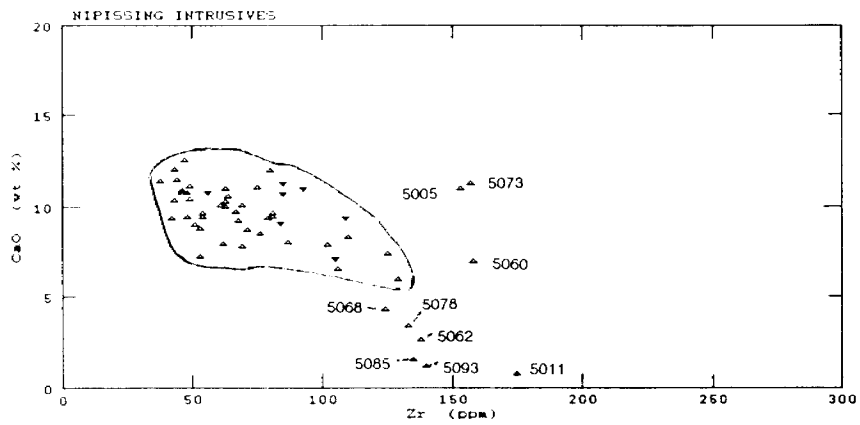


Figure 8a

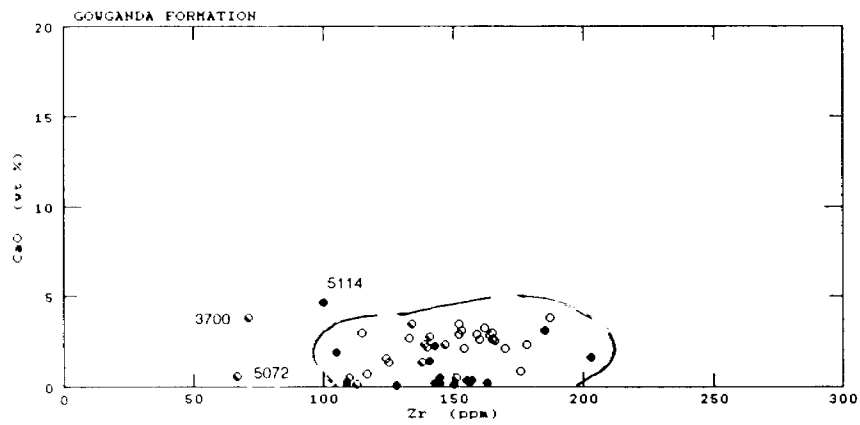


Figure 8b

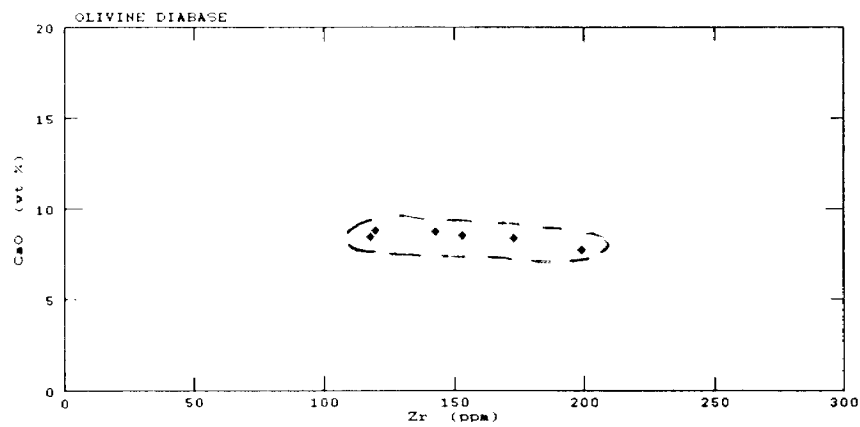


Figure 8c

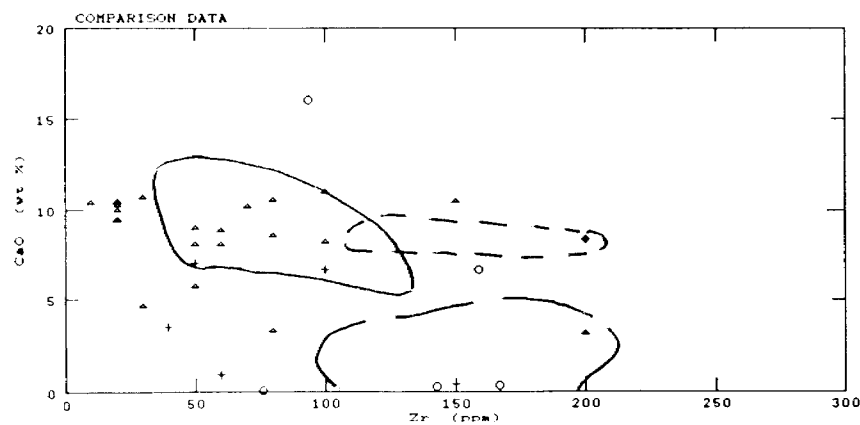


Figure 8d

FIGURES 9a - d: WHOLE ROCK: Zr vs TiO<sub>2</sub>

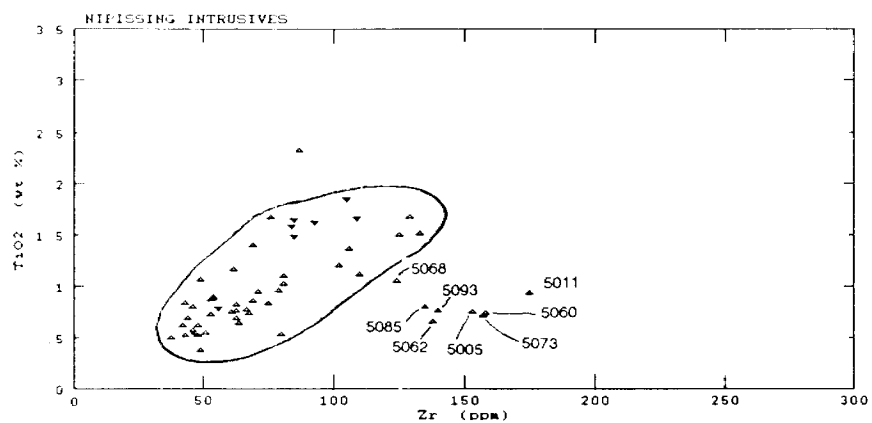


Figure 9a

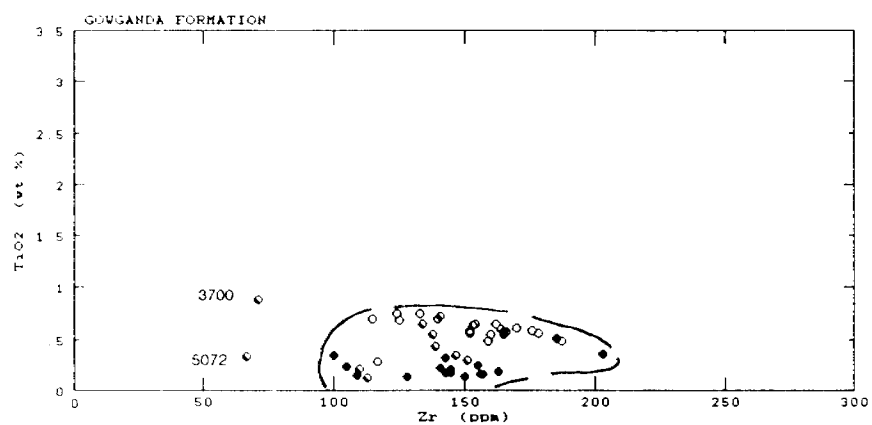


Figure 9b

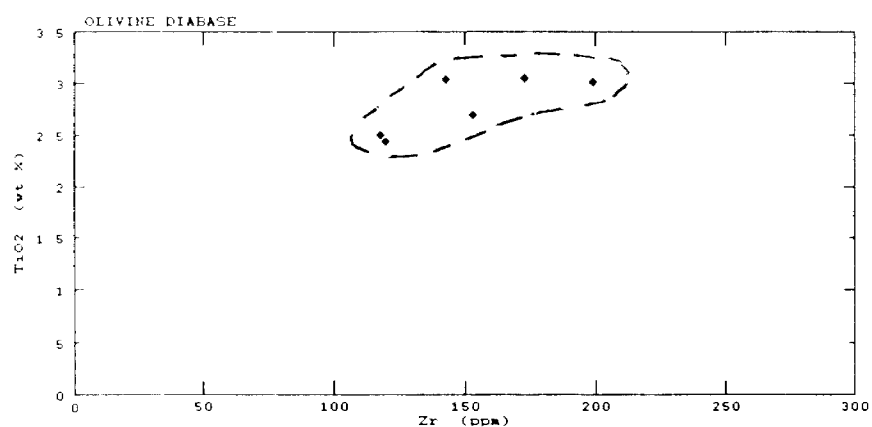


Figure 9c

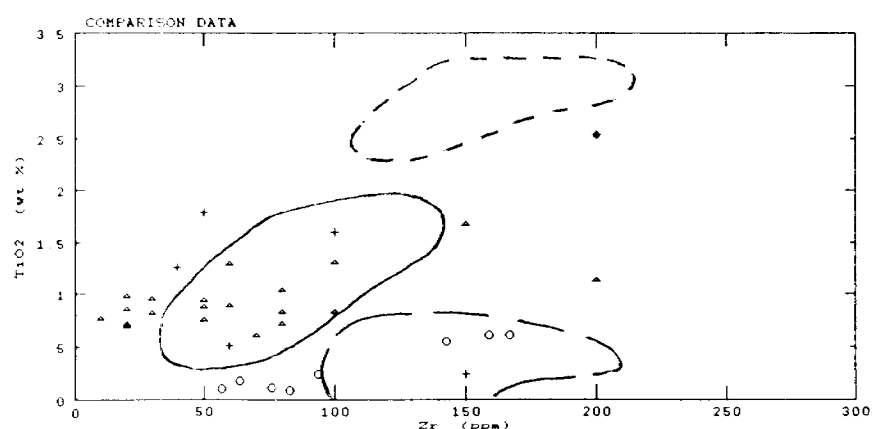


Figure 9d



**TABLE V  
WHOLE ROCK AVERAGE COMPOSITION**

	EMERALD LAKE DATA			COMPARISON DATA		
	Nipissing	Gowganda	Olivine Diabase	Nipissing	Gowganda	Olivine Diabase
SiO <sub>2</sub>	51.99	70.73	45.85	52.60	71.29	47.94
Al <sub>2</sub> O <sub>3</sub>	14.26	12.85	16.71	14.57	13.04	15.67
Fe <sub>2</sub> O <sub>3</sub>	12.35	4.51	14.86	9.57	2.82	13.94
TiO <sub>2</sub>	0.97	0.43	2.74	0.63	0.47	2.81
Na <sub>2</sub> O	2.27	3.41	3.43	2.00	5.17	2.96
K <sub>2</sub> O	0.98	1.69	0.96	0.69	1.07	0.94
MgO	6.12	2.12	6.25	8.16	1.21	6.35
CaO	8.60	1.82	8.41	9.74	1.04	9.41
MnO	0.19	0.06	0.19	0.17	0.04	0.20
P <sub>2</sub> O <sub>5</sub>	0.05	0.12	0.52	0.07	0.14	0.57
BaO	0.03	0.05	0.06			
Cr <sub>2</sub> O <sub>3</sub>	0.02	0.03	0.02			
LOI	2.10	1.85	0.07	1.58	2.17	0.99
Total	99.92	99.68	100.07	99.78	98.41	101.70

### Na Metasomatism

Soda metasomatism is a major chemical event of regional proportion (Meyer, 1987) and the majority of mineral occurrences in the area are directly related to the soda metasomatism (Gates, 1991). Many areas of soda alteration are spatially related to regional faults and there is a close relationship between these faults (often north-northwest), mineral occurrences, soda alteration and Sudbury breccia (Lane, 1992b; Gates, 1991). Soda-rich solutions are thought to have risen from depth along faults or through pre-existing breccias (Meyer, 1987) and replaced the original mineral components of the rock with albite.

The alteration appears to have a greater affect on Huronian sediments than on other

FIGURES 10a - b: WHOLE ROCK: SiO<sub>2</sub> vs Na<sub>2</sub>O

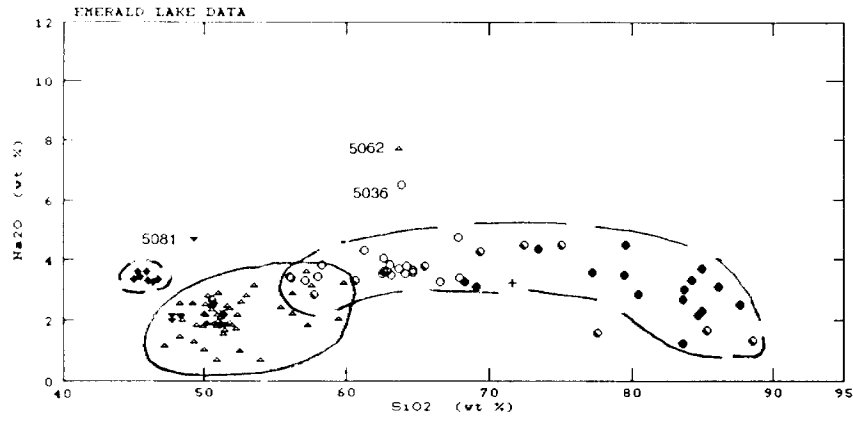


Figure 10a

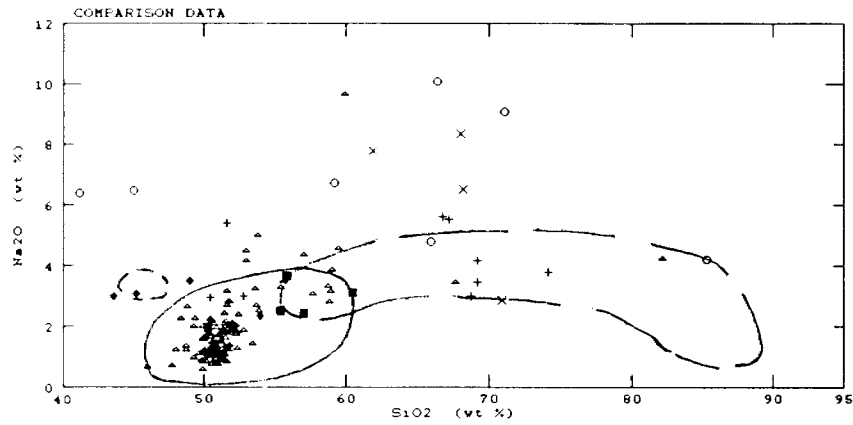


Figure 10b

FIGURES 11a - b: WHOLE ROCK: Na<sub>2</sub>O vs Na<sub>2</sub>O/K<sub>2</sub>O

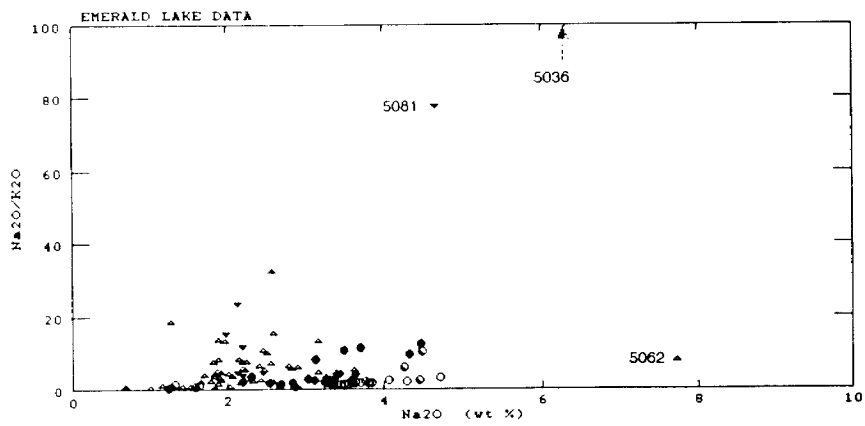


Figure 11a

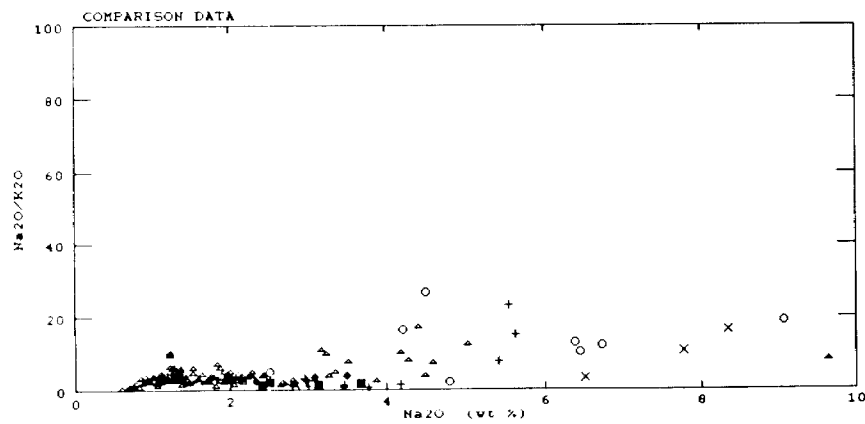


Figure 11b

rock types and is easily recognized in most rock types by the strong colour difference. Wacke of the Gowganda Formation may be altered to a fine-grained (often sugary textured) light-greenish, tan or pink rock.

Na<sub>2</sub>O values of 5 to 11% likely represent strong albitization (soda metasomatism) although rocks with Na<sub>2</sub>O values in the 3-5% range and higher >80% SiO<sub>2</sub> likely also reflect strong alteration. Other oxides and trace elements vary depending on rock type although a decrease in K<sub>2</sub>O is also common (Cosec, 1992).

Figures 10 and 11 show plots of SiO<sub>2</sub> vs Na<sub>2</sub>O and Na<sub>2</sub>O vs Na<sub>2</sub>O/K<sub>2</sub>O. As seen in figure 10a the general rock groupings fall within well defined fields with the exception of samples 5036, 5062, and 5081. Figure 11a illustrates that although sample 5062 (pegmatitic gabbro) may be high in Na<sub>2</sub>O it is not K<sub>2</sub>O depleted. Samples 5081 and 5036 however are both High Soda-Low Potassium rocks and have quite possibly undergone soda metasomatism. Also of note are the six samples of Gowganda sandstone/arkose with >79% SiO<sub>2</sub> and 3-5% Na<sub>2</sub>O. Although none of these samples are extremely potassium depleted three have significantly lower K<sub>2</sub>O values and are possibly weakly altered.

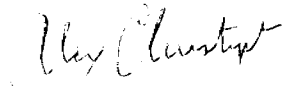
### **DISCUSSIONS AND RECOMMENDATIONS**

Reconnaissance geological mapping and geochemical sampling on the Emerald Lake property have outlined a north-northwest trending fault zone (Harvey Lake Fault) with associated Sudbury-type breccia. Although soda metasomatism is regionally associated with such faults no significant alteration was noted on the property. Nipissing intrusive rocks encountered are not enriched in Ni or Cu and chemical compositions are near average compared to similar intrusions in the region.

The only significant mineralization encountered is located at the previously known Sirola Showing where the tonnage potential appears to be limited.

Thin section work on potentially altered samples is in progress but no further ground follow-up is warranted at present.

Respectfully submitted,  
TECK EXPLORATION LTD.



Alex Christopher

August 5, 1992

REP-0122/ec

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**APPENDIX I**  
**CLAIM STATUS**

Claim Status

<u>Claim</u>	<u>Recorded</u>	<u>Due Date</u>
S 1094987 - 1095019 (33)	April 27, 1990	April 27, 1993
S 1146744 - 1146943 (200)	April 27, 1990	April 27, 1993
Total - 233 claims		



**APPENDIX II**  
**ANALYTICAL RESULTS**

I, ALEX CHRISTOPHER, HEREBY CERTIFY THAT:

1. I am a practicing geologist with TECK EXPLORATION LTD  
in NORTH BAY, ONTARIO and reside at 34 RIDDLE CT  
NORTH BAY, ONTARIO.
2. I am a graduate of MCMASTER UNIVERSITY,  
HAMILTON, ONTARIO, 1982, with a degree of   
HONOURS BSc IN GEOLOGY.
3. I have practiced my profession for approximately 12  
years since graduation.
4. I hereby certify that I have personal and intimate knowledge of  
the facts set forth in this report, having performed the work or  
witnessed same during and/or after its completion and report it  
is true.
5. I have based conclusions and recommendations contained in this  
report on knowledge obtained from work conducted on the property  
between MAY, 1990 and JULY, 1992.

Alex Christopher

dated at NORTH BAY, Ontario

this 17 day of November, 1991



REPORT: 092-41557.0 ( COMPLETE )

RECEIVED

REFERENCE INFO: JOB NO. 15800

CLIENT: TECK EXPLORATIONS LIMITED  
 PROJECT: NONE

NOV 23 1992

SUBMITTED BY: A. CHRISTOPHER  
 DATE PRINTED: 23-JUN-92

MINING LANDS BRAND

ORDER	ELEMENT	NUMBER OF ANALYSES	DETECTION LIMIT LOWER	EXTRACTION	METHOD
1	SiO2 Silica Di-oxide	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
2	Au Gold - Fire Assay	6	1 PPB	FIRE ASSAY	FIRE ASSAY-DCP
3	TiO2 Titanium Di-oxide	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
4	Pt Platinum	6	5 PPB	FIRE ASSAY	FIRE ASSAY-DCP
5	Al2O3 Alumina	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
6	Pd Palladium	6	1 PPB	FIRE ASSAY	FIRE ASSAY-DCP
7	Fe2O3 Total Iron	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
8	MnO Manganese Oxide	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
9	MgO Magnesium Oxide	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
10	CaO Calcium (CaO)	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
11	Na2O Sodium Oxide	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
12	K2O Potassium	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
13	P2O5 Phosphorous (P2O5)	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
14	LOI Loss on Ignition	22	0.05 PCT		GRAVIMETRIC
15	Total Whole Rock Total	22	0.01 PCT		
16	BaO Barium Oxide	22	0.001 PCT	BORATE FUSION	INDUC. COUP. PLASMA
17	Cr2O3 Chromium Oxide	22	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
18	Cu Copper	22	1 PPM	HF-HNO3-HClO4-HCl	ATOMIC ABSORPTION
19	Co Cobalt	22	1 PPM	HF-HNO3-HClO4-HCl	ATOMIC ABSORPTION
20	Ni Nickel	22	1 PPM	HF-HNO3-HClO4-HCl	ATOMIC ABSORPTION
21	Ag Silver	22	0.1 PPM	HF-HNO3-HClO4-HCl	ATOMIC ABSORPTION
22	Zr Zirconium	22	1 PPM		XRAY FLUORESCENCE
23	Sr Strontium	22	1 PPM	BORATE FUSION	INDUC. COUP. PLASMA

Sample	SiO2	Al2O3	Fe2O3	TiO2	Na2O	K2O	HgO	CaO	MnO	P2O5	BaO	Cr2O3	LOI	Total	Zr	Sr	Cu	Co	Ni	Ag	Au	Pt	Pd
3686	45.02	15.46	16.85	3.05	3.37	1.15	6.16	8.38	0.21	0.53	0.06	0.02	0.05	100.31	173	406	51	34	85	0.3			
3687	64.69	15.40	5.72	0.56	3.58	2.07	2.82	2.32	0.07	0.13	0.05	0.02	2.79	100.22	178	300	37	11	51	0.5			
3688	64.24	15.32	5.75	0.57	3.77	1.78	2.86	3.01	0.07	0.17	0.05	0.02	3.07	100.68	165	337	32	12	47	0.3			
3689	62.62	15.58	6.37	0.60	4.06	1.75	3.20	2.85	0.08	0.14	0.06	0.02	3.54	100.87	164	297	28	14	49	0.2			
3690	63.00	14.77	5.43	0.55	2.55	2.09	2.74	2.59	0.07	0.18	0.05	0.02	3.60	98.94	165	332	39	12	48	0.6			
3691	62.56	15.11	5.67	0.57	3.63	2.25	2.67	2.54	0.08	0.13	0.05	0.02	4.82	100.10	166	287	42	11	51	0.3			
3692	64.13	15.59	5.94	0.61	3.54	2.49	3.13	2.11	0.08	0.16	0.06	0.04	2.82	100.70	170	255	40	8	38	0.2			
3693	67.94	14.30	4.48	0.49	3.41	1.98	1.75	3.66	0.06	0.13	0.05	0.03	1.88	100.36	187	388	27	8	25	0.6	23	10	9
3694	63.11	14.82	5.51	0.55	3.49	2.20	2.89	2.61	0.07	0.15	0.05	0.02	4.08	99.46	160	305	43	11	45	0.2	95	22	34
3695	51.75	12.55	11.86	0.83	1.90	0.62	7.45	11.02	0.19	0.01	0.01	0.01	1.16	95.36	63	188	127	30	90	0.6	48	27	23
3696	51.31	13.79	12.76	0.90	2.25	0.84	7.16	9.67	0.22	0.01	0.02	0.02	2.21	101.16	54	233	116	34	83	-0.1	8	14	3
3697	50.29	13.25	12.61	0.85	2.79	0.43	7.56	10.37	0.23	0.01	0.01	0.01	2.18	100.79	43	283	128	24	85	-0.1	75	16	19
3698	51.34	14.50	10.94	0.80	2.12	0.46	6.59	10.77	0.18	0.04	0.01	0.01	0.44	98.20	56	184	135	28	84	0.2	108	28	28
3699	51.15	14.66	10.59	0.70	2.07	0.58	8.07	11.52	0.19	0.01	0.01	0.01	1.95	101.51	44	190	230	24	125	0.4			
3700	50.55	15.01	14.07	0.88	2.67	2.35	7.46	3.83	0.18	0.03	0.03	0.02	2.98	100.06	71	132	46	35	56	0.3			
5001	51.77	14.55	11.72	0.97	2.40	0.38	6.57	9.37	0.20	0.01	0.01	0.01	2.25	100.61	79	264	292	22	118	-0.1			
5002	50.10	13.69	13.55	0.89	2.18	0.58	7.40	9.45	0.20	0.01	0.02	0.01	2.82	101.30	54	186	3023	28	314	0.6			
5003	48.27	13.10	16.56	0.88	2.56	0.36	6.27	8.76	0.19	0.01	0.01	0.01	3.15	100.13	53	215	11572	97	1386	2.9			
5004	48.45	13.66	15.45	0.81	2.02	0.49	6.90	10.81	0.19	0.01	0.01	0.01	2.48	101.29	45	187	10113	78	1617	2.5			
5005	51.17	14.56	11.04	0.76	1.91	0.89	7.54	10.59	0.18	0.01	0.02	0.02	1.65	100.65	153	191	272	29	142	-0.1			
5006	51.35	10.32	15.90	0.87	2.19	0.20	8.53	7.83	0.22	0.01	0.01	0.03	2.95	100.31	69	107	4323	49	709	2.4			
5007	49.23	7.42	18.78	1.17	1.28	0.07	10.96	7.94	0.29	0.01	0.00	0.06	2.97	100.18	62	62	7384	98	1641	2.1			
5008	52.32	14.49	9.75	0.69	2.16	1.32	7.19	10.03	0.17	0.01	0.02	0.02	2.64	100.81	63	286	228	25	172	0.2			
5009	45.35	16.39	15.48	3.04	3.63	0.88	6.40	8.70	0.20	0.47	0.06	0.40	0.05	100.67	143	513	66	35	113	-0.1			
5010	83.53	7.97	1.64	0.16	2.68	1.88	0.38	0.37	0.01	0.08	0.05	0.03	0.77	99.55	157	79	8	3	14	0.3			
5011	52.50	21.34	10.58	0.94	0.97	6.77	3.02	0.81	0.06	0.11	0.14	0.02	3.62	100.68	175	69	13	15	120	0.2			
5012	87.61	7.03	1.58	0.14	2.53	1.05	0.35	0.09	0.01	0.04	0.03	0.05	0.54	101.36	128	38	8	5	9	-0.1			
5013	50.03	13.95	11.07	1.07	1.01	2.45	7.39	10.42	0.22	0.04	0.10	0.02	2.76	100.53	49	338	89	23	101	0.1			
5014	57.08	16.94	9.07	0.69	3.34	2.39	6.15	2.99	0.10	0.15	0.06	0.04	1.14	100.14	115	348	23	21	136	0.5			
5015	48.29	13.44	13.41	1.40	1.43	1.71	7.43	10.06	0.18	0.05	0.04	0.03	2.64	100.11	69	292	170	27	99	0.3			
5016	51.37	16.43	9.19	0.62	1.53	2.25	6.90	9.38	0.18	0.01	0.07	0.01	2.53	101.07	42	394	113	20	83	0.2			
5017	46.75	18.15	13.45	2.43	3.38	0.78	6.14	8.82	0.17	0.45	0.05	0.01	0.05	100.63	120	555	49	28	67	-0.1			
5018	45.47	17.46	14.34	2.49	3.43	0.84	6.46	8.42	0.18	0.40	0.05	0.01	0.24	99.79	118	559	35	28	66	0.4			
5019	46.06	16.87	14.42	2.69	3.31	1.13	6.30	8.48	0.18	0.52	0.06	0.01	0.05	100.08	153	521	41	27	76	0.2			
5020	79.55	10.26	2.03	0.22	4.47	0.36	0.44	1.44	0.02	0.08	0.01	0.02	0.54	99.44	141	144	6	2	12	0.3			
5021	86.11	7.28	1.08	0.16	3.11	1.21	0.24	0.25	0.01	0.07	0.09	0.03	0.84	100.48	156	65	6	5	8	0.4			
5022	50.89	14.23	11.83	0.73	0.69	2.96	7.52	7.25	0.23	0.01	0.07	0.01	2.91	99.33	53	269	132	29	80	0.2			
5023	51.63	13.85	13.30	1.10	2.47	0.48	5.75	9.65	0.21	0.01	0.02	0.01	1.39	99.87	81	224	229	31	44	0.1			
5024	50.01	14.39	9.87	0.57	2.20	0.38	8.35	10.94	0.18	0.01	0.01	0.02	2.17	99.10	46	170	140	27	86	0.1			
5025	49.22	15.20	9.41	0.52	2.57	0.68	7.95	10.81	0.15	0.01	0.00	0.02	2.55	98.49	48	171	70	24	110	0.1			
5026	50.21	17.02	8.27	0.50	1.91	0.43	7.16	11.43	0.14	0.02	0.01	0.02	1.74	98.86	38	222	108	22	91	0.1			
5027	57.72	17.92	7.92	0.72	2.67	3.86	4.07	2.76	0.10	0.20	0.09	0.02	2.58	100.83	141	310	46	21	69	0.2			
5028	50.56	16.11	10.25	0.55	2.33	1.04	6.94	9.04	0.18	0.01	0.02	0.01	2.36	99.40	51	248	106	26	67	0.1			
5029	47.72	14.50	14.68	1.65	2.19	0.19	5.92	10.71	0.25	0.07	0.01	0.02	0.95	98.86	85	157	180	26	45	0.1			
5030	57.96	17.94	8.28	0.74	3.44	3.67	4.15	1.58	0.11	0.15	0.11	0.03	2.88	101.04	124	321							
5031	77.19	10.47	2.59	0.36	3.58	1.45	0.89	1.63	0.04	0.14	0.09	0.04	0.94	99.41	203	288							
5032	63.63	15.25	5.80	0.56	3.70	2.01	2.89	2.92	0.07	0.13	0.05	0.03	2.15	99.25	152	344							
5033	62.52	16.30	6.56	0.63	3.55	2.27	3.28	3.15	0.08	0.15	0.03	0.03	2.46	101.04	153	371							
5034	62.87	16.38	6.22	0.64	3.63	2.25	3.17	3.24	0.08	0.10	0.06	0.03	2.34	101.01	162	284							
5035	84.16	7.98	1.15	0.17	3.34	1.27	0.30	0.19	0.01	0.06	0.03	0.03	0.92	99.61	143	44							
5036	63.87	15.53	5.66	0.58	6.49	0.01	3.44	0.88	0.08	0.06	0.00	0.04	1.90	98.54	176	106							
5037	64.62	15.25	5.66	0.58	3.64	1.79	2.76	3.45	0.07	0.14	0.05	0.03	1.84	99.88	152	376							
5038	50.12	11.57	17.79	1.02	2.50	0.25	4.68	7.99	0.22	0.03	0.01	0.01	1.31	98.80	87	173	57	34	12	0.2			
5039	50.66	13.74	16.17	1.59	2.45	0.55	4.76	5.06	0.22	0.01	0.02	0.01	0.34	99.58	84	194	121	32	33	0.2			
5040	51.11	15.34	11.23	0.64	2.24	0.30	6.52	10.57	0.18	0.02	0.01	0.01	0.43	98.60	64	197	123	28	58	0.2			
5041	53.54	13.10	14.96	1.68	3.16	0.67	3.79	5.94	0.20	0.11	0.02	0.01	2.65	99.83	129	220	52	27	23	0.1			
5042	61.20	16.12	7.00	0.65	4.29	1.93	3.84	2.14	0.09	0.16	0.05	0.03	1.68	99.18	154	339							
5043	73.41	12.60	2.82	0.32	4.32	0.45	1.21	2.26	0.04	0.13	0.02	0.01	1.17	98.76	143	354							
5044	56.14	17.96	8.65	0.68	3.41	3.46	3.63	1.38	0.10	0.23	0.09	0.02	2.94	98.69	125	197							
5045	65.50	15.26	6.35	0.55	3.80	2.26	2.77	1.34	0.07	0.18	0.07	0.02	2.06	100.33	138	247							
5046	51.41	13.91	13.53	1.20	1.88	1.41	5.19	7.86	0.20	0.01	0.04	0.01	2.16	98.81	102	245	105	27					

Sample	SiO2	Al2O3	Fe2O3	TiO2	Na2O	K2O	MgO	CaO	MnO	P2O5	BaO	Cr2O3	LOI	Total	Zr	Sr	Cu	Co	Ni	Ag	Au	Pt	Pd
5061	50.85	14.31	11.57	0.76	2.15	0.26	6.89	10.95	0.18	0.02	0.01	0.01	2.33	99.82	61	222	120	28	72	0.1			
5062	63.63	16.65	3.70	0.66	7.72	0.37	1.66	2.60	0.06	0.26	0.02	0.01	2.49	100.43	128	63	57	4	10	0.1			
5063	84.96	7.17	2.48	0.15	2.31	0.65	0.69	0.24	0.02	0.06	0.02	0.02	0.73	99.50	109	50							3
5064	71.62	13.61	3.65	0.41	3.22	2.59	0.79	0.39	0.06	0.14	0.07	0.01	1.53	98.29	150	134	28	6	6	0.4			
5065	48.34	13.86	14.31	1.49	2.12	0.09	8.83	11.30	0.22	0.07	0.01	0.02	0.54	99.20	85	156	174	29	58	0.1			
5066	83.63	7.78	2.59	0.17	3.02	3.12	0.50	0.19	0.02	0.03	0.02	0.03	0.35	99.50	145	27							
5067	84.68	7.26	1.66	0.14	2.15	1.03	0.39	0.11	0.01	0.07	0.04	0.05	0.63	98.46	150	67							
5068	59.43	14.05	10.98	1.06	2.03	2.45	2.29	4.33	0.13	0.14	0.07	0.01	2.03	99.00	124	317	36	12	8	0.1			
5069	53.92	12.79	14.73	1.50	0.68	1.26	3.83	7.40	0.20	0.06	0.03	0.01	2.77	99.18	125	419	60	21	19	0.1			
5070	85.32	7.66	1.05	0.21	1.64	1.63	0.52	0.51	0.02	0.06	0.06	0.03	1.14	100.05	110	99							
5071	88.54	5.43	1.05	0.13	1.33	0.66	0.23	0.13	0.01	0.10	0.04	0.03	0.74	98.62	113	63							
5072	77.58	10.85	2.78	0.34	1.59	2.41	1.36	0.58	0.03	0.11	0.08	0.03	2.48	100.22	67	109							
5073	50.11	14.54	10.40	0.72	1.89	0.23	8.22	11.27	0.17	0.02	0.01	0.03	2.14	99.75	157	180	35	25	91	0.2			
5074																							
5075	50.68	15.42	8.96	0.52	1.89	0.14	8.16	12.03	0.16	0.02	0.01	0.03	2.26	100.28	43	181	104	22	105	0.1			
5076	65.51	13.99	4.93	0.49	3.26	1.82	2.56	2.92	0.07	0.14	0.05	0.02	2.05	98.81	159	327							
5077	50.64	14.72	12.95	0.85	1.87	0.37	7.42	11.04	0.20	0.01	0.01	0.01	1.34	101.43	75	170	109	30	87	0.1			3
5078	59.81	13.10	12.65	1.51	3.22	1.26	1.17	3.43	0.18	0.36	0.04	0.01	1.91	98.67	133	178	44	13	2	0.1			3
5079	49.47	13.61	18.22	1.68	1.83	0.53	4.88	8.54	0.24	0.04	0.02	0.01	2.08	101.15	76	257	53	39	14	0.2			3
5080	50.73	14.42	12.59	0.62	2.59	0.17	6.54	9.43	0.20	0.01	0.01	0.01	2.01	99.33	48	275	180	26	55	0.2			6
5081	49.24	11.99	19.17	1.85	4.67	0.06	5.08	7.11	0.25	0.09	0.01	0.01	1.40	100.93	105	96	18	28	34	0.1			
5082	75.02	11.94	2.42	0.39	4.45	1.80	1.39	0.51	0.03	0.08	0.04	0.03	1.00	99.01	151	204							
5083	83.57	6.65	2.19	0.25	1.25	2.46	0.87	0.38	0.03	0.10	0.10	0.03	0.98	98.86	155	94							
5084	50.87	14.15	12.06	0.78	1.78	0.84	6.97	9.71	0.21	0.01	0.02	0.02	2.70	100.12	67	234	93	25	65	0.0			
5085	56.22	15.08	10.57	0.81	2.89	3.79	2.89	1.59	0.08	0.22	0.10	0.03	2.77	100.04	135	157	10	15	60	0.1			3
5086	67.79	14.43	5.19	0.29	4.71	1.46	1.89	0.69	0.04	0.08	0.03	0.02	2.43	99.05	117	196							7
5087	51.95	15.21	9.16	0.37	1.63	0.42	8.38	11.16	0.16	0.01	0.01	0.02	1.73	100.41	49	200	116	23	106	0.3			3
5088	49.32	14.51	14.99	0.95	1.79	0.73	4.86	8.74	0.20	0.01	0.02	0.01	2.82	99.60	71	208	27	24	39	0.1			6
5089	51.23	14.55	9.39	0.53	1.81	0.24	9.18	11.98	0.17	0.01	0.01	0.03	1.65	100.78	80	183	77	26	113	0.1			
5090	50.55	15.01	13.42	1.03	2.45	0.23	6.58	9.44	0.19	0.01	0.01	0.01	2.80	101.73	81	189	108	30	61	0.3			3
5091	68.27	14.16	4.83	0.51	3.28	2.05	2.12	3.15	0.06	0.11	0.06	0.02	1.59	100.21	185	340							
5092	50.95	16.40	9.83	0.54	1.97	0.15	8.45	12.58	0.17	0.01	0.01	0.02	0.38	101.47	47	187	110	25	93	0.0			3
5093	57.31	18.13	10.43	0.77	1.84	4.75	2.72	1.18	0.05	0.24	0.11	0.02	2.64	100.39	140	102	14	13	53	0.0			
5114	69.11	13.74	4.18	0.35	3.12	0.38	1.56	4.71	0.06	0.11	0.02	0.04	1.67	99.05	100	381							
5115	79.46	9.59	2.58	0.23	3.49	0.33	0.76	1.89	0.04	0.09	0.02	0.04	0.89	99.41	105	265							
5116	84.68	8.41	1.46	0.19	3.70	0.33	0.49	0.22	0.01	0.09	0.02	0.04	0.69	100.53	163	99							
5117	69.39	14.01	4.60	0.44	4.25	0.70	2.34	2.36	0.07	0.12	0.03	0.02	1.49	99.82	139	360							
5118	58.23	17.17	7.47	0.69	3.81	2.08	4.18	2.17	0.10	0.18	0.06	0.02	2.70	98.86	140	313							

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Geochemical  
Lab Report

REPORT: 092-41557.0 ( COMPLETE )

REFERENCE INFO: JOB NO. 15800

CLIENT: TECK EXPLORATIONS LIMITED  
PROJECT: NONE

SUBMITTED BY: A. CHRISTOPHER  
DATE PRINTED: 23-JUN-92

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
ROCK	22	-200	22	CRUSH, PULVERIZE	22

REPORT COPIES TO: MR. KEN THORSEN  
FAX: (705) 474-4053  
MR. ALEX CHRISTOPHER

INVOICE TO: MR. KEN THORSEN

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SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	Au PP8	TiO2 PCT	Pt PP8	Al2O3 PCT	Pd PP8	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT
3686		45.02		3.05		15.46		16.85	0.21	6.16	8.38	3.37	1.15
3695		51.75		0.83		12.55		11.86	0.19	7.45	11.02	1.90	0.62
3696		51.31		0.90		13.79		12.76	0.22	7.16	9.67	2.25	0.84
3697		50.29		0.85		13.25		12.81	0.23	7.56	10.37	2.79	0.43
3698		51.34		0.80		14.50		10.94	0.18	6.59	10.77	2.12	0.46
3699		51.15		0.70		14.66		10.59	0.19	8.07	11.52	2.07	0.58
5001		51.77		0.97		14.55		11.72	0.20	6.97	9.37	2.40	0.38
5002		50.10	23	0.89	10	13.69	9	13.55	0.20	7.40	9.45	2.18	0.98
5003		48.27	95	0.88	22	13.10	34	16.56	0.19	6.27	8.76	2.56	0.36
5004		48.45	48	0.81	27	13.66	23	15.46	0.19	6.90	10.81	2.02	0.48
5005		51.17	8	0.76	14	14.56	8	11.04	0.18	7.54	10.99	1.91	0.80
5006		51.35	79	0.87	16	10.32	19	15.30	0.22	8.93	7.83	2.19	0.30
5007		49.23	108	1.17	28	7.42	28	18.78	0.29	10.96	7.94	1.28	0.07
5008		52.32		0.69		14.49		9.75	0.17	7.19	10.03	2.16	1.32
5009		45.35		3.04		16.39		15.48	0.20	6.40	8.70	3.63	0.88
5011		52.50		0.94		21.34		10.38	0.06	3.02	0.81	0.97	6.77
5013		50.03		1.07		13.95		11.07	0.22	7.39	10.42	1.01	2.45
5015		48.29		1.40		13.44		13.41	0.18	7.43	10.06	1.43	1.71
5016		51.37		0.62		16.43		9.19	0.18	6.90	9.38	1.53	2.85
5017		46.75		2.43		18.15		13.45	0.17	6.14	8.82	3.38	0.78
5018		45.47		2.49		17.46		14.34	0.18	6.46	8.42	3.43	0.84
5019		46.06		2.69		16.87		14.42	0.18	6.30	8.48	3.31	1.13



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SAMPLE NUMBER	ELEMENT UNITS	P205 PCT	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Ni PPM	Ag PPM	Zr PPM	Sr PPM
3686		0.53	<0.05	100.30	0.064	0.02	51	34	85	0.3	173	406
3695		<0.01	1.16	99.37	0.014	0.01	127	30	90	0.6	63	188
3696		<0.01	2.21	101.17	0.016	0.02	116	34	83	<0.1	54	233
3697		0.01	2.18	100.83	0.012	0.01	128	24	85	<0.1	43	283
3698		0.04	0.44	98.21	0.013	0.01	135	28	84	0.2	56	184
3699		<0.01	1.95	101.52	0.011	0.01	230	24	125	0.4	44	190
5001		<0.01	2.25	100.63	0.009	0.01	292	22	118	<0.1	79	264
5002		<0.01	2.82	101.30	0.017	0.01	3023	28	314	0.6	54	186
5003		<0.01	3.15	100.15	0.008	0.01	11572	97	1386	2.9	53	215
5004		<0.01	2.48	101.32	0.013	0.01	10113	78	1617	2.5	46	187
5005		<0.01	1.65	100.65	0.016	0.02	272	29	142	<0.1	153	191
5006		<0.01	2.95	100.30	0.007	0.03	4323	49	709	2.4	69	107
5007		<0.01	2.97	100.19	0.003	0.06	7384	98	1641	2.1	62	62
5008		<0.01	2.64	100.82	0.020	0.02	228	25	172	0.2	63	286
5009		0.47	<0.05	100.67	0.058	0.02	66	35	113	<0.1	143	513
5011		0.11	3.62	100.70	0.140	0.02	13	15	120	0.2	175	69
5013		0.04	2.76	100.55	0.100	0.02	89	23	101	0.1	49	338
5015		0.05	2.64	100.15	0.036	0.03	170	27	99	0.3	69	292
5016		<0.01	2.53	101.10	0.074	<0.01	113	20	83	0.2	42	394
5017		0.45	<0.05	100.64	0.048	0.01	49	28	67	<0.1	120	555
5018		0.40	0.24	99.86	0.049	0.01	35	28	66	0.4	118	559
5019		0.52	<0.05	100.10	0.056	0.01	41	27	76	0.2	153	521





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STANDARD NAME	ELEMENT UNITS	P205 PCT	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Ni PPM	Ag PPM	Zr PPM	Sr PPM
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	-	287	-
Number of Analyses		-	-	-	-	-	-	-	-	-	1	-
Mean Value		-	-	-	-	-	-	-	-	-	287.0	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	280	-
BCC LOW LOI STD 1986		-	3.00	-	-	-	-	-	-	-	-	-
Number of Analyses		-	1	1	-	-	-	-	-	-	-	-
Mean Value		-	3.000	3.000	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	3.08	-	-	-	-	-	-	-	-	-
GEO TRACE STD1(1989)		-	-	-	-	-	-	-	-	-	103	-
Number of Analyses		-	-	-	-	-	-	-	-	-	1	-
Mean Value		-	-	-	-	-	-	-	-	-	103.0	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	110	-
CANMET CERTIFIED STD		0.45	-	99.38	0.047	<0.01	-	-	-	-	-	278
Number of Analyses		1	-	1	1	1	-	-	-	-	-	1
Mean Value		0.449	-	99.383	0.0470	0.005	-	-	-	-	-	278.4
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		0.43	1.11	-	0.051	-	-	-	-	-	280	275
BCC Rock Std 1989		0.18	-	93.80	0.275	0.02	-	-	-	-	-	218
Number of Analyses		1	-	1	1	1	-	-	-	-	-	1
Mean Value		0.180	-	93.796	0.2747	0.024	-	-	-	-	-	218.0
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		0.19	5.00	-	-	-	-	-	-	-	-	-
GS89-2		-	-	-	-	-	710	31	617	5.0	-	-
Number of Analyses		-	-	-	-	-	1	1	1	1	-	-
Mean Value		-	-	-	-	-	710.2	30.6	616.7	5.00	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	60	-
ANALYTICAL BLANK		-	-	-	-	-	<1	<1	<1	<0.1	-	-
Number of Analyses		-	-	-	-	-	1	1	1	1	-	-
Mean Value		-	-	-	-	-	0.5	0.5	0.5	0.05	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	1	1	1	0.1	-	-

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SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	Au PPB	TiO2 PCT	Pt PPB	Al2O3 PCT	Pd PPB	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT
3686 Duplicate		45.02		3.05		15.46		16.85	0.21	6.16	8.38	3.37	1.15
5002 Duplicate		50.10 50.61	23	0.89 0.87	10	13.69 14.39	9	13.55 13.37	0.20 0.19	7.40 7.24	9.45 9.25	2.18 2.14	0.98 0.80
5004 Prep Duplicate		48.45 49.30	48	0.81 0.76	27	13.66 13.93	23	15.46 15.24	0.19 0.18	6.90 6.51	10.81 10.12	2.02 1.90	0.48 0.55



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SAMPLE NUMBER	ELEMENT UNITS	P205 PCT	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Ni PPM	Ag PPM	Zr PPM	Sr PPM
3686 Duplicate		0.53	<0.05 <0.05	100.30	0.064	0.02	51	34	85	0.3	173	406
5002 Duplicate		<0.01 <0.01	2.82	101.30	0.017 0.017	0.01 0.01	3023 2847	28 28	314 325	0.6 0.9	54	186 183
5004 Prep Duplicate		<0.01 <0.01	2.48 2.38	101.32	0.013 0.012	0.01 0.01	10113 9432	78 81	1617 1638	2.5 2.7	46 50 49	187 177

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Geochemical  
Lab Report

TECK EXPLORATIONS LIMITED  
MR. ALEX CHRISTOPHER  
19 LEGAULT ST., RR#5  
NORTH BAY, ONTARIO  
P1B 8Z4

15800

+ + + + +



REPORT: 092-41613.0 ( COMPLETE )

REFERENCE INFO: JOB #15800

CLIENT: TECK EXPLORATIONS LIMITED  
 PROJECT: NONE

SUBMITTED BY: A. CHRISTOPHER  
 DATE PRINTED: 9-JUL-92

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Ag Silver	42	0.1 PPM	HF-HNO3-HCL04-HCL	ATOMIC ABSORPTION
2	Co Cobalt	42	1 PPM	HF-HNO3-HCL04-HCL	ATOMIC ABSORPTION
3	Cu Copper	42	1 PPM	HF-HNO3-HCL04-HCL	ATOMIC ABSORPTION
4	Ni Nickel	42	1 PPM	HF-HNO3-HCL04-HCL	ATOMIC ABSORPTION
5	BaO Barium Oxide	42	0.001 PCT	BORATE FUSION	INDUC. COUP. PLASMA
6	Cr2O3 Chromium Oxide	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
7	SiO2 Silica Di-oxide	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
8	TiO2 Titanium Di-oxide	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
9	Al2O3 Alumina	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
10	Fe2O3 Total Iron	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
11	MnO Manganese Oxide	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
12	MgO Magnesium Oxide	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
13	CaO Calcium (CaO)	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
14	Na2O Sodium Oxide	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
15	K2O Potassium	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
16	P2O5 Phosphorous (P2O5)	42	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
17	LOI Loss on Ignition	42	0.05 PCT		GRAVIMETRIC
18	Total Whole Rock Total	42	0.01 PCT		
19	Sr Strontium	42	1 PPM	BORATE FUSION	INDUC. COUP. PLASMA
20	Zr Zirconium	42	1 PPM		XRAY FLUORESCENCE

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
ROCK	42	-200	42	CRUSH, PULVERIZE	42

REPORT COPIES TO: MR. KEN THORSEN  
 FAX: (705) 474-4053  
 MR. ALEX CHRISTOPHER

INVOICE TO: MR. KEN THORSEN



REPORT: 092-41613.0 ( COMPLETE )

DATE PRINTED: 9-JUL-92  
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SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Co PPM	Cu PPM	Ni PPM	BaO PCT	Cr2O3 PCT	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT
5022		0.2	29	132	80	0.073	0.01	50.89	0.73	14.23	11.83	0.23
5023		0.1	31	229	44	0.016	<0.01	51.63	1.10	13.85	13.30	0.21
5024		0.1	27	140	86	0.013	0.02	50.01	0.57	14.39	9.87	0.18
5025		0.1	24	70	110	0.004	0.02	49.22	0.52	15.20	9.41	0.15
5026		0.1	22	108	91	0.009	0.02	50.21	0.50	17.02	8.27	0.14
5028		0.1	26	106	67	0.021	0.01	50.56	0.55	16.11	10.25	0.18
5029		0.1	26	180	45	0.008	0.02	47.72	1.65	14.50	14.68	0.25
5038		0.2	34	57	12	0.010	<0.01	50.12	2.32	11.57	17.79	0.22
5039		0.2	32	121	33	0.020	<0.01	50.66	1.59	13.74	16.17	0.22
5040		0.2	28	123	58	0.013	0.01	51.11	0.64	15.34	11.23	0.18
5041		0.1	27	52	23	0.019	<0.01	53.54	1.68	13.10	14.96	0.20
5046		0.2	27	105	39	0.037	<0.01	51.41	1.20	13.91	13.53	0.20
5047		0.1	34	101	33	0.019	<0.01	52.61	1.36	13.19	16.00	0.23
5050		0.3	28	71	50	0.015	<0.01	51.02	0.75	14.75	11.69	0.20
5051		0.1	31	248	40	0.008	<0.01	48.24	1.66	14.13	15.27	0.23
5054		0.1	23	113	38	0.014	<0.01	52.99	1.12	13.90	12.59	0.22
5055		0.2	24	129	57	0.015	<0.01	51.43	0.77	15.51	10.37	0.17
5056		0.1	23	40	72	0.029	0.03	47.21	0.82	14.80	11.70	0.21
5057		0.3	31	171	58	0.006	0.02	47.70	1.62	13.45	14.70	0.23
5059		0.1	27	39	64	0.067	0.02	45.92	3.01	15.89	14.82	0.19
5060		0.2	25	110	29	0.015	0.01	56.24	0.74	12.92	12.43	0.18
5061		0.1	28	120	72	0.014	<0.01	50.85	0.76	14.81	11.50	0.18
5062		0.1	4	57	10	0.018	<0.01	63.63	0.66	16.65	3.70	0.06
5064		0.4	6	28	6	0.073	0.01	71.62	0.41	13.61	3.85	0.06
5065		0.1	29	174	58	0.007	0.02	48.34	1.49	13.86	14.31	0.22
5068		0.1	12	36	8	0.068	0.01	59.43	1.06	14.05	10.98	0.13
5069		0.1	21	60	19	0.030	0.01	53.92	1.50	12.79	14.73	0.20
5073		0.2	25	85	91	0.010	0.03	50.11	0.72	14.54	10.40	0.17
5075		0.1	22	104	105	0.006	0.03	50.68	0.52	15.42	8.96	0.16
5077		0.1	30	109	87	0.011	0.01	50.64	0.85	14.72	12.95	0.20
5078		0.1	13	44	2	0.039	<0.01	59.81	1.51	13.10	12.65	0.18
5079		0.2	39	53	14	0.022	<0.01	49.47	1.68	13.61	18.22	0.24
5080		0.2	26	180	55	0.013	<0.01	50.73	0.62	14.42	12.59	0.20
5081		0.1	28	18	34	0.009	<0.01	49.24	1.85	11.99	19.17	0.25
5084		<0.1	25	93	65	0.022	0.02	50.87	0.78	14.15	12.06	0.21
5085		0.1	15	10	60	0.099	0.03	56.22	0.81	18.08	10.57	0.08
5087		0.3	23	116	106	0.010	0.02	51.95	0.37	15.21	9.16	0.16
5088		0.1	24	27	39	0.018	0.01	49.92	0.95	14.51	14.99	0.20
5089		0.1	26	77	113	0.010	0.03	51.23	0.53	14.55	9.39	0.17
5090		0.3	30	108	61	0.010	0.01	50.55	1.03	15.01	13.42	0.19



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SAMPLE NUMBER	ELEMENT UNITS	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Sr PPM	Zr PPM
5022		7.52	7.25	0.69	2.96	<0.01	2.91	99.34	269	53
5023		5.75	9.65	2.47	0.48	<0.01	1.39	99.86	224	81
5024		8.35	10.94	2.20	0.38	<0.01	2.17	99.11	170	46
5025		7.95	10.81	2.57	0.08	<0.01	2.55	98.51	171	48
5026		7.16	11.43	1.91	0.43	0.02	1.74	98.87	222	38
5028		6.94	9.04	2.33	1.04	<0.01	2.36	99.42	248	51
5029		5.92	10.71	2.19	0.19	0.07	0.95	98.84	157	85
5038		4.68	7.99	2.50	0.25	0.03	1.31	98.81	173	87
5039		4.76	9.06	2.45	0.55	0.01	0.34	99.59	194	84
5040		6.52	10.57	2.24	0.30	0.02	0.43	98.63	197	64
5041		3.79	5.94	3.16	0.67	0.11	2.65	99.84	220	129
5046		5.19	7.86	1.88	1.41	<0.01	2.16	98.82	245	102
5047		4.46	6.51	2.59	1.22	0.04	1.61	99.86	243	106
5050		5.83	9.24	2.90	0.48	0.04	1.92	98.86	336	68
5051		5.25	9.39	2.19	0.55	0.11	1.55	98.60	228	109
5054		4.88	8.29	2.81	0.51	0.05	2.17	99.57	315	110
5055		5.92	10.25	1.66	0.74	<0.01	2.22	99.08	262	63
5056		6.73	5.30	1.16	1.13	<0.01	8.89	99.02	168	70
5057		6.66	10.96	1.98	0.13	0.08	0.68	98.24	143	93
5059		5.93	7.73	3.63	0.96	0.70	<0.05	98.92	524	199
5060		3.99	6.97	2.23	0.41	0.11	2.76	99.01	191	158
5061		6.89	10.05	2.15	0.26	0.02	2.33	99.83	222	61
5062		1.66	2.68	7.72	0.97	0.26	2.49	100.42	69	138
5064		0.79	0.39	3.22	2.59	0.14	1.53	98.31	134	150
5065		6.83	11.30	2.12	0.09	0.07	0.54	99.21	156	85
5068		2.29	4.33	2.03	2.45	0.14	2.03	99.03	317	124
5069		3.83	7.40	0.68	1.26	0.06	2.77	99.21	419	125
5073		8.22	11.27	1.89	0.23	0.02	2.14	99.76	180	157
5075		8.16	12.03	1.89	0.14	0.02	2.26	100.29	181	43
5077		7.42	11.04	1.87	0.37	0.01	1.34	101.45	170	75
5078		1.17	3.43	3.22	1.28	0.36	1.91	98.68	178	133
5079		4.88	8.54	1.83	0.53	0.04	2.08	101.18	257	76
5080		6.54	9.43	2.59	0.17	<0.01	2.01	99.35	275	48
5081		5.08	7.11	4.67	0.06	0.09	1.40	100.90	86	105
5084		6.97	9.71	1.78	0.84	<0.01	2.70	100.13	234	67
5085		2.89	1.59	2.89	3.79	0.22	2.77	100.06	157	135
5087		8.38	11.16	1.83	0.42	<0.01	1.73	100.40	200	49
5088		4.86	8.74	1.79	0.78	<0.01	2.82	99.60	208	71
5089		9.18	11.98	1.81	0.24	<0.01	1.65	100.79	183	80
5090		6.58	9.44	2.45	0.23	0.01	2.80	101.76	189	81



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Geochemical  
Lab Report

REPORT: 092-41613.0 ( COMPLETE )

DATE PRINTED: 9-JUL-92

PROJECT: NONE

PAGE 2A

SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Co PPM	Cu PPM	Ni PPM	BaO PCT	Cr2O3 PCT	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT
5092		<0.1	25	110	93	0.008	0.02	50.96	0.54	16.40	9.83	0.17
5093		<0.1	13	14	53	0.113	0.02	57.31	0.77	18.13	10.43	0.05



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SAMPLE NUMBER	ELEMENT UNITS	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Sr PPM	Zr PPM
5092		8.45	12.58	1.97	0.15	<0.01	0.38	101.48	187	47
5093		2.72	1.18	1.84	4.75	0.24	2.84	100.41	102	140

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STANDARD NAME	ELEMENT UNITS	Ag PPM	Co PPM	Cu PPM	Ni PPM	BaO PCT	Cr2O3 PCT	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	-	-	-
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	-	-	-
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
BCC LOW LOI STD 1986		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
GEO TRACE STD1(1989)		-	-	-	-	-	-	-	-	-	-	-
GEO TRACE STD1(1989)		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
BCC Rock Std 1989		-	-	-	-	0.269	0.02	59.83	0.90	12.29	6.61	0.10
Number of Analyses		-	-	-	-	1	1	1	1	1	1	1
Mean Value		-	-	-	-	0.2690	0.020	59.830	0.901	12.290	6.610	0.096
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	60.40	0.90	12.10	6.90	0.09
ANALYTICAL BLANK		<0.1	<1	<1	<1	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
ANALYTICAL BLANK		0.3	<1	<1	<1	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Number of Analyses		2	2	2	2	2	2	2	2	2	2	2
Mean Value		0.18	0.5	0.5	0.5	0.0005	0.005	0.005	0.005	0.005	0.005	0.005
Standard Deviation		0.177	0.00	0.00	0.00	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Accepted Value		0.1	1	1	1	-	-	-	-	-	-	-





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STANDARD NAME	ELEMENT UNITS	Ag PPM	Co PPM	Cu PPM	Ni PPM	BaO PCT	Cr2O3 PCT	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT
TRACE GEOCHEM STD		0.5	6	295	39	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	-	-	-	-	-	-	-
Mean Value		0.50	6.0	295.0	39.0	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
8CC HI LOI STD 1983		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
GS89-2		6.1	35	756	625	-	-	-	-	-	-	-
Number of Analyses		1	1	1	1	-	-	-	-	-	-	-
Mean Value		6.10	35.0	756.0	625.0	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
CANMET CERTIFIED STD		-	-	-	-	0.046	<0.01	60.67	0.14	12.31	6.36	0.33
Number of Analyses		-	-	-	-	1	1	1	1	1	1	1
Mean Value		-	-	-	-	0.0460	0.005	60.670	0.139	12.310	6.360	0.327
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	0.051	-	60.10	0.14	12.12	6.28	0.32

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STANDARD NAME	ELEMENT UNITS	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Sr PPM	Zr PPM
TRACE GEOCHEM STD		-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-
BCC HI LOI STD 1983		-	-	-	-	-	41.65	-	-	-
Number of Analyses		-	-	-	-	-	1	1	-	-
Mean Value		-	-	-	-	-	41.650	41.650	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	41.40	-	-	-
GS89-2		-	-	-	-	-	-	-	-	68
Number of Analyses		-	-	-	-	-	-	-	-	1
Mean Value		-	-	-	-	-	-	-	-	68.0
Standard Deviation		-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	60
CANMET CERTIFIED STD		2.80	8.06	4.34	4.44	0.44	-	99.95	281	-
Number of Analyses		1	1	1	1	1	-	1	1	-
Mean Value		2.795	8.060	4.336	4.441	0.440	-	99.952	280.9	-
Standard Deviation		-	-	-	-	-	-	-	-	-
Accepted Value		2.70	7.98	4.34	4.48	0.43	1.11	-	275	280

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SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	Co PPM	Cu PPM	Ni PPM	BaO PCT	Cr2O3 PCT	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT
5022 Duplicate		0.2	29	132	80	0.073	0.01	50.89	0.73	14.23	11.83	0.23
5025 Duplicate		0.1 <0.1	24 23	70 70	110 110	0.004 0.004	0.02 0.02	49.22 50.52	0.52 0.55	15.20 15.29	9.41 9.91	0.15 0.15
5040 Duplicate		0.2	28	123	58	0.013	0.01	51.11	0.64	15.34	11.23	0.18
5056 Duplicate		0.1	23	40	72	0.029	0.03	47.21	0.82	14.80	11.70	0.21
5060 Duplicate		0.2 0.2	25 23	110 101	29 27	0.015 0.016	0.01 0.01	56.24 57.22	0.74 0.78	12.92 13.34	12.43 12.87	0.18 0.19
5069 Duplicate		0.1	21	60	19	0.030	0.01	53.92	1.50	12.79	14.73	0.20
5092 Duplicate		<0.1 <0.1	25 26	110 113	93 96	0.008 0.008	0.02 0.02	50.96 50.25	0.54 0.54	16.40 16.14	9.83 9.70	0.17 0.17



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SAMPLE NUMBER	ELEMENT UNITS	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT	Sr PPM	Zr PPM
5022 Duplicate		7.52	7.25	0.69	2.96	<0.01	2.91 3.27	99.34	269	53
5025 Duplicate		7.95 8.29	10.81 11.36	2.57 2.68	0.08 0.06	<0.01 <0.01	2.55	98.51	171 181	48
5040 Duplicate		6.52	10.57	2.24	0.30	0.02	0.43 0.82	98.63	197	64 59
5056 Duplicate		6.73	6.30	1.16	1.13	<0.01	8.89 8.46	99.02	168	70
5060 Duplicate		3.99 4.08	6.97 7.17	2.23 2.32	0.41 0.47	0.11 0.13	2.76	99.01	191 200	158
5069 Duplicate		3.83	7.40	0.68	1.26	0.06	2.77	99.21	419	125 127
5092 Duplicate		8.45 8.31	12.58 12.35	1.97 1.93	0.15 0.16	<0.01 <0.01	0.38	101.48	187 184	47



Bondar-Clegg & Company Ltd  
2400 Campbell Road  
Oshawa, Ontario  
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Geochemical  
Lab Report

TECK EXPLORATIONS LIMITED  
MR. KEN THORSEN  
19 LEGAULT ST., RR # 5  
NORTH BAY, ONTARIO  
P1B 8Z4

15800

+ + + + +

REPORT: 092-41633.0 ( COMPLETE )

REFERENCE INFO:

CLIENT: TECK EXPLORATIONS LIMITED  
 PROJECT: 15800

SUBMITTED BY: A. CHRISTOPHER  
 DATE PRINTED: 16-JUL-92

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	SiO2 Silica Dioxide	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
2	Au Gold	11	5 PPB	FIRE ASSAY	FIRE ASSAY @ 10 G
3	TiO2 Titanium Dioxide	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
4	Al2O3 Alumina	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
5	Fe2O3 Total Iron	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
6	MnO Manganese Oxide	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
7	MgO Magnesium Oxide	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
8	CaO Calcium (CaO)	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
9	Na2O Sodium Oxide	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
10	K2O Potassium	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
11	P2O5 Phosphorous (P2O5)	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
12	LOI Loss on Ignition	47	0.05 PCT		GRAVIMETRIC
13	Total Whole Rock Total	47	0.01 PCT		
14	BaO Barium Oxide	47	0.001 PCT	BORATE FUSION	INDUC. COUP. PLASMA
15	Cr2O3 Chromium Oxide	47	0.01 PCT	BORATE FUSION	INDUC. COUP. PLASMA
16	Cu Copper	16	1 PPM	HCL:HNO3 (3:1)	ATOMIC ABSORPTION
17	Co Cobalt	16	1 PPM	HCL:HNO3 (3:1)	ATOMIC ABSORPTION
18	Sr Strontium	47	1 PPM	BORATE FUSION	INDUC. COUP. PLASMA
19	Ag Silver	16	0.1 PPM	HCL:HNO3 (3:1)	ATOMIC ABSORPTION
20	Zr Zirconium	47	1 PPM		XRAY FLUORESCENCE
21	Ni Nickel	16	2 PPM	HCL:HNO3 (3:1)	ATOMIC ABSORPTION

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
ROCK	49	-200	49	CRUSH, PULVERIZE	49

REPORT COPIES TO: MR. KEN THORSEN  
 FAX: (705) 474-4053

INVOICE TO: MR. KEN THORSEN



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SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	Au PP8	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT
3687		64.69		0.56	15.40	5.72	0.07	2.82	2.32	3.58	2.07	0.13
3688		64.24		0.57	15.32	5.75	0.07	2.86	3.01	3.77	1.78	0.17
3689		62.62		0.60	15.58	6.37	0.08	3.20	2.85	4.06	1.75	0.14
3690		63.00		0.55	14.77	5.43	0.07	2.74	2.59	3.85	2.09	0.18
3691		62.55		0.57	15.11	5.67	0.08	2.67	2.54	3.63	2.25	0.13
3692		64.13		0.61	15.59	5.94	0.08	3.13	2.11	3.54	2.49	0.16
3693		67.94		0.49	14.30	4.48	0.06	1.75	3.86	3.41	1.98	0.13
3694		63.11		0.55	14.82	5.51	0.07	2.80	2.61	3.49	2.20	0.15
3700		50.55		0.88	15.01	14.07	0.18	7.46	3.83	2.67	2.35	0.03
5016		83.53		0.16	7.97	1.64	0.01	0.38	0.37	2.68	1.88	0.08
5012		87.61		0.14	7.03	1.58	<0.01	0.35	0.09	2.53	1.36	0.04
5014		57.08		0.69	16.94	9.07	0.10	6.15	2.99	3.34	2.39	0.15
5020		79.55		0.22	10.25	2.03	0.02	0.44	1.44	4.47	0.36	0.08
5021		86.11	<5	0.16	7.28	1.08	0.01	0.24	0.25	3.11	1.21	0.07
5027		57.72		0.72	17.92	7.92	0.10	4.07	2.76	2.87	3.86	0.20
5030		57.96		0.74	17.94	8.28	0.11	4.15	1.58	3.44	3.67	0.15
5031		77.19		0.35	10.47	2.59	0.04	0.89	1.63	3.58	1.45	0.14
5032		63.63		0.56	15.25	5.80	0.07	2.89	2.92	3.70	2.01	0.18
5033		62.52		0.63	16.30	6.56	0.08	3.28	3.15	3.55	2.27	0.15
5034		62.87		0.64	16.38	6.22	0.08	3.17	3.24	3.63	2.25	0.10
5035		84.16		0.17	7.98	1.15	0.01	0.30	0.19	3.34	1.27	0.06
5036		63.87		0.58	15.53	5.66	0.08	3.44	0.88	6.49	<0.01	0.06
5037		54.62		0.58	15.25	5.66	0.07	2.75	3.45	3.64	1.79	0.14
5042		61.20		0.65	16.12	7.00	0.09	3.84	2.14	4.29	1.93	0.16
5043		73.41		0.32	12.60	2.82	0.04	1.21	2.26	4.32	0.45	0.13
5044		56.14		0.68	17.96	8.65	0.10	3.63	1.38	3.41	3.46	0.23
5045		65.50		0.55	15.36	6.35	0.07	2.77	1.34	3.80	2.26	0.18
5048			<5									
5049		72.44	<5	0.35	12.54	3.53	0.05	1.24	2.36	4.48	0.43	0.14
5052		60.64	<5	0.64	16.53	6.77	0.08	3.45	3.45	3.32	2.24	0.16
5053		56.03	6	0.75	17.30	8.43	0.10	4.49	2.70	3.45	2.18	0.19
5058		60.45		0.21	9.04	2.21	0.03	0.75	0.49	2.83	1.51	0.06
5063		84.96		0.15	7.17	2.48	0.02	0.69	0.24	2.31	0.65	0.06
5066		63.63		0.17	7.78	2.59	0.02	0.50	0.19	3.02	1.12	0.08
5067		84.68		0.14	7.26	1.86	0.01	0.39	0.11	2.19	1.03	0.07
5070		85.32	<5	0.21	7.86	1.05	0.02	0.52	0.51	1.64	1.63	0.06
5071		88.54	7	0.13	5.43	1.05	0.01	0.23	0.13	1.33	0.86	0.10
5072		77.58	<5	0.34	10.85	2.78	0.03	1.36	0.58	1.59	2.41	0.11
5074			6									
5076		66.51		0.49	13.99	4.93	0.07	2.56	2.92	3.26	1.82	0.14



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SAMPLE NUMBER	ELEMENT UNITS	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Sr PPM	Ag PPM	Zr PPM	Ni PPM
3687		2.79	100.25	0.049	0.02	37	11	300	0.5	178	51
3688		3.07	100.71	0.048	0.02	32	12	337	0.3	165	47
3689		3.54	100.91	0.064	0.02	28	14	297	0.2	164	49
3690		3.63	98.96	0.048	0.02	39	12	332	0.6	165	48
3691		4.82	100.12	0.048	0.02	42	11	287	0.3	166	51
3692		2.82	100.72	0.056	0.04	40	8	255	0.2	170	38
3693		1.88	100.39	0.048	0.03	27	8	388	0.6	187	25
3694		4.08	99.49	0.052	0.02	43	11	305	0.2	160	45
3700		2.98	100.07	0.025	0.02	46	35	132	0.3	71	96
5010		0.77	99.56	0.046	0.03	8	3	79	0.3	157	14
5012		0.54	101.36	0.031	0.05	8	5	38	<0.1	128	9
5014		1.14	100.19	0.058	0.04	23	21	348	0.5	115	136
5020		0.54	99.43	0.008	0.02	6	2	144	0.3	141	12
5021		0.84	100.48	0.088	0.03	6	5	65	0.4	156	8
5027		2.58	100.84	0.087	0.02	46	21	310	0.2	141	69
5030		2.83	101.08	0.106	0.03			321		124	
5031		0.94	99.44	0.086	0.04			288		203	
5032		2.16	99.29	0.051	0.03			344		152	
5033		2.46	101.08	0.055	0.03			371		153	
5034		2.34	101.04	0.059	0.03			384		162	
5035		0.92	99.62	0.028	0.03			44		143	
5036		1.90	98.54	0.003	0.04			106		176	
5037		1.84	99.91	0.050	0.03			376		152	
5042		1.68	99.20	0.045	0.03			339		154	
5043		1.17	98.81	0.017	0.01			354		143	
5044		2.94	98.71	0.091	0.02			197		125	
5045		2.06	100.36	0.072	0.02			247		138	
5048						6	2		0.5		<2
5049		1.09	98.72	0.019	0.02			338		147	
5052		1.97	99.38	0.061	0.03			368		134	
5053		2.75	98.50	0.060	0.02			312		133	
5058		1.30	98.96	0.045	0.02			56		145	
5063		0.73	99.50	0.021	0.02			50		109	
5066		0.35	99.49	0.023	0.03			37		145	
5067		0.63	98.47	0.038	0.05			67		150	
5070		1.14	100.06	0.064	0.03			89		110	
5071		0.74	98.63	0.043	0.03			63		113	
5072		2.48	100.25	0.075	0.03			109		67	
5074											
5076		2.05	98.84	0.049	0.02			327		159	



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SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	Al2O3 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT
5082		75.02		0.30	11.94	2.42	0.03	1.39	0.51	4.45	1.80	0.08
5083		83.57		0.25	6.65	2.19	0.03	0.87	0.38	1.25	2.46	0.10
5086		67.79		0.29	14.43	5.19	0.04	1.89	0.69	4.71	1.46	0.08
5091		68.27		0.51	14.16	4.83	0.06	2.12	3.15	3.28	2.05	0.11
5114		69.11		0.35	13.74	4.18	0.06	1.56	4.71	3.12	0.38	0.11
5115		79.46		0.23	9.59	2.58	0.04	0.76	1.89	3.49	0.33	0.09
5116		84.88		0.19	8.41	1.46	0.01	0.49	0.22	3.70	0.33	0.09
5117		69.39		0.44	14.01	4.60	0.07	2.34	2.36	4.25	0.70	0.12
5118		58.23		0.69	17.17	7.47	0.10	4.18	2.17	3.81	2.08	0.18

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SAMPLE NUMBER	ELEMENT UNITS	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Sr PPM	Ag PPM	Zr PPM	Ni PPM
5082		1.00	99.03	0.036	0.03			204		151	
5083		0.98	98.86	0.097	0.03			94		155	
5086		2.43	99.05	0.028	0.02			196		117	
5091		1.59	100.23	0.056	0.02			340		185	
5114		1.67	99.08	0.016	0.04			381		100	
5115		0.89	99.43	0.017	0.04			265		105	
5116		0.69	100.56	0.022	0.04			99		163	
5117		1.49	99.86	0.025	0.02			360		139	
5118		2.70	98.89	0.062	0.02			313		140	



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STANDARD NAME	ELEMENT UNITS	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Sr PPM	Ag PPM	Zr PPM	Ni PPM
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	297	-
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	284	-
BCC HIGH XRF STD		-	-	-	-	-	-	-	-	287	-
Number of Analyses		-	-	-	-	-	-	-	-	3	-
Mean Value		-	-	-	-	-	-	-	-	289.3	-
Standard Deviation		-	-	-	-	-	-	-	-	6.81	-
Accepted Value		-	-	-	-	-	-	-	-	280	-
BCC LOW LOI STD 1986		2.90	-	-	-	-	-	-	-	-	-
BCC LOW LOI STD 1986		2.95	-	-	-	-	-	-	-	-	-
Number of Analyses		2	2	-	-	-	-	-	-	-	-
Mean Value		2.925	2.925	-	-	-	-	-	-	-	-
Standard Deviation		0.0354	0.0354	-	-	-	-	-	-	-	-
Accepted Value		3.08	-	-	-	-	-	-	-	-	-
GEO TRACE STD1(1985)		-	-	-	-	-	-	-	-	109	-
Number of Analyses		-	-	-	-	-	-	-	-	1	-
Mean Value		-	-	-	-	-	-	-	-	109.0	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	190	7	-	36.0	110	15
BCC Rock Std 1989		4.85	93.93	0.269	0.02	-	-	216	-	-	-
Number of Analyses		1	2	1	1	-	-	1	-	-	-
Mean Value		4.850	49.391	0.2693	0.020	-	-	216.3	-	-	-
Standard Deviation		-	62.9908	-	-	-	-	-	-	-	-
Accepted Value		5.00	-	-	-	-	-	-	-	-	-
ANALYTICAL BLANK		-	-	<0.001	<0.01	<1	<1	<1	<0.1	-	<2
ANALYTICAL BLANK		-	-	<0.001	<0.01	-	-	<1	-	-	-
Number of Analyses		-	-	2	2	1	1	2	1	-	1
Mean Value		-	-	0.0005	0.005	0.5	0.5	0.5	0.05	-	1.0
Standard Deviation		-	-	0.00000	0.0000	-	-	0.00	-	-	-
Accepted Value		-	-	-	-	1	1	-	0.1	-	1





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STANDARD NAME	ELEMENT UNITS	SI02 PCT	AU PPB	TIO2 PCT	AL2O3 PCT	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT
1990 AU STD-2		-	274	-	-	-	-	-	-	-	-	-
Number of Analyses		-	1	-	-	-	-	-	-	-	-	-
Mean Value		-	273.7	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	260	-	-	-	-	-	-	-	-	-
BCC HI LOI STD 1983		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
GS89-2		-	-	-	-	-	-	-	-	-	-	-
GS89-2		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
TRACE GEOCHEM STD		-	-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-	-
CANMET CERTIFIED STD		59.85	-	0.13	11.97	6.24	0.31	2.76	7.79	4.25	4.54	0.43
Number of Analyses		1	-	1	1	1	1	1	1	1	1	1
Mean Value		59.850	-	0.132	11.970	6.240	0.310	2.760	7.790	4.250	4.540	0.433
Standard Deviation		-	-	-	-	-	-	-	-	-	-	-
Accepted Value		60.10	-	0.14	12.12	6.28	0.32	2.70	7.98	4.34	4.48	0.43



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STANDARD NAME	ELEMENT UNITS	LOI PCT	Total PCT	CaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Sr PPM	Ag PPM	Zr PPM	Ni PPM
1990 AU STD-2		-	-	-	-	-	-	-	-	-	-
Number of Analyses		-	-	-	-	-	-	-	-	-	-
Mean Value		-	-	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	-	-	-	-	-	-
800 HI LOI STD 1983		41.05	-	-	-	-	-	-	-	-	-
Number of Analyses		1	1	-	-	-	-	-	-	-	-
Mean Value		41.050	41.050	-	-	-	-	-	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-
Accepted Value		41.40	-	-	-	-	-	-	-	-	-
GS89-2		-	-	-	-	-	-	-	-	60	-
GS89-2		-	-	-	-	-	-	-	-	68	-
Number of Analyses		-	-	-	-	-	-	-	-	2	-
Mean Value		-	-	-	-	-	-	-	-	64.0	-
Standard Deviation		-	-	-	-	-	-	-	-	5.66	-
Accepted Value		-	-	-	-	820	40	-	5.0	60	600
TRACE GEOCHEM STD		-	-	-	-	272	7	-	0.8	-	41
Number of Analyses		-	-	-	-	1	1	-	1	-	1
Mean Value		-	-	-	-	272.0	7.0	-	0.80	-	41.0
Standard Deviation		-	-	-	-	-	-	-	-	-	-
Accepted Value		-	-	-	-	290	9	-	0.5	-	42
CANMET CERTIFIED STD		-	98.35	0.046	<0.01	-	-	265	-	-	-
Number of Analyses		-	1	1	1	-	-	1	-	-	-
Mean Value		-	98.348	0.0460	0.005	-	-	265.3	-	-	-
Standard Deviation		-	-	-	-	-	-	-	-	-	-
Accepted Value		1.11	-	0.051	-	-	-	275	-	280	-

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DATE PRINTED: 16-JUL-92  
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PAGE 5A

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	Au PPB	TiO2 PCT	Al2O3 PCT	Fe2O3 PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT
3687 Duplicate		64.69		0.56	15.40	5.72	0.07	2.82	2.32	3.58	2.07	0.13
3690 Duplicate		63.00 64.17		0.55 0.56	14.77 15.19	5.43 5.48	0.07 0.07	2.74 2.78	2.59 2.63	3.85 3.77	2.09 1.86	0.18 0.14
3694 Prep Duplicate		63.11 62.19		0.55 0.54	14.82 14.94	5.51 5.53	0.07 0.07	2.80 2.84	2.61 2.86	3.49 3.58	2.20 1.90	0.15 0.17
5010 Duplicate		83.53		0.16	7.97	1.64	0.01	0.38	0.37	2.68	1.88	0.08
5032 Duplicate		63.63		0.56	15.25	5.80	0.07	2.89	2.92	3.70	2.01	0.18
5035 Duplicate		84.16 83.86		0.17 0.16	7.98 7.65	1.15 1.08	0.01 0.01	0.30 0.29	0.19 0.20	3.34 3.22	1.27 1.12	0.06 0.06
5045 Duplicate		65.50		0.55	15.36	6.35	0.07	2.77	1.34	3.80	2.26	0.18
5052 Duplicate		60.64	<5 <5	0.64	16.53	6.77	0.08	3.45	3.45	3.32	2.24	0.16
5070 Duplicate		85.32	<5	0.21	7.86	1.05	0.02	0.52	0.51	1.64	1.63	0.06
5082 Prep Duplicate		75.02 74.41	<5 9	0.30 0.31	11.94 11.91	2.42 2.32	0.03 0.03	1.39 1.24	0.51 0.57	4.45 4.46	1.80 1.80	0.08 0.12
5083 Duplicate		83.57 83.14		0.25 0.26	6.65 6.85	2.19 2.18	0.03 0.03	0.87 0.89	0.38 0.39	1.25 1.28	2.46 2.55	0.10 0.11
5114 Duplicate		69.11		0.35	13.74	4.18	0.06	1.56	4.71	3.12	0.38	0.11

REPORT: 092-41633.0 ( COMPLETE )

DATE PRINTED: 16-JUL-92  
 PROJECT: 15800

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SAMPLE NUMBER	ELEMENT UNITS	LOI PCT	Total PCT	BaO PCT	Cr2O3 PCT	Cu PPM	Co PPM	Sr PPM	Ag PPM	Zr PPM	Ni PPM
3687 Duplicate		2.79 2.71	100.25	0.049	0.02	37	11	300	0.5	178	51
3690 Duplicate		3.60	98.96	0.048 0.050	0.02 0.02	39 42	12 14	332 340	0.6 0.5	165	48 48
3694 Prep Duplicate		4.08 4.15	99.49	0.052 0.052	0.02 0.02	43 43	11 12	305 322	0.2 0.3	160 157	45 43
5010 Duplicate		0.77 0.49	99.56	0.046	0.03	8	3	79	0.3	157 150	14
5032 Duplicate		2.16 2.20	99.29	0.051	0.03			344		152	
5035 Duplicate		0.92	99.62	0.028 0.027	0.03 0.03			44 42		143	
5045 Duplicate		2.06	100.36	0.072	0.02			247		138 134	
5052 Duplicate		1.97	99.38	0.061	0.03			368		134	
5070 Duplicate		1.14 1.47	100.06	0.064	0.03			89		110	
5082 Prep Duplicate		1.00 0.72	99.03	0.036 0.039	0.03 0.03			204 218		151 163	
5083 Duplicate		0.98	98.86	0.097 0.100	0.03 0.03			94 97		155	
5114 Duplicate		1.67 1.52	99.08	0.016	0.04			381		100 109	

SWASTIKA LABORATORIES

1000 W. 10th St.  
 Vancouver, B.C.

I.C.A.P. WHOLE ROCK ANALYSIS

100% carbonate free

Client: TECK EXPLORATIONS LIMITED

Sample: 15800  
 Date: 10/18/70  
 Analyst: J. Bilski

ICAP Reference: 10/18/70

Sample	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	FeO	MgO	MnO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	SO <sub>3</sub>	CO <sub>2</sub>	Loss	Total
15800	62.15	13.20	11.50	7.88	0.71	1.44	0.85	0.18	0.04	1.04	100.79	
15801	61.80	13.10	11.40	7.88	0.71	1.44	0.85	0.18	0.04	1.04	100.79	
15802	61.70	13.00	11.30	7.80	0.70	1.40	0.80	0.18	0.04	1.00	100.62	
15803	61.60	12.90	11.20	7.70	0.70	1.30	0.80	0.18	0.04	1.00	100.52	
15804	61.50	12.80	11.10	7.60	0.70	1.30	0.80	0.18	0.04	1.00	100.42	

15800

ANALYST: Daniel J. Bilski

# SWASTIKA LABORATORIES

1000 West 12th Street  
 Vancouver, B.C. V6Z 1Y1

## I.C.A.P. WHOLE ROCK (INTERNATIONAL COMPARISON PROGRAM)

Sample No. \_\_\_\_\_

ANALYSIS REPORT NO. \_\_\_\_\_  
 ANALYSIS DATE \_\_\_\_\_  
 ANALYST \_\_\_\_\_

ICAP No. \_\_\_\_\_

ICAP No. \_\_\_\_\_

ALL RESULTS ARE

Element	ICAP	ICAP	ICAP	ICAP	ICAP
Al	100	100	100	100	100
Ca	100	100	100	100	100
Fe	100	100	100	100	100
Mg	100	100	100	100	100
Mn	100	100	100	100	100
Ni	100	100	100	100	100
Pb	100	100	100	100	100
Pt	100	100	100	100	100
Si	100	100	100	100	100
Ti	100	100	100	100	100
Zn	100	100	100	100	100

DATE \_\_\_\_\_

TIME \_\_\_\_\_

*David J. Bileski*

# SWASTIKA LABORATORIES

ANALYTICAL CHEMISTRY DIVISION

TELEPHONE: (705) - 842 - 3244

FAX: (705) - 842 - 3300

15850

## I.C.A.P. PLASMA SCAN

Acqua-Regia Digestion

SWASTIKA LABS

TECK EXPLORATIONS LTD

T.B.L. REPORT No. : S - 849a - 1

T.B.L. File No. : N021MA

T.B.L. Invoice No. :

YOUR REFERENCE - 04-1688-861

ALL RESULTS PPM

ELEMENT	7621	7622	7624	7625	7626
Aluminum (Al)	2000	5700	18000	18000	18000
Iron (Fe)	16000	14000	34000	56000	26000
Calcium (Ca)	8700	5300	5200	9200	3900
Magnesium (Mg)	5400	2300	6300	9100	7400
Sodium (Na)	2000	780	560	2000	550
Potassium (K)	270	900	3500	1900	2100
Titanium (Ti)	700	1300	1600	1900	1600
Manganese (Mn)	220	350	450	750	490
Phosphorus (P)	120	510	340	1300	370
Barium (Ba)	25	26	84	40	68
Chromium (Cr)	100	17	18	110	140
Zirconium (Zr)	7	8	9	11	8
Copper (Cu)	60	160	53	40	61
Nickel (Ni)	40	16	22	65	77
Lead (Pb)	28	10	4	1	6
Zinc (Zn)	37	26	37	61	42
Vanadium (V)	30	51	110	120	78
Strontium (Sr)	22	26	23	61	17
Cobalt (Co)	10	8	17	36	19
Molybdenum (Mo)	1	< 1	< 1	< 1	< 1
Silver (Ag)	1	< 1	< 1	< 1	< 1
Caesium (Cs)	1	< 1	< 1	< 1	< 1
Beryllium (Be)	1	< 1	< 1	< 1	< 1
Boron (B)	< 10	< 10	< 10	< 10	< 10
Antimony (Sb)	10	< 5	5	10	< 5
Yttrium (Y)	1	< 5	5	14	5
Scandium (Sc)	1	< 5	4	2	4
Tungsten (W)	< 10	< 10	< 10	< 10	< 10
Niobium (Nb)	< 10	< 10	< 10	< 10	< 10
Thorium (Th)	< 10	< 10	40	30	10
Arsenic (As)	10	< 5	< 5	< 5	20
Bismuth (Bi)	5	< 10	5	20	10
Tin (Sn)	< 10	< 10	< 10	< 10	< 10
Lithium (Li)	< 5	< 5	< 5	< 5	< 5
Helium (He)	10	< 10	< 10	< 10	< 10

DATE : NOV-21-1990

SIGNED :

*[Signature]*



900

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Branch Geoscience Approvals Section 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

Telephone: (705) 670-5853 Fax: (705) 670-5863

November 25, 1992

Our File: 2.14714 Transaction #W9270.037

Mining Recorder Ministry of Northern Development and Mines 159 Cedar Street, 2nd Floor Sudbury, Ontario P3E 6A5

Dear Sir/Madam:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS S1094987 ET AL. IN SHEPPARD & MCCARTHY TOWNSHIPS

The deficiencies in the original submission have been rectified. The assessment work credits for the Assays filed under Section 17 of the Mining Act Regulations have been approved as of November 24, 1992.

The client, Teck Corporation, has amended the Report of Work form and has spread the credits differently under the "Value Applied to this Claim" column. A copy of the changes is attached to the original Report of Work.

Please indicate these changes on your records.

If you have any questions, please contact Lucille Jerome at (705) 670-5855.

Yours sincerely,

[Handwritten signature of Ron C. Gashinski]

Ron C. Gashinski Senior Manager, Mining Lands Branch Mines and Minerals Division

D ALJ/jl Enclosures:

cc: Resident Geologist Sudbury, Ontario

Assessment Files Library Toronto, Ontario





Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Mining Lands Branch  
Geoscience Approvals Section  
933 Ramsey Lake Road  
6th Floor  
Sudbury, Ontario  
P3E 6B5

Telephone: (705) 670-5853  
Fax: (705) 670-5863

November 25, 1992

Our File: 2.14714  
Transaction #W9270.037

Teck Corporation  
Suite 7000  
1 First Canadian Place  
Toronto, Ontario  
M5X 1G9

Dear Sir/Madam:

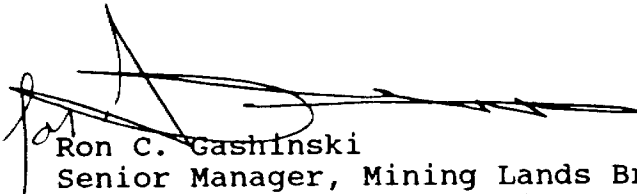
**Subject:** APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS  
S1094987 ET AL. IN SHEPPARD & MCCARTHY TOWNSHIPS

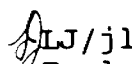
The deficiencies in your original submission have been rectified. The assessment work credits for the Assays filed under Section 17 of the Mining Act Regulations have been approved as of November 24, 1992.

The Mining Recorder has been instructed to amend his records to reflect the changes in the "Value Applied" column you requested in your correspondence.

If you have any questions, please contact Lucille Jerome at  
(705) 670-5855.

Yours sincerely,

  
Ron C. Gashinski  
Senior Manager, Mining Lands Branch  
Mines and Minerals Division

  
Enclosures:

cc: A. Christopher  
North Bay, Ontario



Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Mining Lands Branch  
Geoscience Approvals Section  
933 Ramsey Lake Road  
6th Floor  
Sudbury, Ontario  
P3E 6B5

Telephone: (705) 670-5853  
Fax: (795) 670-5863

November 9, 1992

Our File: 2.14714  
Transaction #W9270.038

Mining Recorder  
Ministry of Northern Development  
and Mines  
159 Cedar Street,  
2nd Floor  
Sudbury, Ontario  
P3E 6A5

Dear Sir/Madam:

**Subject:** APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS  
S1094987 ET AL. IN SHEPPARD & MCCARTHY TOWNSHIPS

---

The assessment work credits for the Geological survey filed under  
Section 12 of the Mining Act Regulations have been approved as  
originally filed.

The approval date is November 5, 1992.

Please indicate this approval on your claim record sheets.

Yours sincerely,

Ron C. Gashinski  
Senior Manager, Mining Lands Branch  
Mines and Minerals Division

*CD*  
LJ/jl

Enclosures:

cc: Resident Geologist  
Sudbury, Ontario

Assessment Files Office  
Toronto, Ontario

**Report of Work Conducted After Recording Claim**  
Mining Act

Transaction Number  
W9270.00037

Mining (Land)

2.14714

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

- Instructions:**
- Please type or print and submit in duplicate.
  - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
  - A separate copy of this form must be completed for each Work Group.
  - Technical reports and maps must accompany this form in duplicate.
  - A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s) <b>Teck Corporation</b>		Client No. 200408
Address Suite 7000, 1 First Canadian Place, Toronto, Ontario M5X 1G9		Telephone No. 416-862-7102
Mining Division Sudbury	Township/Area Sheppard & McCarthy Townships	M or G Plan No. G4104 & G4082
Dates Work Performed From: October 24, 1990		To: July 16, 1992

**Work Performed (Check One Work Group Only)**

Work Group	Type
Geotechnical Survey	
Physical Work, Including Drilling	
Rehabilitation	
Other Authorized Work	
Assays	Rock Assays
Assignment from Reserve	

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SEP 14 1992  
MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs \$ 10,572.85

**Note:** The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

**Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)**

Name	Address
Bondar-Clegg & Company Ltd.	5420 Canotek Road, Ottawa, Ontario
Swastika Laboratories	P.O. Box 10, Swastika, Ontario
Teck Exploration	19 Legault Street, North Bay, Ontario

(attach a schedule if necessary)

**Certification of Beneficial Interest** \* See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date Aug 24, 92	Recorded Holder or Agent (Signature) <i>Alex Clarke</i>
--	--------------------	--

**Certification of Work Report**

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.		
Name and Address of Person Certifying A. Christopher, 19 Legault Street, North Bay, Ontario P1B 8Z4		
Telephone No. 705-474-5500	Date Aug 24, 92	Certified By (Signature) <i>Alex Clarke</i>

**For Office Use Only**

Total Value Cr. Recorded \$10,573	Date Recorded August 28/92	Mining Recorder <i>[Signature]</i>	Received Stamp SUDBURY RECEIVED AUG 28 1992 A.M. 7:01 P.M. 12:31
	Deemed Approval Date Nov. 26/92	Date Approved <i>[Signature]</i>	
	Date Notice for Amendments Sent		



Ministry of  
Northern Development  
Mines

Ministère du  
Développement du Nord  
et des mines

Statement of Costs  
for Assessment Credit

État des coûts aux fins  
du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction

W9270.00037

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4<sup>e</sup> étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	4730.63	
	Field Supervision Supervision sur le terrain	945.47	5676.10
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type Assaying	3280.53	
			3280.53
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
Total Direct Costs Total des coûts directs			8956.23

2. Indirect Costs/Coûts indirects

\*\* Note: When claiming Rehabilitation work Indirect costs are not allowable as assessment work.  
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Truck	643.46	
	Float Plane	739.20	
	Shipping	233.56	
			1616.22
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			1616.22
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			1616.22
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs)			10572.85

RECEIVED

SEP 14 1992

MINING LANDS BRANCH

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note: Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

- Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
- Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	× 0.50 =

Remises pour dépôt

- Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
- Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
	× 0,50 =

Certification Verifying Statement of Costs

I hereby certify:  
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Senior Project Geologist I am authorized  
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :  
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de \_\_\_\_\_ je suis autorisé  
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature Alex Clendinning Date Aug 24, 92

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
	S 1094987	1
	S 1094991	1
	S 1094992	1
	S 1094993	1
	S 1094994	1
	S 1094995	1
	S 1094996	1
	S 1094997	1
	S 1094998	1
	S 1095003	1
	S 1095005	1
	S 1095006	1
	S 1095009	1
	S 1095010	1
	S 1095011	1
	S 1095013	1
	S 1095014	1
17		

Total Number of Claims (17)

"AMENDED"

Value of Assessment Work Done on this Claim	Value Applied to this Claim
138.00	0.00
171.50	0.00
138.00	0.00
138.00	0.00
141.00	0.00
141.00	0.00
138.00	0.00
138.00	0.00
138.00	0.00
193.00	0.00
165.50	0.00
193.00	0.00
138.00	0.00
165.50	0.00
139.85	0.00
138.00	0.00
138.00	0.00
2,552.35	0.00

Total Value Work Done (2,552.35)

Total Value Work Applied (0.00)

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
138.00	
171.50	
138.00	
138.00	
141.00	
141.00	
138.00	
138.00	
138.00	
193.00	
165.50	
193.00	
138.00	
165.50	
139.85	
138.00	
138.00	
2,552.35	

Total Assigned From (2,552.35)

Total Reserve

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

- 1.  Credits are to be cut back starting with the claim listed last, working backwards.
- 2.  Credits are to be cut back equally over all claims contained in this report of work.
- 3.  Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature \_\_\_\_\_ Date \_\_\_\_\_









Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
	S 1146827	1
	S 1146828	1
	S 1146829	1
	S 1146836	1
	S 1146838	1
	S 1146840	1
	S 1146842	1
	S 1146843	1
	S 1146844	1
	S 1146845	1
	S 1146846	1
	S 1146848	1
	S 1146849	1
	S 1146850	1
	S 1146851	1
	S 1146854	1
	S 1146855	1
	17	

Total Number of Claims

(85)

Value of Assessment Work Done on this Claim	Value Applied to this Claim
165.50	0.00
138.00	0.00
303.00	0.00
138.00	0.00
138.00	0.00
138.00	0.00
220.50	0.00
248.00	0.00
0.00	170.00
0.00	170.00
138.00	171.00
0.00	170.00
0.00	170.00
138.00	171.00
138.00	171.00
0.00	171.00
0.00	171.00
1,903.00	1,535.00

Total Value Work Done

(7,655.35)

Total Value Work Applied

(7,668.85)

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
165.50	
138.00	
303.00	
138.00	
138.00	
138.00	
220.50	
248.00	
1,489.00	

Total Assigned From

(6,522.85)

Total Reserve

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NOV 9 2 1992

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

1.  Credits are to be cut back starting with the claim listed last, working backwards.
2.  Credits are to be cut back equally over all claims contained in this report of work.
3.  Credits are to be cut back as prioritized on the attached appendix.

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Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature

Date







**Report of Work Conducted After Recording Claim**  
**Mining Act**

Mining Lands  
 Transaction Number  
 W9270.00038

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

**2.14714**

- Instructions:**
- Please type or print and submit in duplicate.
  - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
  - A separate copy of this form must be completed for each Work Group.
  - Technical reports and maps must accompany this form in duplicate.
  - A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s) <b>Teck Corporation</b>		Client No. <b>200408</b>
Address <b>Suite 7000, 1 First Canadian Place, Toronto, Ontario M5X 1G9</b>		Telephone No. <b>416-862-7102</b>
Mining Division <b>Sudbury</b>	Township/Area <b>Sheppard &amp; McCarthy Townships</b>	M or G Plan No. <b>G4104 &amp; G4082</b>
Dates Work Performed From: <b>May 27, 1992</b>		To: <b>June 30, 1992</b>

**Work Performed (Check One Work Group Only)**

Work Group	Type
<input checked="" type="checkbox"/> Geotechnical Survey	Geological Survey
<input type="checkbox"/> Physical Work, Including Drilling	
<input type="checkbox"/> Rehabilitation	
<input type="checkbox"/> Other Authorized Work	
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	

Total Assessment Work Claimed on the Attached Statement of Costs \$ 26,866.54

**Note:** The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

**Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)**

Name	Address
<b>A. Christopher, Teck Exploration</b>	<b>19 Legault Street, North Bay, Ontario</b>

RECEIVED

SEP 14 1992

MINING LANDS BRANCH

(attach a schedule if necessary)

**Certification of Beneficial Interest \* See Note No. 1 on reverse side**

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date	Recorded Holder or Agent (Signature)
	Aug 24, 92	<i>A. Christopher</i>

**Certification of Work Report**

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying  
**A. Christopher, 19 Legault Street, North Bay, Ontario P1B 8Z4**

Telephone No. <b>705-474-5500</b>	Date <b>Aug 24, 92</b>	Certified By (Signature) <i>A. Christopher</i>
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**For Office Use Only**

Total Value Cr. Recorded <b>\$26,866.54</b>	Date Recorded <b>August 28/92</b>	Mining Recorder <i>[Signature]</i>	RECEIVED SEP 27 1992 P.M. 9 49 AM
	Deemed Approval Date <b>Nov. 26 1992</b>	Date Approved <i>[Signature]</i>	
	Date Notice for Amendments Sent		



Statement of Costs  
for Assessment Credit

État des coûts aux fins  
du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction  
W9270.00038

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4<sup>e</sup> étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour (Geol. + Draft Main-d'œuvre	18760.90	
	Field Supervision Supervision sur le terrain	2370.89	21131.79
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type		
Supplies Used Fournitures utilisées	Type		
	Maps, Air Photos	849.90	
	Field Supplies	331.52	
			1181.42
Equipment Rental Location de matériel	Type		
	Honda 4x4 Bike	800.88	
			800.88
Total Direct Costs Total des coûts directs			23114.09

2. Indirect Costs/Coûts indirects

\*\* Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work.  
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
	Truck Rental	700.53	
	Float Plane	1538.88	
	Gasoline	307.95	
			2547.36
Food and Lodging Nourriture et hébergement	Groceries, Etc. RECEIVED	1205.09	1205.09
Mobilization and Demobilization Mobilisation et démobilisation	SEP 14 1992		
Sub Total of Indirect Costs Total partiel des coûts indirects			3752.45
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			3752.45
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs)		Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)	26866.54

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

- Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
- Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	$\times 0.50 =$

Remises pour dépôt

- Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
- Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
	$\times 0,50 =$

Certification Verifying Statement of Costs

I hereby certify:  
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Senior Project Geologist I am authorized  
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :  
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de \_\_\_\_\_ je suis autorisé  
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature Aly Chuh Date Aug 24, 92



























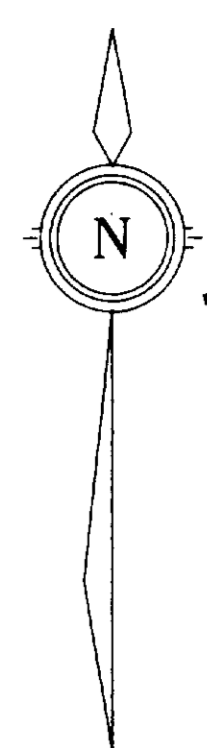
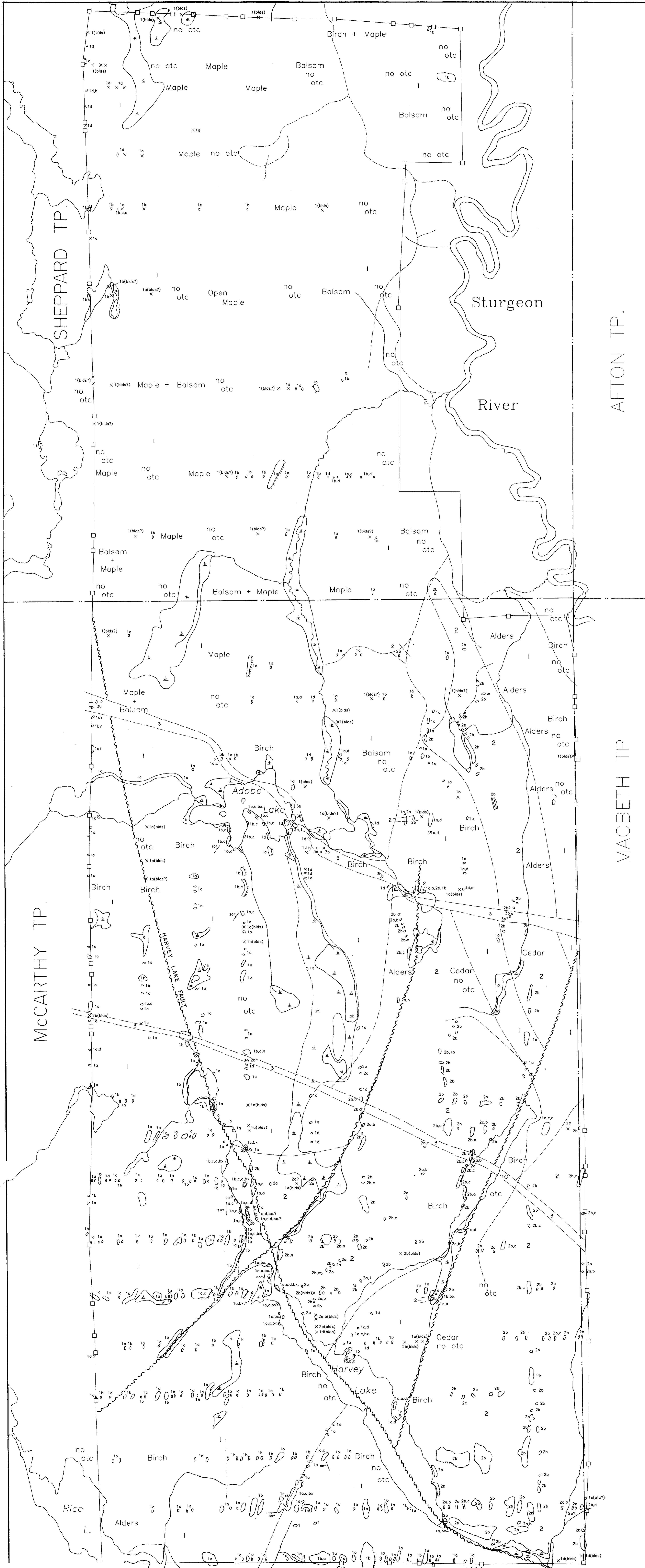




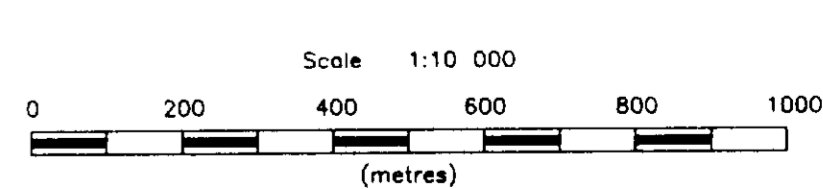








- 3 OLIVINE DIABASE**
    - (a) fine grained
    - (b) medium grained
    - (c) coarse grained
  - 2 NIPISSING INTRUSIVES**
    - (a) fine grained
    - (b) medium grained
    - (c) coarse grained
  - 1 GOWANDA FORMATION**
    - (a) greywacke/siltstone/mudstone(wacke)
    - (b) wacke with cleasts
    - (c) laminated wacke
    - (d) sandstone/arkose
- blds - boulders  
 bx - breccia  
 x - small outcrop  
 - large outcrop  
 - swamp  
 --- - road  
 - - - - - contacts  
 ~~~~~ faults



**2.14714**

TECK EXPLORATION LTD

**GEOLOGY**

EMERALD LAKE PROPERTY

SHEPPARD - MCCARTHY TOWNSHIP

PROVINCE OF ONTARIO

|        |               |               |           |
|--------|---------------|---------------|-----------|
| N.T.S. | JOB NO. 15800 | DATE: JUL. 92 | DWG. 6814 |
|--------|---------------|---------------|-----------|

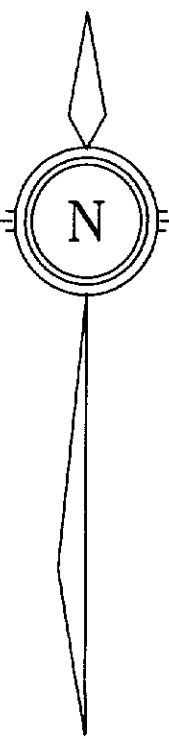
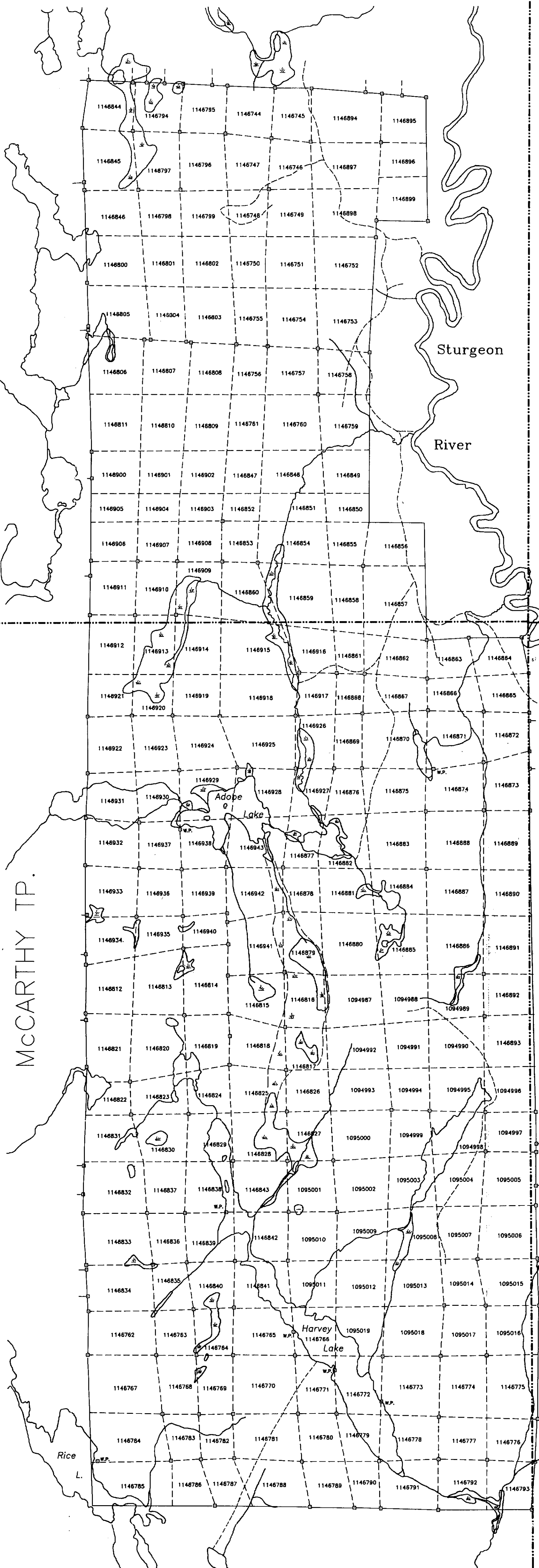


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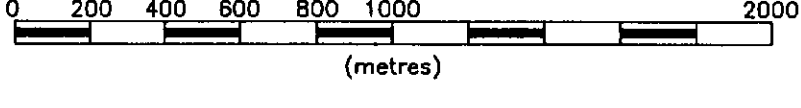
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

MCCARTHY TP.

MACBETH TP.



Scale 1:20 000



-  SWAMP
-  ROADS



2.14714

TECK EXPLORATION LTD.

CLAIM STATUS  
 EMERALD LAKE PROPERTY  
 SHEPPARD - MCCARTHY TOWNSHIPS  
 PROVINCE OF ONTARIO

|        |         |         |      |
|--------|---------|---------|------|
| N.T.S: | JOB NO: | DATE:   | DWG: |
| 041P15 | 15800   | JUL. 92 | 6812 |



4116N0061 2.14714 SHEPPARD

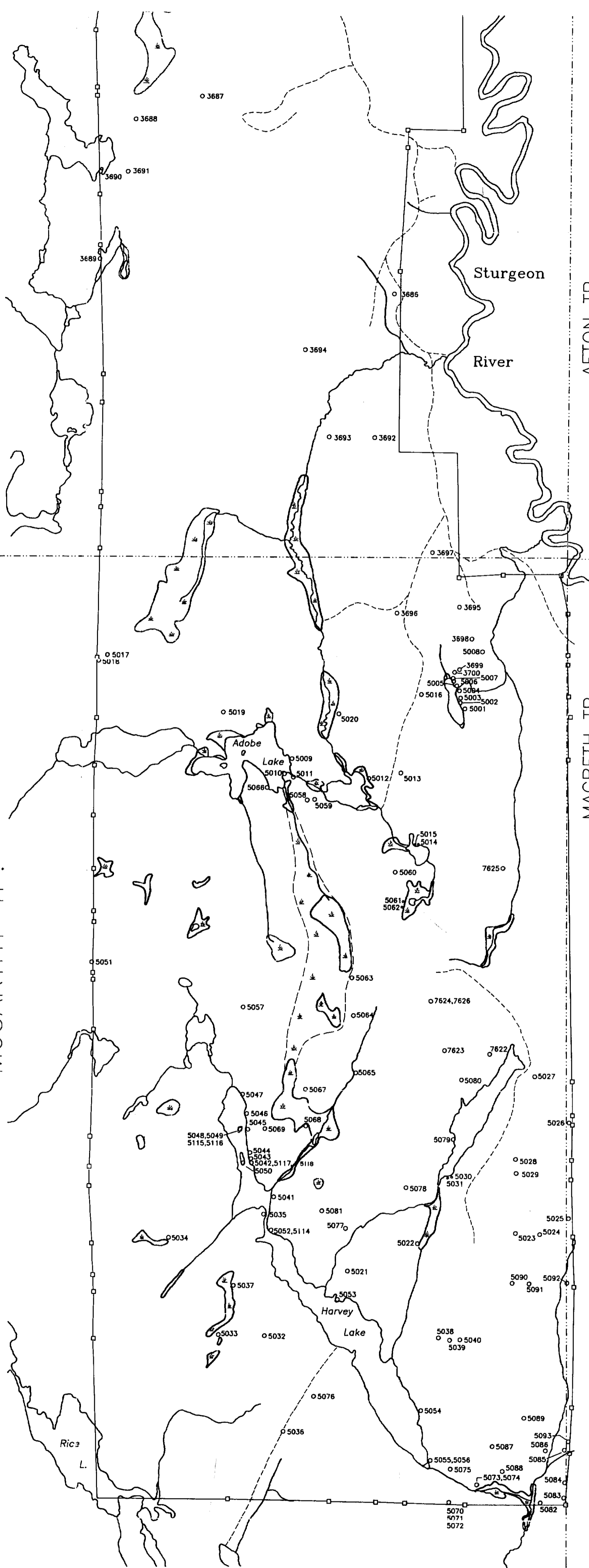
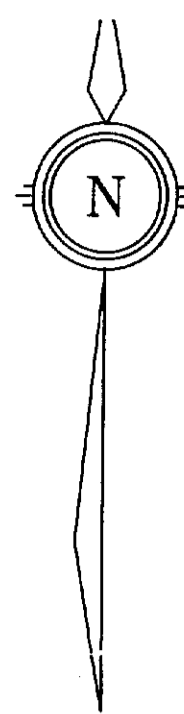


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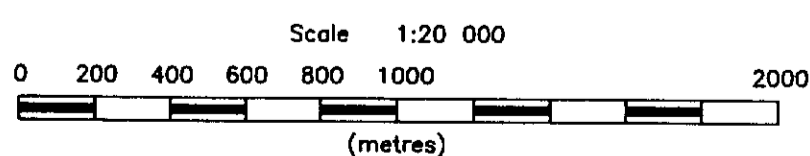
MCCARTHY TP.

AFTON TP.

MACBETH TP.



○ 5036 Sample location and number



--- SWAMP  
--- ROADS

2.14714

TECK EXPLORATION LTD.

SAMPLE PLAN  
EMERALD LAKE PROPERTY  
SHEPPARD - MCCARTHY TOWNSHIPS  
PROVINCE OF ONTARIO

N.T.S. 041P15 JOB NO. 15800 DATE: JUL. 92 DWG. 6813

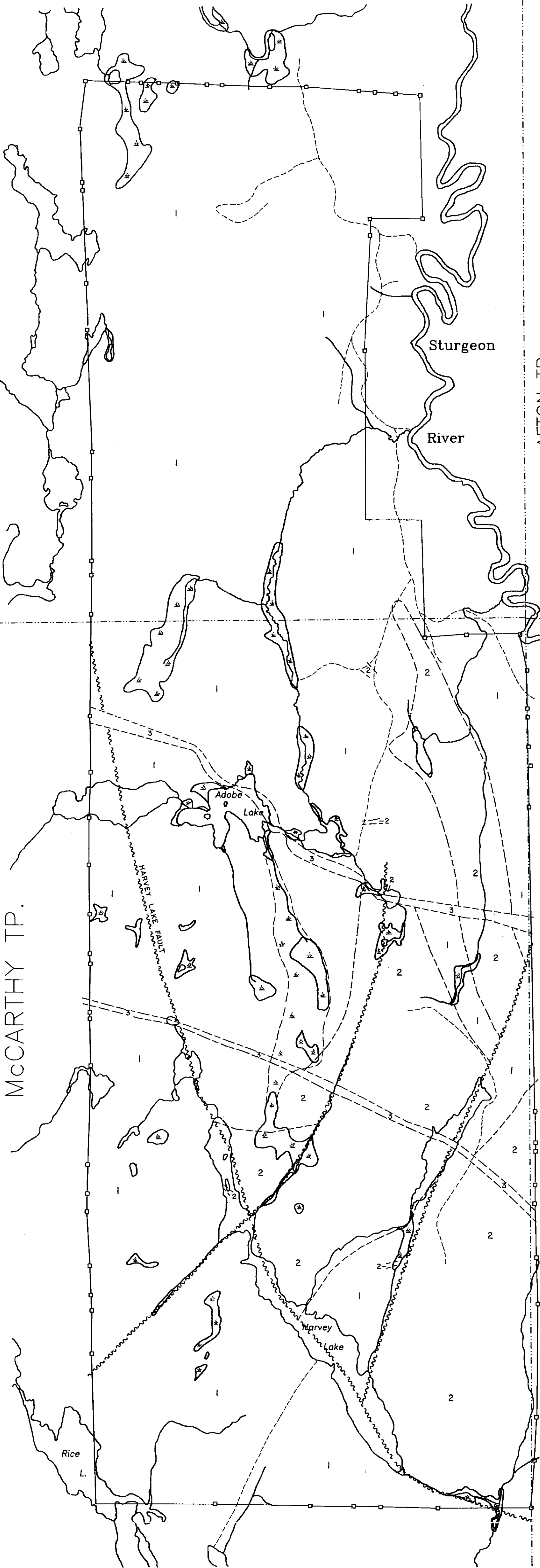
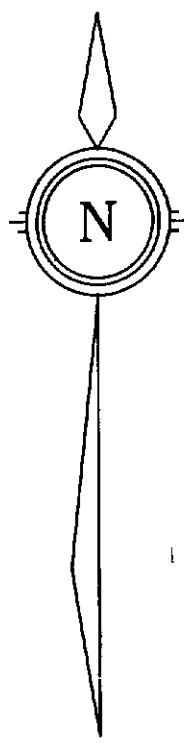


SHEPPARD TP.

MCCARTHY TP.

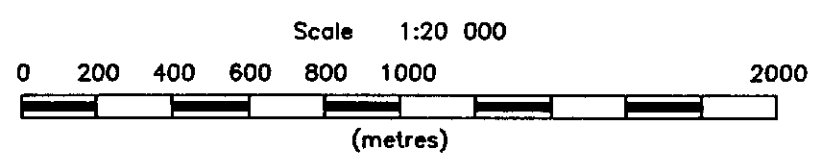
AFTON TP.

MACBETH TP.



- 3** OLIVINE DIABASE
- 2** NIPISSING INTRUSIVES
- 1** GOWGANDA FORMATION

- CONTACTS
- ~ FAULTS
- ≡ SWAMP
- ROADS



2.14714

TECK EXPLORATION LTD.

COMPILATION

EMERALD LAKE PROPERTY

SHEPPARD - MCCARTHY TOWNSHIPS

PROVINCE OF ONTARIO

|         |          |         |       |
|---------|----------|---------|-------|
| N.T.S.: | JOB NO.: | DATE:   | DWG.: |
| 041P15  | 15800    | JUL. 92 | 6815  |

