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**Report of Activities
Grenville Reconnaissance Program
OPAP File Numbers OP90-207 & OP90-208**

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INTRODUCTION

The Grenville Supergroup rocks of Ontario, Quebec and New York State are known to host several economic to subeconomic deposits of base metal mineralization.

These include:

Balmat Edwards, New York State	> 40 M tons	10% Zn, 1% Pb
Pierrepont, New York State	1.6 M tons	16% Zn
Calumet, Quebec	3.75 M tons	5.9% Zn, 1.6% Pb, 2.5 oz Ag.
Tetreault, Quebec	2.65 M tons	4.53% Zn, 1.54% Pb, 2.5 oz Ag, .02 oz Au
Montauban, Quebec	100,000 tons	2.88% Zn, 1.03% Pb, 1.0 oz Ag, .01 oz Au
Long Lake, Ontario	90,000 tons	21.6% Zn
Salerno Lake, Ontario	1.0 M tonnes	5.39% Zn
Renprior (Cadieux), Ontario	626,000 tonnes	10% Zn, 1% Pb

Significant gold deposits occur associated with the base metal deposits at Montauban (1.1 M tons at 0.12 oz. ton) and Calumet (300,000 tons at 0.25 oz./ton).

Despite the obvious mineral potential supported by the above examples, the Grenville has been avoided or explored only superficially by mineral exploration companies. It is believed that exploration geologists have generally been discouraged by the structural complexity and high metamorphic grade. As a result much of the Grenville province has not been intensely explored and excellent untested potential remains for a major discovery.

The exploration target is a metamorphosed sediment hosted base metal deposit and possible associated gold mineralization, similar in character to the deposits listed above. Given the strong structural controls imposed on these deposits during metamorphism and deformation, and the lack of intensive exploration, prospecting using structural geologic mapping and stream sediment geochemistry as a guide has proven in the past to have been very successful in locating surface mineralization.

A phased exploration program was initiated to follow up the existing government data base in order to locate new mineralization and define areas of high exploration potential within the Grenville Province.

Preliminary work, consisting of compilation of existing government data, was initiated during January 1990.

This compilation encompassed

- 1) GSC lake sediment geochemical data (OFR 899)

- 2)GSC till geochemical data (OFR 947)
- 3)OGS rock geochemical data (MDC 28)
- 4)regional geology from government mapping
- 5)assessment work data

This compilation work identified a number of target areas for exploration. The highest priority targets were proposed for ground follow-up under the 1990 OPAP program are shown on Figure 1 and listed below

Area 1 Haliburton Area-- carbonate terrane in Lutterworth, Snowdon, Glamorgan, Cavendish, Galway, and Somerville Townships

Area 2 Apsley Area-- gneissic and marble terrane in southern Chandos Township.

Area 3 Westport Area-- marble belts in Burgess, North and South Crosby, Bastard and the north parts of Leeds and Lansdowne Townships.

Area 4 Canonto Lake Area-- marble terrane in northern Palmerston and South Canonto Townships.

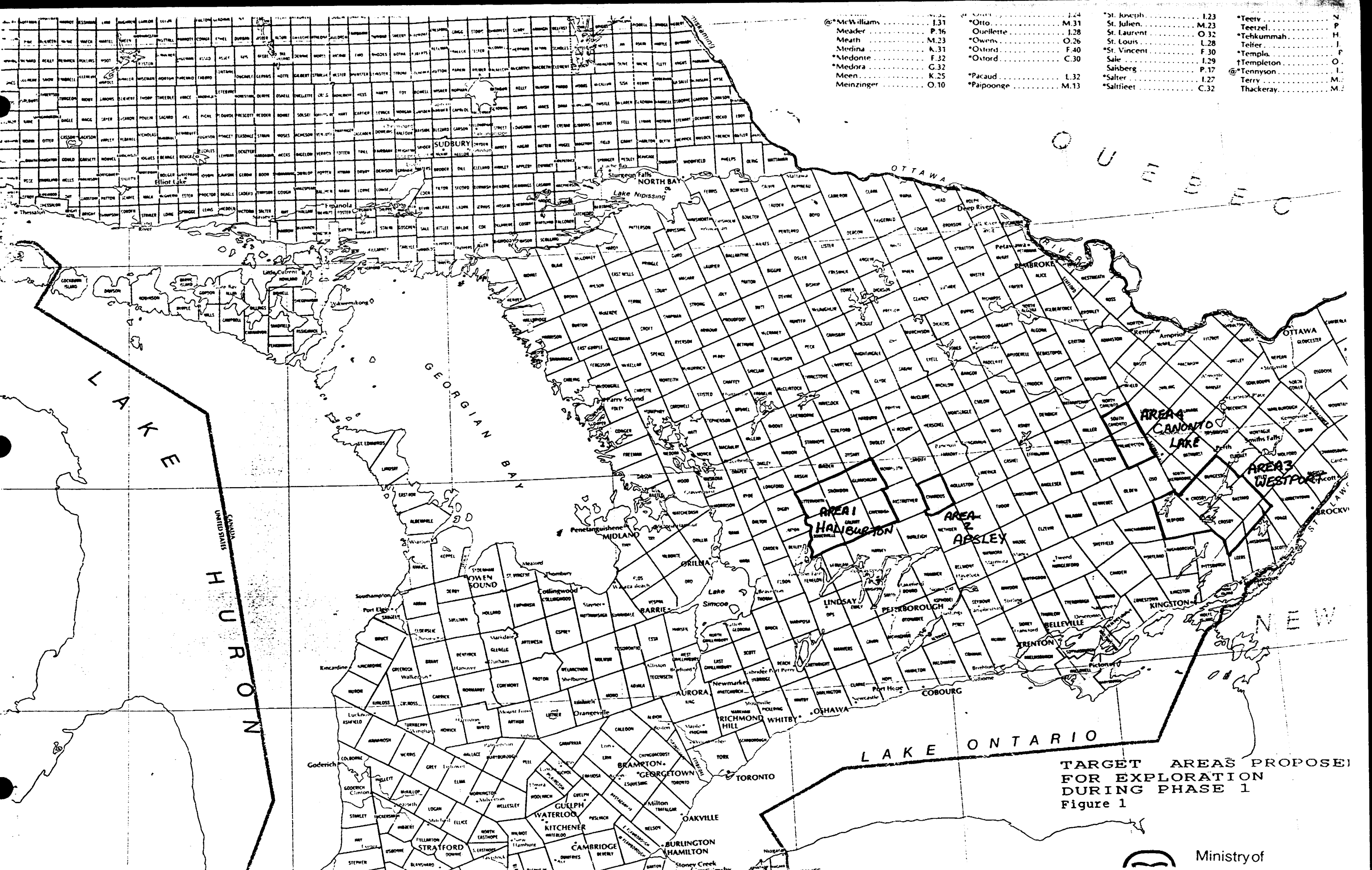
The follow-up program consisted of two phases of ground follow-up.

Initially a first pass of reconnaissance mapping, prospecting and sampling was carried out in each of the target areas largely along roads and concentrating in the immediate area of anomalous samples collected during the government geochemical surveys. Objectives were to define geological and structural favourability of the target areas for hosting mineralization.

Sampling of till and rocks was carried out to confirm government anomalies and where mineralization was noted. Limited drainage sampling was carried out in the Apsley area in an attempt to localize the source of anomalous Zn values.

A total of 7 tills and 8 drainage samples were collected to confirm government anomalies during initial reconnaissance. This was much lower than anticipated, as in most of the anomalous areas the geology did not appear to be favourable for hosting economic mineralization.

The -80° fraction of the till and drainage samples was digested using a nitric-aqua regia acid mixture and then analyzed for Co, Cu, Fe, Mn, Mo, Ni, Pb, and Zn using inductively coupled plasma spectrometry and for Ag, As, Bi, and Sb using atomic absorption spectrophotometry. Representative samples of mineralization and host lithologies were collected to characterize their geochemical signature. All samples were analyzed for Ag, As, Bi, Cu, Hg, Mo, Pb, Sb, Se, and Zn using a nitric-aqua regia digestion and atomic absorption spectrophotometry. Samples exceeding 1% Pb or Zn were assayed. The whole rock major and minor element composition of the samples was also determined using a fusion/digestion and inductively coupled plasma spectrometry. A total



*McWilliams	1.31	*Otto	1.24	*St. Joseph	1.23	*Teer	N
Meader	P.16	*Ouellette	M.31	St. Julien	M.23	Teetzel	P
Meath	M.23	*Owens	O.26	St. Laurent	O.32	*Tehkummah	H
Medina	K.31	*Oxford	F.40	*St. Vincent	L.28	Telfer	J
*Medonte	F.32	*Oxford	C.30	Sale	I.29	*Templa	P
*Medora	G.32	*Paquad	L.32	Salsberg	P.17	†Templeton	O
Meen	K.25	*Paipooone	M.13	*Salter	I.27	*Tennyson	L
Meinzing	O.10			*Saltier	C.32	Terry	M
						Thackeray	M

TARGET AREAS PROPOSED FOR EXPLORATION DURING PHASE 1
Figure 1

of 20 rocks were collected during the initial reconnaissance phase of work.

A second phase of more detailed work was carried out in the Buller Lake area where good potential has been demonstrated by results of the first pass work. This work consisted of more detailed mapping, prospecting, drainage and soil sampling in order to locate and define the extent of mineralization.

Results of the work are described in detail below. Work carried out is summarized in the time summary and detailed on the daily traverse report forms, both included as Appendix A. Complete sample analyses and descriptions are included as Appendix B.

PHASE 1 PRELIMINARY RECONNAISSANCE

AREA 1 HALIBURTON AREA (Sheet 1, in pocket)

Location and Access

Area 1, the Haliburton Area is located about 140 kilometres northeast of Toronto. Access to the area is provided by provincial highways 35, 121, 503, and 507, as well as numerous township roads. The town of Kinmount is centrally located within the target area.

Geology

Area 1 is underlain by carbonate rocks, calcitic and dolomitic marbles which overly basement gneisses of the Glamorgan Gneiss Complex and the Central Gneiss Belt.

Area 1 contains the Salerno Lake Zinc deposit discovered by St. Joseph Explorations in 1977 in Glamorgan Township. The deposit consists of stratiform sphalerite mineralization within a sequence of calcitic and dolomitic marbles. Stratigraphically it lies a short distance above the basement gneiss complex.

Other zinc occurrences within the same stratigraphic interval are reported in the assessment files (AFRO) and are also shown on OGS Map P.3106 Minden Area. More recent work by Northgate Explorations in Cavendish and Lutterworth Townships has resulted in the discovery of new zinc occurrences (AFRO). This indicates that potential for new discoveries in the area remains high.

Lake sediment sampling by the GSC (OFR 899) defined a number of lake sediment geochemical anomalies within the area.

The favourable carbonate stratigraphy immediately above the basement gneiss complex, particularly where it is present within favourable fold structures is a prime exploration target.

Four claims SO-1092183 to SO-1092186 were staked over part of this favourable stratigraphy in Lutterworth Township in March 1990. Previous holders of this ground, Northgate Explorations Ltd., had discovered zinc mineralization on these claims (AFRO).

Work Done

Work carried out during the preliminary reconnaissance phase was concentrated in two areas

1) around a GSC lake sediment anomaly, south of Kinmount (hereinafter referred to as the Kinmount Anomaly).

2) around the staked claims in Lutterworth Township where Northgate had previously discovered zinc mineralization (hereinafter called the Buller Lake Area).

Locations of these two areas are shown on the Haliburton Area map (Sheet 1, in pocket).

In the Kinmount anomaly area, permission was obtained from local landowners Mr. Bill Scott (Lots 34 & 35, Bobcaygeon Rd), Mrs. Mary Austin (Lot 2, Con. XIV & XV) and Mr. Rolf Stange (Lot 4, Con XIV & XV) to prospect their properties. These properties afforded a excellent chance to cover the stratigraphy around the anomalous lake. Three man days were spent carrying out detailed mapping and prospecting on these properties. No stream sediment sampling was carried out as mineralization was discovered and the target needed no further definition by such a reconnaissance geochemical survey.

In the Buller Lake Area permission was obtained from the Wessell family (Lots 19 to 22, Con. V) and Mr. & Mrs. F. Winkelaar (Lot 18, Con. IV) to prospect their properties. Two man days were spent carrying out detailed reconnaissance mapping and prospecting on these properties and over the Northgate soil geochemical anomalies on the claims which had been staked in Lutterworth Township. No stream sediment sampling was carried out as mineralization was discovered in both areas during the first day of reconnaissance and the target area needed no further definition by such a reconnaissance geochemical survey.

In addition reconnaissance road traverses were carried out.

1) One man day was spent to the north of the Buller Lake Area to examine outcrops from which the OGS regional mapping had obtained samples anomalous in Zn and to determine the extent of the favourable stratigraphy

2) One man day was spent traversing the roads between the Kinmount Anomaly area and the Salerno Lake Deposit

3) One man day was spent prospecting in the vicinity of Bobs Lake, a GSC lake sediment anomaly

Results

Kinmount Anomaly

Results of the detailed mapping and prospecting carried out around the Kinmount lake sediment anomaly (710 ppm zinc) are shown on Sheet 2 (in pocket).

Mapping and prospecting on properties flanking the lake sediment anomaly demonstrated that the area is underlain predominantly by white calcitic marbles and pale grey phlogopitic graphitic calcitic marbles. Locally these marbles contain narrow bands of rusty paragneiss and small pegmatite intrusions. Sections of the calcitic marbles have been altered to a manganiferous buff coloured dolomitic marble. Dips are generally shallow to the south or southeast.

Zinc mineralization was discovered in two geologic settings in the area of the lake sediment anomaly.

Minor disseminated fine grained oxidized grains of sphalerite were observed in a sheared graphitic, pyritic calcitic marble unit on the northwest corner of Lot 35, Bobcaygeon Road. This unit appears to represent a major shear zone. Analysis of this material gave a value of 360 ppm. zinc (sample 001). Intensive prospecting failed to find any better mineralization. The setting of this mineralization within a shear zone, and not within a unit more typically associated with significant zinc mineralization in the Grenville downgraded the potential of this mineralization.

Widespread disseminated zinc mineralization was also discovered within the manganiferous buff dolomitic marble unit on Lot 2, Cons. XIV and XV. The mineralization consists of disseminated grains of oxidized sphalerite. Locally a few fine grains of fresh dark brown sphalerite were observed. Analyses of this buff dolomitic marble (samples 003, 004, & 1001) gave values of 480 ppm., 2500 ppm. and 420 ppm. Zn, and 0.57%, 0.45% and 0.27% Mn respectively. The widespread disseminated nature of this mineralization and the strong manganese association observed

both make this mineralization highly susceptible to weathering and dispersion into lake sediments. It has been the writer's experience that such mineralization is more likely to produce significant lake sediment anomalies than higher grade more massive mineralization without a strong manganese association.

Economic potential of the mineralization associated with the buff dolomite is limited owing to the lack of better grade material.

Buller Lake Area

Results of the mapping and prospecting in the Buller Lake Area are shown on Sheet 3 (in pocket).

Initial prospecting and mapping in the Buller Lake Area was concentrated in the area of the Northgate soil geochemical anomalies and their strike extension onto adjacent ground.

Inspection of the area of anomalies trenched by Northgate on the N 1/2 Lot 20, Con IV, Lutterworth Twp. revealed that they were underlain by rusty paragneisses and calcitic marbles and thus had low potential for representing economic mineralization. Prospecting and geologic mapping in the vicinity of Northgate's soil geochemical anomalies on the northern limit of Lot 19, Con. IV and on adjacent ground was responsible for the discovery of significant zinc mineralization on the south half of Lot 19, Con. V. The mineralization consists of disseminated banded medium grained sphalerite within a dolomitic marble unit within a sequence of dolomitic and silicated dolomitic marbles. Analysis of this mineralization gave a value of 5.43% Zn (sample 005).

Additional prospecting on the northern part of Lot 19, Con. IV and the southern part of Lot 18, Con. V was responsible for the discovery and additional minor zinc mineralization within the same dolomitic marble unit. Analysis of this mineralization on the south part of Lot 18, Con. V gave a value of 6800 ppm. Zn. (sample 006). The similarity between the dolomitic and silicated dolomitic marbles in the Buller Lake area and those at Balmat and at the Cadieux (Renprior) deposit at Renfrew, Ontario was also noted.

Regional Reconnaissance

Results of the regional reconnaissance work in the Haliburton Area are shown on Sheet 1 (in pocket).

A road traverse was carried out from the Kinmount anomaly area towards the Salerno Lake deposit. Geology was found to consist of calcitic and phlogopitic graphitic calcitic marbles, locally with sections containing shaly or siliceous interbeds. These have been intruded granodiorite and diorite intrusions. No stratigraphy highly favourable for hosting economic base metal mineralization was encountered.

Examination of outcrops along Hwy. 35 north of the Buller Lake area from which the OGS had reported anomalous Zn values revealed that all values in this area were related to rusty paragneisses within the calcitic marbles of the Denna Lake structural complex. Economic potential seems limited.

Prospecting in the area of Bob's Lake in northern Lutterworth Twp. led to the discovery of Pb, Zn mineralization. The mineralization occurs within a narrow sliver of dolomitic marbles which trends north-south underneath Bob's Lake. In appearance the marbles are similar to those

in the Buller Lake area. Sampling of this mineralization gave values of 5600 ppm. Zn, 2.60% Pb (sample 007) and 10000 ppm. Zn, 750 ppm. Pb (sample 008). The host marble unit appears to be restricted to the immediate Bob's Lake area. Since this is a heavily cotted lake, exploration potential is limited.

Recommendations

Kinmount Anomaly

Prospecting around the Kinmount lake sediment anomaly was successful in the discovery of previously unknown zinc mineralization in two geologic settings. The style of mineralization in both instances however, was such that the economic potential of this mineralization appeared limited. No further work is recommended.

Buller Lake Area

Significant zinc mineralization was discovered by prospecting and mapping in the Buller Lake Area. The geologic setting is similar to that of the Balmat and Cadieux deposits. The potential of the area for hosting economic mineralization is high and it was extensively explored during the second phase of follow-up work described later in this report. As a result of the discovery of zinc mineralization during the initial reconnaissance phase three additional claims (SO 1134357- SO 1134359) were also staked to secure a better land position.

Regional Reconnaissance

The regional reconnaissance work carried out resulted in no high priority target areas for further exploration being defined. Mineralization discovered at Bob's Lake is located within a narrow dolomitic marble belt located largely underneath the lake. Exploration potential seems limited.

AREA 2, APSLEY AREA (Sheet 4, in pocket)

Location and Access

Area 2, the Apsley Area is located in southern Chandos Twp. about 160 km. northeast of Toronto, 50 km. northeast of Peterborough. Access to the area is by highways 28, 620 and 504 as well as numerous township roads which cross the target area. The town of Apsley is located toward the western end of the target area.

Geology

Geologically the area is located on the eastern flank of the Harvey-Cardiff arch. It is underlain by a sequence of paragneisses, calcitic marbles locally with minor amphibolites.

These rocks have been intruded by gabbroic, syenitic and granitic intrusions. Interest to the area as a target for base metal exploration was generated by the presence of 100 ppm. Zn in lake sediments in Apsley Lake (GSC OFR 899). After statistical analysis this value gave a residual Zn anomaly. Two till samples collected within the area by the GSC (OFR 947) within the target area also gave anomalous values of 420 ppm. Zn and 725 ppm. Zn.

Work Done

Two man days were spent carrying out reconnaissance mapping, prospecting and stream sediment sampling within the target area. Work was carried out along roads, concentrating on the area around Apsley Lake. Areas of the anomalous till samples collected by the GSC were resampled.

Results

Resampling of the GSC till sampling sites failed to confirm the GSC till anomalies. In one instance (GSC sample K0183, 420 ppm. Zn) the sample site was found to be within outwash sands. Resampling of this site gave a value of only 20 ppm. Zn (sample 2006). Resampling of the other till anomaly (GSC sample 0283) gave a value of 18 ppm. Zn (sample 2007). No anomalous values were obtained from the stream sediment sampling program.

Prospecting and mapping failed to locate any mineralization. Geology was found to consist of shaly calcitic marbles within a sequence of paragneisses and amphibolites of possible volcanic origin. Sampling of the calcitic marbles in the Apsley Lake area returned only low values of 52 ppm. Zn (sample 1003) and 23 ppm. Zn (sample 1004). A sample of amphibolite from west of Apsley Lake returned a value of 260 ppm. Zn. This is not considered anomalous for this rock type.

Recommendations

The area was found to have low potential for hosting economic base metal mineralization. No further work is recommended.

AREA 3 WESTPORT AREA (Figure 2)

Location and Access

Area 3, the Westport area is located in eastern Ontario about 275 kms. northeast of Toronto, about 50 kms. north of Kingston. Access to the area is via highways 15 and 42 and numerous county and township roads which cross the area. Numerous potential exploration target areas were defined within Area 3 on the basis of GSC lake sediment anomalies (GSC OFR 899) and OGS rock geochemical data (MDC 28). Individual target areas are shown on Figure 2 and are discussed in detail below.

Pike Lake Area (Figure 3)

Location and Access

The Pike Lake area is located in northern North Burgess and North Crosby Townships. Access is by paved county roads and gravel township roads.

Geology

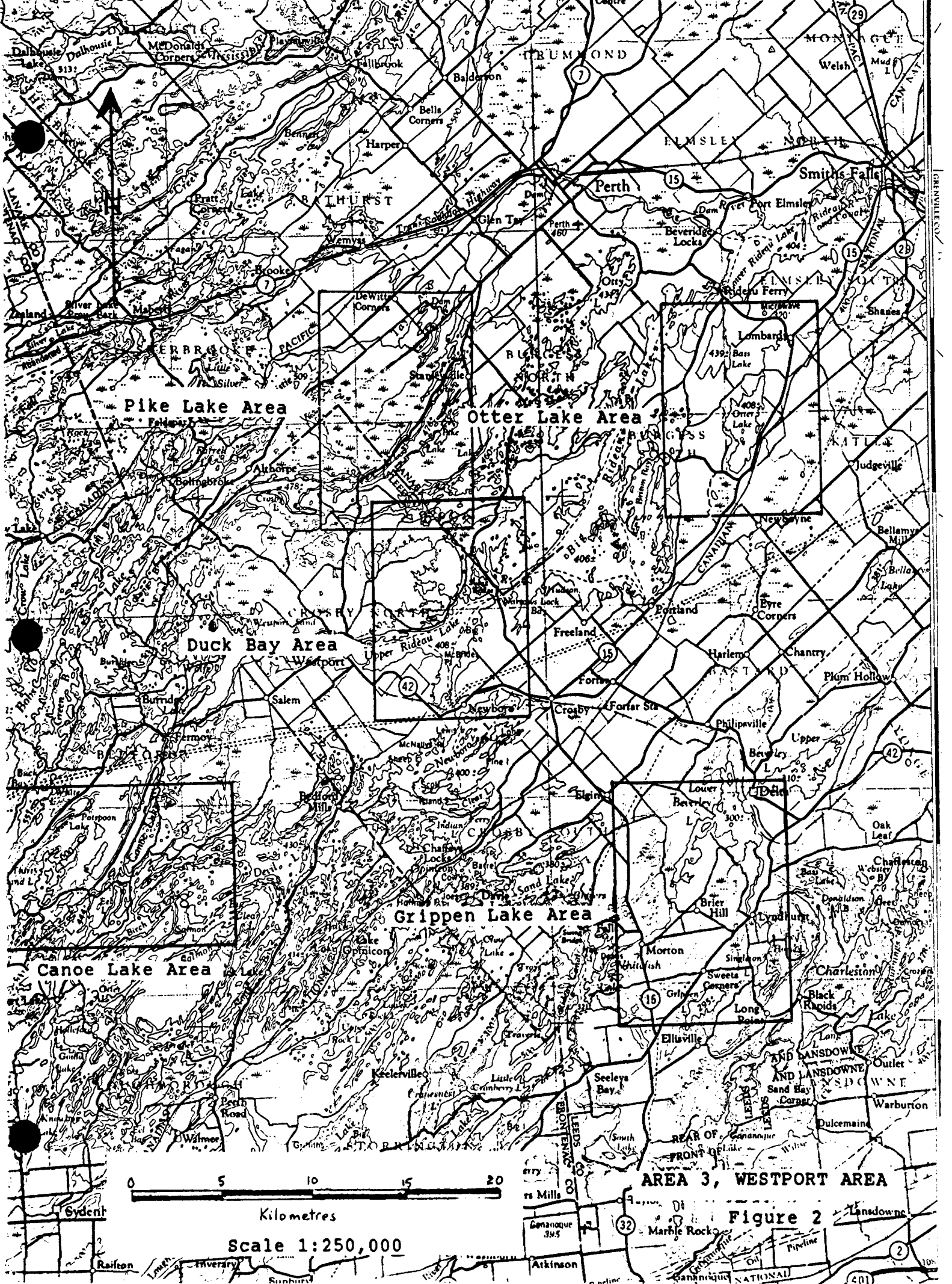
The potential exploration target consists of a narrow northeast trending marble belt running along the north side of Pike Lake. The marble belt is bounded to the north and south by a thick sequence of pelitic metasediments. Rock sampling by the OGS (MDC 28) had collected three samples anomalous in zinc from within this marble belt. Values were 1680 ppm. (sample 1194), 310 ppm. (sample 1235) and 400 ppm. (sample 1129). In addition lake sediment sampling by the GSC (OFR 899) had returned a value of 295 ppm. zinc from Pike Lake (sample 821114)

Work Done

One man day was spent prospecting, mapping and sampling in the Pike Lake area. Work was concentrated around the sites where the OGS had collected their anomalous rock samples.

Results

Mapping showed the marble belt was comprised of white calcitic and dolomitic calcitic marbles. The marbles are altered with fractures with phlogopitic and diopsidic selvages. The marbles contain fragments and disrupted bands of feldspar, paragneiss, amphibolite, quartzite and pegmatite and in places have the appearance of a tectonic breccia. Grains of medium grained red oxidized sphalerite were observed at the location of OGS sample 1194, in a diopsidic calcitic marble. These appeared to be associated with diopsidic fractures. A sample of this material returned a value of 680 ppm. zinc (sample 009). Samples of other rock types taken from an outcrop of tectonic breccia failed to return any significant values.



AREA 3, WESTPORT AREA

Figure 2

Scale 1:250,000

GRENVILLE RECONNAISSANCE LEGEND

ROCK TYPES

- 3 GRANITIC ROCKS
 - a massive granitic intrusions
 - b granitic gneiss
 - c basement gneiss complex, migmatite
 - d granodiorite
- 7 SYENITIC ROCKS
 - a massive syenite
 - b syenite gneiss
- 6 MAFIC ROCKS
 - a gabbro
 - b diabase dyke
 - c amphibolite
 - d diorite
- 5 METAVOLCANIC ROCKS
 - a quartz-feldspar+/-biotite gneiss
 - b intermediate metavolcanic gneisses
 - c mafic metavolcanics
 - d pillowed mafic volcanics
- 4 METASEDIMENTARY ROCKS
 - a quartz-feldspar-biotite gneiss
 - b biotite schist
 - c hornblende biotite gneiss
 - d calcsilicate gneiss - calcareous paragneiss
 - Q quartzite
- 3 SILICATED DOLOMITIC MARBLES (>15% SILICATES)
 - a serpentinous silicated dolomitic marble
 - b diopsidic/tremolitic dolomitic marble
 - c dolomitic marble with bands massive diopside
 - d massive diopside
 - e quartz-diopside rock
 - Q chert, quartzite
- 2 DOLOMITIC MARBLE
 - a white dolomitic marble
 - b grey graphitic dolomitic marble
 - c pyritic dolomitic marble
 - d serpentinous dolomitic marble
 - e calcitic dolomitic marble
 - t tremolitic dolomitic marble
 - B buff dolomitic marble
- 1 CALCITIC MARBLE
 - a white calcitic marble
 - b graphitic phlogopitic calcitic marble
 - c grey banded calcitic marble
 - d dirty calcsilicate rich calcitic marble
 - dd calcitic marble with calcsilicate bands
 - e dolomitic calcitic marble
 - p pink calcitic marble
 - s f.g. nylonite derived from calcitic marbles
 - G grey calcitic marble

MODIFIERS FOR ALL ROCK TYPES

- fg fine grained
- cg coarse grained
- phlog phlogopite
- R rusty

MINERALIZATION

- Zn Positive Zinc Test
- (Zn) Sphalerite (estimated <1% Zn)
- (Zn) Sphalerite (estimated >1% Zn)
- Pb Galena
- PY Pyrite
- po Pyrrhotite

SYMBOLS

- Organic Bank Sample Location
- ▲ Till Sample Location
- Rock Sample Location
- Soil Sample Location
- * Government Lake Sediment Sample Location
- ▲ Government Till Sample Location
- Government Rock Sample Location
- Outcrop
- Subcrop or area of discontinuous outcrop
- * Boulder or float
- ≡ Scarp or steep slope
- Road, bush road, trail
- Swamp, stream, lake
- ✦ Claim post, located, unlocated position assumed
- ✧ Fence
- ≡ High Tension Power Line with Towers
- ↙ Foliation showing dip
- Lincation showing plunge
- ↘ Minor fold, showing style and plunge direction
- Fault
- Geological contact

Recommendations

Results of the mapping, prospecting and sampling in the Pike Lake area indicate source of the anomalies is the marble unit which in places resembles a tectonic breccia. Minor zinc mineralization was observed associated with fractures within this unit. This style of mineralization is not likely to have economic potential. No further work is recommended.

Duck Bay Area (Figure 4)

Location and Access

The Duck Bay area is located on the north shore of Upper Rideau Lake in North Crosby Twp. Access is by township road east from Westport along the north shore of Upper Rideau Lake.

Geology

The potential exploration target consists of a north-south trending marble belt. It is bounded to the east and west by granitic intrusions. Rock sampling by the OGS collected two samples anomalous in zinc from this belt. These ran 460 ppm. Zn (sample 1151) and 800 ppm. Zn (sample 1163).

Work Done

One man day was spent prospecting, mapping and sampling in the Duck Bay area.

Results

Mapping revealed that the marble belt was dominated by massive to weakly banded pale grey calcitic marbles. Traces of fine grained disseminated red oxidized sphalerite were observed in grey graphitic calcitic marbles at both OGS sample sites. Sampling at OGS sample site 1151 returned a value of 760 ppm. Zn (sample 013).

Recommendations

Traces of fine grained disseminated sphalerite are quite often observed associated with calcitic marbles similar to those seen at Duck Bay. To date none of these occurrences has demonstrated any economic potential. In the absence of any of the more favourable marble units at Duck Bay, no further work is recommended.

GREVILLE RECONNAISSANCE LEGEND

ROCK TYPES

- 8 GRANITIC ROCKS
 - a massive granitic intrusions
 - b granitic gneiss
 - c basement gneiss complex, migmatite
 - d granodiorite
- 7 SYENITIC ROCKS
 - a massive syenite
 - b syenite gneiss
- 6 NAPIC ROCKS
 - a gabbro
 - b diabase dyke
 - c amphibolite
 - d diorite
- 5 METAVOLCANIC ROCKS
 - a quartz-feldspar/-biotite gneiss
 - b intermediate metavolcanic gneisses
 - c mafic metavolcanics
 - d pillowed mafic volcanics
- 4 METASEDIMENTARY ROCKS
 - a quartz-feldspar-biotite gneiss
 - b biotite schist
 - c hornblende biotite gneiss
 - d calcisilicate gneiss - calcareous paragneiss
 - Q quartzite
- 3 SILICATED DOLONITIC MARBLES (>1% SILICATES)
 - a serpentinous silicated dolomitic marble
 - b diopsidic/tremolitic dolomitic marble
 - c dolomitic marble with bands massive diopside
 - d massive diopside
 - e quartz-diopside rock
 - Q chert, quartzite
- 2 DOLONITIC MARBLE
 - a white dolomitic marble
 - b grey graphitic dolomitic marble
 - c pyritic dolomitic marble
 - d serpentinous dolomitic marble
 - e calcitic dolomitic marble
 - t tremolitic dolomitic marble
 - B buff dolomitic marble
- 1 CALCITIC MARBLE
 - a white calcitic marble
 - b graphitic phlogopitic calcitic marble
 - c grey banded calcitic marble
 - d dirty calcisilicate rich calcitic marble
 - dd calcitic marble with calcisilicate bands
 - e dolomitic calcitic marble
 - p pink calcitic marble
 - s f.g. nylonite derived from calcitic marbles
 - G grey calcitic marble

MODIFIERS FOR ALL ROCK TYPES

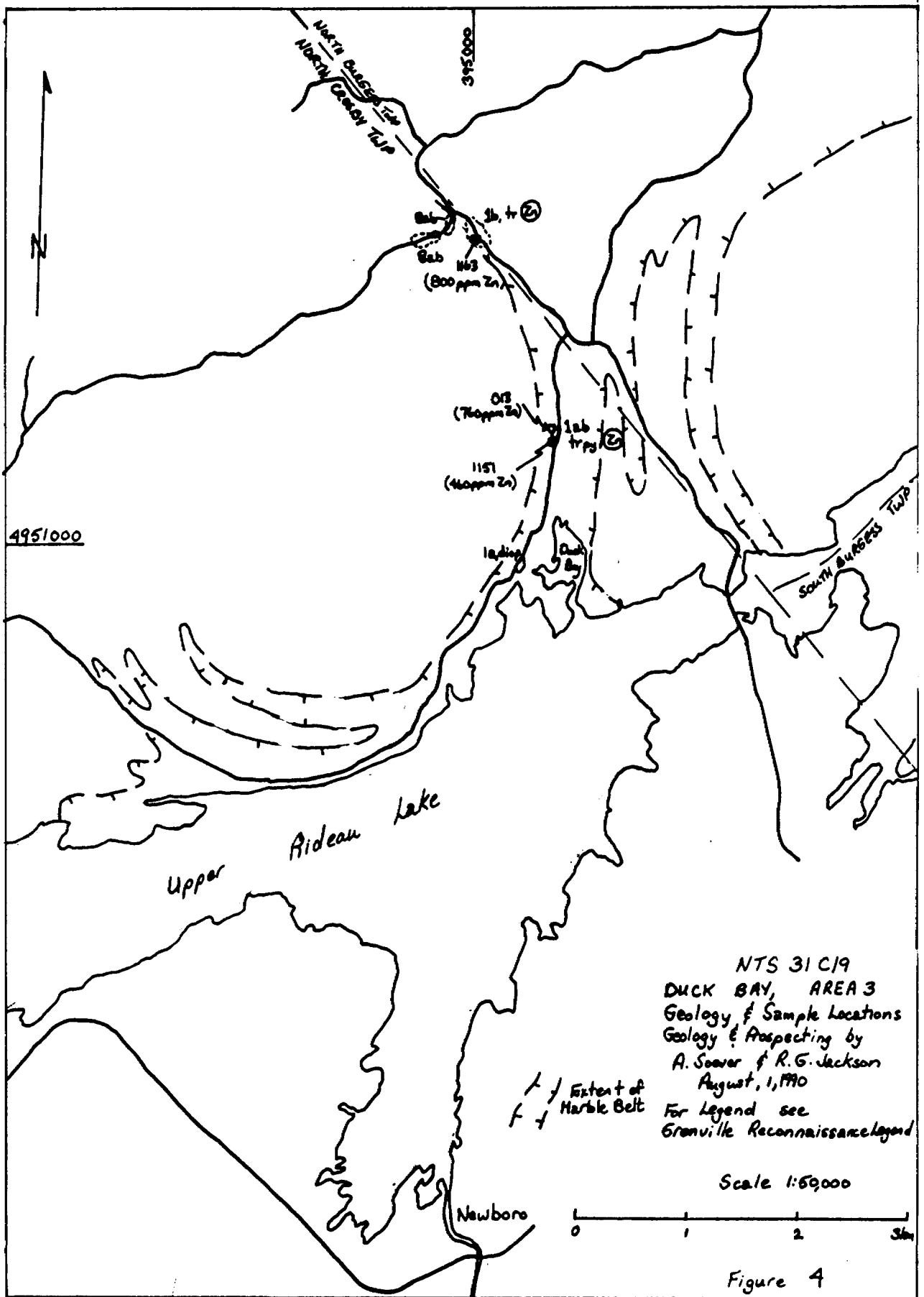
- fg fine grained
- cg coarse grained
- phlog phlogopite
- R rusty

MINERALIZATION

- Zn Positive Zinc Test
- (Zn) Sphalerite (estimated <1% Zn)
- (Zn) Sphalerite (estimated >1% Zn)
- Pb Galena
- py Pyrite
- po Pyrrhotite

SYMBOLS

- Organic Bank Sample Location
- ▲ Till Sample Location
- Rock Sample Location
- Soil Sample Location
- * Government Lake Sediment Sample Location
- ▲ Government Till Sample Location
- Government Rock Sample Location
- Outcrop
- Subcrop or area of discontinuous outcrop
- * Boulder or float
- Scarp or steep slope
- ==== Road, bush road, trail
- Swamp, stream, lake
- ⊕ Claim post, located, unlocated position assumed
- Fence
- High Tension Power Line with Towers
- ↗ Foliation showing dip
- ↘ Lineation showing plunge
- ↖ Minor fold, showing style and plunge direction
- Fault
- Geological contact



NTS 31 C19
 DUCK BAY, AREA 3
 Geology & Sample Locations
 Geology & Prospecting by
 A. Soover & R.G. Jackson
 August, 1990
 For Legend see
 Grenville Reconnaissance legend

Scale 1:50,000



Figure 4

Grippen Lake Area (Figure 5)

Location and Access

The Grippen Lake area is located in northern Rear of Leeds and Lansdowne and southern South Crosby Township. Access is by highway 42 and various township roads east from the intersection of highways 15 and 42.

Geology

The geology of the area is dominated by Grenville marbles. These are interlayered with narrow belts of paragneiss. Both these units have been intruded by a variety of granitic, dioritic and pegmatitic intrusions. All have been intruded by diabase dykes. Locally there are outliers of Cambro-Ordovician, Potsdam group sandstone. Three samples anomalous in zinc were collected from the marbles in the Grippen Lake area during regional rock sampling by the OGS (MDC 28). In addition lake sediments collected by the GSC from Grippen Lake returned a value of 225 ppm zinc (sample 821233) (OFR 899). Values in the rock samples were 3320 ppm. Zn (sample 1107), 665 ppm. Zn (sample 1101) and 510 ppm. Zn (sample 1068) (MDC 28).

Work Done

One man day was spent prospecting, mapping and sampling in the Grippen Lake Bay area. Work was concentrated on the areas of the anomalous OGS rock samples.

Results

Mapping in the Grippen Lake area confirmed the area is underlain predominantly by calcitic marbles. The terrane is fairly flat with large areas covered by outwash sands. Outcrop exposure is limited. Sampling of rusty weathering calcitic marble in the vicinity of OGS sample 1068 (510 ppm. Zn returned a value of 235 ppm. Zn. Nothing worth sampling was observed at the other two OGS anomalous sample locations.

Recommendations

Anomalous values obtained by the OGS in the Grippen Lake area appear to have their origin in altered calcitic marbles which contain rusty paragneiss bands and have been intruded by pegmatites. Anomalous zinc values have been obtained from such rocks in other areas of the Grenville but have not demonstrated any economic potential. No further work is recommended.

GREVILLE RECONNAISSANCE LEGEND



ROCK TYPES

- 8 GRANITIC ROCKS**
 - a massive granitic intrusions
 - b granitic gneiss
 - c basement gneiss complex, migmatite
 - d granodiorite
- 7 SYENITIC ROCKS**
 - a massive syenite
 - b syenite gneiss
- 6 MAFIC ROCKS**
 - a gabbro
 - b diabase dyke
 - c amphibolite
 - d diorite
- 5 METAVOLCANIC ROCKS**
 - a quartz-feldspar+/-biotite gneiss
 - b intermediate metavolcanic gneisses
 - c mafic metavolcanics
 - d pillowed mafic volcanics
- 4 METASEDIMENTARY ROCKS**
 - a quartz-feldspar-biotite gneiss
 - b biotite schist
 - c hornblende biotite gneiss
 - d calcisilicate gneiss - calcareous paragneiss
 - q quartzite
- 3 SILICATED DOLOMITIC MARBLES (>15% SILICATES)**
 - a serpentinous silicated dolomitic marble
 - b diopsidic/tremolitic dolomitic marble
 - c dolomitic marble with bands massive diopside
 - d massive diopside
 - e quartz-diopside rock
 - Q chert, quartzite
- 2 DOLOMITIC MARBLE**
 - a white dolomitic marble
 - b grey graphitic dolomitic marble
 - c pyritic dolomitic marble
 - d serpentinous dolomitic marble
 - e calcitic dolomitic marble
 - t tremolitic dolomitic marble
 - B buff dolomitic marble
- 1 CALCITIC MARBLE**
 - a white calcitic marble
 - b graphitic phlogopitic calcitic marble
 - c grey banded calcitic marble
 - d dirty calcisilicate rich calcitic marble
 - dd calcitic marble with calcisilicate bands
 - e dolomitic calcitic marble
 - p pink calcitic marble
 - s f.g. mylonite derived from calcitic marbles
 - G grey calcitic marble












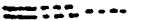
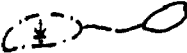








MODIFIERS FOR ALL ROCK TYPES

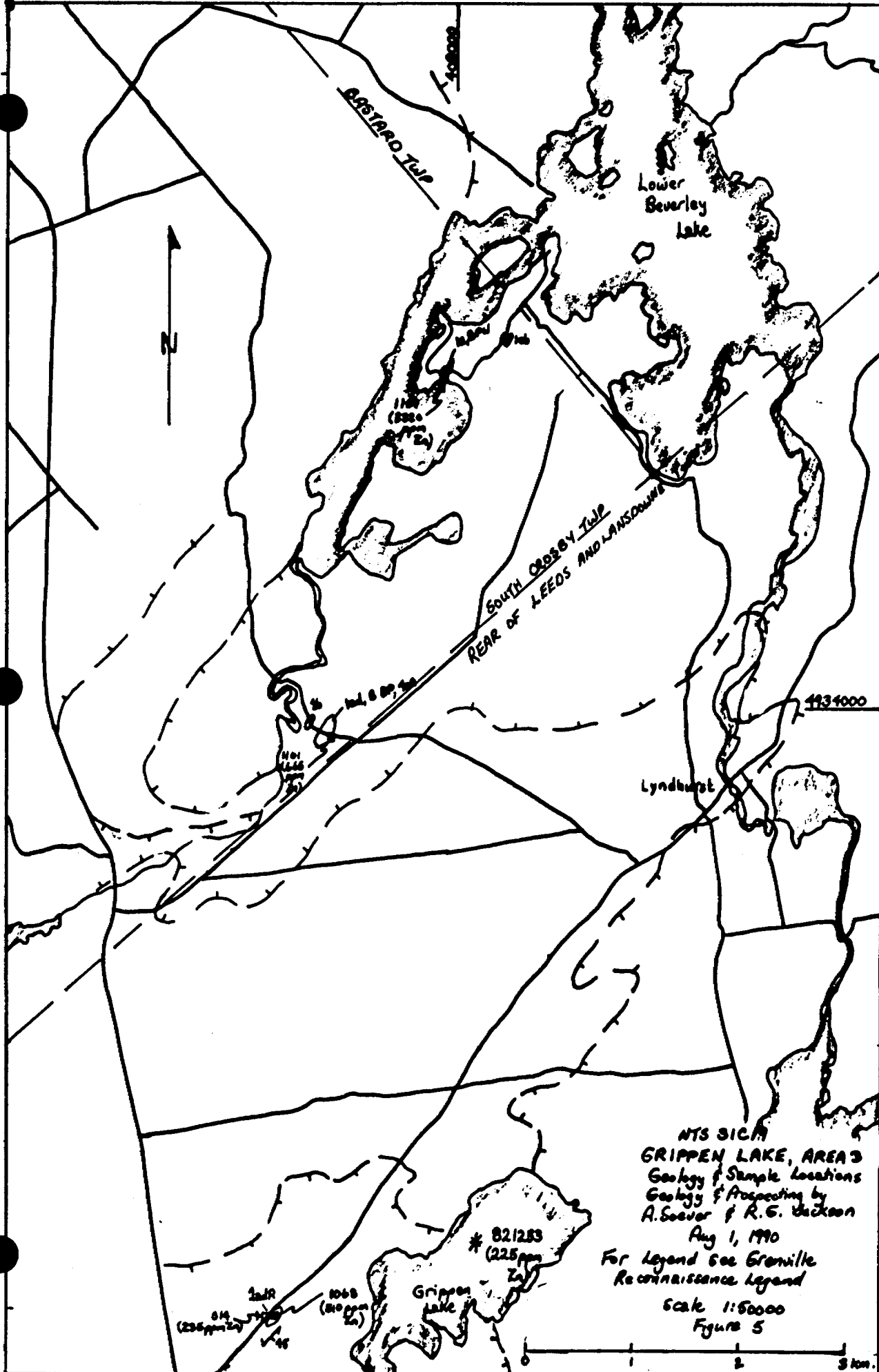
- fg fine grained
- cg coarse grained
- phlog phlogopite
- R rusty

MINERALIZATION

- Zn Positive Zinc Test
-  Zn Sphalerite (estimated <1% Zn)
-  Zn Sphalerite (estimated >1% Zn)
- Pb Galena
- py Pyrite
- po Pyrrhotite

SYMBOLS

-  Organic Bank Sample Location
-  Till Sample Location
-  Rock Sample Location
-  Soil Sample Location
-  Government Lake Sediment Sample Location
-  Government Till Sample Location
-  Government Rock Sample Location
-  Outcrop
-  Subcrop or area of discontinuous outcrop
-  Boulder or float
-  Scarp or steep slope
-  Road, bush road, trail
-  Swamp, stream, lake
-  Claim post, located, unlocated position assumed
-  Fence
-  High Tension Power Line with Towers
-  Foliation showing dip
-  Lineation showing plunge
-  Minor fold, showing style and plunge direction
-  Fault
-  Geological contact



4924500

NTS SIC/A
 GRIPPEN LAKE, AREA 3
 Geology & Sample Locations
 Geology & Prospecting by
 A. Soever & R. G. Jackson
 Aug 1, 1990
 For Legend see Grenville
 Reconnaissance Legend
 Scale 1:50000
 Figure 5

3 km.

Canoe Lake Area (Figure 6)

Location and Access

The Canoe Lake area is located in southern Bedford Township. Access is by county and township roads east from the village of Godfrey on highway 38.

Geology

The geology of the Canoe Lake area is dominated by Grenville marbles with subsidiary units of pelitic metasediments. Locally there are units of orthoamphibolite. The major structural feature of the area is the Canoe Lake fault which trends NNE under Canoe Lake. This is a major regional structure separating two tectonic zones. Exploration potential of the area is demonstrated by the presence of the Thirty Island Lake zinc occurrence on the east shore of Thirty Island Lake. A rock sample collected by the OGS from this showing ran 29700 ppm. Zn. (OGS sample 1364, MDC 28). Another rock sample collected by the OGS from the north side of Devil Lake ran 510 ppm. Zn. In addition anomalous lake sediments were collected by the GSC from Canoe Lake (sample 821095, 225 ppm. Zn) and Devil Lake (sample 821254, 300 ppm. Zn).

Work Done

One man day was spent carrying out a road traverse across the area. Work concentrated on prospecting around the area of anomalous OGS rock samples and on defining the character of the marble belt by examining outcrops in the vicinity of other OGS sample locations. An attempt was made to locate the Thirty Island Lake showing so as to be able to determine the character of this mineralization, but the showing was not located.

Results

Mapping in the Canoe Lake area revealed that the marbles are dominated by white to locally pale grey calcitic marbles. The marbles to the east of the Canoe Lake fault are slightly dolomitic and locally siliceous containing bands or boudins of diopside. These may have potential for hosting economic base metal mineralization. Resampling the site of an anomalous OGS rock sample north of Devil Lake, however, returned a value of only 40 ppm. Zn. The thin marble belt along the east side of Thirty Island Lake which hosts the Thirty Island Lake zinc occurrence is dominated by white to pale grey calcitic marbles. The Thirty Island Lake zinc showing was not relocated, no mineralization was found. The lake is heavily cottaged and the marble belt is restricted to close proximity to the lake.

GRENVILLE RECONNAISSANCE LEGEND

ROCK TYPES

- 8 GRANITIC ROCKS
 - a massive granitic intrusions
 - b granitic gneiss
 - c basement gneiss complex, migmatite
 - d gnaadiorite
- 7 SYENITIC ROCKS
 - a massive syenite
 - b syenite gneiss
- 6 MAFIC ROCKS
 - a gabbro
 - b diabase dyke
 - c amphibolite
 - d diorite
- 5 METAVOLCANIC ROCKS
 - a quartz-feldspar/-biotite gneiss
 - b intermediate metavolcanic gneisses
 - c mafic metavolcanics
 - d pillowed mafic volcanics
- 4 METASEDIMENTARY ROCKS
 - a quartz-feldspar-biotite gneiss
 - b biotite schist
 - c hornblende biotite gneiss
 - d calcisilicate gneiss - calcareous paragneiss
 - Q quartzite
- 3 SILICATED DOLONITIC MARBLES (>15% SILICATES)
 - a serpentinous silicated dolomitic marble
 - b diopsidic/tremolitic dolomitic marble
 - c dolomitic marble with bands massive diopside
 - d massive diopside
 - e quartz-diopside rock
 - Q chert, quartzite
- 2 DOLONITIC MARBLE
 - a white dolomitic marble
 - b grey graphitic dolomitic marble
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 - d serpentinous dolomitic marble
 - e calcitic dolomitic marble
 - t tremolitic dolomitic marble
 - B buff dolomitic marble
- 1 CALCITIC MARBLE
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 - b graphitic phlogopitic calcitic marble
 - c grey banded calcitic marble
 - d dirty calcisilicate rich calcitic marble
 - dd calcitic marble with calcisilicate bands
 - e dolomitic calcitic marble
 - p pink calcitic marble
 - s f.g. mylonite derived from calcitic marbles
 - G grey calcitic marble

MODIFIERS FOR ALL ROCK TYPES

- fg fine grained
- cg coarse grained
- phlog phlogopite
- R rusty

MINERALIZATION

- Zn Positive Zinc Test
- (Zn) Sphalerite (estimated <1% Zn)
- (Zn) Sphalerite (estimated >1% Zn)
- Pb Galena
- py Pyrite
- po Pyrrhotite

SYMBOLS

- ⊙ Organic Bank Sample Location
- ▲ Till Sample Location
- Rock Sample Location
- Soil Sample Location
- * Government Lake Sediment Sample Location
- ▲ Government Till Sample Location
- Government Rock Sample Location
- Outcrop
- ⊖ Subcrop or area of discontinuous outcrop
- ✱ Boulder or float
- ⚡ Scarp or steep slope
- ==--- Road, bush road, trail
- ⊖ Swamp, stream, lake
- ✱ Claim post, located, unlocated position assumed
- Fence
- High Tension Power Line with Towers
- Foliation showing dip
- Lincation showing plunge
- Minor fold, showing style and plunge direction
- Fault
- Geological contact

Recommendations

Mapping in the Canoe Lake area defined an area of weakly siliceous slightly dolomitic marbles. These may have some potential for hosting economic base metal mineralization. No discreet exploration targets were defined by the present work. No further work was recommended in Phase 2, as a more defined exploration target existed in the Buller Lake Area.

Otter Lake Area (Figure 7)

Location and Access

The Otter Lake area is located in the southeast corner of South Burgess Twp. at its junction with South Elmsley Twp. and Kitly and Bastard Twps. Access is by highway 15, which runs along the east side of Otter Lake and numerous county and township roads.

Geology

The geology of the Otter Lake Area is dominated by Grenville marbles. Local units of pelitic and quartzose metasediments are interbedded with the marble units. These Grenville rocks are unconformably overlain to the east by Paleozoic rocks. A large outlier of Cambro-Ordovician Potsdam group sandstone is present to the west of Otter Lake. A sample containing 360 ppm. zinc was collected by the GSC from Otter Lake during regional lake sediment sampling (sample 821197, OFR 899). Regional rock sampling by the OGS resulted in the collection of a sample containing 720 ppm. Zn from the east side of Otter Lake. (sample 1191, MDC 28).

Work Done

One man day was spent prospecting and mapping along roads south and east of Otter Lake in the area of the anomalous OGS rock sample.

Results

Mapping revealed that the marbles in the Otter Lake area are dominated by fairly pure very coarse grained dolomitic marbles. Locally there are narrow bands or sections of altered phlogopitic dolomitic marble, manganiferous buff dolomitic marble and white to pale grey calcitic marble. The coarse grained dolomitic marbles represent an extremely favourable rock type for hosting base metal mineralization, particularly in close proximity to a lake sediment anomaly. No mineralization worth sampling was observed during the preliminary reconnaissance.

GRENVILLE RECONNAISSANCE LEGEND

ROCK TYPES

- 8 **GRANITIC ROCKS**
 - a massive granitic intrusions
 - b granitic gneiss
 - c basement gneiss complex, migmatite
 - d granodiorite
- 7 **SYENITIC ROCKS**
 - a massive syenite
 - b syenite gneiss
- 6 **MAFIC ROCKS**
 - a gabbro
 - b diabase dyke
 - c amphibolite
 - d diorite
- 5 **METAVOLCANIC ROCKS**
 - a quartz-feldspar/-biotite gneiss
 - b intermediate metavolcanic gneisses
 - c mafic metavolcanics
 - d pillowed mafic volcanics
- 4 **METASEDIMENTARY ROCKS**
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 - c hornblende biotite gneiss
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- 3 **SILICATED DOLOMITIC MARBLES (>15% SILICATES)**
 - a serpentinous silicated dolomitic marble
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 - c dolomitic marble with bands massive diopside
 - d massive diopside
 - e quartz-diopside rock
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 - p pink calcitic marble
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 - G grey calcitic marble

MODIFIERS FOR ALL ROCK TYPES

- fg fine grained
- cg coarse grained
- phlog phlogopite
- R rusty

MINERALIZATION

- Zn Positive Zinc Test
- (Zn) Sphalerite (estimated <1% Zn)
- (Zn) Sphalerite (estimated >1% Zn)
- Pb Galena
- Py Pyrite
- po Pyrrhotite

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- ▲ Till Sample Location
- Rock Sample Location
- Soil Sample Location
- * Government Lake Sediment Sample Location
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- ✱ Claim post, located, unlocated position assumed
- — — — — Fence
- — — — — High Tension Power Line with Towers
- ↗ Poliation showing dip
- ↘ Lineation showing plunge
- ↖ Minor fold, showing style and plunge direction
- — — — — Fault
- — — — — Geological contact

Recommendations

The stratigraphy mapped in the Otter Lake area represents an extremely favourable environment for hosting base metal mineralization. It is recommended that a more detailed follow-up program consisting of regional drainage sampling, mapping and prospecting be carried out to better define the potential of this belt.

AREA 4, CANONTO LAKE AREA (Sheet 5, in pocket)

Location and Access

The Canonto Lake Area is located in eastern Ontario about 260 kms. northeast of Toronto, 100 kms. southwest of Ottawa in northern Palmerston and southern South Canonto Twp. Access is by township road northeast from the town of Ompah, which is located at the southwest end of the target area.

Geology

The target area is underlain by a northeast trending belt of interlayered paragneisses and carbonate rocks. Till sampling by the GSC returned high values in Zn and As from samples collected from over this stratigraphy. Zinc values ranged up to 930 ppm. while arsenic values ranged up to 235 ppm.

Work Done

Two man days were spent mapping, prospecting and sampling within the target area. Work was concentrated around the sites of anomalous GSC till samples. GSC sample sites were resampled to confirm their anomalies and detailed prospecting was carried out in the area of the anomalous samples.

Results

Results of the resampling of the GSC till sample sites failed to confirm the GSC till anomalies. The highest values obtained were only 68 ppm. Zn and 34 ppm. As. Mapping showed the marble belt was comprised of shaly calcitic marbles within a sequence of calcareous paragneisses. Minor fine grained disseminated sulphide mineralization was noted in siliceous bands within the calcitic marble southeast of the north end of Canonto Lake. A sample of this material (sample 016) returned values of 52 ppm. Zn, 240 ppm. Cu and 48 ppm. As.

Recommendations

As the GSC till anomaly, the prime reason for examining this area, did not reproduce, no further work is recommended.

PHASE 2 FOLLOW-UP EXPLORATION WORK

INTRODUCTION

Upon conclusion of the Phase 1 initial reconnaissance work it was decided that the Buller Lake area represented the best exploration target by far of all the areas examined to date.

It was decided to dedicate the entire Phase 2 follow-up to this area. Four claims had been staked in this area prior to initiation of the Phase 1 Preliminary Reconnaissance program. These claims covered soil geochemical anomalies that had been defined by Northgate the previous holders of the ground. An additional three claims were staked in early June as a result of the discovery of mineralization during Phase 1 work.

A program consisting of linecutting, detailed structural mapping and soil sampling was planned to delineate the extent of the mineralization on the claims and adjacent ground where permission had been obtained to carry out work. A limited amount of regional work consisting of reconnaissance mapping and drainage sampling was also planned.

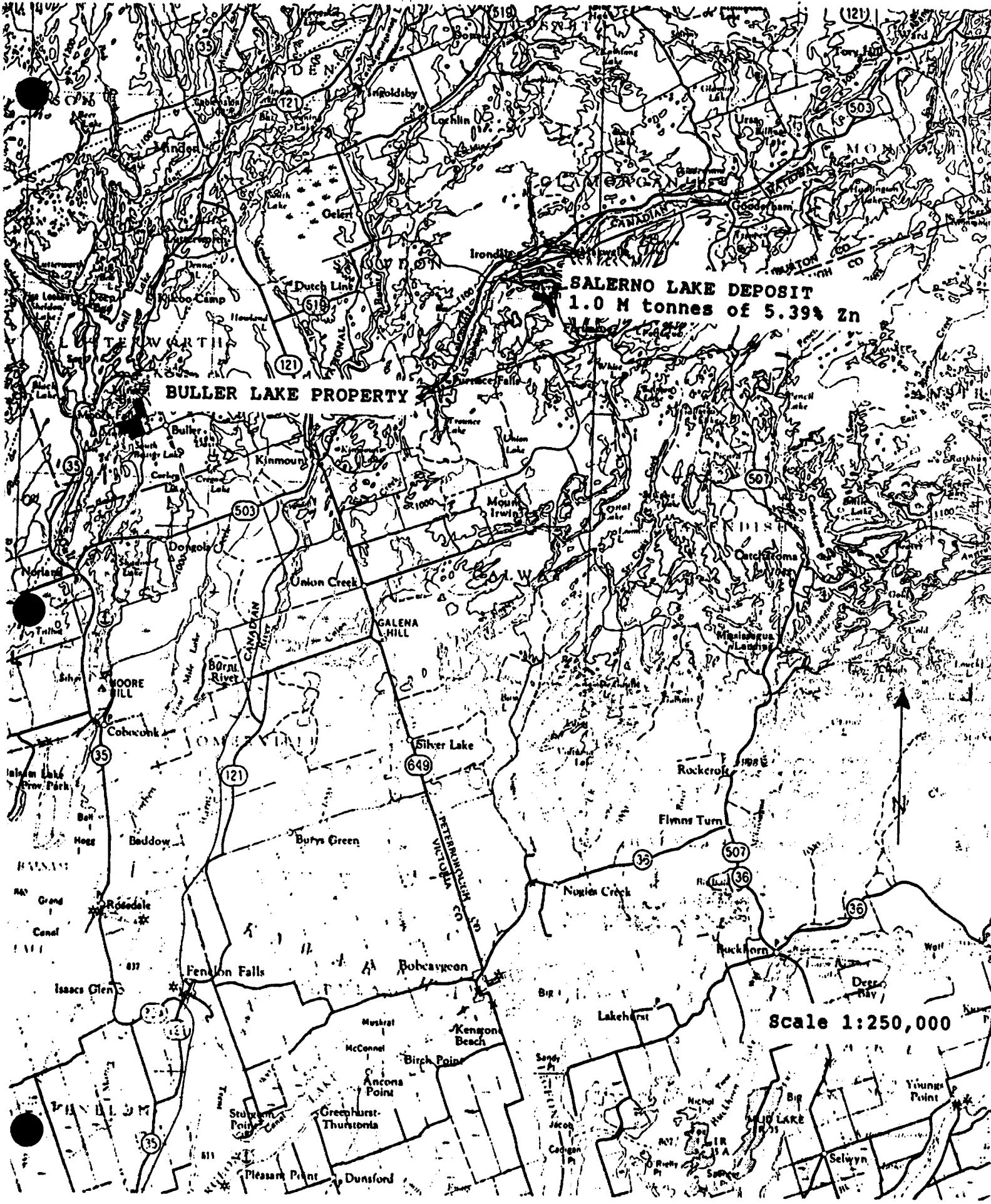
Location and Access

The Buller Lake Property is located in Lutterworth Township, Haliburton County about 140 kilometres northeast of Toronto, Ontario. The property is located 9 km. northeast of the town of Norland.

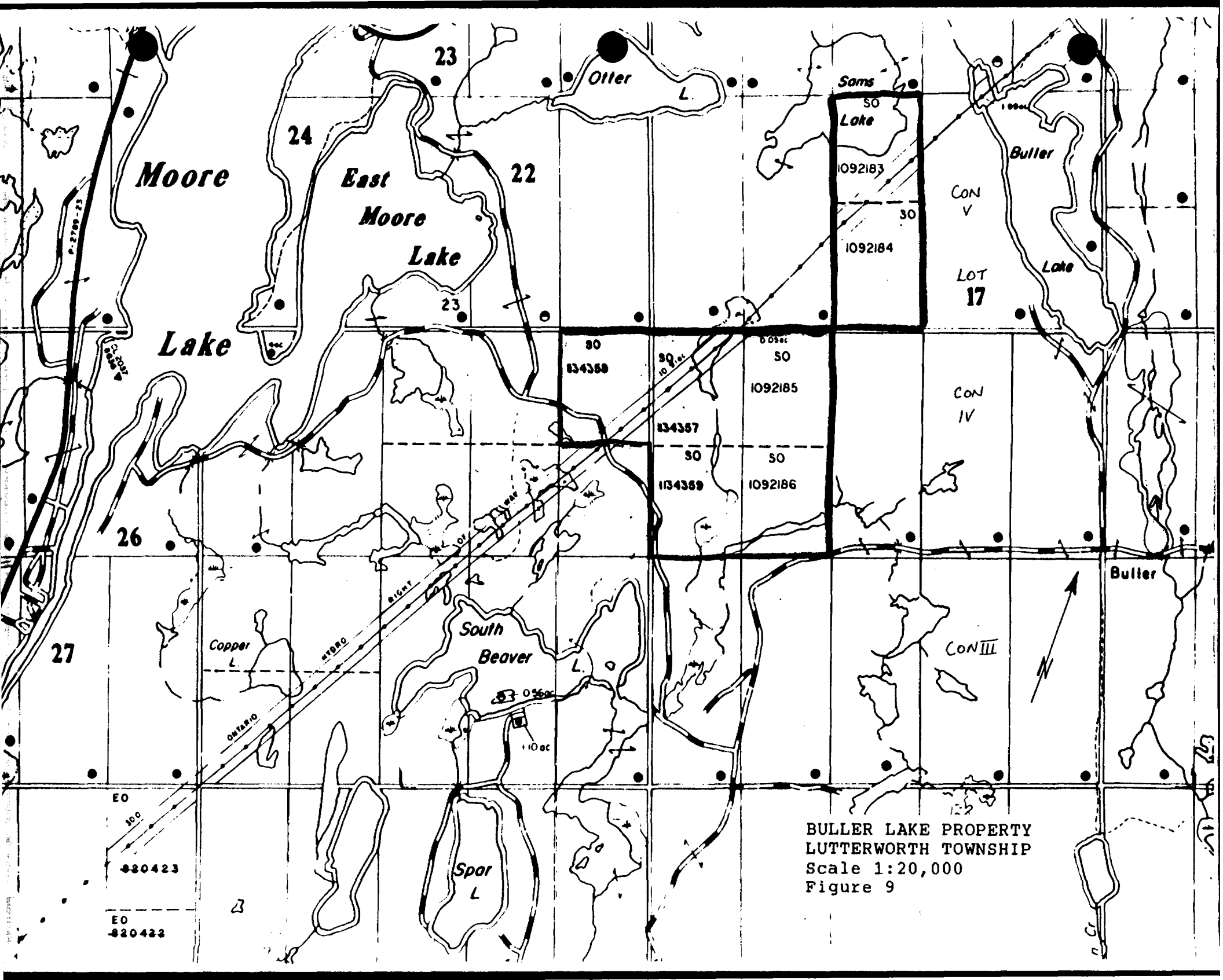
Access is via Highway 503 to a point about 2 km. east of Norland, thence northerly along the Buller Lake Road for about 6.4 km to a point where the road runs along the southern edge of the claim group. Property location and access is shown on Figure 8.

Property

The property consists of seven unpatented mining claims located on crown lands. These total 141.6 hectares (350 acres). Permission was obtained from the Wessell family (Lots 19 to 22, Con. V) and Mr. & Mrs. F. Winkelaar (Lot 18, Con. V) to carry out prospecting and detailed geologic mapping on their properties adjacent to the claims. The property status is shown on Figure 9 and Table 1.



BULLER LAKE PROPERTY, LOCATION Figure 8



BULLER LAKE PROPERTY
 LUTTERWORTH TOWNSHIP
 Scale 1:20,000
 Figure 9

Moore

East
Moore
Lake

Otter
L.

Sams
50
Lake

Buller

Lake

Lake

80
834358

30 ac
834357

50 ac
1092185

CON
V

LOT
17

CON
IV

50
1134359

50
1092186

CON
III

Buller

South
Beaver
L.

Spar
L.

EO
100
820423

EO
820422

Buller Lake Property, Lutterworth Township
Property Status

Table 1

Claim	Lot	Concession	Acres	Hectares
SO 1092183	N 1/2 18	V	50	20.2
SO 1092184	S 1/2 18	V	50	20.2
SO 1092185	N 1/2 19	IV	50	20.2
SO 1092186	S 1/2 19	IV	50	20.2
SO 1134357	N 1/2 20	IV	50	20.2
SO 1134358	N 1/2 21	IV	50	20.2
SO 1134359	S 1/2 20	IV	50	20.2
TOTAL			<u>350</u>	<u>141.6</u>

Previous Work

The claims forming part of the property have previously seen exploration by a number of companies. Most recently the claims were explored for zinc mineralization by St. Joseph Explorations in the late 1970's early 1980's, and Northgate Exploration Ltd. in the mid 1980's.

St. Joseph carried out magnetometer, VLF, soil geochemical, and geological surveys. Northgate carried out magnetometer, VLF, soil geochemical and geological surveys on the claims. Some of the soil geochemical anomalies were later trenched.

The results of St. Joseph's geological and geochemical work were not filed for assessment so are not available. Analysis of Northgate's work revealed that the quality of the work in general was poor. The quality of the geologic mapping is such that it does little to define the setting of their geochemical anomalies with respect to specific rock units or structures. Most of the trenching carried out as a follow-up to the soil geochemistry was carried out over rusty paragneiss bands in the calcitic marbles while anomalies over the geologically more favourable dolomitic marbles appear to have been unexplored.

Regional Geology

The Buller Lake Property is located over the northwestern edge of Grenville supergroup rocks near their contact with gneisses of the middle Precambrian Central Gneiss Belt. The property is underlain by a sequence of dolomitic marbles, which appear to overly a sequence of calcitic marbles, quartzites, rusty paragneisses and amphibolites. Structure is complex as the area is situated within the Denna Lake Structural Complex, a highly deformed zone at the contact between the supergroup rocks and the Central Gneiss Belt.

Work Done

Linecutting

During the period from September 10, 1990 to September 14, 1990, and from October 11, 1990 to October 19, 1990 a total of 16,303 metres of grid line were established covering the Buller Lake claims and adjacent ground, where permission to map and prospect had been obtained. During the period from October 11, 1990 to October 19, 1990 the linecutting was interspersed with mapping due the inclement weather which hampered mapping.

On the claims, lines were cut and picketed, while on the adjacent ground a flagged and picketed grid was established. The grid lines were spaced at 100m and the lines were chained and picketed at 30m intervals. An attempt was made to tie in the line locations to the locations of old St. Joseph and Northgate grid lines. Lines cut and chained are tabulated on Table 2.

BULLER LAKE LINECUTTING

Table 2

LINE	FROM	TO	METRES
BL 0+00	900 S	350 N	1250
L 8+84S	270 W	289 E	559
L 8+94S	540 W	330 W	210
L 8+12S	240 W	110 E	350
L 8+09S	538 W	330 W	208
L 7+06S	539 W	285 E	824
L 6+11S	240 W	287 E	527
L 6+09S	524 W	346 W	178
L 5+09S	503 W	300 W	203
L 5+09S	240 W	288 E	528
L 4+08S	917 W	585 W	332
L 4+05S	510 W	278 E	788
L 3+05S	917 W	281 E	1198
L 2+05S	917 W	340 W	577
L 2+05S	283 W	288 E	571
L 1+05S	917 W	360 W	557
L 0+87S	287 W	0 E	287
L 1+00S	0 E	284 E	284
L 0+00	226 W	279 E	505
L 0+00	918 W	345 W	573
L 1+00N	85 W	660 E	745
L 2+00N	135 W	90 E	225
L 3+00N	150 W	150 E	300
TL 4+05W	305 S	0 N	305
TL 5+00W	894 S	509 S	385
TL 9+17W	408 S	205 S	203
TL 3+50N	0 E	305 E	305
TL 0+90E	200 N	230 N	30
TL 6+19N	305 E	604 E	299
L 3+05E	305 N	890 N	585
L 3+15E	300 N	874 N	574

BULLER LAKE LINECUTTING

Table 2
contd.

LINE	FROM	TO	METRES
L 4+03E	232 N	894 N	662
L 4+08E	290 N	1110 N	820
L 5+04E	100 N	187 N	87
L 5+05E	100 N	194 N	94
L 6+04E	100 N	158 N	58
L 6+12E	100 N	217 N	117

TOTAL

16303 METRES

Geologic Mapping

Detailed 1:2000 scale geologic mapping was carried out on the cut grid. All outcrops, including those between lines were mapped in key areas of favourable stratigraphy and important structures. In less critical areas mapping was restricted to within 25 metres either side of the 100 metre spaced lines. Where mineralization or potentially mineralized rock was noted rock samples were collected. Seventeen rock samples were collected from the grid. The rocks were analyzed for major and trace elements, so as to define the character of the host rocks and the mineralization.

The rocks were analyzed for Al₂O₃%, BaO%, CaO%, Fe₂O₃%, K₂O%, MgO%, MnO%, Na₂O%, P₂O₅%, SiO₂%, TiO₂%, LOI%, Ag ppm., As ppm., Bi ppm., Cu ppm., Cd ppm., Hg ppb., Mo ppm., Pb ppm., Sb ppm., Se ppm., and Zn ppm. by a variety of methods.

Drainage Sampling

During the geologic mapping, organic bank samples were collected from streams and bogs in the area of the observed mineralization to determine the geochemical signature in this sample medium. A total of 15 samples were collected from the property.

The -80° fraction of the samples was digested using a nitric-aqua regia acid mixture and then analyzed for Co, Cu, Fe, Mn, Mo, Ni, Pb, and Zn using inductively coupled plasma spectrometry and for Ag, As, Bi, and Sb using atomic absorption spectrophotometry.

Soil Sampling

A total of 329 organic A horizon soils were collected over a portion of the grid at 15 m intervals on lines 50-100 m apart in order to trace out extensions of the observed mineralization. Care was taken to obtain well decomposed material from the A₁ layer. The -80° fraction of the samples was digested using a nitric-aqua regia acid mixture and then analyzed for Co, Cu, Fe, Mn, Mo, Ni, Pb, and Zn using inductively coupled plasma spectrometry and for Ag, As, Bi, Sb and Hg using atomic absorption spectrophotometry.

Reconnaissance Mapping, Prospecting and Drainage Sampling

A limited amount of reconnaissance mapping and prospecting was carried out beyond the limits of the Buller Lake Property. Two man days were spent traversing Lots 19-22, Con.V, just to the northwest of the claims. Another two man days were spent traversing along roads north and east of the property.

Organic bank samples were collected on the reconnaissance traverses in order to locate possible extensions of the mineralization. The -80° fraction of the samples was digested using a nitric-aqua regia acid mixture and then analyzed for Co, Cu, Fe, Mn, Mo, Ni, Pb, and Zn using inductively coupled plasma spectrometry and for Ag, As, Bi, and Sb using atomic absorption spectrophotometry.

Results

Geology

Results of the geologic mapping on the Buller Lake Property are shown on the Buller Lake Property, Geology and Sample Location Map (Sheet 6, in pocket).

The eastern part of the property is underlain by a sequence of dolomitic marbles, silicated dolomitic marbles and quartzites. These appear to conformably overly a sequence of calcitic marbles with interbands of rusty paragneiss and granitic gneiss. The calcitic marble sequence has been intruded by a number of pegmatite bodies. A few pegmatites have also intruded the dolomitic marble sequence most commonly in the noses of folds.

Structure is complex. All the rock units generally strike north-south and dip easterly at 20-30 degrees on the southern part of the claims. On the northern part of the claims regional strike is northeasterly and dip is 20-30 degrees to the southeast.

Detailed structural mapping on the property and regional geology seems to suggest that the rocks have undergone at least three phases of folding. The earliest phase of folding appears to have been isoclinal about N-S trending shallowly east dipping axial planes. These first phase folds were then refolded by a second phase of isoclinal or nearly isoclinal folding about generally east-west trending fold axes. This was followed by a third phase of open folding about generally north-south fold axes.

This structural interpretation seems to best explain the distribution of rock types on the property and regionally. Further work is required to confirm this structural hypothesis and to more precisely define the locations of fold axes.

The distribution of rock types on the property when unravelled using the structural hypothesis above seems to suggest that the property is underlain by a fairly narrow stratigraphic interval. Stratigraphy of the property is shown on Table 3.

Buller Lake Property Stratigraphy

Table 3

Unit	Estimated Thickness
Silicated Dolomitic Marbles	Unknown, top of sequence not seen in map area
Quartzite	1 - 15 metres
Dolomitic Marble (Mineralized unit)	10 - 50 metres
Calcitic Marble & Paragneiss	Unknown, bottom of sequence not seen in map area

Significant zinc mineralization was discovered within the dolomitic marble unit in two areas on the property.

Disseminated sphalerite was discovered within the dolomitic marbles in the area extending from 1+20 W to 1+50 E at about 2+30 N. Best values were obtained from samples from the eastern end of this showing on the edge of a large swamp. Grab samples grading 2.17% Zn (sample 021), 3.25% Zn (sample 022) and 4.68% Zn (sample 019) were collected from this area. Minor disseminated sphalerite was also discovered along strike in the same dolomitic marble unit along the edges of the swamp at 1+60 N, 4+10 E (sample 024, 875 ppm. Zn), 0+92 N, 4+20 E (sample 1007, 800ppm. Zn), and 0+96 N, 6+02 E (sample 1006). Besides zinc, the mineralization contains anomalous levels of Pb, Cu, Sb, Bi, Ag and Hg.

Scattered disseminated sphalerite mineralization was also noted within the dolomitic marbles in the area from 6+00 N to 6+90 N from 2+50 E to 5+50 E. A sample of this mineralization returned a value of 0.98% Zn (sample 025).

Small isolated occurrences of disseminated sphalerite were also noted at 10+92 N, 6+12 E (sample 1008, 2200 ppm. Zn), 2+17 S, 1+54 W (sample 027, 300 ppm. Zn), 0+50 E to 0+70E, 1+00 N, 0+03 E, 1+42 N, and 8+84 S, 0+52 E (sample 028, 2250 ppm. Zn).

Organic A Horizon Soil Results

Results of the soil sampling are shown on a plot of the zinc values (Sheet 7 in pocket). A sample location plan is included as Sheet 8, in pocket).

The Zn distribution has a range of 56-2610 ppm and is characterized by two overlapping populations (Figure 10). The zinc threshold is generally in the order of 350 ppm in this geological environment based on past experience. On that basis and the form of the histogram, values of 350-550 ppm are considered possibly anomalous and values greater than 550 ppm are considered definitely anomalous.

The anomalous population appears to define the extension of the observed mineralization south from the swamp occurrence and east from the power line occurrence. Curiously, soils immediately west of the swamp occurrence where minor sphalerite was noted in outcrop yield only high background values of 250-350 ppm.

Although it was observed that the mineralization contains anomalous levels of Pb, Sb, and Hg, the known occurrences were not delineated by anomalous levels of these elements in soils. Instead, large areas of high background to possibly anomalous levels occur over the stratigraphic interval hosting the mineralization. However, the sampling was not extensive enough to clearly differentiate this signature from that of the overlying quartzite and underlying calcitic marble sequences. A few localities are anomalous in Zn, Pb, Cu, Sb, Bi, Ag, and Hg but the detail of sampling was insufficient to define the extent of these possible targets.

In summary, the limited extent of the soil survey precludes any definitive conclusions. However, the distribution of Zn appears to best define the trace of the mineralized horizon. A number of localities are anomalous in other elements but their significance is unknown at this time. More detailed and comprehensive sampling is required.

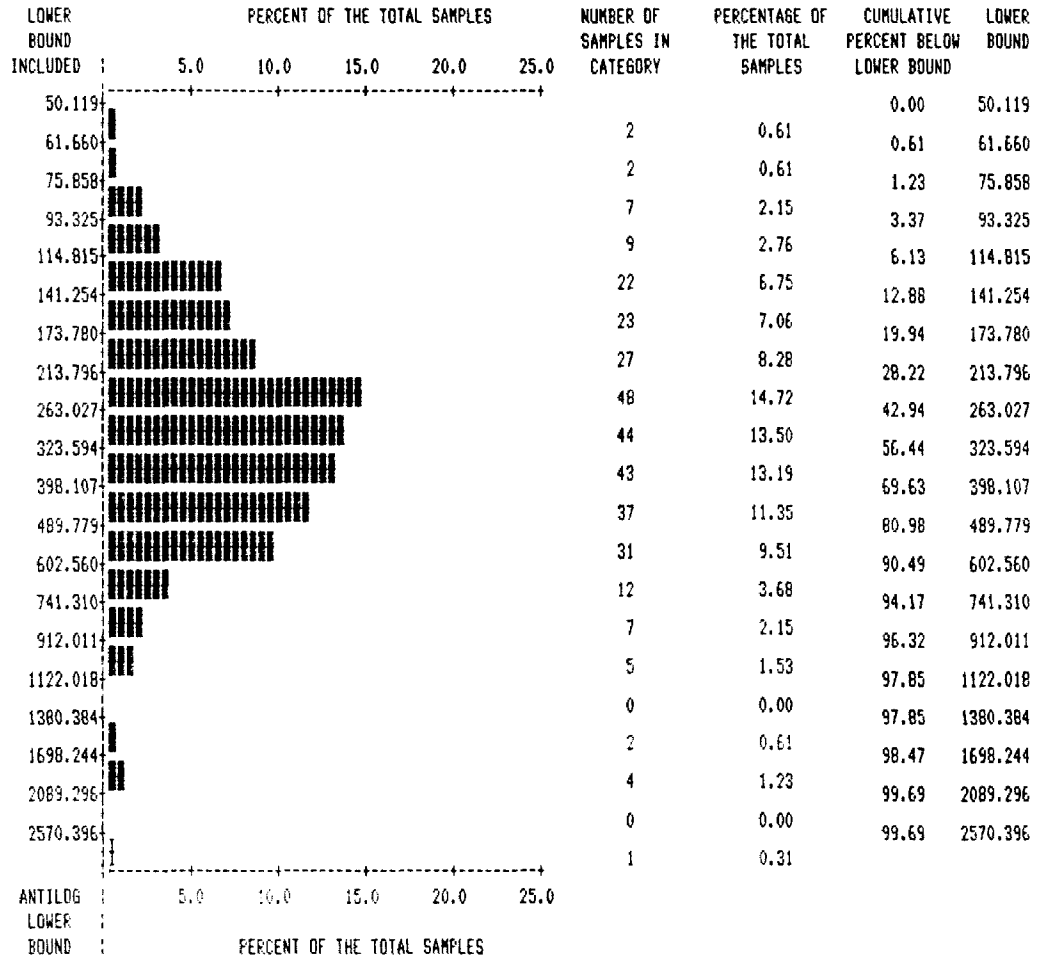
Reconnaissance Mapping, Prospecting and Drainage Sampling

The reconnaissance mapping, prospecting and drainage sampling carried out northwest of the Buller Lake claims demonstrated that the host dolomitic marble is present in that area. Results of this reconnaissance work are shown on Sheet 3 (in pocket). No mineralization was noted within the host dolomitic marble in this area. Three organic bank samples collected on Lot 21, Con 5, just south of Otter Lake gave slightly anomalous values in Zn. Further work is recommended in this area.

Reconnaissance carried out along roads east of the Buller Lake claims (Sheet 1 and 3, in pocket), while useful in defining the limits of the favourable stratigraphy failed to come up with anything of interest.

DATA TITLE : BULLER LAKE ORGANIC SOILS 1990

VARIABLE: ZN



VARIABLE:	ZN	ANTILOG ZN
NUMBER OF OBSERVATIONS:	326	
MINIMUM:	1.748	56.000
MAXIMUM:	3.417	2610.000
MEAN:	2.468	293.664
STANDARD ERROR OF MEAN:	0.015	
STANDARD DEVIATION:	0.273	
COEFFICIENT OF VARIATION:	11.075	
SKEWNESS:	0.256	
KURTOSIS:	0.606	

WE WILL NOW MAKE ANOTHER PASS THROUGH THE DATA.

Recommendations

Results of work carried out to date indicates widespread zinc mineralization is present within a dolomitic marble unit on the property. The host dolomitic marble occurs at the contact of the underlying calcitic marble sequence and the overlying dolomitic and silicated dolomitic marbles and quartzites. Structure is complex with at least three phases of folding, the first two of which are isoclinal in style or close to it. Regional dips are very flat ranging from 10-30 degrees to the southeast. Plunges on the folds are also very shallow.

Mapping of the host dolomitic marble unit on the property has demonstrated that

- 1) significant zinc mineralization is present within the host dolomitic marble unit along the edges of a large swamp on the south part of Lot 19, Concession IV.
- 2) due to the structural style and the recessive weathering nature of the host unit it is poorly exposed on the property, largely being confined to swampy areas or occurring at depth beneath hills formed by the overlying silicated dolomitic marbles and quartzites.
- 3) due to the flat dips and plunges it can be expected that the host unit occurs at relatively shallow depths (<200 metres) over most of the property.

Sampling of the mineralization discovered to date has returned values of up to 5.43% Zn in grab samples. In addition to Pb, unusually high levels of Ag, Cu, Cd, Hg, and Sb are present.

Excellent exploration targets are thought to exist in the host dolomitic marble at relatively shallow depths (<200 metres). These targets can be further delineated by locating the presence of favourable structures (ie. the noses of first or second phase isoclinal folds) which have a spatial relationship to surface mineralization and multi-element soil geochemical anomalies.

Additional soil sampling and more detailed structural mapping in key areas is recommended in order to define targets for diamond drilling.

APPENDIX A

Time Summary and Daily Report Forms

OPAP TIME SUMMARY

DAY	DATE	OPAP FILE		ACTIVITY	AREA	PHASE
		OP90-208	OP90-207			
		A. SOEVER	R. JACKSON			
1	22-5-90	1	1	MAPPING AND PROSPECTING KINMOUNT ANOMALY	AREA 1	1
2	23-5-90	1	1	MAPPING AND PROSPECTING BULLER LAKE AREA	AREA 1	1
3	24-5-90	1	1	MAPPING AND PROSPECTING KINMOUNT ANOMALY AND REGIONALLY	AREA 1	1
4	25-5-90	1	1	MAPPING AND PROSPECTING LITTLE BOBS LAKE & HWY 35	AREA 1	1
5	30-7-90	1	1	MAPPING AND PROSPECTING PALMERSTON	AREA 4	1
6	31-7-90	1	1	MAPPING AND PROSPECTING PALMERSTON, PIKE LAKE	AREA 3&4	1
7	1-8-90	1	1	MAPPING AND PROSPECTING DUCK BAY, GRIPPEN CREEK	AREA 3	1
8	2-8-90	1	1	MAPPING AND PROSPECTING CANDE LAKE, OTTER LAKE	AREA 3	1
9	10-9-90	1		LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
10	11-9-90	1		LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
11	12-9-90	1		LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
12	13-9-90	1		LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
13	14-9-90	1		LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
14	9-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE AREA	AREA 1	2
15	10-10-90	1	1	MAPPING AND PROSPECTING APSLEY AREA	AREA 2	1
16	11-10-90	1	1	LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
17	12-10-90	1	1	LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
18	13-10-90	1	1	LINECUTTING, BULLER LAKE PROPERTY	AREA 1	2
19	14-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
20	15-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
21	16-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
22	17-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
23	18-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
24	19-10-90	1	1	MAPPING AND PROSPECTING, BULLER LAKE AREA	AREA 1	2
25	20-10-90	1		MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
26	21-10-90	1		MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
27	23-11-90	1	1	SOIL SAMPLING, BULLER LAKE PROPERTY	AREA 1	2
28	24-11-90	1	1	SOIL SAMPLING, BULLER LAKE PROPERTY	AREA 1	2
29	25-11-90	1		MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
30	26-11-90	1		MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
31	30-11-90	1		MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
32	1-12-90	1		MAPPING AND PROSPECTING, BULLER LAKE PROPERTY	AREA 1	2
33	3-12-90			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
34	4-12-90			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
35	7-12-90	0.5		COMPILATION, DRAUGHTING AND REPORT WRITING		
36	13-12-90			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
37	14-12-90			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
38	20-12-90	0.5		COMPILATION, DRAUGHTING AND REPORT WRITING		
39	2-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
40	3-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
41	4-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
42	11-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
43	17-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
44	18-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
45	24-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
46	25-1-91			1 COMPILATION, DRAUGHTING AND REPORT WRITING		
47	28-1-91	1		1 COMPILATION, DRAUGHTING AND REPORT WRITING		

Total Days ----- 34 34

DAILY TRAVERSE REPORT

Traverse Number 32

Project Number: OPP BUL Full N.T.S.: 31 D/15 Date: Dec 1, 1990

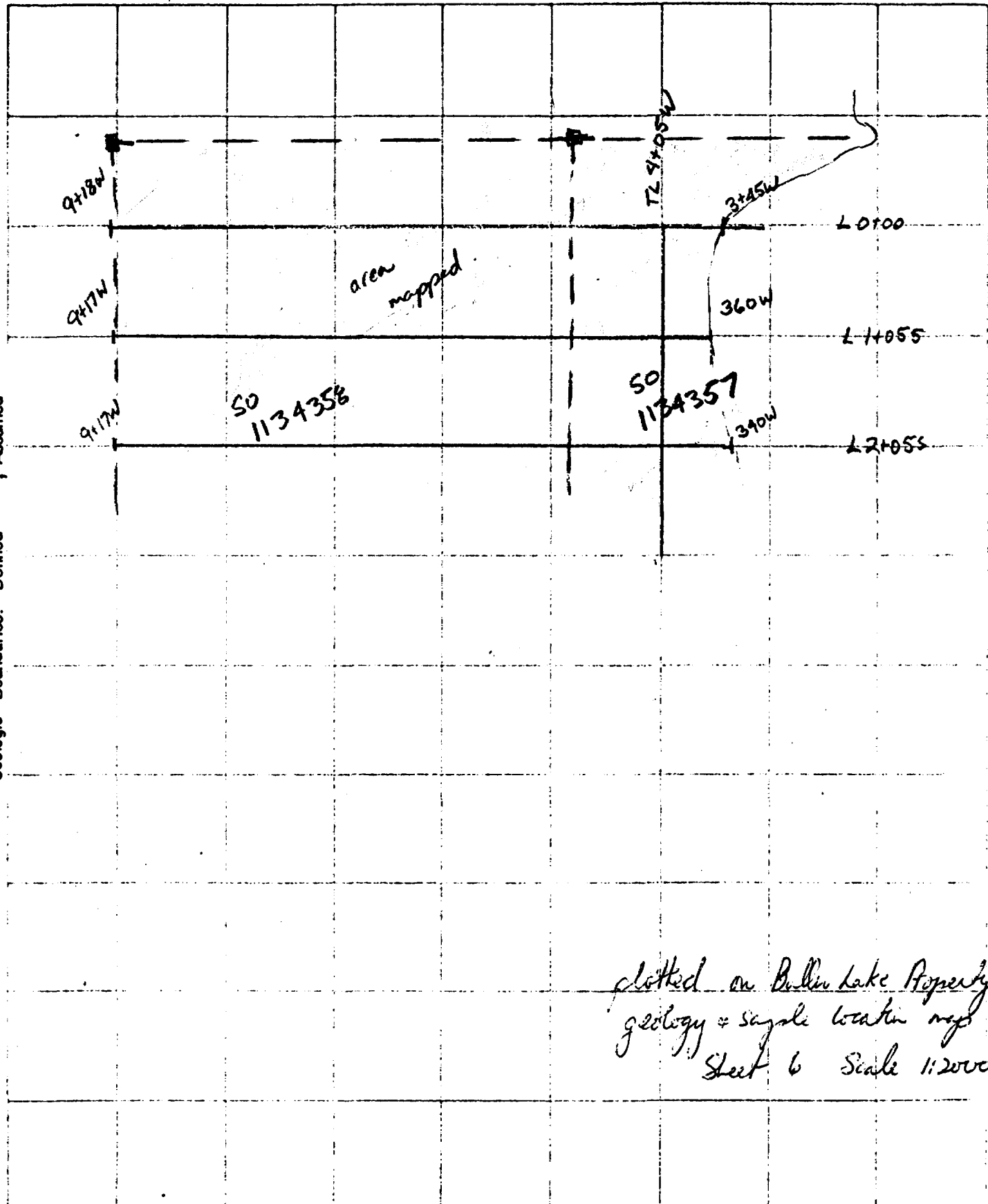
Project Name: Buller Lake Map Name: Buller Lake Scale: 1:5000

Personnel: A. Soever Air Photos: _____ Percent Outcrop: _____

Sample Numbers: N/A geologic mapping Rock - Silt - x
Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, crossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



plotted on Buller Lake Property
geology + sample location map
Sheet 6 Scale 1:2000

DAILY TRAVERSE REPORT

Traverse Number 31

Project Number: OPP BUL Full N.T.S.: 31 D115 Date: Nov 30, 1990

Project Name: BULLER LAKE Map Name: BULLER Scale: 1:5000

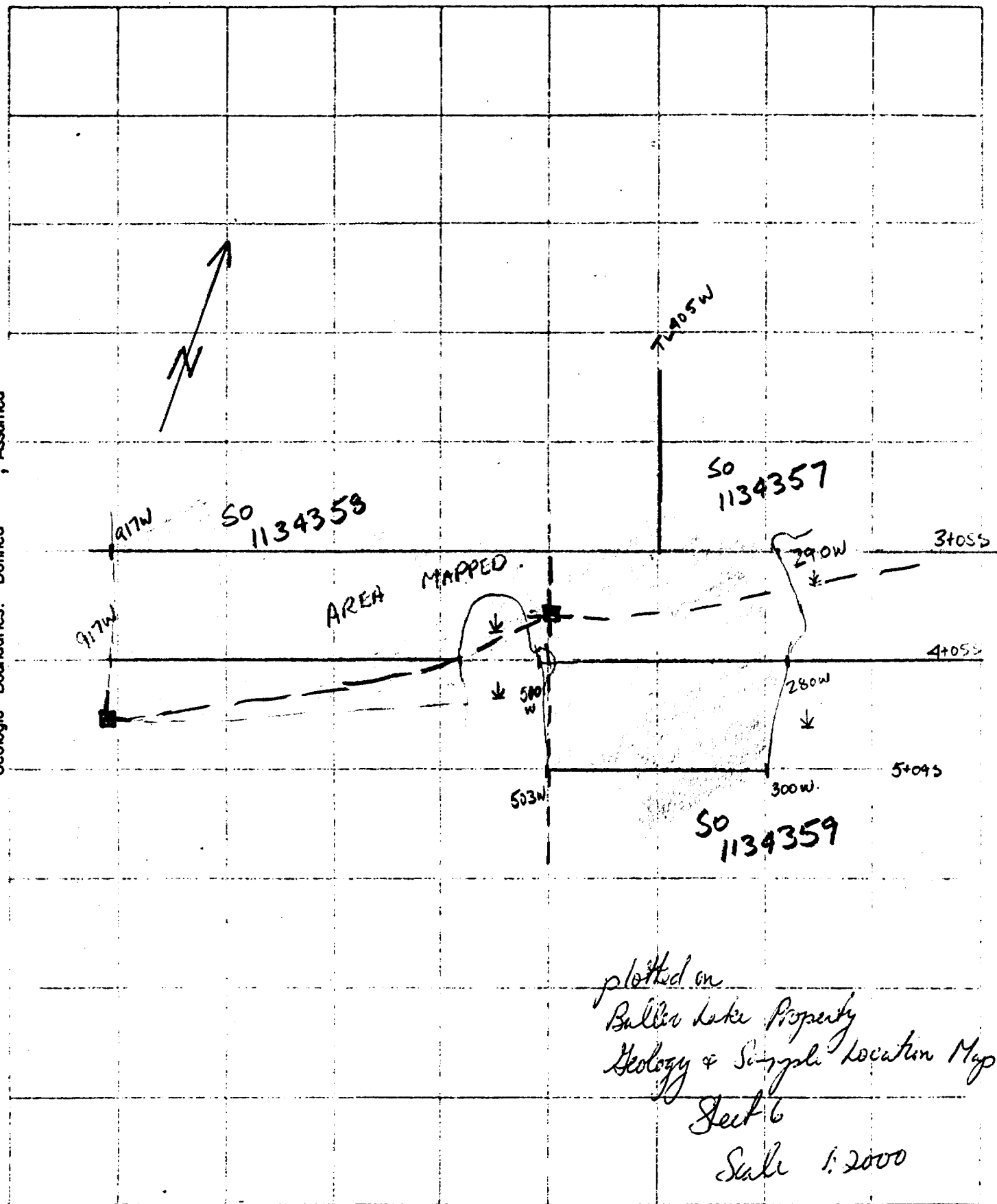
Personnel: A. SOEVER Air Photos: N/A Percent Outcrop: _____

Sample Numbers: N/A Geologic Mapping Rock - Silt - x

Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined _____, Assumed - - - -



plotted on
Buller Lake Property
Geology & Sample Location Map
Sheet 6
Scale 1:2000

ST. JOSEPH EXPLORATIONS

DAILY TRAVERSE REPORT

Traverse Number 28

Project Number: OPP BUL

Full N.T.S.: 31 D/15

Date: Nov 24, 1990

Project Name: Buller Lake Property

Map Name: _____

Scale: 1:5000

Personnel: R.G. Jackson

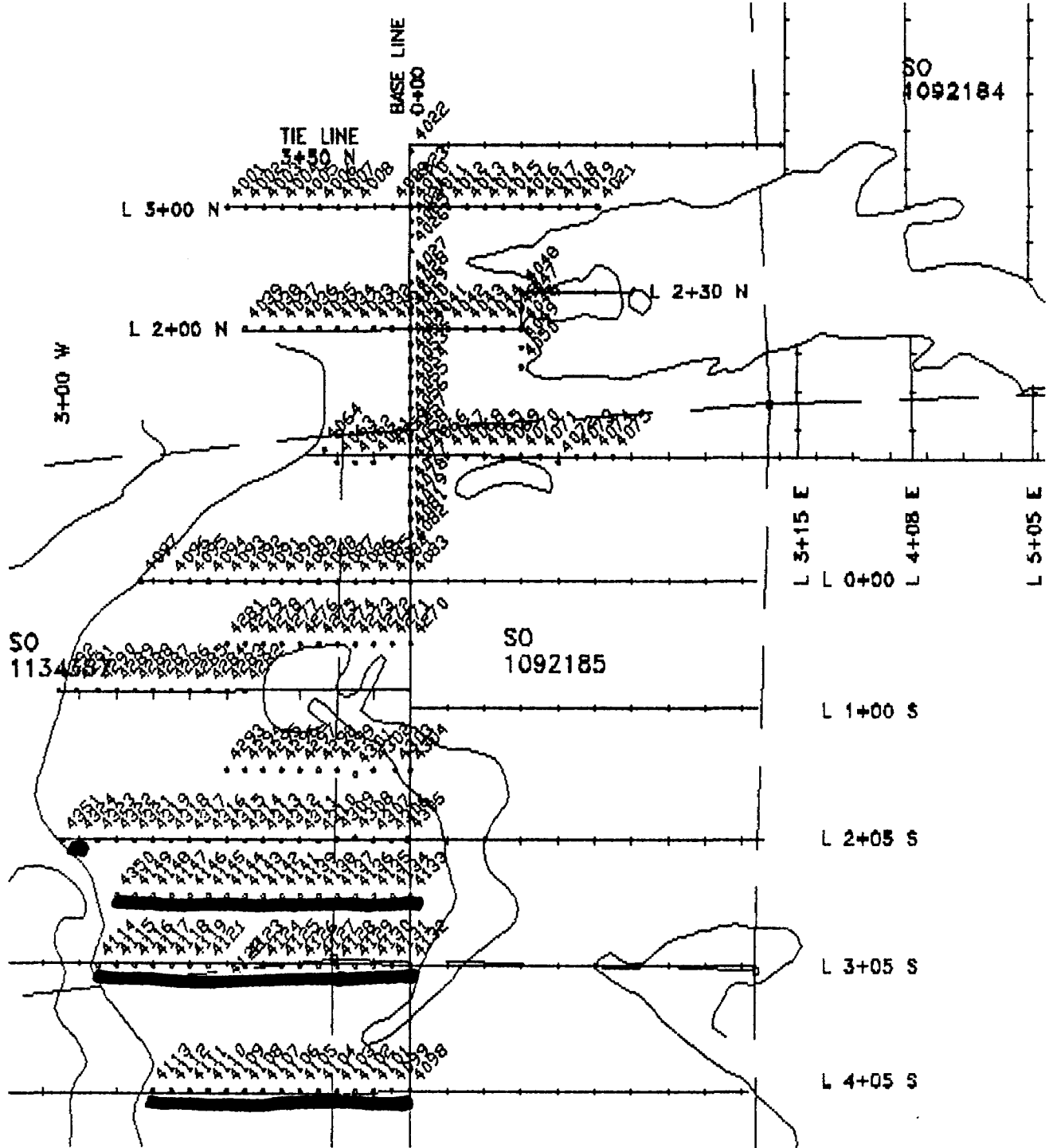
Air Photos: _____

Percent Outcrop: _____

Sample Numbers: Soil Sampling Buller Lake Property
Samples 4098, 4149, 4350, 4351

Rock - Silt - x
Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.



— lines sampled.

DAILY TRAVERSE REPORT

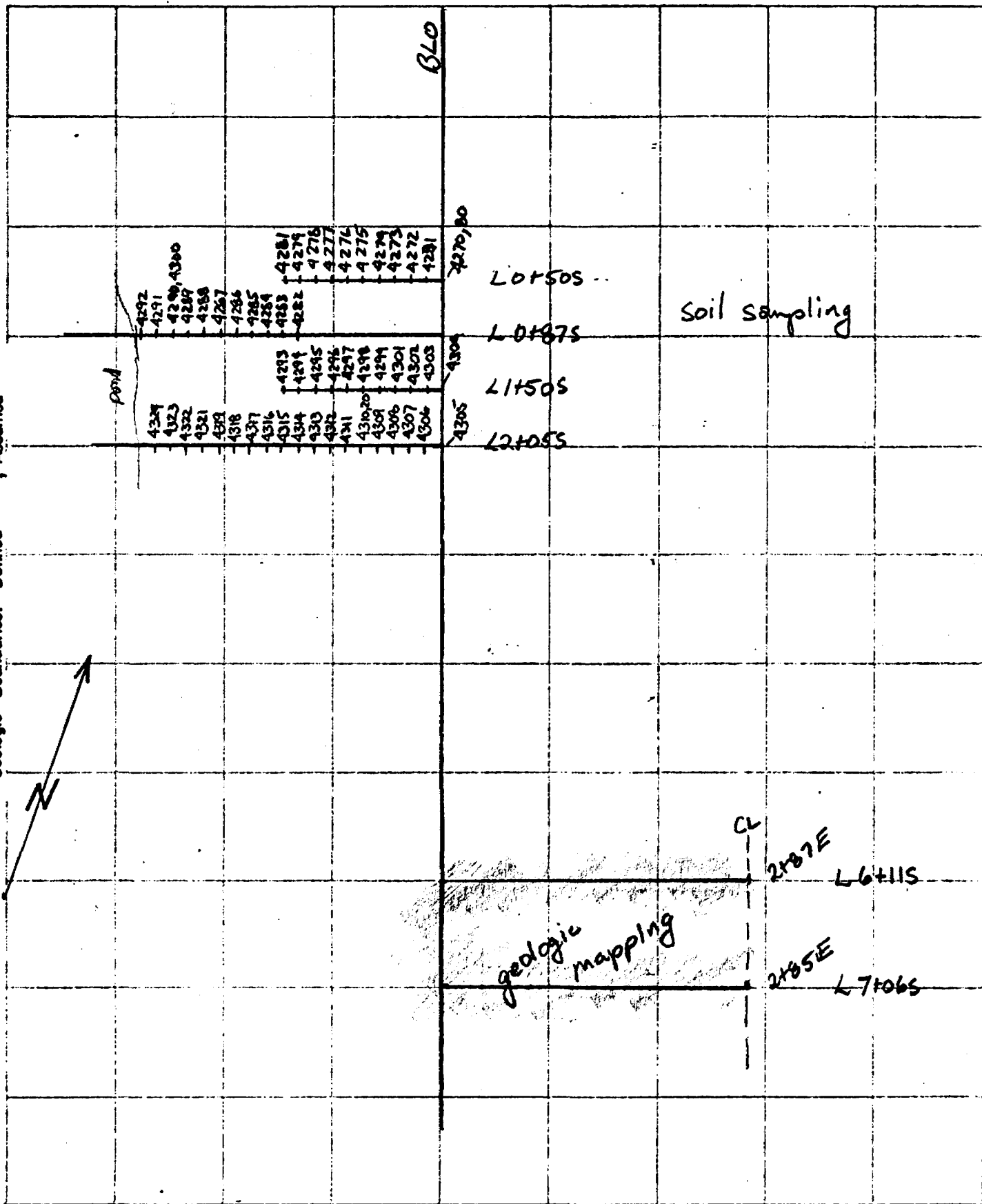
Traverse Number 28

Project Number: OPP BUL Full N.T.S.: 31P/15 Date: Nov 29, 1970
 Project Name: Butterlake Map Name: Butler Scale: 1:5000
 Personnel: A. Soever Air Photos: N/A Percent Outcrop: _____
 Sample Numbers: 4270 - 4324

Rock - Silt - x
 Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



ST. JOSEPH EXPLORATIONS

DAILY TRAVERSE REPORT

Traverse Number 27

Project Number: OPP BUL

Full N.T.S.: 31 0/15

Date: Nov 23, 1990

Project Name: Buller Lake

Map Name: Buller Lake Property

Scale: 1:5000

Personnel: R. G. Jackson

Air Photos: _____

Percent Outcrop: _____

Sample Numbers: Soil Sampling, Buller Lake Property
4001 - 4097

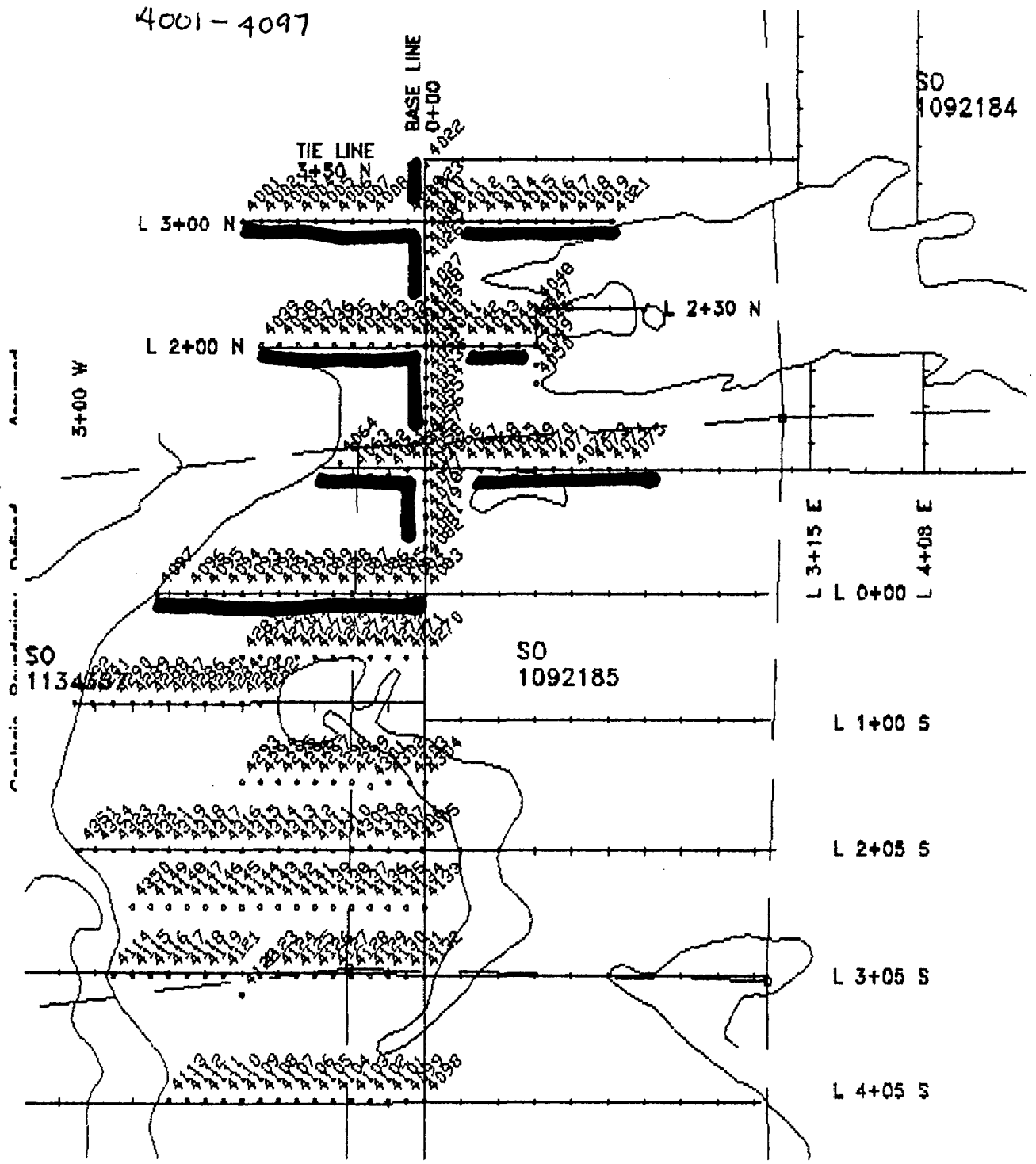
Rock -

Silt - x

Soil - •

Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.



— Lines Sampled.

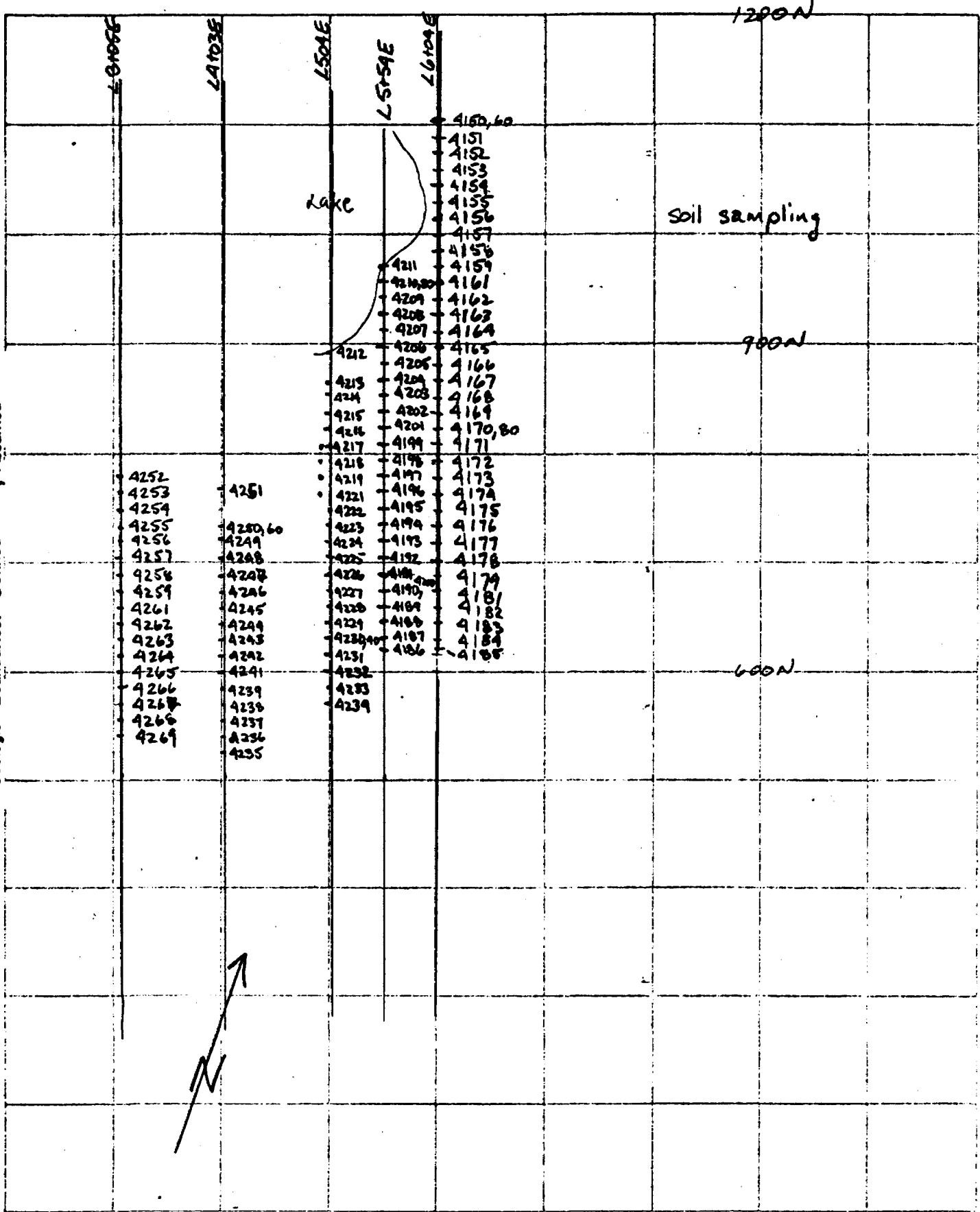
DAILY TRAVERSE REPORT

Traverse Number 27

Project Number: OPP BUL Full N.T.S.: 31 0/15 Date: Nov 23, 1990
 Project Name: Buller Lake Map Name: Buller Scale: 1:5000
 Personnel: A. Soever Air Photos: N/A Percent Outcrop: _____
 Sample Numbers: 4150 - 4269 Rock - Silt - x
 Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -



DAILY TRAVERSE REPORT

Traverse Number 26

Project Number: OPP BUL Full N.T.S.: 31 D/15 Date: Oct 21, 1990

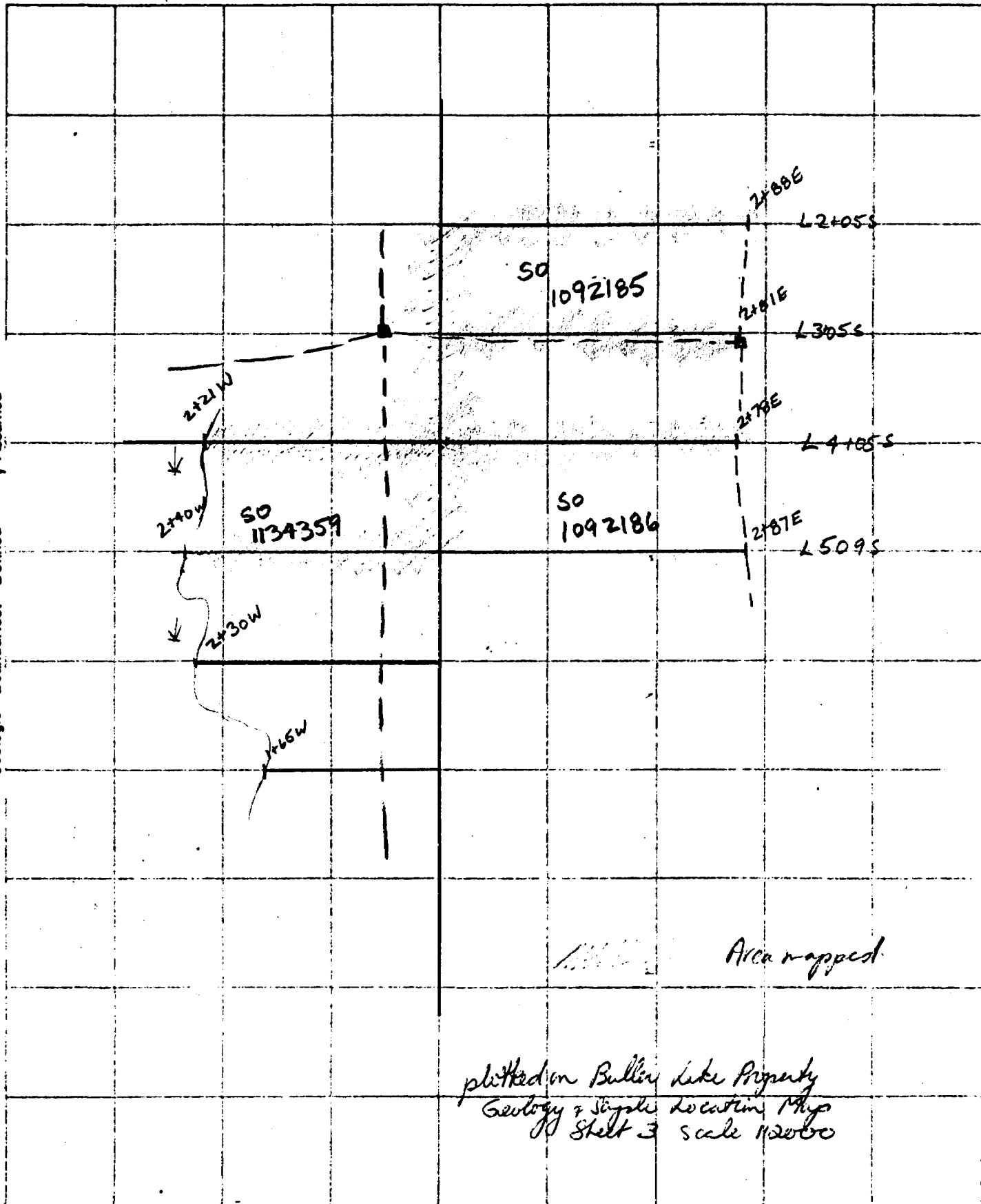
Project Name: Buller Lake Map Name: Buller Scale: 1:5000

Personnel: A. Sower Air Photos: _____ Percent Outcrop: _____

Sample Numbers: N/A geologic mapping Rock - Silt - x
Buller Lake Property Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, cross-sections, cabins, trails, geology, and geographic coordinates, if possible.

Geologic Boundaries: Defined _____, Assumed _____



plotted on Buller Lake Property
 Geology & Sample Location Map
 Sheet 3 scale 1:2000

DAILY TRAVERSE REPORT

Traverse Number 25

Project Number: OPP BUL Full N.T.S.: 31 D/15 Date: Oct 22, 1990

Project Name: Buller Lake Map Name: Buller Scale: 1:5000

Personnel: A. Soever Air Photos: _____ Percent Outcrop: _____

Sample Numbers: Geologic Mapping 010017, 010018, 027 Rock - Silt - x

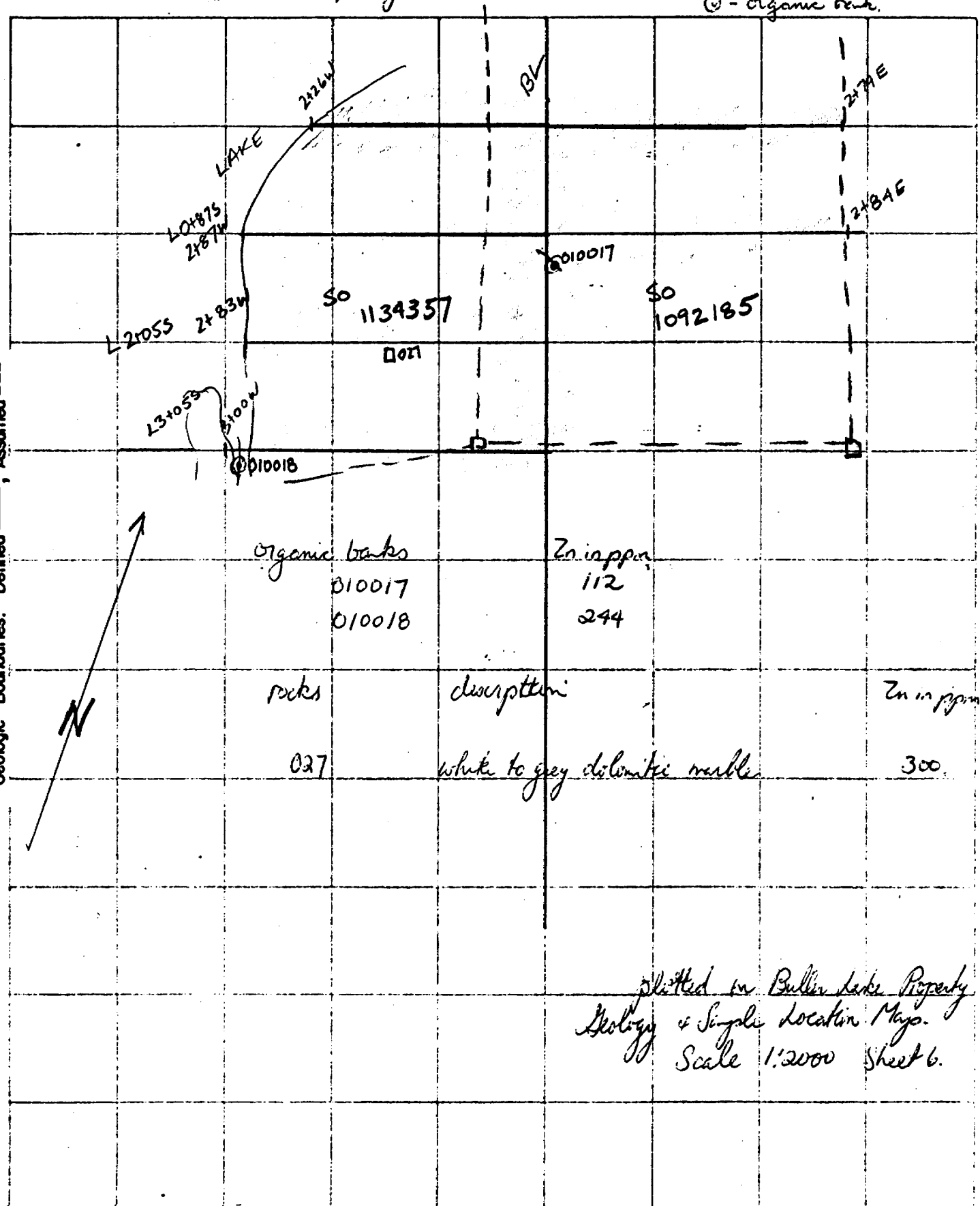
Buller Lake Property

Soil - • Assay - ■

⊙ - organic bank.

Show north arrow, drainage, sample locations, old workings, exposures, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -

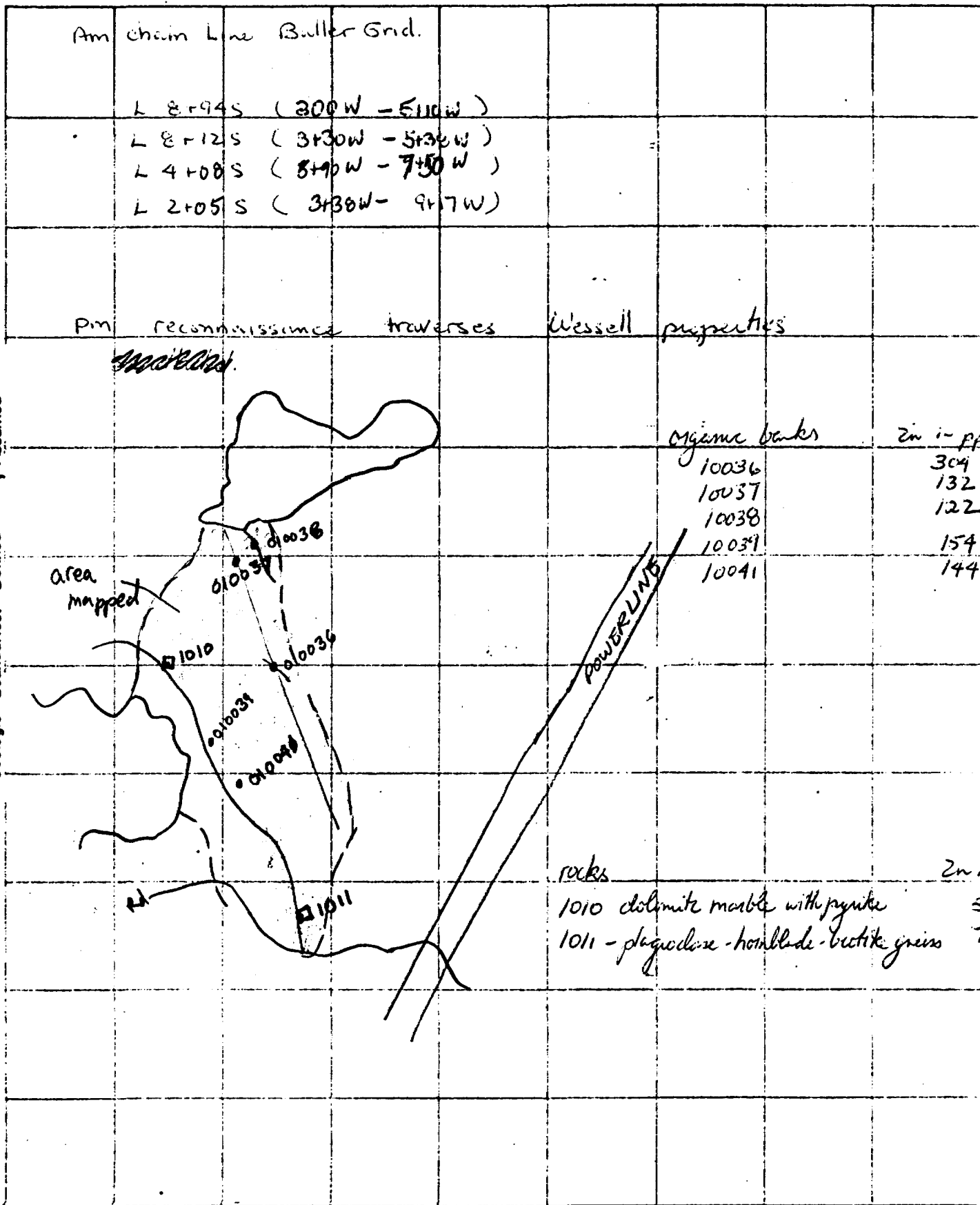


Plotted on Buller Lake Property
Geology & Sample Location Maps.
Scale 1:2000 Sheet 6.

DAILY TRAVERSE REPORT

Traverse Number 29

Project Number: MPAP Full N.T.S.: 31 D/15 Date: Oct 19, 1990
 Project Name: Buller Map Name: Lutterworth Tap Scale: 1:15,480
 Personnel: Robert Jackson Air Photos: 87-4933-C7-243 Percent Outcrop: _____
 Sample Numbers: D10036-037, 041 Rock - Silt - x
 Soil - • Assay - ■



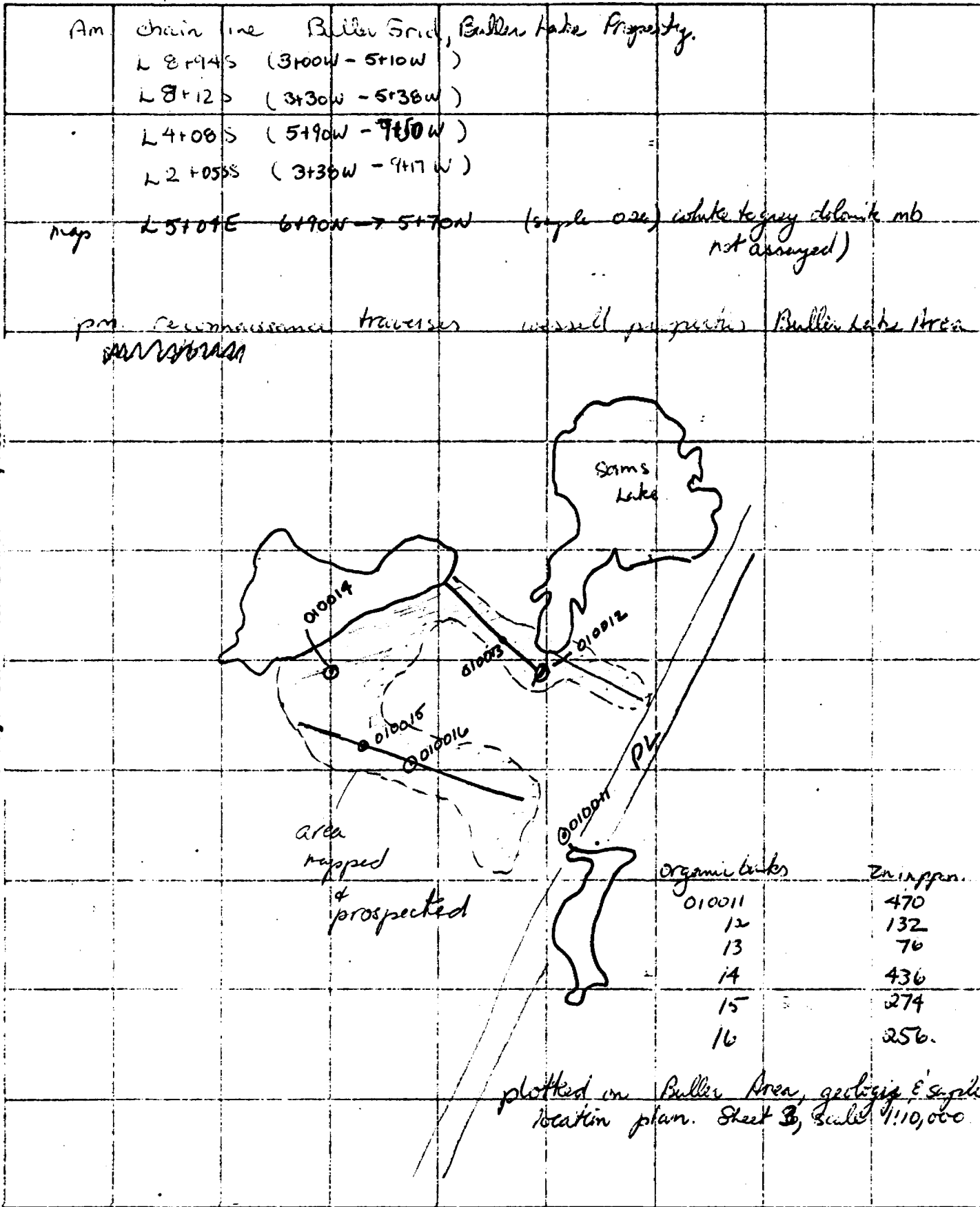
Show north arrow, drainage, sample locations, old workings, crossroads, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined ———, Assumed - - -

DAILY TRAVERSE REPORT

Traverse Number 24

Project Number: OPAP Full N.T.S.: B/D/15 Date: Oct 19, 1990
 Project Name: BULLER Map Name: Luttenworth Top Scale: 1:20,000
 Personnel: A. Sever Air Photos: 27-4433 - 07-242
27-4432 - 07-244 Percent Outcrop: _____
 Sample Numbers: 010011 - 010016, 026. Rock - Silt -
 Soil - Assay -



Show north arrow, drainage, sample locations, old workings, roads, cabins, trails, geology, and geographic co-ordinates, if possible.
 Geologic Boundaries: Defined —, Assumed ---

DAILY TRAVERSE REPORT

Traverse Number 23

Project Number: VPAP Full N.T.S.: 31 D/15 Date: Oct 18, 1990
 Project Name: BULLER LAKE Map Name: Buller Scale: _____
 Personnel: A. J. JENSEN, ROBERT J. JENSEN Air Photos: _____ Percent Outcrop: _____
 Sample Numbers: 0100/09000, 025 Rock - Silt - x
 Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, crossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---

Detailed Geologic mapping & prospecting, Buller Lake Property. (pm)					
Robert Jackson					
Line 581E270N → 5770N					
A Street L4103E		6720N → 774N		Samples 010010, 020	
L5104E		8194N → 6790N		025	
Chain line L4100S		(3152W → 9117W)		(pm)	
L4100S		(9117W → 7150W)			
heavy rains restrict activity in am					
organic limest.			Zn in ppm		
010010 20 (duplicate of 010)			200 198		
description					
rocks			Zn in ppm		
025			white to grey dol. mbr. w Zn.		
			0.98%		
plotted in map Buller Lake Property geology & Sample Location map Scale 1:2000 Sheet 6.					

DAILY TRAVERSE REPORT

Traverse Number 22

Project Number: CPAP Full N.T.S.: _____ Date: Oct 17, 1990
 Project Name: BULLER LAKE Map Name: Buller Scale: 1:20,000
 Personnel: A. Seever, R. Jackson Air Photos: _____ Percent Outcrop: _____
 Sample Numbers: _____ Rock - Silt - x
 Soil - • Assay - ■

Detailed Geologic mapping & Prospecting

A. Seever

L 3705 E 6120N → 8110N
 L 4103 E 6120N → 2150N

Samples 023, 024
 010008, 010009

R. Jackson

L 6104 E 11110N → 2140N
 L 5103 E 2130N → 2170N

Samples 1008, 1009
 010035

organic links

010008
 010009
 010035

Zn ppm

~~2200~~ 190
 47 660
 432

rocks

1008
 1009
 023
 024

descriptions

grey dolomite marble
 calcisilicate gneiss
 serpentinous dolomitic calcitic marble
 dolomitic marble fr Zn

Zn ppm

2200
 41
 500
 675

plotted on Buller Lake Property
 geology & sample location map
 scale 1:20,000
 Sheet 6.

Show north arrow, drainage, sample locations, old workings, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined _____, Assumed _____

DAILY TRAVERSE REPORT

Traverse Number 21

Project Number: 2777 Full N.T.S.: _____ Date: Oct 16, 1990

Project Name: BULLER Map Name: Buller Scale: 1:20,000

Personnel: A. Soeven Robert Jackson Air Photos: _____ Percent Outcrop: _____

Sample Numbers: Chaining line & geologic mapping Buller Lake Property. Rock - Silt - x
Soil - . Assay - ■

~~letter~~

Mic Soeven & Robert Jackson cut (flag) line & chain			
L 1+00N	2+90E →	1+60E	
L 3+15E	1+00N →	1+67N	
L 4+00E	1+00N →	1+94N	
L 5+05E	1+00N →	1+56N	
L 6+12E	1+00N →	2+17N	
Detailed geologic mapping & prospecting			
R. Soeven	L 3+50N	1+50W →	3+05W
	L 3+05E	6+19N →	3+20N
	L 4+00E	3+20E	3+20E
R. Jackson	L 1+00N	2+00W →	6+00W
	L 3+15E	1+00N →	1+67N
	L 4+00E	1+00N →	1+94N
	L 5+05E	1+00N →	1+56N
	L 6+12E	1+00N →	2+17N
organic banks	Zn in ppm	1006	1007
010034	482	-	010034
rocks	descriptions	Zn in ppm	
1006	Polinites Mantle	2400	
1007	" "	800	
plotted on Buller Lake Property - geologic & sample location maps. <i>Shyde</i> Scale 1:20000			

Show north arrow, drainage, sample locations, old workings, passes, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined ---, Assumed - - -

DAILY TRAVERSE REPORT

Traverse Number 20

Project Number: OPAP Full N.T.S.: 31 D/15 Date: Oct 15 1970
 Project Name: BULLER Map Name: Buller Scale: 1:2000
 Personnel: P. SOEVER, R. JACKSON Air Photos: _____ Percent Outcrop: _____
 Sample Numbers: 010005-007, 010033, 019-022 Rock - Silt - x
 Soil - • Assay - ■

Show north arrow, drainage, sample locations, old working positions, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---

Detailed	geologic mapping & prospecting	Buller Lake	(see geologic map)
	A. Soever		
	L 3150N	0100 → 150E	Samples: 010006, 010007
	L 3100N	110W → 0630W	017-022
	L 2130N	0190W → 1190W	org banks rocks
	Robert Jackson		
	L 1100N	0100 → 2190W	10033
	Samples	Zn in ppm	
	organic banks		
	010006	206	
	010007	272	
	010033	460	
	rocks	Description	Zn in ppm
	019	dolomitic marble Zn main spawning	4.68%
	020	↓	4300
	021	↓	2.17%
	022	↓	5.25%

plotted on Buller Lake Property
 Geology & Sample Loc. Map
 Scale 1:2000
 Sheet 6

DAILY TRAVERSE REPORT

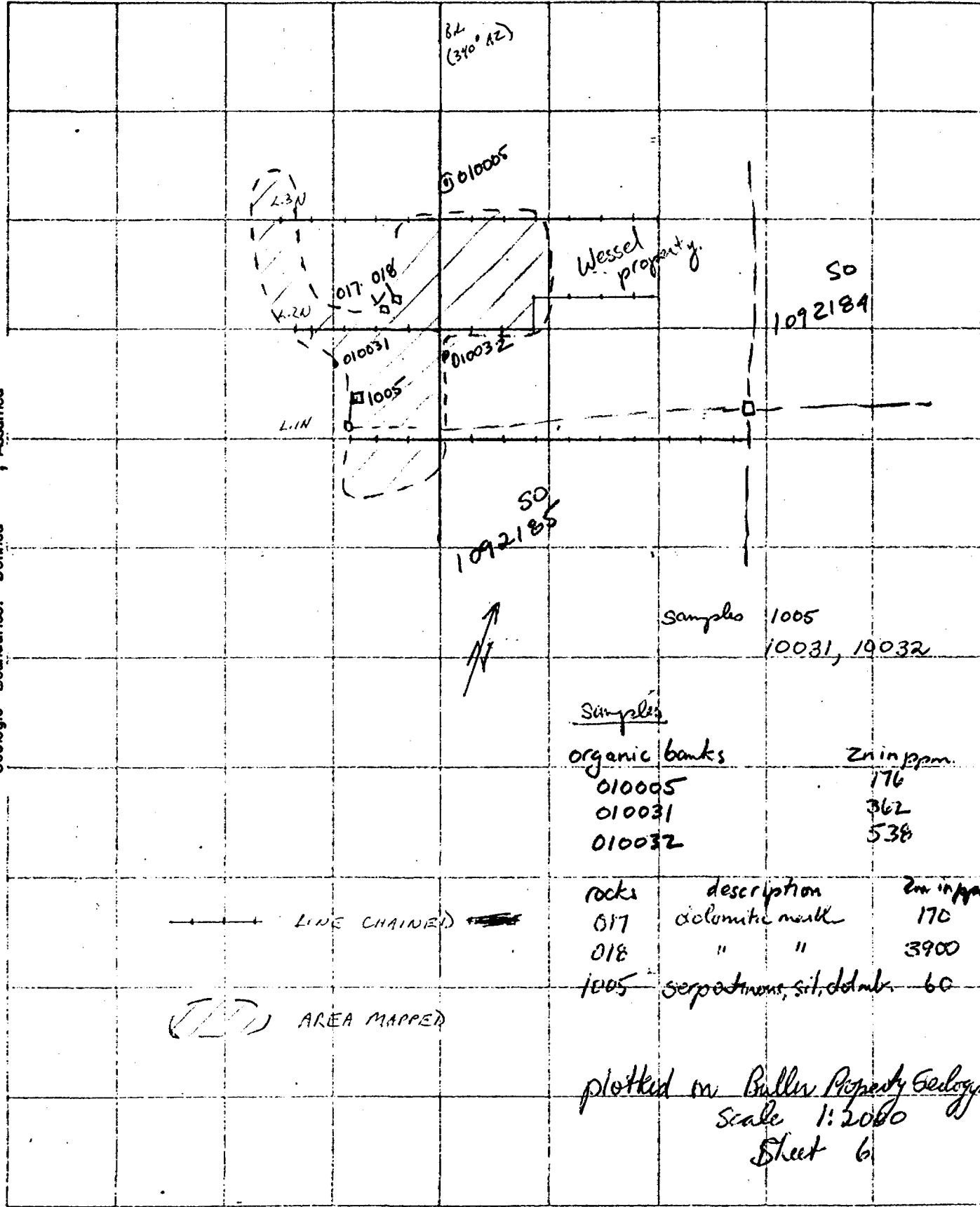
Traverse Number 19

Project Number: OPAP Full N.T.S.: 31 8/15 Date: Oct 14/90
 Project Name: BULLER LAKE Map Name: Lutterworth Scale: 1:5000
 Personnel: RBJ + AS Air Photos: G-1296 Percent Outcrop: _____
 Sample Numbers: 001718A), 1009(L), 010031(B) Rock - Silt - x
 Soil - • Assay - ■

Line ~~setting~~ ^{Chaining} + geol. mapping

Show north arrow, drainage, sample locations, old workings, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -



plotted on Buller Property Geology map
 Scale 1:2000
 Sheet 6

DAILY TRAVERSE REPORT

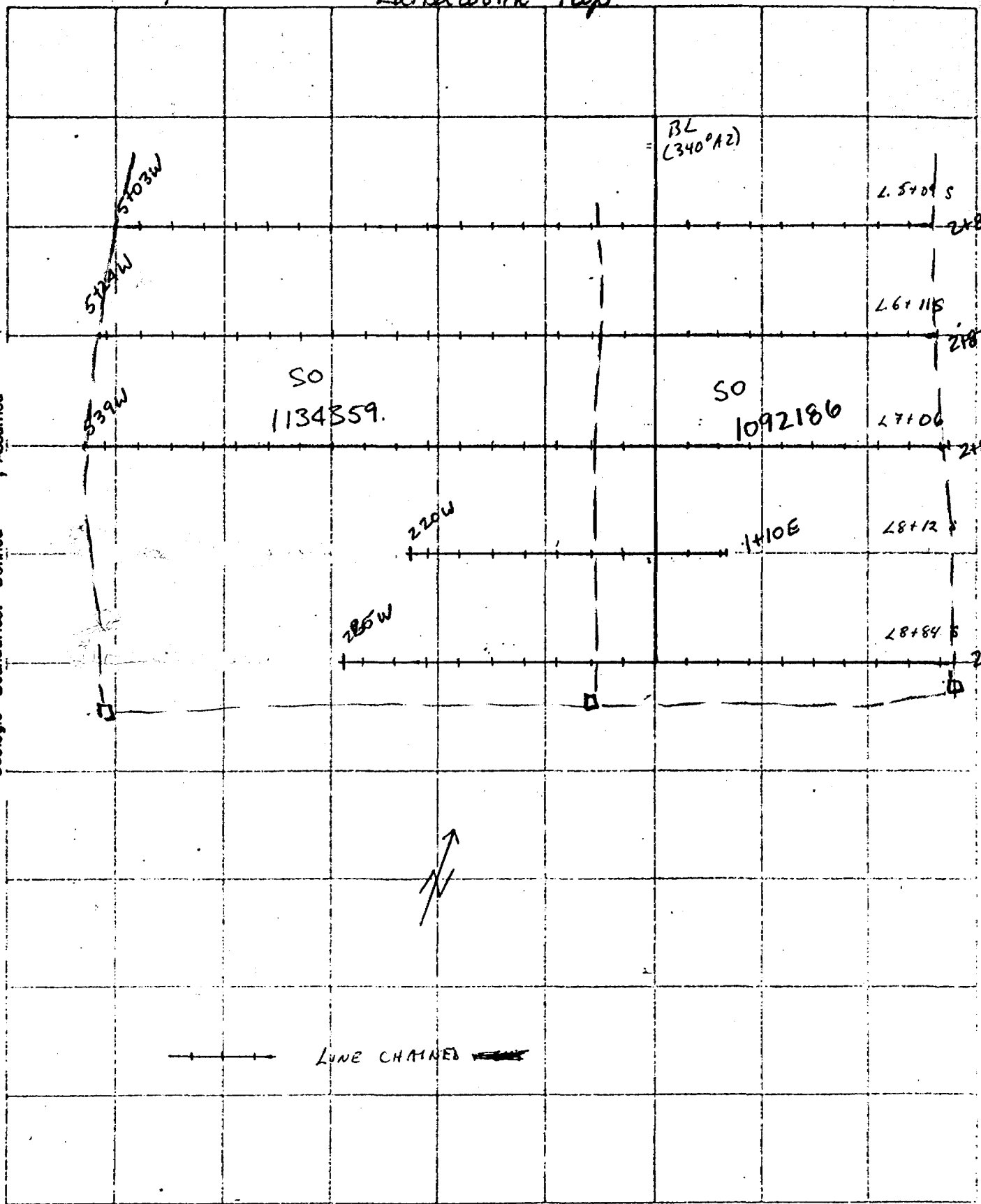
Traverse Number 18

Project Number: OPAP Full N.T.S.: 31 d/15 Date: Oct 13/90
 Project Name: BULLER LAKE Map Name: Lutterworth Scale: 1:5000
 Personnel: REV & AS Air Photos: _____ Percent Outcrop: _____
 Sample Numbers: _____ Rock - Silt - x
 Soil - • Assay - ■

*Line ~~being~~ chaining Buller Lake Property
Lutterworth Twp*

Show north arrow, drainage, sample locations, old workings, cabins, trails, geology, and geographic co-ordinates, possible.

Geologic Boundaries: Defined —, Assumed ---



DAILY TRAVERSE REPORT

Traverse Number 17

Project Number: OPAR Full N.T.S.: 31 D/15 Date: Oct 13/90

Project Name: BULLER LAKE Map Name: Lutterworth Scale: 1:5000

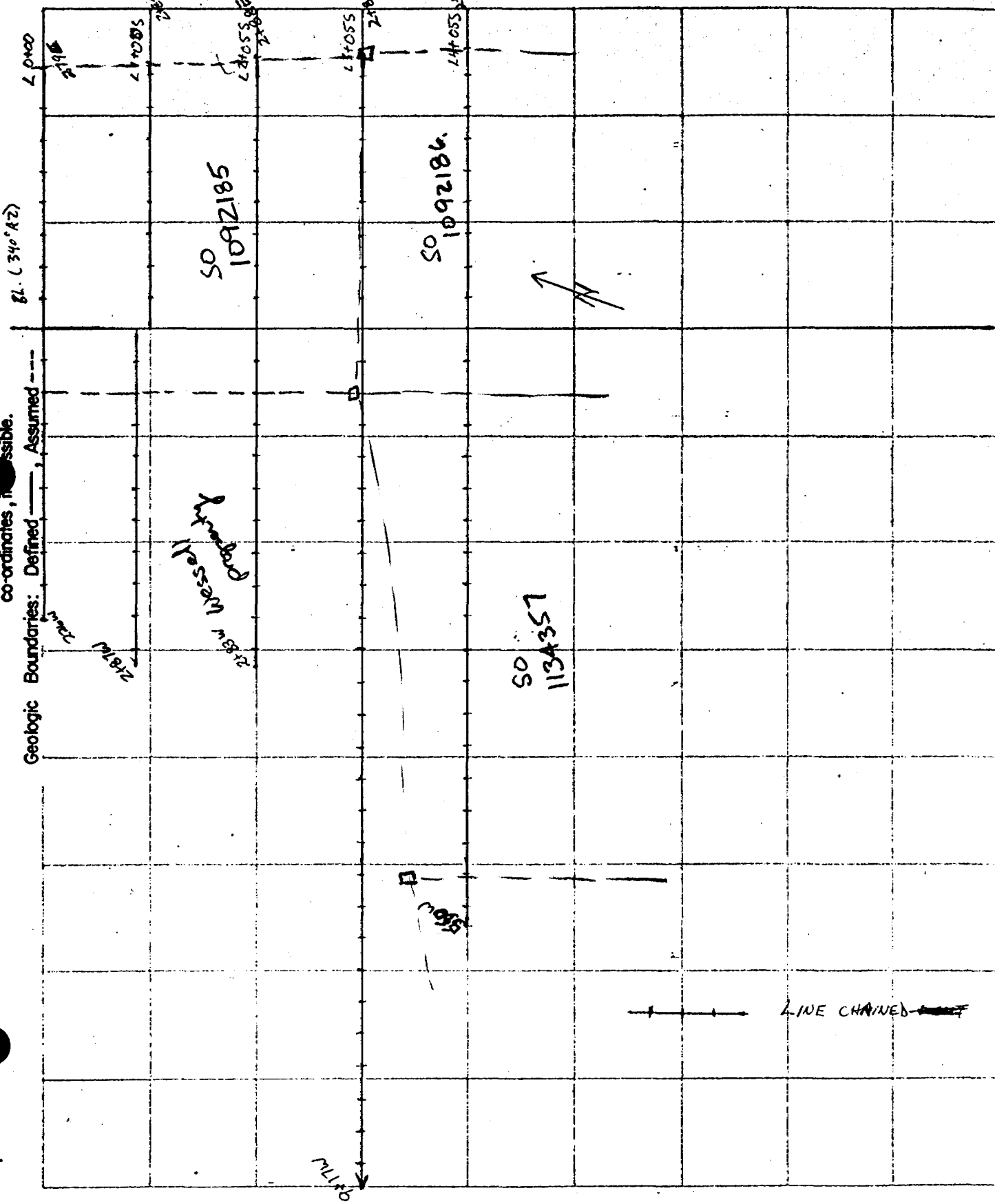
Personnel: RGB + AS Air Photos: _____ Percent Outcrop: _____

Sample Numbers: _____ Rock - Silt - x

Soil - • Assay - ■

Line ~~to~~ Chaining Buller Lake Property

Show north arrow, drainage, sample locations, old workings, assays, trails, geology, and geographic co-ordinates, if possible.



Geologic Boundaries: Defined _____, Assumed _____

Wessell
2960

2870

SO 1134357

SO 1092185

SO 1092186

LINE CHAINED

DAILY TRAVERSE REPORT

Traverse Number 16

Project Number: OPAP Full N.T.S.: 31 8/15 Date: Oct 11/90

Project Name: BULLER LAKE Map Name: Lutterworth Scale: 1:5000

Personnel: R&J + AS Air Photos: _____ Percent Outcrop: _____

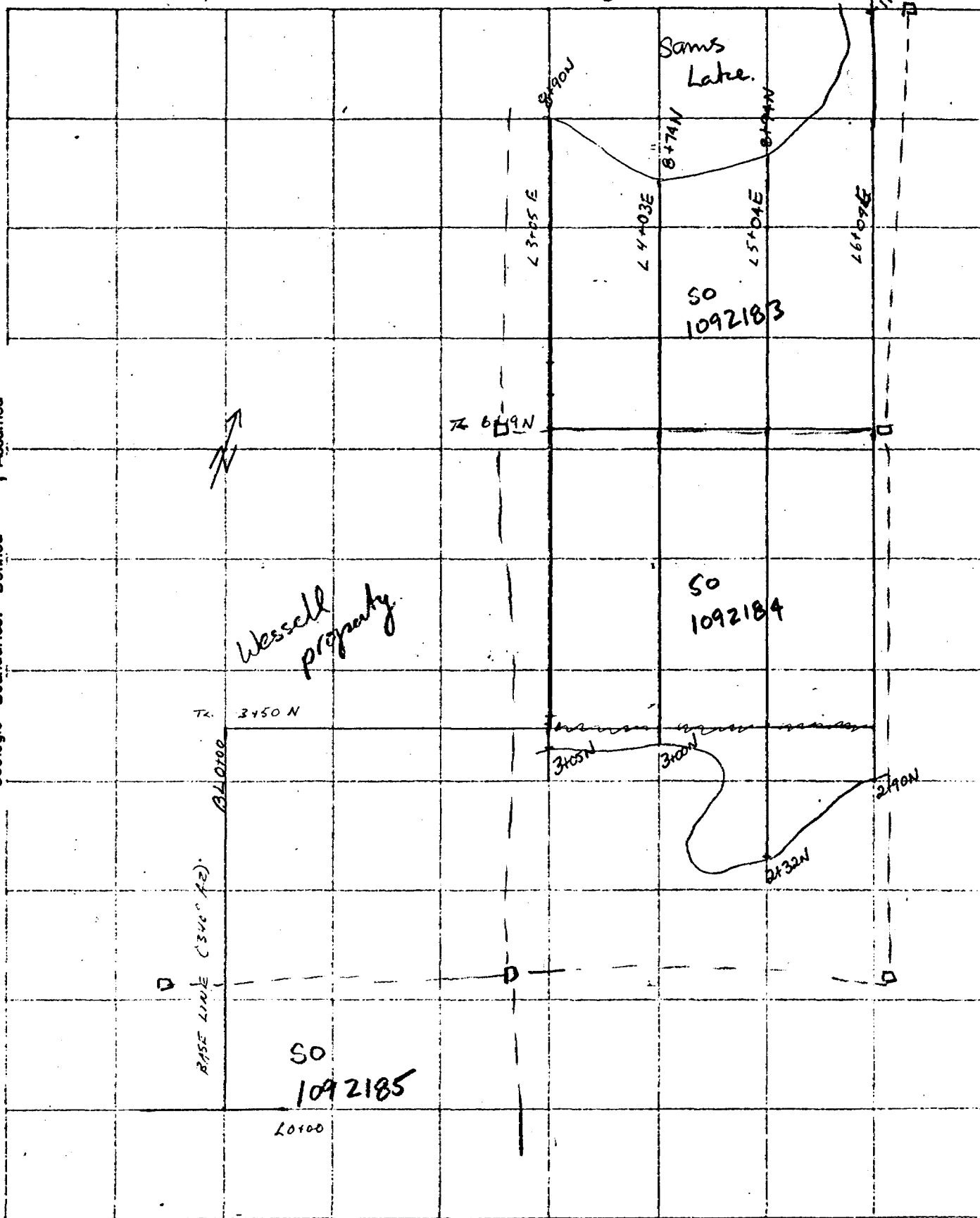
Sample Numbers: _____ Rock - Silt - x

Soil - • Assay - ■

Line ~~Survey~~ Chaining, Buller Lake Property.

Show north arrow, drainage, sample locations, old workings, passes, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



DAILY TRAVERSE REPORT

Traverse Number 15

Project Number: PPAP Full N.T.S.: 31 C/13 & 31 D/16 Date: Oct 10, 1990

Project Name: AREA 2 Map Name: Apsley Scale: 1:50,000

Personnel: ROBERT JACKSON, MARSOEN^{SR} Air Photos: N/A Percent Outcrop: _____

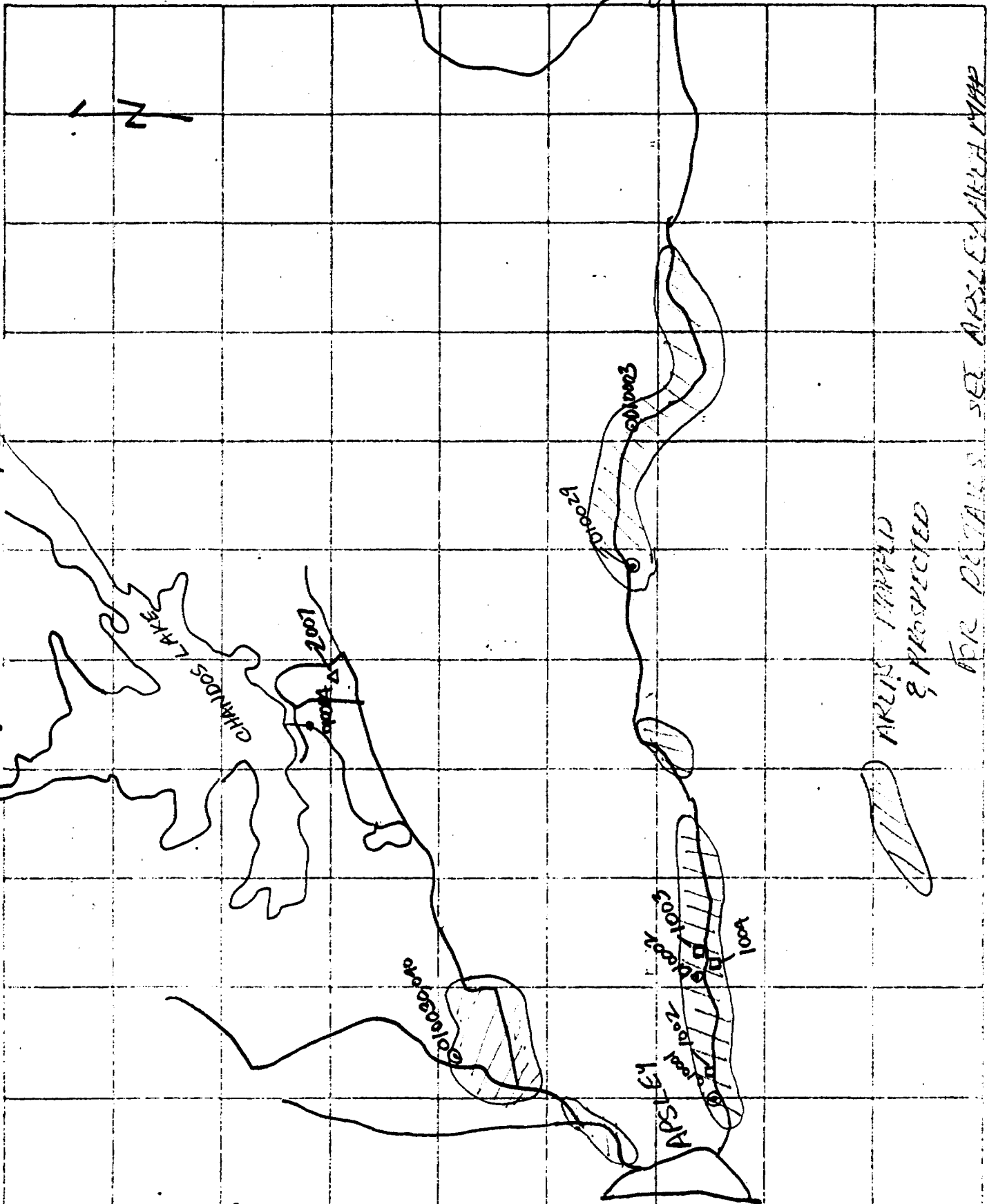
Sample Numbers: 010001-010004, 010029, 30, 40, 1002-1004 Rock - Silt - x

2006, 2007

Soil - • Assay - ■
△ Till

Show north arrow, drainage, sample locations, old workings, crossroads, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



ARLES TRAP
& PROSPECTED

FOR DETAILS SEE ARLES AREA MAP

DAILY TRAVERSE REPORT

Traverse Number 19

Project Number: VPAP-REG. Full N.T.S.: B1 D/15 Date: Oct 9, 1990

Project Name: AREA 1 Map Name: LUTTER WORTH Scale: 1:20000

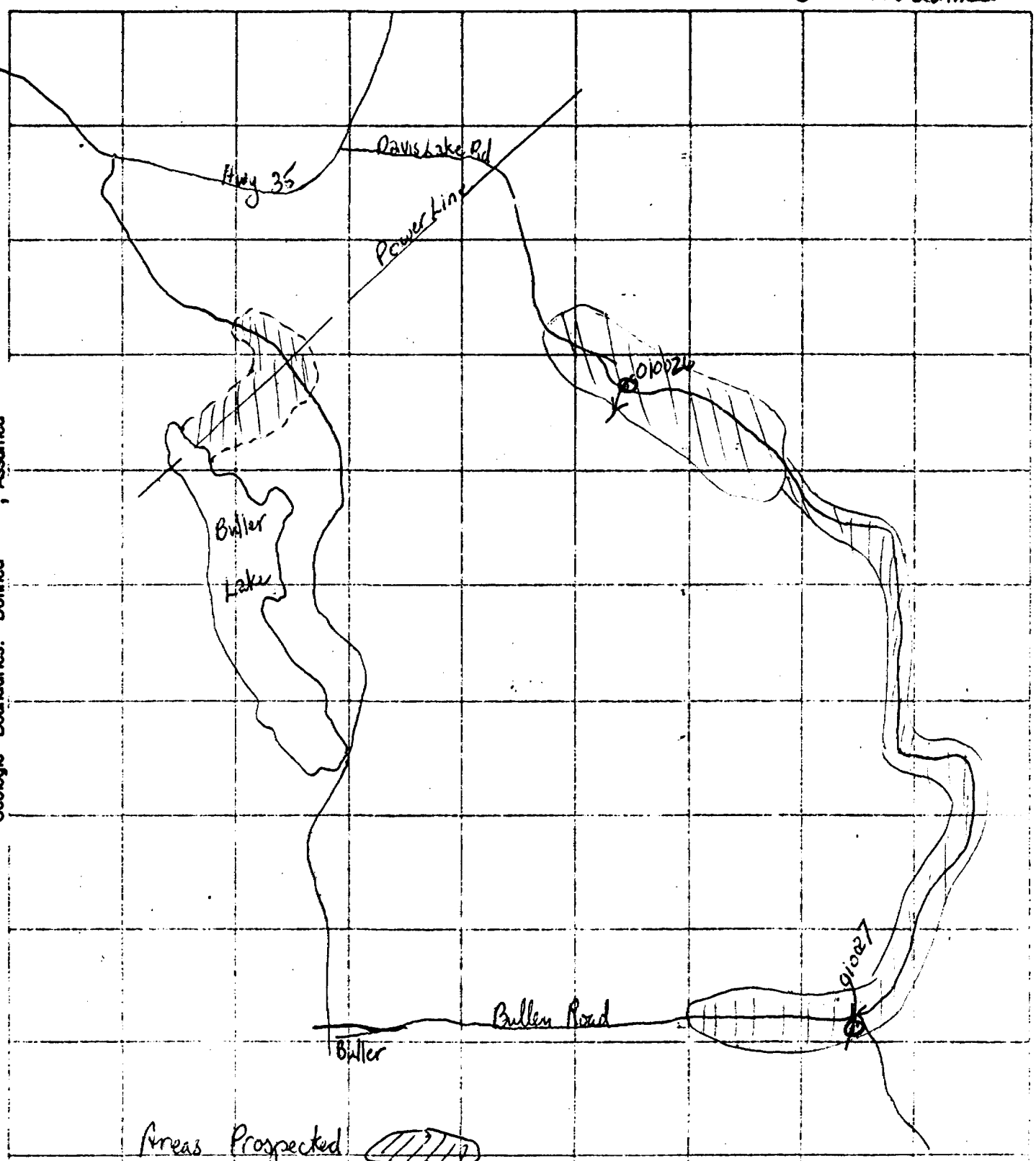
Personnel: RGJ + AS Air Photos: 5-1296 Percent Outcrop: _____


Sample Numbers: 010026, 010027 Rock - Silt - x

Soil - • Assay - ■
⊙ - stream sediment

Show north arrow, drainage, sample locations, old workings, cross-sections, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



Areas Prospected 

For geology + results see ~~Buller~~
Buller Area map + Haliburton Area Map
Sheet 3 1:10000 Sheet 1 1:50000

DAILY TRAVERSE REPORT

Traverse Number 14

Project Number: OPAP - REG Full N.T.S.: 31 D/15 Date: Oct 9, 1990

Project Name: AREA 1 Map Name: Lutterworth 5-1296 Scale: 1:15,480

Personnel: RGS AS. Air Photos: 87-4433-07-244 Percent Outcrop: _____

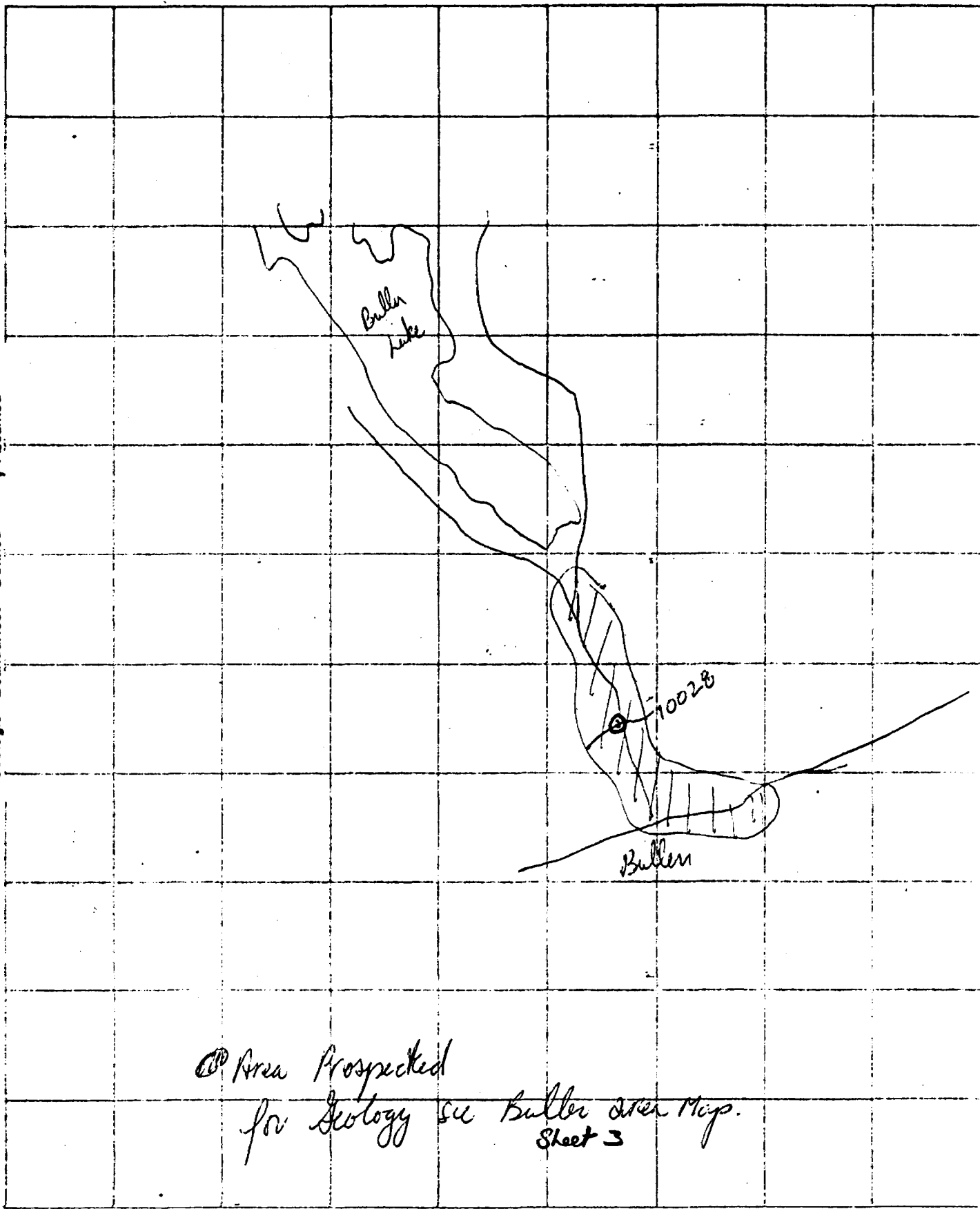
Sample Numbers: 010028 Rock - Silt - x

Soil - • Assay - ■

⊙ Stream sediment.

Show north arrow, drainage, sample locations, old workings, crossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -



⊙ Area Prospected for Geology see Buller Area Map. Sheet 3

DAILY TRAVERSE REPORT

Traverse Number 13

Project Number: OPP BUL Full N.T.S.: 31 D/15 Date: Sept 14, 1990

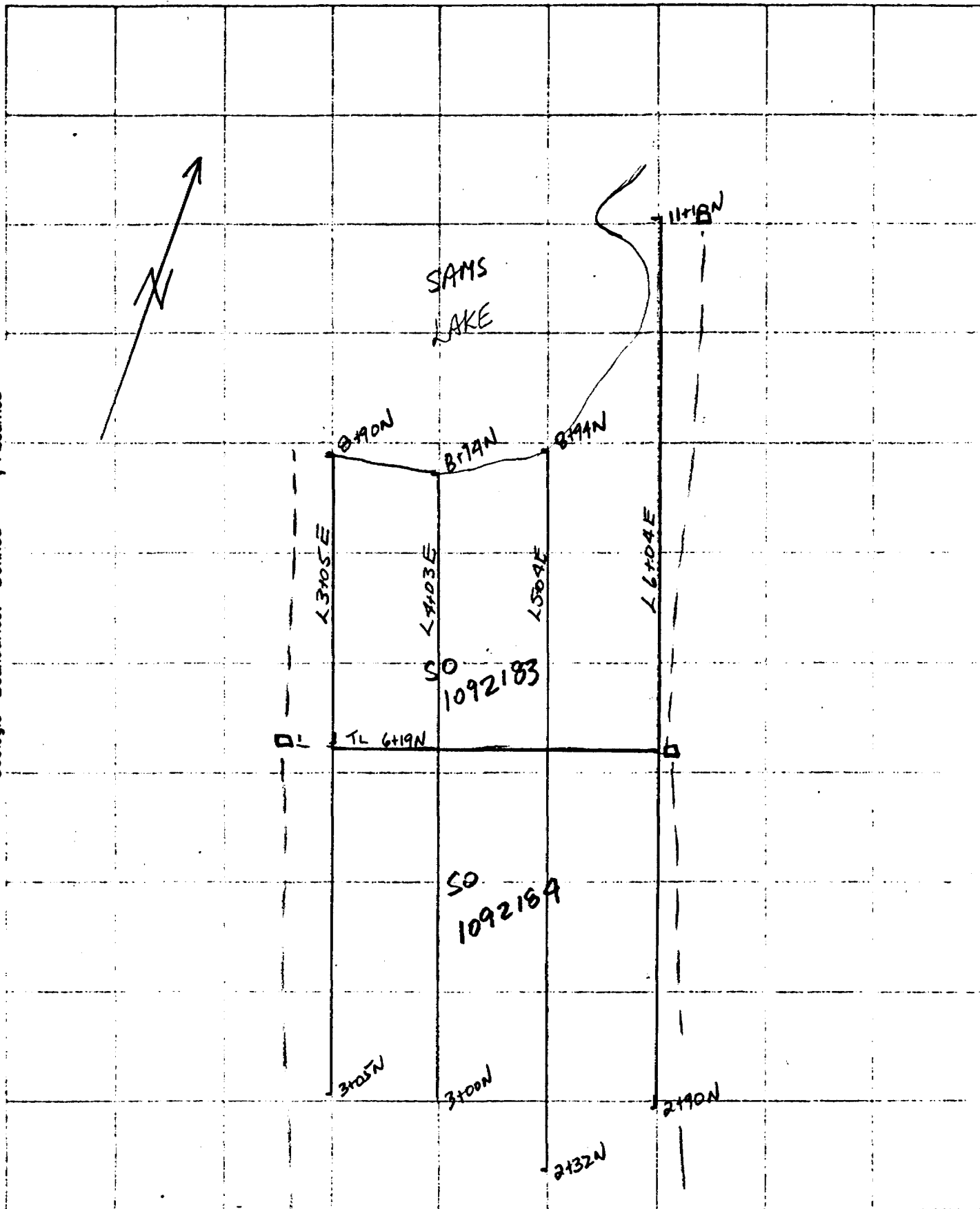
Project Name: Buller Lake Map Name: _____ Scale: 1:5000

Personnel: Alan Sower Air Photos: _____ Percent Outcrop: _____

Sample Numbers: Line cutting, Buller Lake Property Rock - Silt - x
Lutkenboth Twp Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, poisons, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -



DAILY TRAVERSE REPORT

Traverse Number 12

Project Number: OAP BUL Full N.T.S.: 310/15 Date: Sept 13, 1990

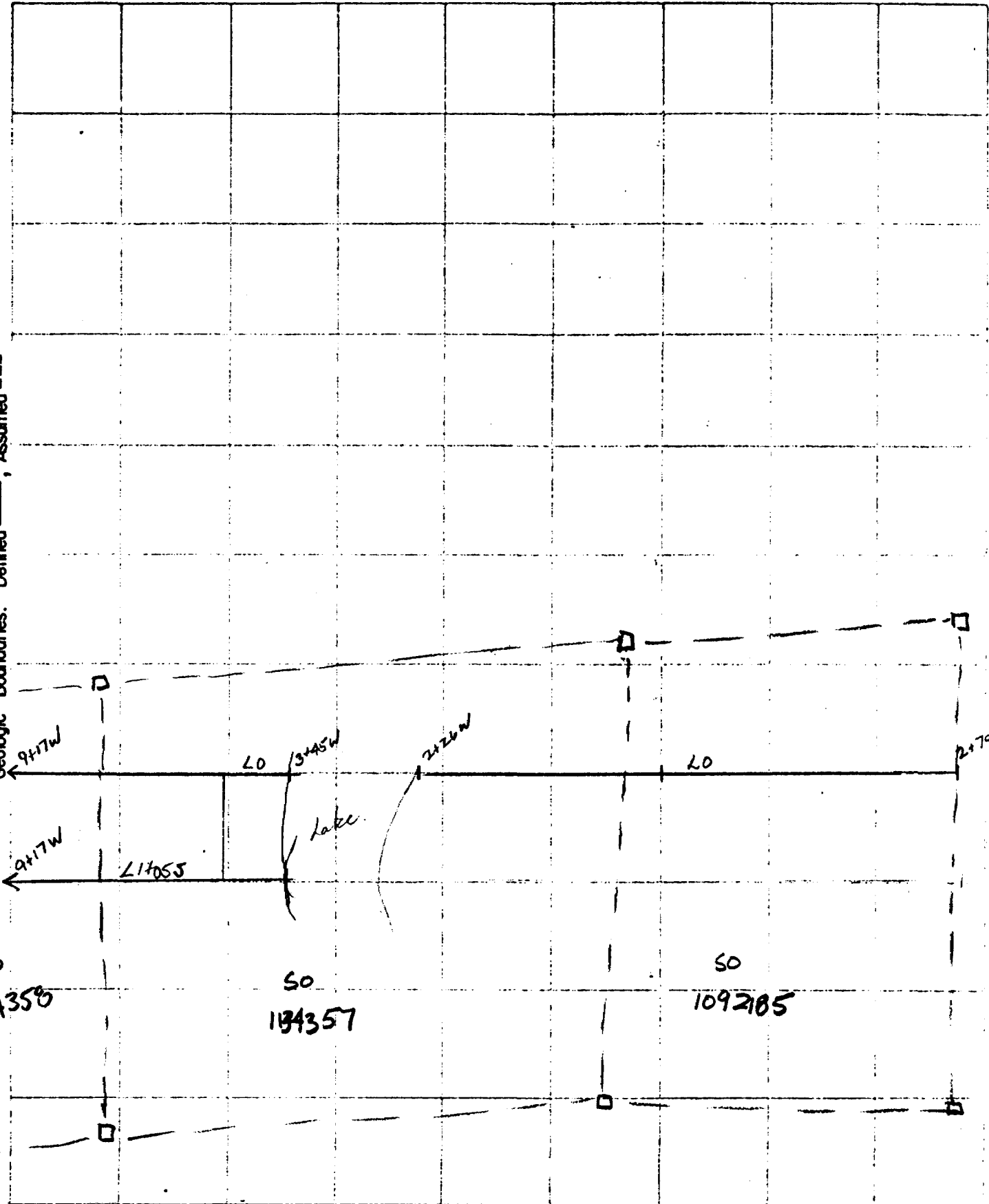
Project Name: Buller Lake Map Name: _____ Scale: 1:5000

Personnel: A. Sower Air Photos: _____ Percent Outcrop: _____

Sample Numbers: line cutting, Buller Lake Property Rock - Silt - x
Latterworth Twp Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, cross-sections, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



SO
1184356

SO
1184357

SO
1092105

DAILY TRAVERSE REPORT

Traverse Number 11

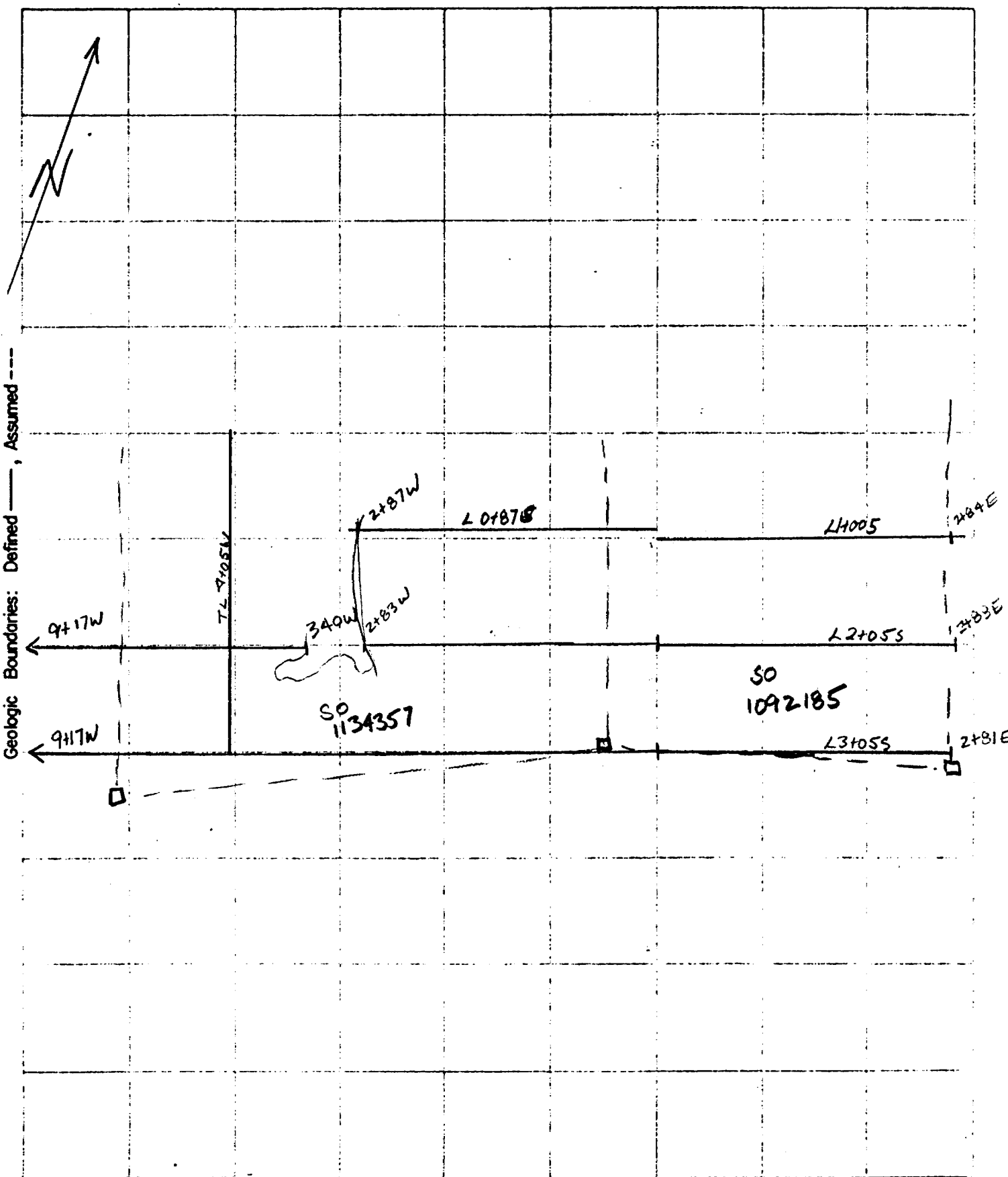
Project Number: OPP Bul Full N.T.S.: 31 D/15 Date: Sept 12, 1990

Project Name: Buller Map Name: _____ Scale: 115000

Personnel: A. Sower Air Photos: _____ Percent Outcrop: _____

Sample Numbers: line cutting, Buller Lake Property Rock - Silt - x
Lutterworth Twp. Soil - • Assay - ■

SNOW north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.



DAILY TRAVERSE REPORT

Traverse Number 10

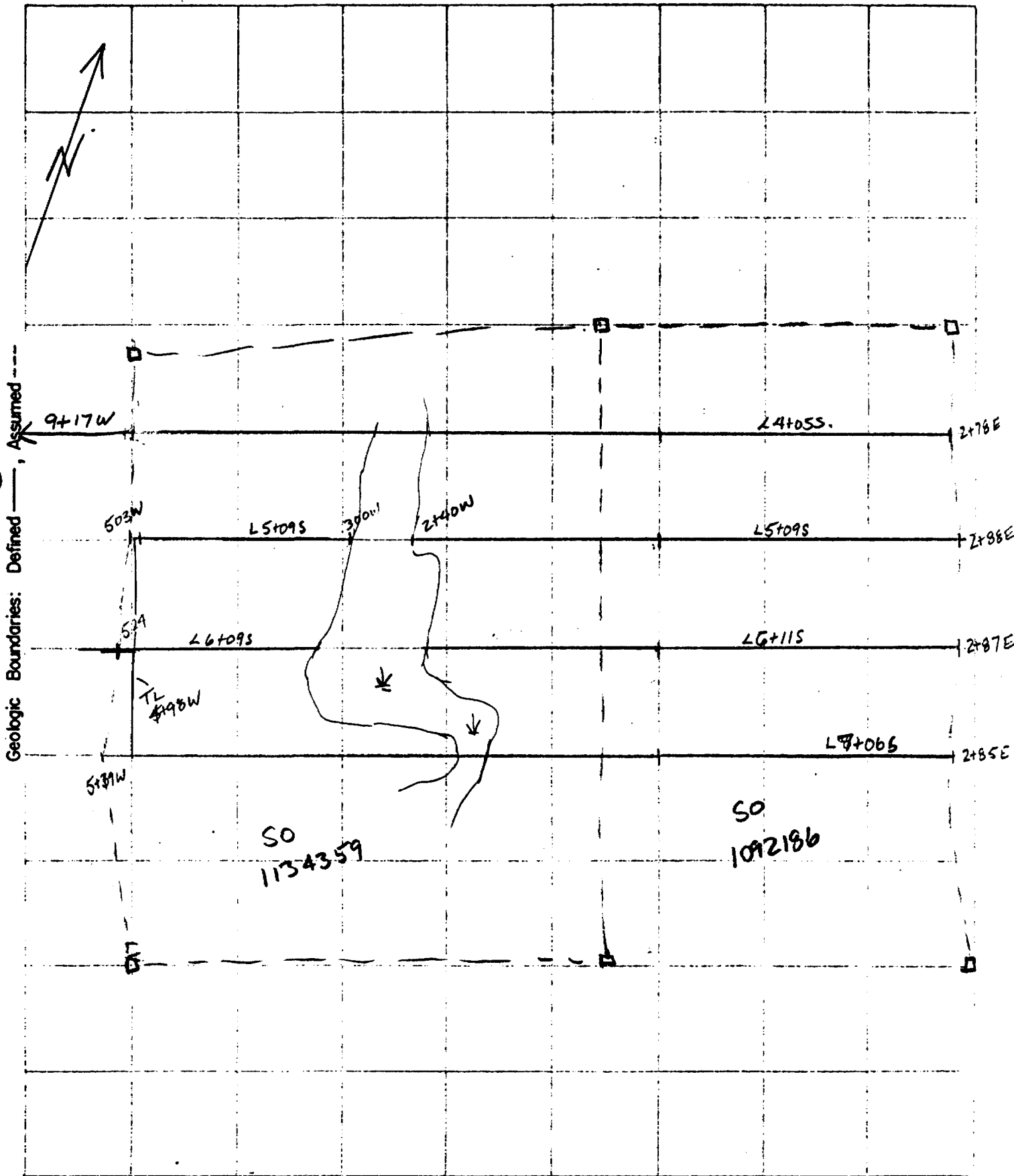
Project Number: OPP BUL Full N.T.S.: 31 D/15 Date: Sept 11, 1990

Project Name: Buller Lake Map Name: _____ Scale: 1:5000

Personnel: A. Sower Air Photos: _____ Percent Outcrop: _____

Sample Numbers: line cutting, Buller Lake Property Rock - Silt - x
Lutterworth Twp Soil - • Assay - ■

SHOW north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, as possible.



DAILY TRAVERSE REPORT

Traverse Number 9

Project Number: OPP BUL Full N.T.S.: 31 0/15 Date: Sept 10, 1990

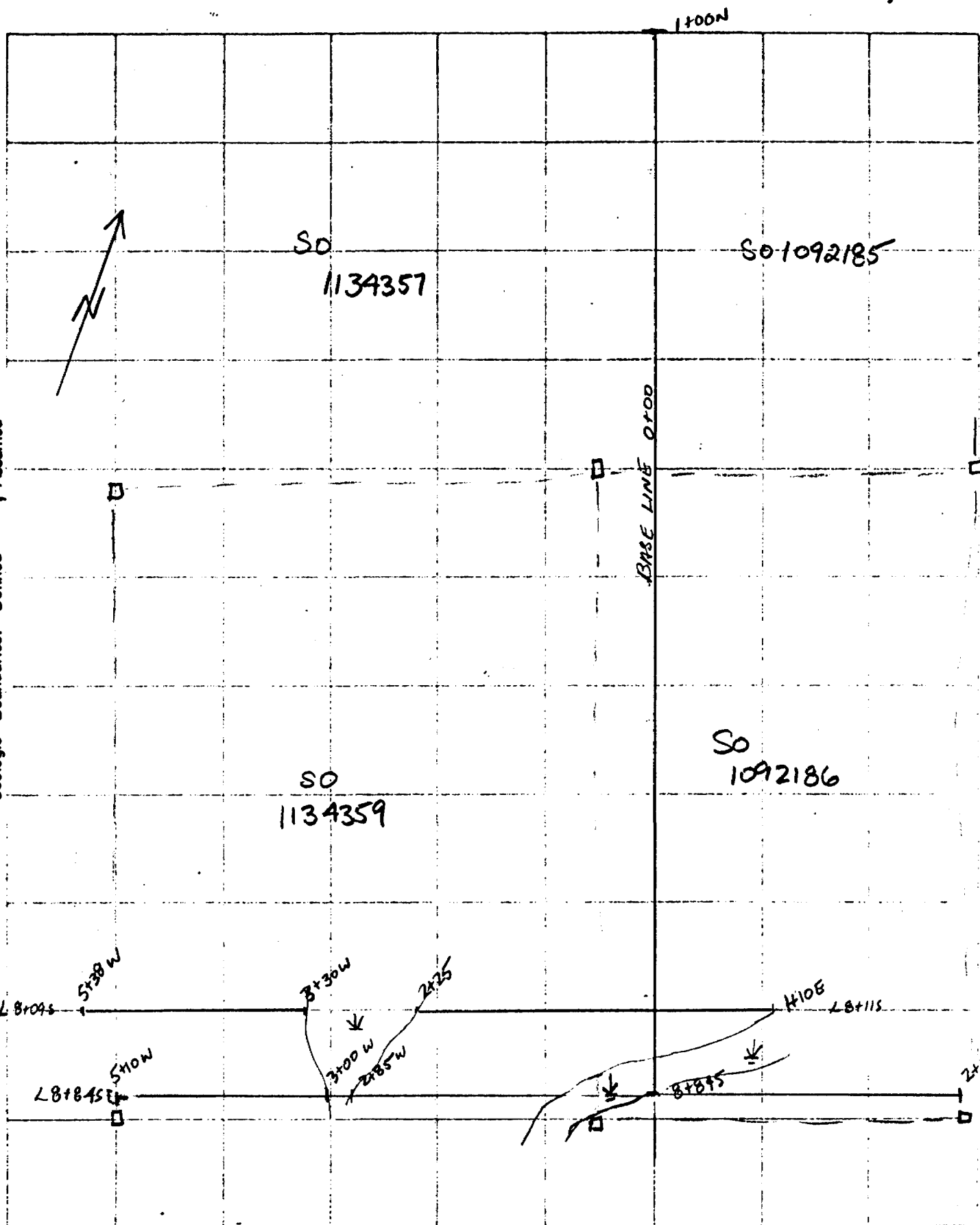
Project Name: Buller Lake Claims Map Name: _____ Scale: 1:5000

Personnel: Alar Bowen Air Photos: _____ Percent Outcrop: _____

Sample Numbers: LINECUTTING, BULLER LAKE PROPERTY Rock - Silt - x
LUTTERWORTH TWP Soil - • Assay - ■

SHOW north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined ———, Assumed - - - -



ST. JOSEPH EXPLORATIONS

DAILY TRAVERSE REPORT

Traverse Number 8

Project Number: OPP REG

Full N.T.S.: 31 C/16

Date: Aug 2, 1990 pm

Project Name: Otter Lake

Map Name: Otter Lake Area

Scale: 1:50,000

Personnel: A. Soever, R.G. Jackson

Air Photos: _____

Percent Outcrop: _____

Sample Numbers: N/A

Rock -

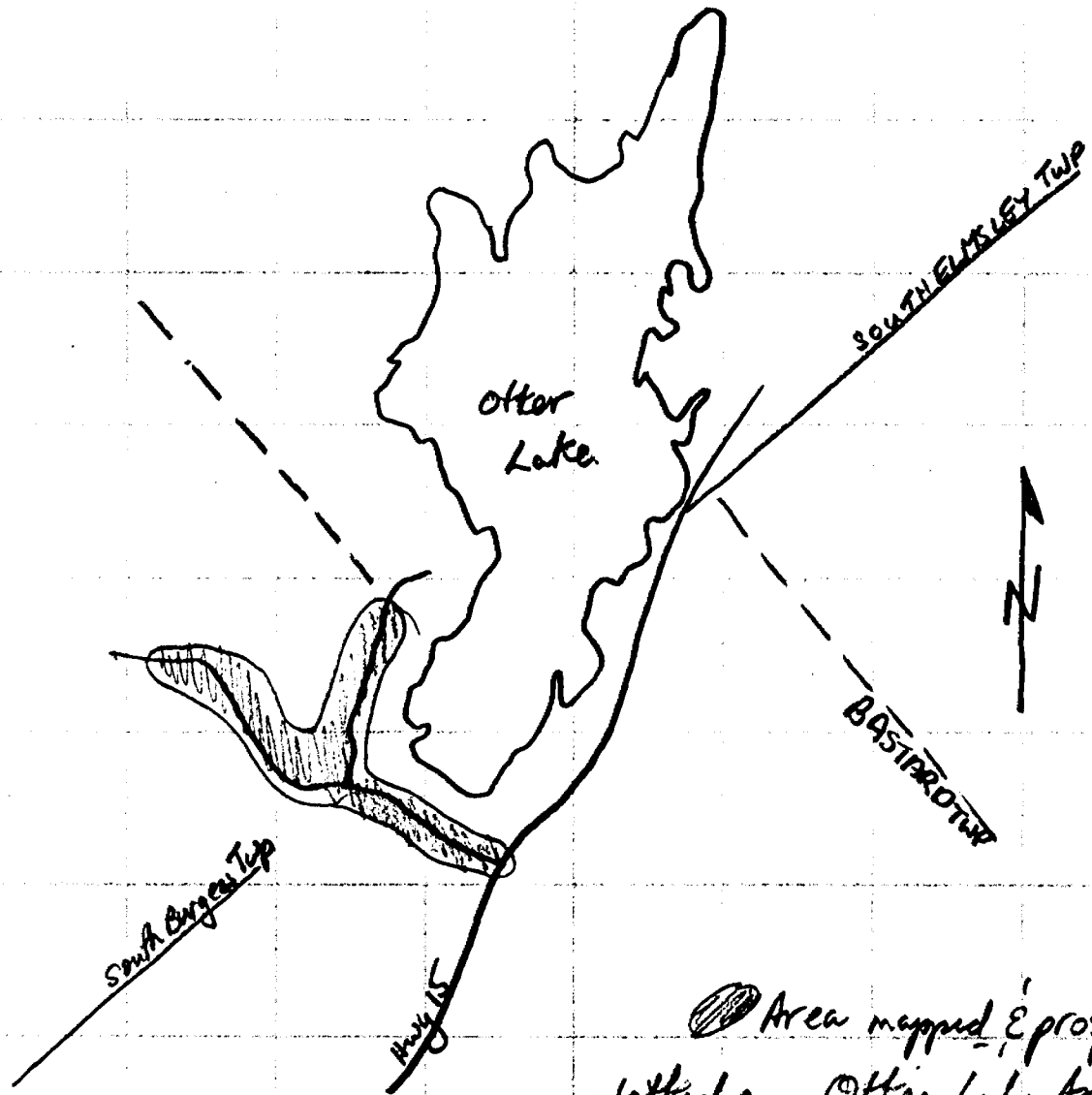
Silt - x

Soil - •

Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -



Area mapped & prospected plotted on Otter Lake Area Map, Figure 7 1:50,000

ST. JOSEPH EXPLORATIONS

DAILY TRAVERSE REPORT

Traverse Number 8

Project Number: OPAP REE Full N.T.S.: 31 C/10 Date: Aug 2, 1990 am

Project Name: Canoe Lake, Area 3 Map Name: Canoe Lake Area Scale: 1:50,000

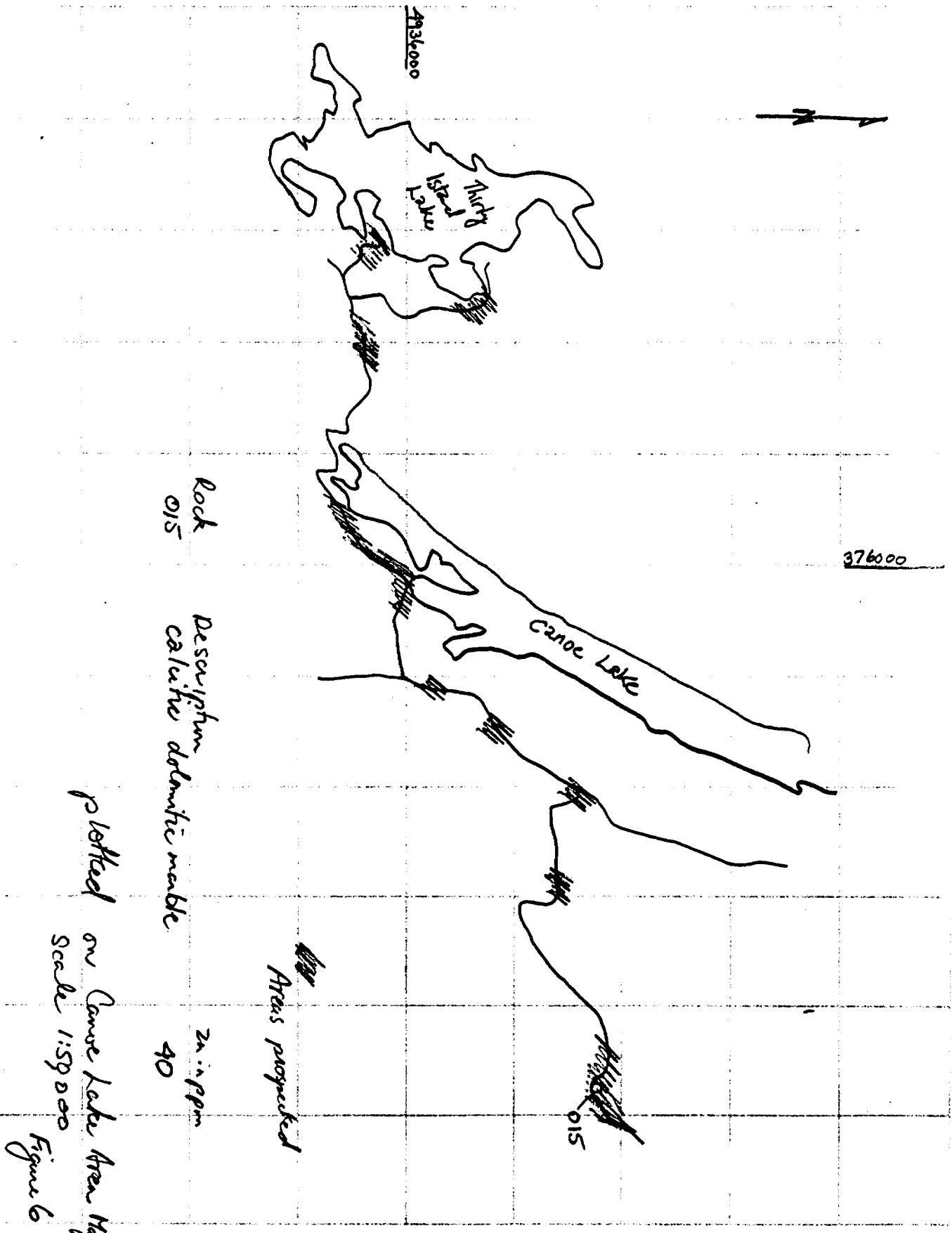
Personnel: A. Soewer, RG Jackson Air Photos: NA Percent Outcrop: _____

Sample Numbers: 015 Rock - Silt - x

Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - - -



plotted on Canoe Lake Area Map
Scale 1:50,000
Figure 6

Rock
015
Description
caliche dolomitic marble
Zn: 40 ppm

Areas proposed

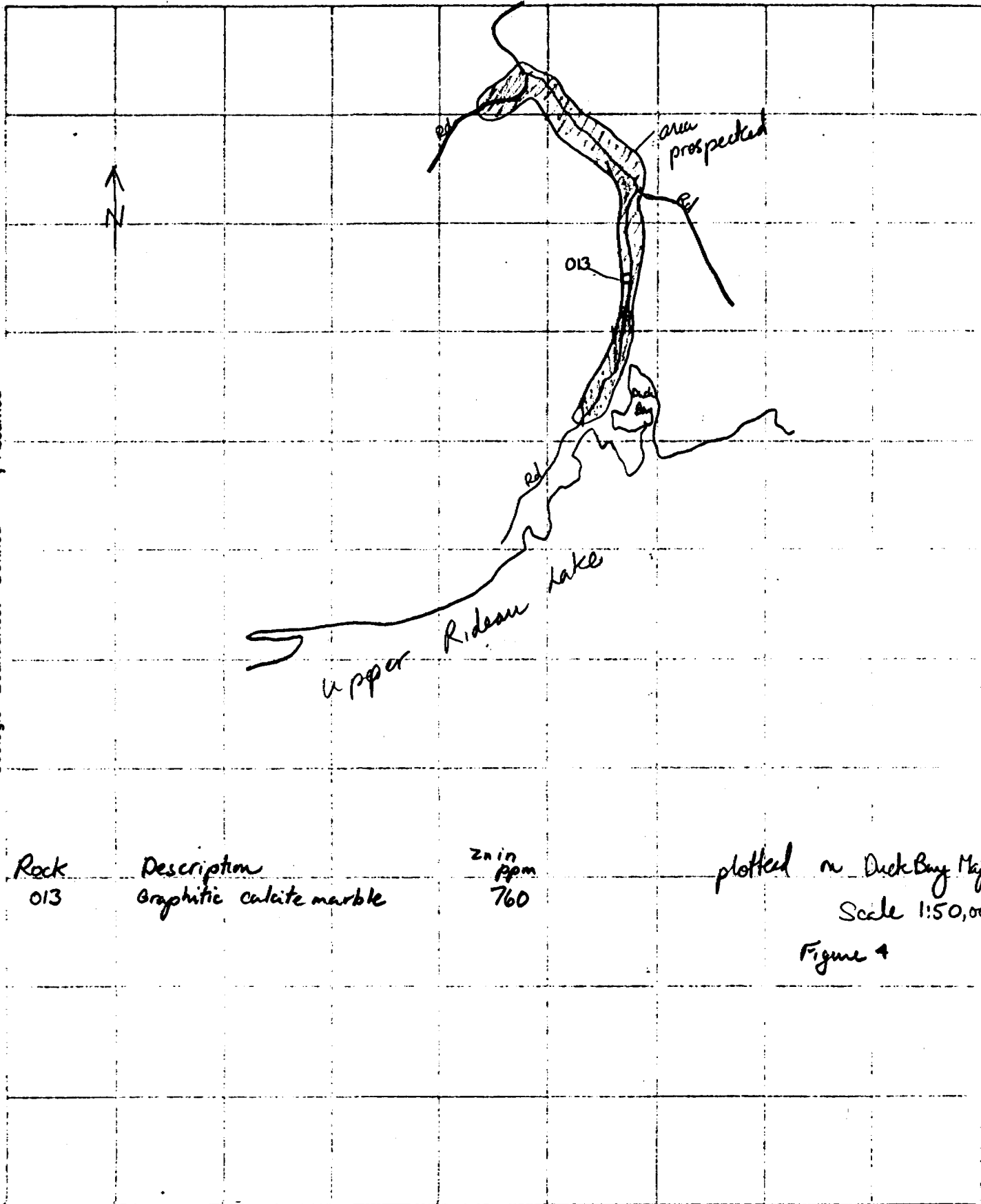
DAILY TRAVERSE REPORT

Traverse Number 7

Project Number: OPP REG Full N.T.S.: 31 C/9 Date: Aug 1, 1990
 Project Name: Duck Bay, Area 3 Map Name: Duck Bay Scale: 1:50,000
 Personnel: A. Soever, R.G. Jackson Air Photos: N/A Percent Outcrop: _____
 Sample Numbers: 013 Rock - Silt -
 Soil - Assay -

Show north arrow, drainage, sample locations, old workings, possans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined ———, Assumed - - -



Rock	Description	Zn in ppm
013	Graphitic calcite marble	760

plotted on Duck Bay Maps
 Scale 1:50,000
 Figure 4

DAILY TRAVERSE REPORT

Traverse Number 7

Project Number: OPP REE Full N.T.S.: 31 C/9 Date: Aug 1, 1990 pm

Project Name: Grippen Lake, Area 3 Map Name: Grippen Lake Scale: 1:50,000

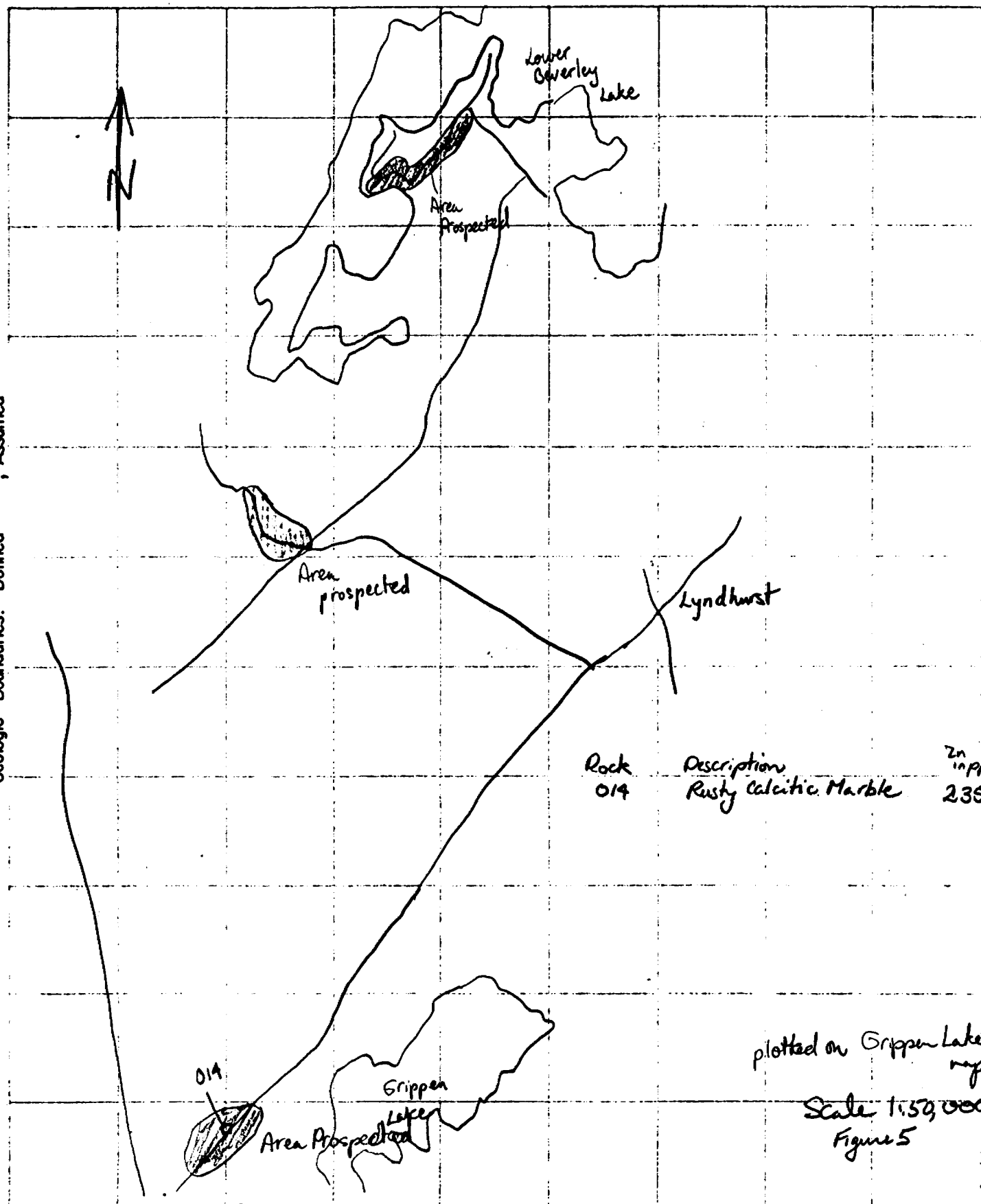
Personnel: A. Soever, R. G. Jackson Air Photos: N/A Percent Outcrop: _____

Sample Numbers: 014 Rock - Silt - x

Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined ———, Assumed - - -



Rock	Description	Zn in ppm
014	Rusty calcitic Marble	235

plotted on Grippen Lake Area map
Scale 1:50,000
Figure 5

DAILY TRAVERSE REPORT

Traverse Number 6

Project Number: OPP REG Full N.T.S.: 31 C/16 Date: July 31, 1990 pm

Project Name: PIKE LAKE AREA 3 Map Name: PIKE LAKE AREA Scale: 1:50,000

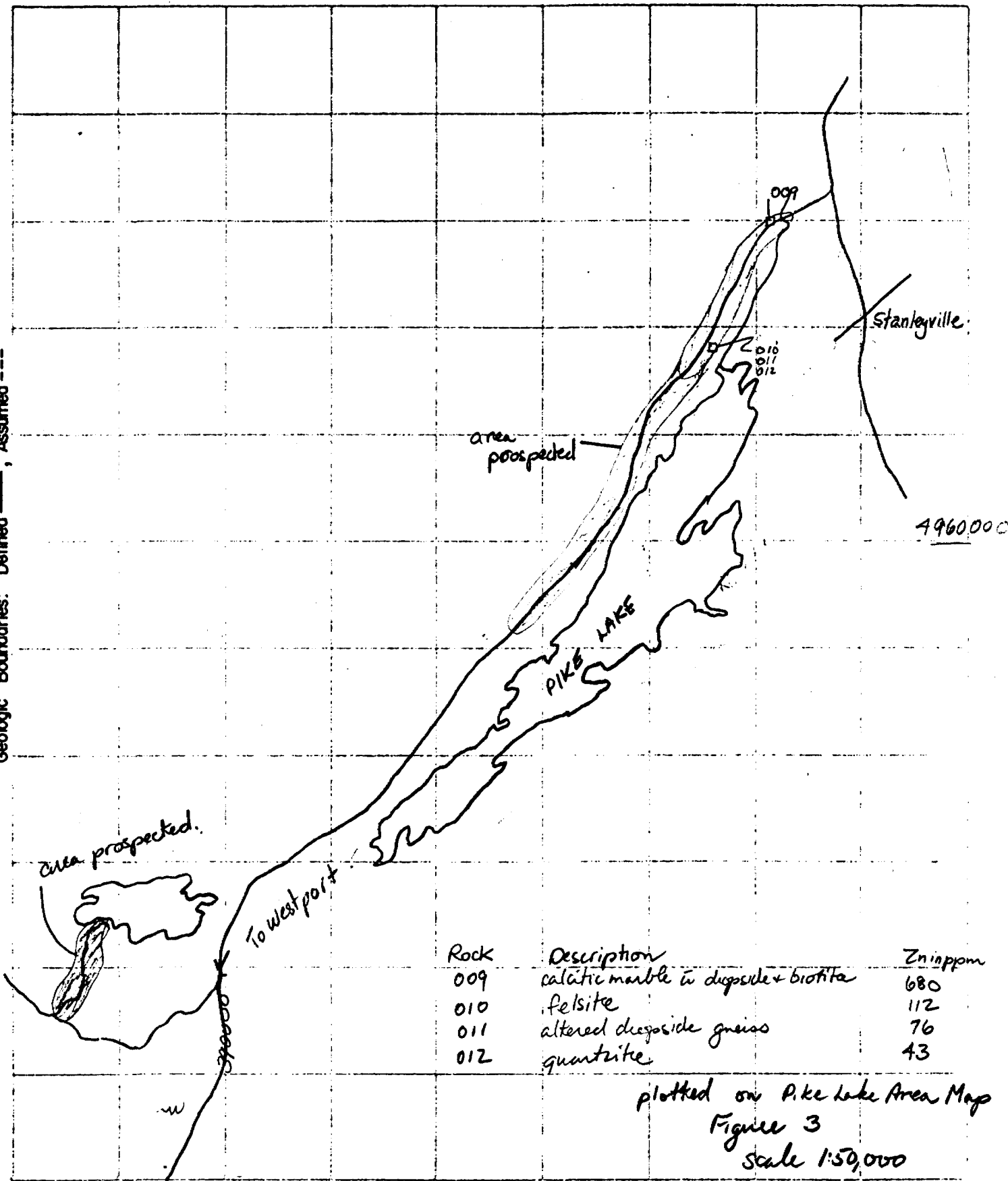
Personnel: A. Soever, R.E. Jackson Air Photos: NONE Percent Outcrop: _____

Sample Numbers: 009-012 Rock - Silt - x

Soil - • Assay - ■

SHOW north arrow, drainage, sample locations, old workings, concessions, trails, geology, and geographic co-ordinates, possible.

Geologic Boundaries: Defined —, Assumed - - -



DAILY TRAVERSE REPORT

Traverse Number 6

Project Number: OPP RES Full N.T.S.: 31 F/2 Date: July 31, 1990

Project Name: CANONTO LAKE AREA Map Name: CANONTO LAKE AREA Scale: 1:10000

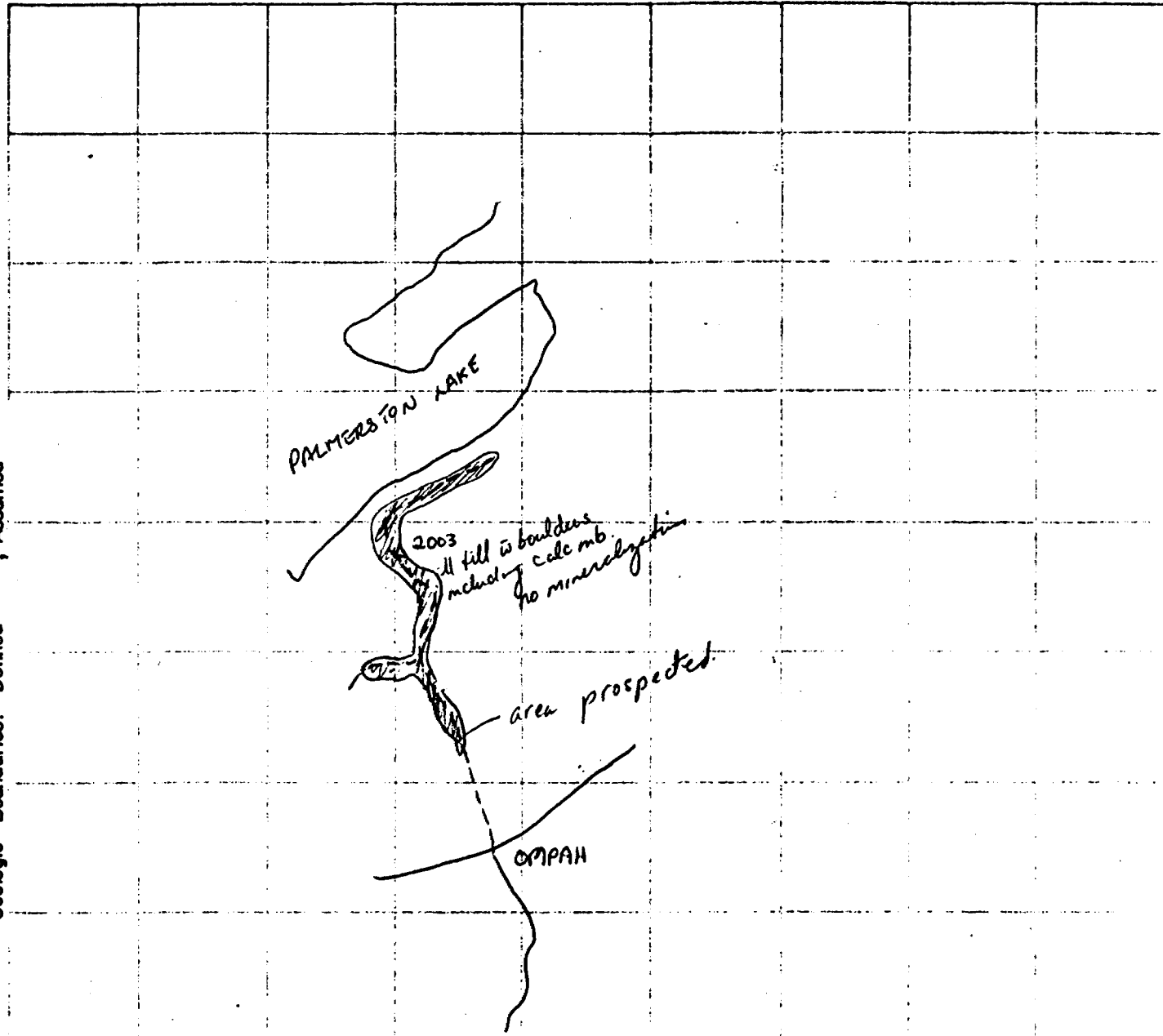
Personnel: A. Soever, R. G. Jacks Air Photos: _____ Percent Outcrop: _____

Sample Numbers: 2003 Rock - Silt - x

Soil - • Assay - ■
Till - Δ

Show north arrow, drainage, sample locations, old workings, cross-sections, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - -



Till 2003 - sandy till with rounded boulders Zn in ppm 42 plotted on Canonto Lake Area map Scale 1:50,000 Sheet 5

DAILY TRAVERSE REPORT

Traverse Number 5

Project Number: OPP REG Full N.T.S.: ~~3000~~ 31 F/2 Date: July 30, 1990

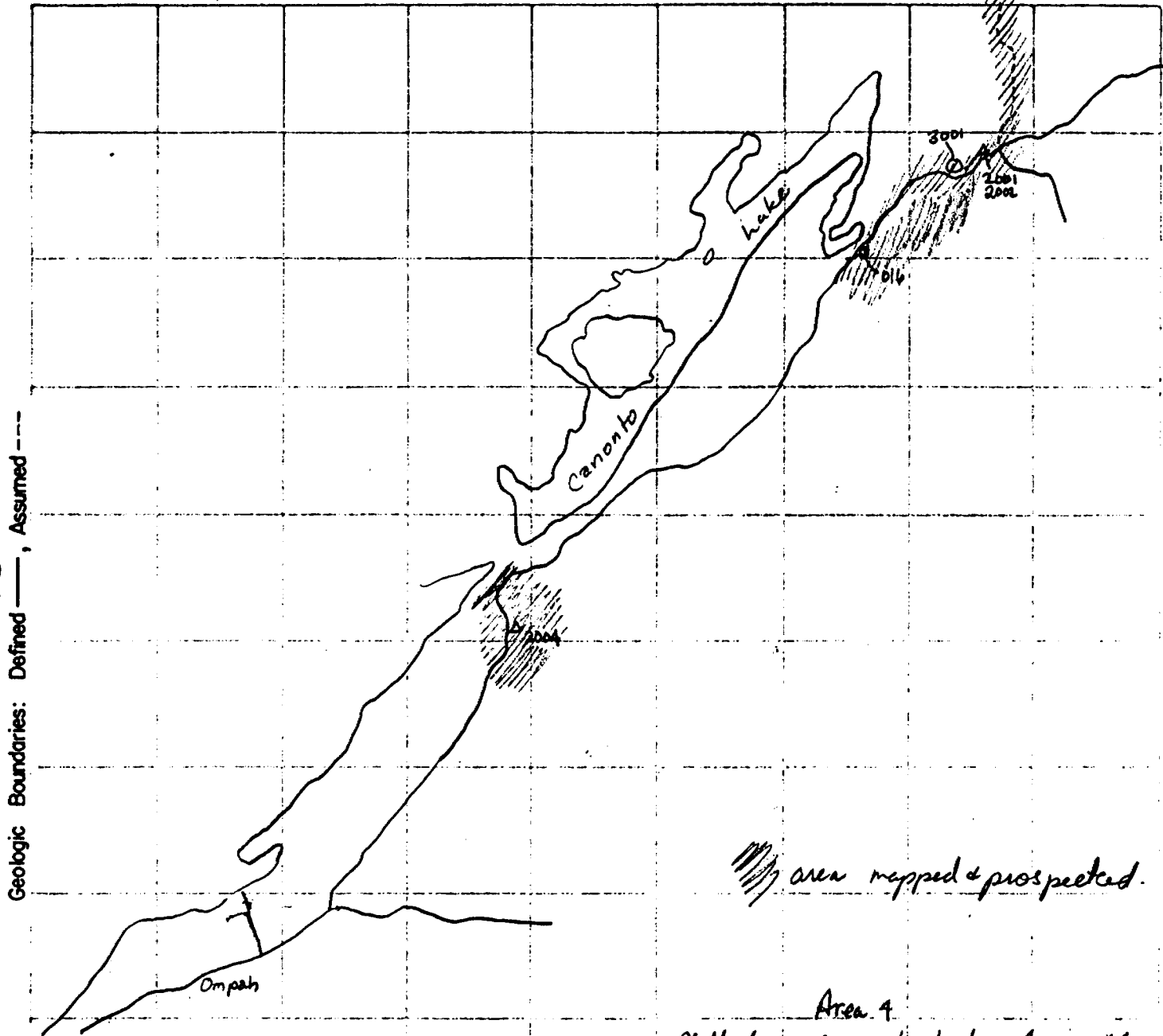
Project Name: Area 4 Map Name: Canonito Lake Area Scale: 1:50,000

Personnel: A. Soewer, R. E. Jackson Air Photos: N/A Percent Outcrop: _____

Sample Numbers: 016, 2001, 2002, 2003 Rock - Silt - x

Soil - • Assay - ■
Till - A

SHOW NORTH arrow, drainage, sample locations, old workings, gossans, cabins, trails, geology, and geographic co-ordinates, possible.



[Hatched area symbol] area mapped & prospected.

Area 4

Plotted on Canonito Lake Area Map
Scale 1:50,000
Sheet 5

Rocks	Description	Zn in ppm
016	siliceous band from calcitic marble	52
Tills		
2001	sandy fill with rounded boulders	44
2002	" " " "	36
2004	" " " "	68
Organic Refs		
2005	black, well decomposed organics	132

DAILY TRAVERSE REPORT

Traverse Number 4

Project Number: OPPRE5 Full N.T.S.: 31 D/15 Date: May 25, 1990

Project Name: Area 1 Map Name: Haliburton Area Scale: 1:50,000

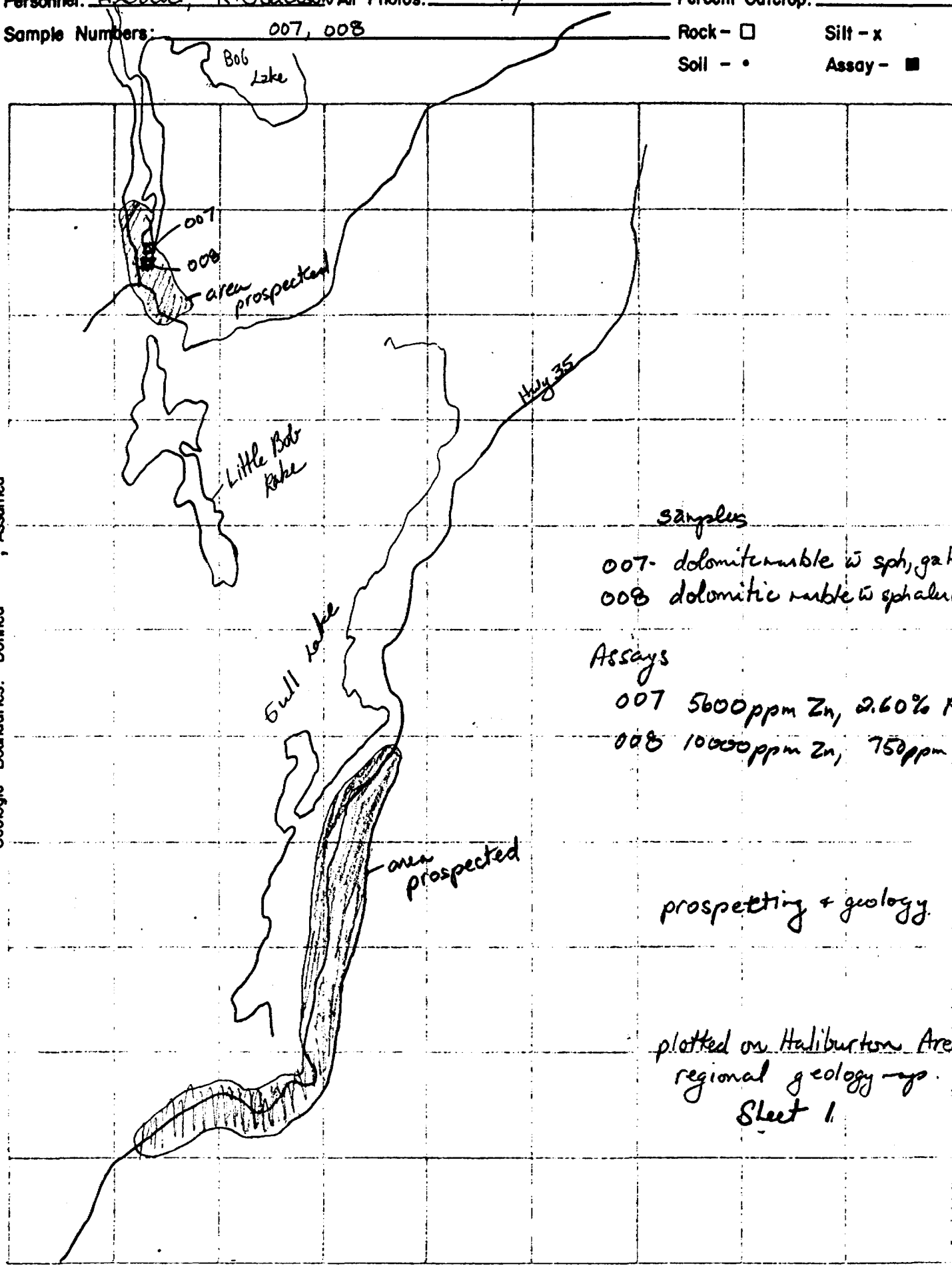
Personnel: A. Soever, R.G. Jackson Air Photos: N/A Percent Outcrop: _____

Sample Numbers: 007, 008 Rock - Silt -

Soil - Assay -

SHOW THE FOLLOW, UNLESS, SURVEY LOCATIONS, OLD WORKINGS, POSITIONS, CABINS, TRAILS, GEOLOGY, AND GEOGRAPHIC CO-ORDINATES, POSSIBLE.

Geologic Boundaries: Defined —, Assumed - - -



Samples

- 007 - dolomitic marble w sph, galena
- 008 - dolomitic marble w sphalerite

Assays

- 007 5600 ppm Zn, 2.60% Pb
- 008 10000 ppm Zn, 750 ppm Pb

prospecting + geology

plotted on Haliburton Area regional geology map Sheet 1.

DAILY TRAVERSE REPORT

Traverse Number 3

Project Number: OPP REG Full N.T.S.: 31 0/15 Date: May 24, 1990 pm

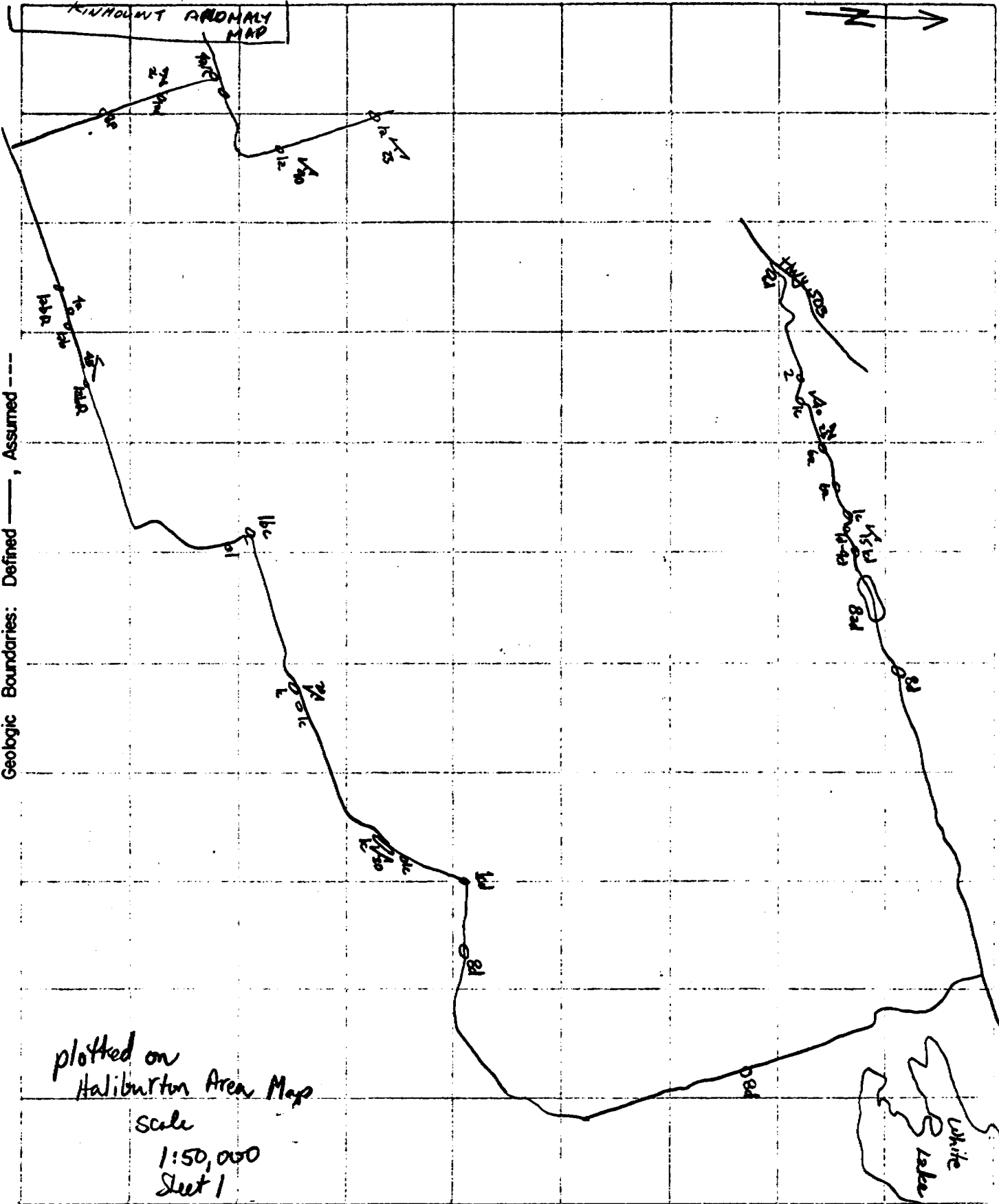
Project Name: AREA 1 Map Name: Haliburton Area Scale: 1:50,000

Personnel: A. Soever, R.G. Jackson Air Photos: N/A Percent Outcrop: _____

Sample Numbers: None Rock - Silt - x

Soil - • Assay - ■

R



plotted on
Haliburton Area Map
Scale
1:50,000
Sheet 1

Show north arrow, drainage, sample locations, old workings, cross-sections, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined ———, Assumed - - - -

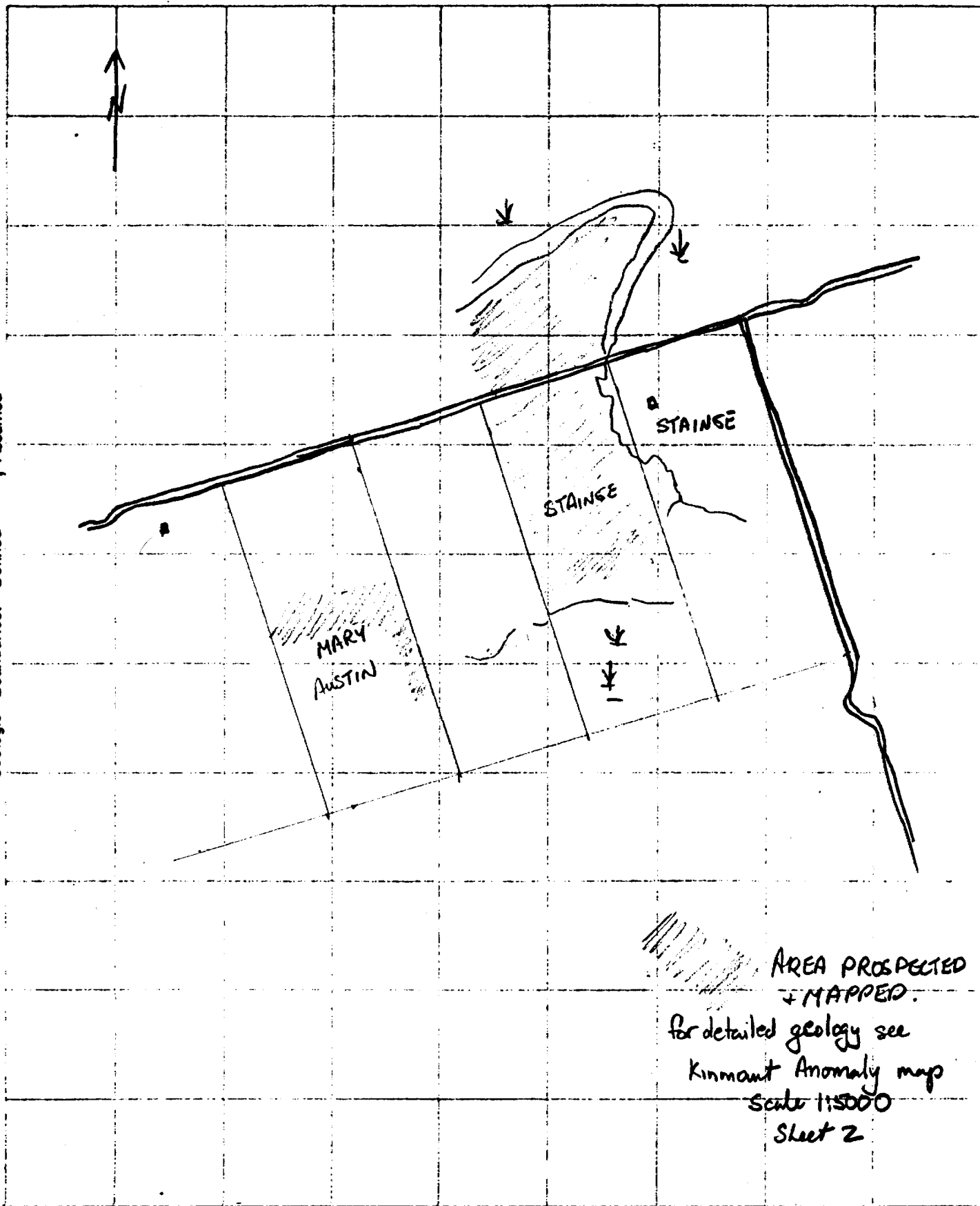
DAILY TRAVERSE REPORT

Traverse Number 3

Project Number: OPP REG Full N.T.S.: 31 D/15 Date: May 24, 1990 am
Project Name: AREA 1 Map Name: Kinnmont Anomaly Scale: 1:15,480
Personnel: A. Soever, RG Jackson Air Photos: _____ Percent Outcrop: _____
Sample Numbers: none Rock - Silt - x
Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, cross-sections, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed - - - -



DAILY TRAVERSE REPORT

Traverse Number 2

Project Number: OPAP Full N.T.S.: 31 D 115 Date: May 23, 1990

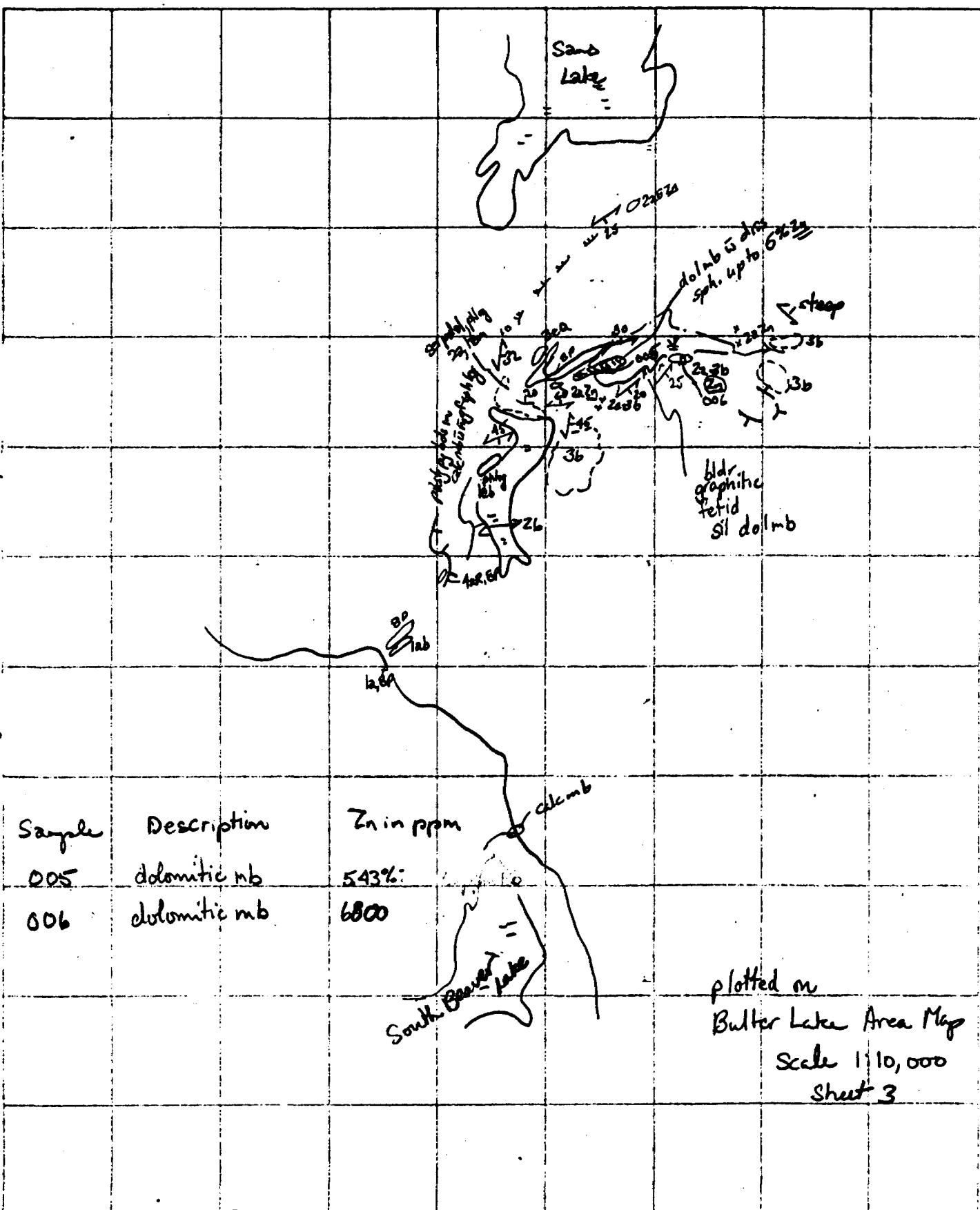
Project Name: AREA 1 Map Name: MINDEN Scale: 1" = 1/4 mile

Personnel: R. S. Jackson, A. Soever Air Photos: 87-4433-07-243 Percent Outcrop: _____

Sample Numbers: 005, 006 Rock - Silt - x
Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, crossroads, cabins, trails, geology, and geographic co-ordinates, if possible.

Geologic Boundaries: Defined —, Assumed ---



Sample	Description	Zn in ppm
005	dolomitic mb	543%
006	dolomitic mb	6800

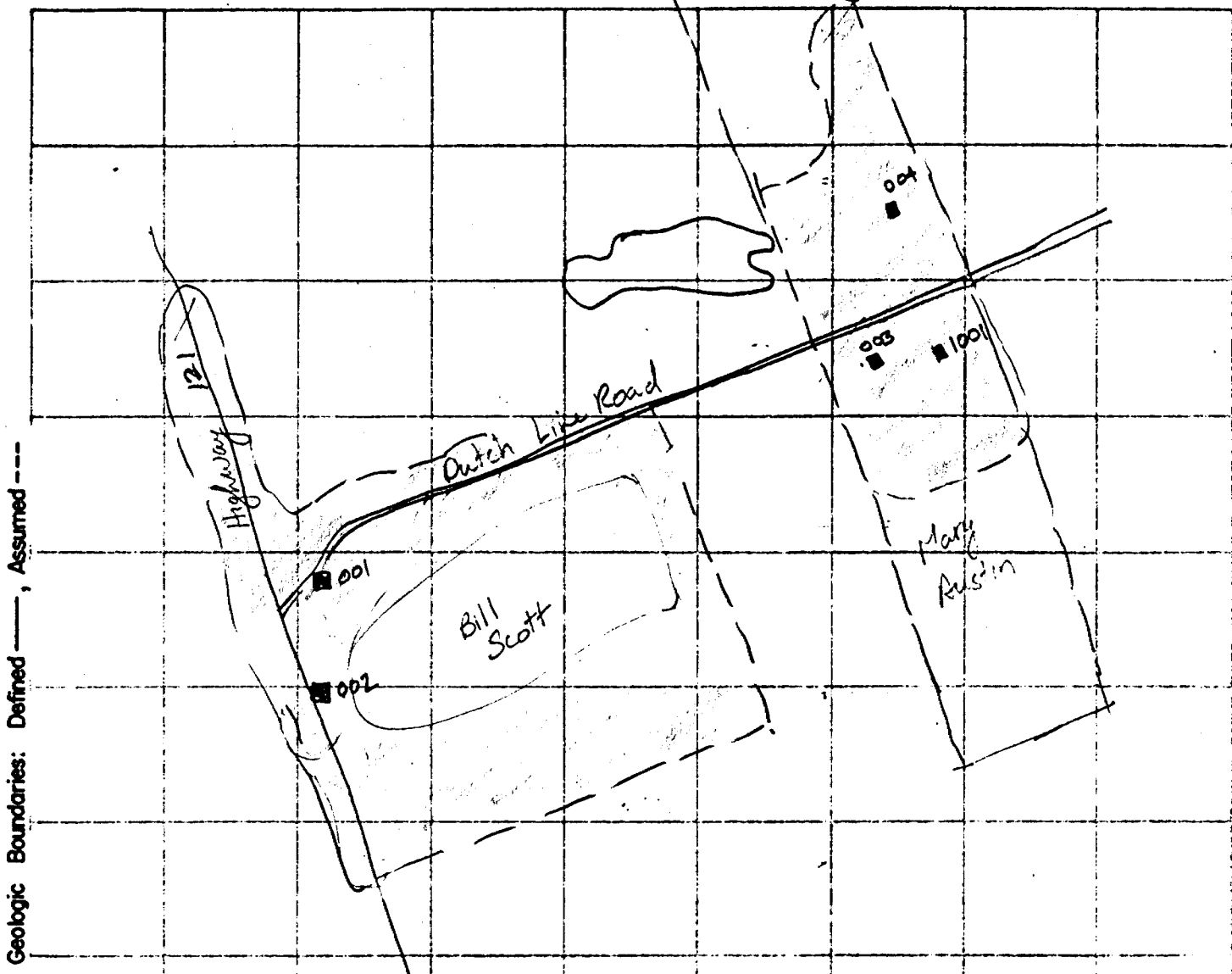
plotted on
Butler Lake Area Map
Scale 1:10,000
Sheet 3

DAILY TRAVERSE REPORT

Traverse Number 1

Project Number: OPAP Full N.T.S.: 31 D/15 Date: May 22, 1990
 Project Name: KINMOUNT (AREA 1) Map Name: MADEN Kinmount Anomaly Scale: 1" = 1/4 mile
 Personnel: R.G. Jackson, A. Sewer Air Photos: Air photos 87-4431-07-153 Percent Outcrop: _____
 Sample Numbers: 001, 002, 003, 004, 1001 87-4432-07-062 also blowups Rock - Silt - x
 Soil - • Assay - ■

Show north arrow, drainage, sample locations, old workings, concessions, cabins, trails, geology, and geographic co-ordinates, if possible.



Sample	Description	Zn in ppm
001	steared calcitic mb.	360
002	grey dolomitic mb.	27
003	buff dolomitic mb	480
004	buff dolomitic mb	2500
1001	" " "	420

areas mapped & prospected

for detailed geology see map Kinmount Anomaly Map Sheet 3 plotted on Kinmount Anomaly maps.

APPENDIX B

Sample Descriptions, Locations and Analyses

ROCK SAMPLE DESCRIPTIONS AND LOCATIONS

SAMPLE	AREALOCATION	NORTHING	EASTING	DESCRIPTION	GRID	
					CO-ORDINATE GRID NORTH	GRID EAST
1	1 KINMOUNT	4958410	687050	SHEARED CALCITIC MARBLE		
2	1 KINMOUNT	4958220	687040	GREY DOLOMITIC MARBLE		
3	1 KINMOUNT	4958945	688410	BUFF DOLOMITIC MARBLE		
4	1 KINMOUNT	4959250	688500	BUFF DOLOMITIC MARBLE		
5	1 BULLER AREA	4963140	676050	DOLOMITIC MARBLE ZN		
6	1 BULLER AREA	4963210	676390	DOLOMITIC MARBLE ZN		
7	1 LITTLEBOB	4973220	674310	DOLOMITIC MARBLE ZN, PB		
8	1 LITTLEBOB	4973280	674300	DOLOMITIC MARBLE ZN, PB		
9	3 PIKE LAKE	4963050	395250	CALCITIC MARBLE, DIOP, BIO		
10	3 PIKE LAKE	4961850	394700	FELSITE		
11	3 PIKE LAKE	4961850	394700	ALTERED DIOPSIDE GNEISS		
12	3 PIKE LAKE	4961850	394700	QUARTZITE		
13	3 DUCK BAY	4952000	395750	CALCITIC MARBLE GRAPHITE		
14	3 GRIPPEN	4928300	406300	RUSTY CALCITIC MARBLE		
15	3 CANOE LAKE	4937800	380750	CALCITIC DOLOMITIC MARBLE		
16	4 CANONTO	4991000	360200	SILICEOUS BAND IN CALC. MARBLE		
17	1 BULLER GRID	4963050	675900	DOLOMITIC MARBLE TR. ZN	225	-60
18	1 BULLER GRID	4963100	675950	DOLOMITIC MARBLE TR. ZN	238	-41
19	1 BULLER GRID	4963150	676050	DOLOMITIC MARBLE ZN, MAIN SHOWING	242	82
20	1 BULLER GRID	4963175	676140	DOLOMITIC MARBLE ZN, MAIN SHOWING	248	131
21	1 BULLER GRID	4963125	676125	DOLOMITIC MARBLE ZN, MAIN SHOWING	221	88
22	1 BULLER GRID	4963100	676075	DOLOMITIC MARBLE ZN, MAIN SHOWING	221	104
23	1 BULLER GRID	4963825	676000	SERPENTINOUS DOLOMITIC CALCITIC MARBLE	891	300
24	1 BULLER GRID	4963300	676350	DOLOMITIC MARBLE TR ZN.	261	410
25	1 BULLER GRID	4963650	676225	WHITE TO GREY DOLOMITIC MARBLE TR ZN.	658	439
26	1 BULLER GRID	4963675	676310	WHITE TO GREY DOLOMITIC MARBLE TR ZN.	658	527
27	1 BULLER GRID	4962600	676050	WHITE TO GREY DOLOMITIC MARBLE TR ZN.	-217	-153
28	1 BULLER GRID	4962100	676450	DOLOMITIC MARBLE TR ZN.	-884	53
1001	1 KINMOUNT	4958945	688610	BUFF DOLOMITIC MARBLE		
1002	1 APSLEY	4959600	731600	AMPHIBOLITE		
1003	1 APSLEY	4959625	732400	GREY BANDED CALCITIC MARBLE		
1004	1 APSLEY	4959725	732525	SHALY CALCITIC MARBLE		
1005	1 BULLER GRID	4963000	676950	SERPENTINOUS SILICEOUS DOLOMITIC MARBLE	141	-65
1006	1 BULLER GRID	4963275	676550	SERPENTINOUS DOLOMITIC, TR. ZN	196	603
1007	1 BULLER GRID	4963200	676400	DOLOMITIC MARBLE ZN, PB	192	421
1008	1 BULLER GRID	4964050	676250	GREY DOLOMITIC MARBLE ZN	1090	617
1009	1 BULLER AREA	4963900	676300	CALCSILICATE GNEISS	869	607
1010	1 BULLER AREA	4963100	674575	DOLOMITIC MARBLE, PY		
1011	1 BULLER AREA	4962300	675050	PLAGIOCLASE-HORNBLende-BIOTITE GNEISS		

TILL SAMPLE LOCATIONS

SAMPLE	AREA	LOCATION	NORTHING	EASTING
2001	4	CANONTO	4991750	360150
2002	4	CANONTO	4991750	360150
2003	4	CANONTO	4985750	355150
2004	4	CANONTO	4988000	357300
2005				
2006	2	APSLEY	4962400	366750
2007	2	APSLEY	4963100	734800

DRAINAGE SAMPLE LOCATIONS

sample	arealocation	northing	easting
3001	4 CANDNTD	4991600	360850
10001	2 APSLEY	4959550	731300
10002	2 APSLEY	4959750	732250
10003	2 APSLEY	4960550	737300
10004	2 APSLEY	4963500	734500
10005	1 BULLER GRID	4963150	675950
10006	1 BULLER GRID	4963120	676000
10007	1 BULLER GRID	4963085	676040
10008	1 BULLER GRID	4963710	676040
10009	1 BULLER GRID	4963685	676065
10010	1 BULLER GRID	4963850	676200
10011	1 BULLER RECON	4963030	675690
10012	1 BULLER RECON	4963560	675650
10013	1 BULLER RECON	4963625	675550
10014	1 BULLER RECON	4963550	675060
10015	1 BULLER RECON	4963260	675210
10016	1 BULLER RECON	4963290	675340
10017	1 BULLER GRID	4962740	676120
10018	1 BULLER GRID	4962530	675920
10019	1 BULLER GRID	4962270	676090
10020	1 BULLER GRID	4963850	676200
10026	1 BULLER RECON	4965150	677890
10027	1 BULLER RECON	4963400	679540
10028	1 BULLER RECON	4962870	677610
10029	2 APSLEY	4960450	736050
10030	2 APSLEY	4962000	731450
10031	1 BULLER GRID	4963000	675920
10032	1 BULLER GRID	4963020	676010
10033	1 BULLER GRID	4962920	676075
10034	1 BULLER GRID	4963210	676480
10035	1 BULLER GRID	4964000	676250
10036	1 BULLER RECON	4963010	674940
10037	1 BULLER RECON	4963380	674780
10038	1 BULLER RECON	4963520	674890
10039	1 BULLER RECON	4962850	674770
10040	2 APSLEY	4962000	731450
10041	1 BULLER RECON	4962680	674890

SOIL SAMPLE RESULTS

sample	east	north	sample type	ag ppm.	as ppm.	bi ppm.	co ppm.	cu ppm.	fe %	mn ppm.	mo ppm.	ni ppm.	pb ppm.	sb ppm.	zn ppm.	hg ppb.
4001	-150.0	300.0	1	0.3	3	0.1	6	26	0.78	2470	1	11	70	0.4	450	100
4002	-135.0	300.0	1	0.1	3	0.1	8	7	1.99	1925	1	10	24	0.4	294	80
4003	-120.0	300.0	1	0.1	3	0.1	6	3	2.11	1555	1	7	16	0.2	188	60
4004	-105.0	300.0	1	0.1	8	0.2	7	7	1.62	6370	2	11	100	0.8	354	110
4005	-90.0	300.0	1	0.1	6	0.4	5	17	1.08	5370	1	20	192	1.0	632	190
4006	-75.0	300.0	1	0.1	6	0.2	7	11	2.96	1320	1	8	54	0.4	316	70
4007	-60.0	300.0	4	0.1	7	0.2	6	10	1.73	3200	1	4	56	0.4	214	100
4008	-45.0	300.0	4	0.1	2	0.1	3	5	2.02	800	1	4	26	0.2	108	60
4009	-15.0	300.0	4	0.1	1	0.1	4	5	1.17	730	1	7	12	0.2	255	60
4010	0.0	300.0	1	0.1	4	0.1	3	5	1.14	725	1	5	26	0.2	172	60
4011	15.0	300.0	1	0.1	2	0.1	3	4	1.28	565	1	4	22	0.2	178	40
4012	30.0	300.0	1	0.1	2	0.1	3	5	1.76	805	1	5	16	0.2	160	50
4013	45.0	300.0	2	0.1	2	0.1	3	4	2.11	805	2	5	23	0.2	214	50
4014	60.0	300.0	2	0.1	3	0.1	3	2	1.14	530	1	5	36	0.2	242	60
4015	75.0	300.0	1	0.1	1	0.1	3	3	1.87	385	1	7	20	0.2	140	30
4016	90.0	300.0	1	0.1	2	0.1	5	2	2.56	1465	1	7	28	0.2	152	60
4017	105.0	300.0	1	0.1	1	0.1	2	2	1.24	280	1	4	18	0.2	34	30
4018	120.0	300.0	1	0.1	3	0.1	1	6	0.96	325	1	7	60	0.4	162	100
4019	135.0	300.0	1	0.1	3	0.1	2	4	1.11	925	1	4	20	0.2	150	50
4021	152.0	300.0	1	0.3	4	0.1	3	57	1.47	3930	1	9	48	0.4	974	100
4022	0.0	345.0	1	0.1	3	0.1	6	7	1.78	1585	1	15	40	0.4	210	90
4023	0.0	312.5	1	0.1	3	0.1	5	9	1.37	2745	3	9	44	0.4	500	120
4024	0.0	287.5	4	0.1	1	0.1	4	3	1.80	830	1	5	20	0.2	198	50
4025	0.0	275.0	1	0.1	2	0.1	4	9	1.73	2155	1	6	26	0.2	262	40
4026	0.0	262.5	4	0.1	2	0.1	4	8	2.08	1250	1	6	22	0.1	226	70
4027	0.0	237.5	1	0.2	2	0.1	7	16	2.79	1080	1	10	28	0.6	302	60
4028	0.0	225.0	1	0.1	2	0.1	3	4	1.91	575	1	6	18	0.2	246	40
4029	0.0	212.5	1	0.1	7	0.2	4	16	1.75	995	1	7	62	0.6	480	110
4030	0.0	200.0	1	0.1	1	0.1	4	8	1.82	1110	1	5	16	0.2	246	60
4031	-15.0	200.0	1	0.3	5	2.9	4	11	1.78	915	1	7	46	0.4	268	120
4032	-30.0	200.0	1	0.1	7	0.4	10	17	2.61	4575	3	10	30	0.6	348	50
4033	-45.0	200.0	4	0.2	2	0.1	5	9	2.60	755	1	7	26	0.2	206	60
4034	-60.0	200.0	1	0.1	3	0.1	2	8	1.38	460	1	5	20	0.4	140	70
4035	-75.0	200.0	1	0.2	3	0.2	3	16	1.52	750	1	6	30	0.2	300	60
4036	-90.0	200.0	1	0.2	3	0.1	4	22	1.29	910	3	12	54	0.6	466	150
4037	-105.0	200.0	1	0.4	5	0.1	7	30	1.76	2265	1	20	42	0.4	506	100
4038	-120.0	200.0	4	0.3	5	0.1	4	13	1.40	1110	1	10	42	0.4	258	90
4039	-135.0	200.0	4	0.3	5	0.1	5	16	2.39	2215	1	18	58	0.6	260	70
4041	15.0	200.0	1	0.1	3	0.1	4	13	1.65	955	1	7	30	0.4	262	100
4042	30.0	200.0	1	0.1	2	0.1	2	11	1.42	445	1	5	30	0.2	224	100
4043	45.0	200.0	1	0.2	2	0.5	1	14	1.52	600	1	10	82	0.8	432	150
4044	60.0	200.0	5	0.1	1	0.2	2	2	1.15	180	1	4	26	0.2	210	60
4045	75.0	200.0	5	0.4	4	2.1	3	16	1.69	1685	1	6	96	0.4	568	210
4046	90.0	200.0	1	0.2	6	0.1	3	16	2.31	1245	1	8	50	1.2	618	200
4047	90.0	215.0	1	0.3	1	0.1	1	8	0.61	235	1	4	44	0.6	394	500
4048	90.0	230.0	1	0.1	1	0.1	1	6	0.38	120	1	1	26	0.1	150	100
4049	90.0	185.0	1	0.3	3	0.2	4	8	1.83	625	1	7	52	0.2	440	100
4050	90.0	170.0	1	0.1	2	0.1	2	2	1.11	245	1	3	24	0.2	464	70
4051	0.0	187.5	1	0.2	2	0.1	4	7	1.85	1170	1	4	22	0.4	264	80
4052	0.0	175.0	1	0.1	3	0.1	4	13	1.73	1635	3	10	46	0.6	384	140
4053	0.0	162.5	1	0.1	7	0.3	1	14	2.71	2795	1	7	44	0.4	674	110
4054	0.0	150.0	1	0.1	3	0.2	3	8	1.44	870	1	4	28	0.4	238	90
4055	0.0	137.5	1	0.1	6	0.6	4	13	2.42	2425	1	9	58	0.8	612	110
4056	0.0	125.0	2	0.1	3	0.3	3	4	1.95	510	1	6	24	0.2	246	60
4057	0.0	112.5	1	0.1	3	0.1	3	11	1.55	1205	2	7	22	0.2	384	80
4058	0.0	100.0	1	0.3	4	0.3	6	13	1.57	6465	1	8	64	0.6	752	200
4059	-15.0	100.0	1	7.5	11	6.8	6	137	3.19	4280	5	14	216	16.6	562	220

SOIL SAMPLE RESULTS

sample	east	north	sample type	ag ppm.	as ppm.	bi ppm.	co ppm.	cu ppm.	fe %	mn ppm.	mo ppm.	ni ppm.	pb ppm.	sb ppm.	zn ppm.	hg ppb.
4061	-30.0	95.0	2	0.1	7	0.4	4	16	1.72	2360	3	14	126	1.0	448	160
4062	-45.0	95.0	2	1.4	10	0.1	8	350	2.69	8295	21	95	60	2.4	520	450
4063	-50.0	95.0	2	0.4	3	0.7	4	24	1.11	975	4	21	206	1.4	275	250
4064	-70.0	105.0	1	0.1	4	0.2	4	21	3.18	1955	2	21	154	0.6	555	210
4065	50.0	100.0	1	1.3	8	0.6	5	28	1.79	755	1	10	232	5.5	1622	250
4066	15.0	100.0	1	0.2	3	0.2	3	7	1.70	615	1	5	30	0.4	248	70
4067	30.0	100.0	2	0.1	3	0.1	3	9	1.57	975	1	9	52	0.4	228	120
4068	45.0	100.0	1	0.8	8	0.9	5	15	2.03	2195	2	8	130	1.8	690	180
4069	75.0	100.0	1	1.5	4	0.1	1	432	1.14	65	2	22	188	9.0	1392	1500
4070	90.0	100.0	1	0.7	1	0.1	1	255	0.37	20	1	13	44	18.4	2610	1200
4071	105.0	100.0	1	0.1	1	0.1	2	30	0.93	45	2	12	114	1.2	358	200
4072	120.0	95.0	1	0.2	1	0.1	2	30	0.29	95	1	16	42	1.0	346	240
4073	135.0	100.0	1	0.2	3	0.1	3	12	1.05	550	1	10	60	0.2	216	110
4074	150.0	100.0	1	0.1	3	0.1	4	10	1.66	730	1	11	38	0.2	212	90
4075	165.0	100.0	1	0.1	3	0.2	3	7	0.72	730	1	6	32	0.2	90	50
4076	0.0	90.0	1	0.1	3	0.3	8	20	2.74	1550	1	7	28	0.4	716	80
4077	0.0	75.0	1	0.1	2	0.9	3	5	1.67	845	1	4	88	0.4	334	60
4078	0.0	62.5	1	0.1	6	0.2	4	16	1.66	1405	2	10	60	1.4	488	130
4079	0.0	50.0	2	0.1	2	0.1	1	8	0.93	600	1	8	74	0.4	324	100
4081	0.0	37.5	1	0.1	3	0.5	3	11	1.15	1395	1	11	174	1.0	358	190
4082	0.0	25.0	1	0.1	2	0.3	4	25	1.42	3205	1	8	66	0.4	328	90
4083	0.0	0.0	1	0.2	3	0.9	3	16	0.76	2215	5	19	284	2.2	250	250
4084	-15.0	0.0	1	0.2	3	0.4	3	18	1.35	255	5	17	174	1.2	138	120
4085	-30.0	0.0	1	0.1	4	0.4	5	14	1.41	1775	2	8	92	0.2	248	80
4086	-45.0	0.0	1	0.1	3	0.3	3	9	1.25	2665	3	8	60	0.4	230	50
4087	-60.0	0.0	1	0.2	3	0.6	5	18	0.81	3280	4	26	240	1.2	594	210
4088	-75.0	0.0	1	0.6	1	0.5	2	11	0.64	745	3	14	198	1.4	224	230
4089	-90.0	0.0	1	0.3	7	0.8	6	20	1.68	7580	1	9	120	0.8	1766	120
4090	-105.0	0.0	1	0.1	5	0.5	5	9	1.39	3440	2	12	112	0.6	552	70
4091	-120.0	0.0	4	0.1	3	0.1	4	20	0.96	3470	3	21	216	0.1	596	230
4092	-135.0	0.0	1	0.1	2	0.2	2	12	0.74	1130	6	20	92	0.8	240	170
4093	-150.0	0.0	1	0.2	1	0.8	3	16	0.75	1940	5	29	266	1.2	470	210
4094	-165.0	0.0	1	0.1	6	0.4	3	10	1.94	1695	1	10	132	0.8	544	150
4095	-180.0	0.0	1	0.1	2	0.3	3	14	0.89	1060	3	27	192	0.8	340	270
4096	-195.0	0.0	1	0.1	2	0.1	1	5	0.68	110	1	7	50	0.2	165	110
4097	-220.0	0.0	1	0.1	3	0.1	2	33	2.06	1160	1	7	30	0.1	488	80
4098	0.0	-405.0	4	0.1	3	0.2	4	10	0.97	2905	2	9	60	0.8	424	140
4099	-15.0	-405.0	1	0.1	2	0.1	1	7	0.82	345	4	6	30	0.2	104	110
4101	-30.0	-405.0	1	0.1	2	0.3	2	14	0.97	1245	6	12	160	1.0	200	230
4102	-45.0	-405.0	4	0.1	3	0.3	2	16	0.74	1490	7	12	156	0.8	246	220
4103	-60.0	-405.0	4	0.2	3	0.6	3	17	1.08	2085	8	15	194	1.4	364	210
4104	-75.0	-405.0	1	0.1	3	0.3	1	16	0.71	265	3	6	84	0.6	192	90
4105	-90.0	-405.0	1	0.1	3	0.3	3	13	1.52	325	1	6	66	0.6	232	90
4106	-105.0	-405.0	1	0.1	5	0.6	5	20	1.93	3215	3	9	64	0.4	366	100
4107	-120.0	-405.0	1	0.1	10	1.7	12	15	2.85	10000	3	13	58	0.8	598	130
4108	-135.0	-405.0	1	0.1	5	0.4	3	6	1.42	735	1	7	92	0.6	144	70
4109	-150.0	-405.0	1	0.1	3	0.4	4	3	2.52	725	1	6	36	0.2	156	60
4110	-165.0	-405.0	1	0.1	3	0.3	3	12	0.70	875	1	18	204	1.2	352	320
4111	-180.0	-405.0	1	0.1	2	0.4	4	15	1.04	2095	2	19	162	0.8	414	220
4112	-195.0	-405.0	1	0.1	2	0.4	3	19	0.78	855	2	19	122	1.0	280	240
4113	-210.0	-405.0	1	0.1	1	0.1	1	19	0.43	85	6	15	52	0.6	120	190
4114	-255.0	-305.0	1	0.1	1	0.1	2	13	0.97	585	3	16	50	0.1	340	110
4115	-240.0	-305.0	1	0.1	2	0.1	3	30	1.25	675	1	31	106	0.6	192	110
4116	-225.0	-305.0	1	0.1	5	0.4	5	16	1.49	1275	1	11	90	0.4	364	110
4117	-210.0	-305.0	1	0.1	2	0.5	3	12	0.95	575	2	14	178	1.0	208	160
4118	-195.0	-305.0	1	0.1	6	0.6	3	13	1.45	440	2	20	178	1.2	200	190
4119	-180.0	-305.0	1	0.1	4	0.3	3	10	1.13	955	2	10	134	0.8	146	130

SOIL SAMPLE RESULTS

sample	east	north	sample type	ag ppm.	as ppm.	bi ppm.	co ppm.	cu ppm.	fe %	mn ppm.	ao ppm.	ni ppm.	pb ppm.	sb ppm.	zn ppm.	hg ppb.
4121	-155.0	-305.0	1	0.1	9	2.8	7	10	1.74	4045	3	19	226	1.2	366	160
4122	-150.0	-320.0	1	0.1	4	0.7	4	12	1.35	2140	1	10	90	0.6	242	100
4123	-135.0	-305.0	4	0.1	3	0.3	6	16	0.97	7050	2	15	114	0.6	725	130
4124	-120.0	-305.0	4	0.1	3	1.4	4	28	0.98	405	4	24	552	1.8	224	190
4125	-105.0	-305.0	1	0.1	2	0.1	3	7	1.75	1265	1	8	60	0.4	290	80
4126	-90.0	-305.0	1	0.1	3	1.0	4	19	0.89	2190	3	15	196	1.6	424	200
4127	-75.0	-305.0	1	0.1	2	0.5	4	15	1.05	2030	2	15	192	1.0	412	160
4128	-60.0	-305.0	1	0.1	2	0.5	3	21	0.66	5520	4	17	200	1.4	472	270
4129	-45.0	-305.0	2	0.1	5	0.2	7	5	1.46	9565	5	9	46	0.4	420	150
4130	-30.0	-305.0	1	0.1	2	0.1	3	7	1.41	1610	3	8	108	0.6	268	140
4131	-15.0	-305.0	1	0.1	1	0.1	1	6	1.46	95	1	6	78	0.2	58	50
4132	0.0	-305.0	1	0.1	1	0.1	1	7	0.37	50	13	10	94	0.8	232	180
4133	0.0	-250.0	1	0.3	1	0.8	1	32	0.44	35	3	14	316	2.2	144	170
4134	-15.0	-250.0	1	0.2	1	0.9	6	19	0.84	7120	6	24	364	2.0	516	180
4135	-30.0	-250.0	1	0.1	1	0.2	3	8	1.13	2600	1	7	78	0.2	292	90
4136	-45.0	-250.0	1	0.1	2	0.2	3	14	1.25	3480	2	13	142	0.6	534	180
4137	-60.0	-250.0	1	0.1	2	0.1	2	10	0.70	1720	4	8	52	0.8	396	170
4138	-75.0	-250.0	1	0.2	2	0.7	4	20	0.74	3435	4	19	384	1.8	526	240
4139	-90.0	-250.0	1	0.1	2	0.1	3	13	0.77	1505	4	11	92	0.8	336	170
4141	-105.0	-250.0	1	0.1	3	0.2	2	17	0.90	375	2	15	172	0.8	298	110
4142	-120.0	-250.0	1	0.2	2	0.6	2	14	0.59	120	3	15	280	2.6	154	220
4143	-135.0	-250.0	1	0.2	2	0.3	3	15	0.77	1360	2	13	152	1.4	402	220
4144	-150.0	-250.0	1	0.1	2	0.1	4	9	1.39	555	1	11	108	0.4	278	120
4145	-165.0	-250.0	1	0.1	6	0.6	5	23	1.25	4395	1	18	242	1.0	870	180
4146	-180.0	-250.0	1	0.1	7	0.1	6	15	2.76	3205	2	9	60	0.5	406	90
4147	-195.0	-250.0	1	0.3	7	0.1	6	22	1.51	8445	1	12	80	0.2	1070	130
4148	-210.0	-250.0	1	0.1	4	0.1	3	16	0.90	965	1	13	94	0.2	280	110
4149	-225.0	-250.0	1	0.1	10	0.1	4	15	1.22	940	1	18	158	0.6	302	190
4150	604.0	1110.0	1	0.1	6	0.1	7	33	4.10	7165	1	15	52	0.2	252	130
4151	604.0	1098.0	1	0.1	6	0.1	5	19	2.87	3140	1	16	102	0.4	214	140
4152	604.0	1080.0	1	0.1	3	0.1	5	11	1.41	1540	1	16	54	0.2	244	90
4153	604.0	1055.0	1	0.1	5	0.2	5	14	3.96	1645	1	20	174	0.8	260	150
4154	604.0	1050.0	1	0.1	5	0.1	7	8	3.49	595	1	13	48	0.4	118	130
4155	604.0	1035.0	1	0.1	1	0.1	6	24	2.09	910	1	19	92	0.6	210	100
4156	604.0	1020.0	1	0.1	1	0.1	5	96	1.06	1415	1	46	86	0.8	575	190
4157	604.0	1005.0	1	0.1	2	0.1	1	18	0.47	220	3	15	100	0.8	106	230
4158	604.0	990.0	1	0.1	3	0.1	2	23	0.69	1215	1	21	146	0.6	480	220
4159	604.0	972.0	1	0.1	8	0.1	10	38	1.78	3535	3	22	70	0.6	360	160
4161	604.0	960.0	1	0.2	1	0.1	1	52	0.15	55	18	11	18	0.1	200	110
4162	604.0	945.0	1	0.6	1	0.1	1	117	0.15	55	2	36	10	0.2	56	170
4163	604.0	930.0	1	0.3	3	0.1	3	4	1.19	910	3	6	46	0.2	126	90
4164	604.0	915.0	1	0.6	8	0.2	7	19	3.86	8975	2	17	138	0.6	492	160
4165	604.0	900.0	3	0.3	1	0.1	9	3	4.41	1260	1	20	20	0.1	126	70
4166	604.0	885.0	3	0.1	1	0.1	9	7	2.37	255	1	21	8	0.1	58	30
4167	604.0	870.0	2	0.8	10	0.3	11	21	3.94	6210	4	17	86	1.2	266	170
4168	600.0	855.0	3	0.2	1	0.1	4	1	2.53	295	1	8	12	0.1	96	40
4169	604.0	840.0	2	0.2	1	0.1	3	4	2.43	785	3	5	15	0.2	104	50
4170	604.0	825.0	2	0.3	2	0.1	4	6	2.01	795	1	9	32	0.2	138	70
4171	604.0	810.0	3	0.2	1	0.1	3	3	2.20	125	1	6	8	0.1	88	30
4172	604.0	795.0	3	0.2	1	0.1	6	3	2.75	1380	1	10	24	0.4	134	70
4173	604.0	780.0	1	0.4	5	0.1	5	14	1.55	2120	1	12	102	0.4	502	130
4174	604.0	765.0	1	0.3	5	0.1	4	6	1.59	595	2	7	38	0.2	188	90
4175	604.0	750.0	1	0.6	5	0.1	3	21	1.10	2885	3	9	56	1.0	342	180
4176	604.0	735.0	1	0.2	5	0.1	5	14	1.73	1020	3	10	160	0.4	274	110
4177	604.0	720.0	1	0.2	6	0.1	2	4	1.38	420	4	5	70	0.4	154	80
4178	604.0	705.0	1	0.4	5	0.1	3	9	1.17	920	1	6	48	0.2	244	70
4179	604.0	690.0	1	0.4	2	0.1	2	18	0.57	1270	1	7	33	0.1	228	100

SOIL SAMPLE RESULTS

sample	east	north	sample type	ag ppm.	as ppm.	bi ppm.	co ppm.	cu ppm.	fe %	mn ppm.	mo ppm.	ni ppm.	pb ppm.	sb ppm.	zn ppm.	hg ppb.
4181	604.0	675.0	1	0.1	1	0.1	1	14	0.33	880	1	13	150	0.1	315	210
4182	604.0	660.0	1	0.1	5	0.1	4	26	0.90	3580	2	15	168	0.6	616	200
4193	604.0	645.0	1	0.1	5	0.1	2	8	1.04	850	2	11	148	0.4	260	170
4194	604.0	630.0	1	0.1	6	0.1	5	5	1.44	2055	1	13	56	0.4	286	160
4195	604.0	619.0	1	0.3	5	0.1	5	12	1.11	6470	2	12	132	0.8	546	230
4186	554.0	619.0	1	0.2	4	0.1	4	11	1.04	3935	1	13	142	0.4	458	240
4187	554.0	632.0	1	0.1	2	0.1	3	8	1.02	1040	2	13	162	0.4	268	170
4188	554.0	645.0	1	0.2	5	0.1	4	11	1.92	2270	2	16	132	0.2	338	140
4189	554.0	660.0	1	0.3	4	0.8	8	10	2.15	1395	2	10	96	0.4	406	110
4190	554.0	675.0	1	0.1	4	0.1	3	13	0.90	775	1	15	122	0.2	398	150
4191	554.0	690.0	1	0.2	2	0.2	2	16	0.70	1470	2	12	138	0.4	492	170
4192	554.0	705.0	1	0.4	6	0.1	4	32	1.16	3785	14	21	142	0.4	386	240
4193	554.0	720.0	1	0.3	6	0.1	4	12	3.16	3150	2	12	84	0.2	224	160
4194	554.0	735.0	1	0.2	5	0.1	3	14	1.92	1895	2	15	116	0.2	266	170
4195	554.0	750.0	3	0.4	2	0.1	10	5	7.00	2670	1	18	32	0.1	258	150
4196	554.0	765.0	3	0.1	1	0.1	3	1	2.97	120	2	7	16	0.1	84	40
4197	554.0	780.0	1	0.5	1	0.1	1	5	0.29	85	17	4	22	0.1	156	140
4198	547.0	795.0	1	0.1	1	0.1	1	229	0.16	220	8	35	22	0.6	296	210
4199	547.0	810.0	1	0.1	1	0.1	1	73	0.21	45	6	17	88	0.2	278	170
4201	547.0	825.0	1	0.1	1	0.1	1	87	0.15	50	63	20	10	0.8	180	150
4202	547.0	840.0	3	0.1	1	0.1	6	3	1.80	165	2	10	8	0.1	94	30
4203	554.0	855.0	3	0.1	1	0.2	5	4	2.13	245	1	7	10	0.4	144	30
4204	554.0	870.0	3	0.1	1	0.6	7	11	2.45	880	1	12	20	0.2	124	50
4205	554.0	885.0	1	0.1	2	0.1	6	19	0.90	3140	2	18	66	0.4	130	110
4206	554.0	900.0	1	0.3	7	0.6	12	16	5.35	2990	2	38	188	0.8	282	160
4207	554.0	915.0	1	0.2	4	0.2	7	15	4.47	2770	1	22	158	0.4	252	150
4208	554.0	930.0	1	0.6	6	0.3	11	27	4.17	6420	1	31	194	0.4	452	170
4209	554.0	945.0	1	0.2	7	0.2	8	8	3.64	1485	1	21	88	0.2	194	70
4210	554.0	960.0	1	0.2	2	0.1	7	19	1.34	2360	1	30	218	0.2	468	130
4211	554.0	975.0	1	0.4	4	0.1	6	8	2.97	570	1	20	112	0.2	132	90
4212	504.0	895.0	4	0.6	2	0.1	8	8	5.12	1665	1	17	18	0.1	130	100
4213	504.0	868.0	3	0.3	2	0.1	9	7	3.83	735	1	17	30	0.1	140	60
4214	504.0	857.0	1	0.4	4	0.2	6	22	0.95	1665	2	20	130	0.2	589	170
4215	506.0	840.0	1	0.3	3	0.2	3	14	0.94	355	2	13	118	0.4	128	90
4216	494.0	825.0	1	0.7	8	0.3	10	22	6.08	10000	2	17	90	0.2	438	200
4217	496.0	810.0	1	0.1	4	0.1	5	10	1.67	1385	2	9	54	0.2	186	90
4218	496.0	795.0	3	0.5	2	0.2	10	11	6.68	1990	1	13	14	0.1	244	140
4219	496.0	780.0	1	1.5	2	0.1	2	31	0.54	590	2	13	32	1.0	182	200
4221	494.0	765.0	1	0.6	19	0.1	10	33	2.91	2460	5	28	12	1.4	588	210
4222	504.0	750.0	1	0.3	1	0.1	3	46	0.77	655	8	19	20	0.1	210	200
4223	504.0	735.0	3	0.7	3	0.2	11	10	13.05	8010	5	32	36	0.2	330	240
4224	504.0	720.0	4	0.5	2	0.2	10	15	10.24	9330	2	33	24	0.1	420	330
4225	504.0	705.0	1	0.2	4	0.1	6	11	1.94	2250	2	11	82	0.4	234	120
4226	504.0	692.0	1	0.7	6	0.5	4	28	1.11	595	2	23	236	1.2	266	170
4227	504.0	675.0	1	0.6	2	0.1	3	25	0.46	975	2	21	142	0.6	354	240
4228	504.0	660.0	4	0.4	2	0.1	3	25	0.52	1925	1	12	60	0.1	416	170
4229	504.0	645.0	1	0.3	4	0.1	4	18	0.76	1625	1	21	144	0.2	562	180
4230	504.0	632.0	1	0.3	5	0.4	5	15	0.95	2490	3	19	180	0.6	332	170
4231	504.0	615.0	4	0.2	4	0.1	7	6	0.93	2265	2	7	22	0.2	210	90
4232	504.0	600.0	1	0.2	2	0.1	2	6	0.68	910	1	5	34	0.2	124	80
4233	504.0	585.0	1	0.2	4	0.1	4	6	1.93	1350	1	7	20	0.1	156	60
4234	504.0	570.0	1	0.2	2	0.1	2	8	1.22	700	1	8	70	0.4	136	80
4235	403.0	525.0	1	0.4	2	0.1	3	18	0.77	90	2	11	103	0.4	170	190
4236	403.0	543.0	1	0.1	2	0.1	3	7	1.27	1020	3	7	50	0.2	130	90
4237	403.0	555.0	1	0.1	4	0.1	6	16	1.29	4175	1	9	58	0.2	414	120
4238	403.0	572.0	1	0.2	4	0.1	4	7	0.97	5150	5	8	44	0.6	364	160
4239	403.0	585.0	1	0.3	3	0.1	4	16	0.67	3295	3	19	110	0.5	292	230

SOIL SAMPLE RESULTS

sample	east	north	sample type	ag ppm.	as ppm.	bi ppm.	co ppm.	cu ppm.	fe %	mn ppm.	mo ppm.	ni ppm.	pb ppm.	sb ppm.	zn ppm.	kg ppb.
4241	403.0	600.0	1	0.4	8	0.2	9	24	2.21	8050	3	9	70	0.4	594	100
4242	403.0	615.0	1	0.2	4	0.1	5	17	1.09	4910	1	6	35	0.2	226	90
4243	401.0	530.0	1	0.2	3	0.1	6	9	1.81	1500	1	16	66	0.4	624	100
4244	403.0	647.0	1	0.4	5	0.2	11	14	2.43	5135	2	13	98	0.6	1916	90
4245	403.0	660.0	4	0.6	3	0.4	9	10	2.02	1520	1	18	52	0.4	485	100
4246	403.0	675.0	1	0.5	4	0.1	8	20	2.09	775	2	20	144	0.6	584	110
4247	403.0	690.0	1	0.5	2	0.1	2	16	0.71	880	2	9	62	0.4	442	130
4248	403.0	705.0	4	0.5	9	0.2	9	42	1.98	2610	1	15	94	0.4	492	150
4249	403.0	723.0	1	0.1	1	0.1	2	61	0.36	130	10	16	46	0.6	390	150
4250	403.0	735.0	1	0.1	1	0.1	1	49	0.23	400	3	14	16	0.1	284	150
4251	403.0	770.0	1	0.3	2	0.1	6	17	1.30	405	3	27	144	0.8	232	160
4252	305.0	765.0	1	0.3	5	0.1	11	16	2.70	4405	2	27	60	0.2	176	90
4253	305.0	750.0	1	0.3	2	0.1	7	13	1.59	110	2	33	110	0.1	144	120
4254	305.0	735.0	1	0.2	1	0.1	1	55	0.24	20	2	17	48	0.1	518	120
4255	305.0	720.0	1	0.1	2	0.1	1	12	0.19	25	2	5	36	0.1	134	130
4256	305.0	705.0	1	0.4	5	0.1	4	36	1.64	1330	3	11	90	0.5	322	220
4257	305.0	690.0	1	0.6	1	0.1	1	425	0.36	40	1	35	46	0.1	289	220
4258	305.0	675.0	1	0.5	6	0.1	6	22	1.09	885	1	13	100	0.4	268	150
4259	305.0	660.0	1	0.5	6	0.4	8	21	1.31	1655	1	11	70	0.6	414	130
4261	305.0	660.0	1	0.4	5	0.1	6	19	0.83	2280	2	11	72	0.2	484	120
4262	305.0	645.0	1	0.4	3	0.1	5	12	0.89	490	1	13	74	0.4	366	100
4263	305.0	630.0	1	0.5	4	0.3	5	18	1.02	1635	2	22	200	1.2	870	190
4264	308.0	615.0	1	0.3	4	0.1	6	10	1.84	1635	1	8	66	0.6	846	90
4265	305.0	600.0	1	0.3	3	0.1	5	12	1.53	1360	1	9	76	0.6	452	110
4266	305.0	585.0	1	0.2	3	0.1	2	6	1.20	240	3	5	42	0.4	188	100
4267	305.0	570.0	1	0.4	1	0.1	1	23	0.28	445	3	6	60	0.2	474	120
4268	305.0	555.0	5	0.2	3	0.1	5	28	1.55	90	2	18	52	0.2	118	130
4269	305.0	540.0	1	0.2	1	0.1	6	3	2.42	175	2	8	14	0.1	98	70
4270	0.0	-50.0	1	0.2	3	0.1	3	7	0.85	510	1	14	82	0.4	234	80
4271	-15.0	-50.0	1	0.2	3	0.1	5	12	0.72	895	3	21	160	0.6	406	180
4272	-30.0	-50.0	1	0.1	1	0.1	1	146	0.43	15	7	11	6	0.2	54	320
4273	-45.0	-50.0	1	0.1	1	0.1	2	16	0.51	40	2	7	4	0.1	76	160
4274	-60.0	-50.0	1	0.1	1	0.1	3	18	0.28	400	1	10	120	0.4	540	160
4275	-75.0	-50.0	1	0.1	2	0.1	4	7	0.67	380	2	11	106	0.4	244	130
4276	-90.0	-50.0	1	2.5	5	1.2	9	16	1.74	5905	2	7	154	1.2	864	140
4277	-105.0	-50.0	1	0.5	3	0.1	4	13	0.60	2170	2	13	134	0.4	536	160
4278	-120.0	-50.0	1	0.2	7	0.2	4	6	0.85	1670	1	9	88	0.4	526	90
4279	-135.0	-50.0	1	1.1	10	1.0	5	29	1.00	5055	1	9	112	1.8	2006	120
4281	-150.0	-50.0	1	0.4	3	0.1	6	12	1.21	3270	1	9	54	0.4	602	70
4282	-135.0	-87.0	1	0.2	3	0.4	3	12	0.54	410	2	16	160	1.6	204	200
4283	-150.0	-87.0	1	0.2	4	0.1	8	9	2.11	2370	2	11	58	0.4	248	70
4284	-165.0	-87.0	1	0.1	4	0.1	4	9	0.92	2515	2	10	88	0.6	274	110
4285	-180.0	-87.0	1	0.2	2	0.3	4	13	0.64	1980	3	15	184	1.0	388	120
4286	-195.0	-87.0	1	0.1	5	0.1	6	13	0.81	6245	4	14	98	0.8	702	190
4287	-210.0	-87.0	1	0.3	8	0.2	12	12	1.70	10000	7	7	90	0.6	842	120
4288	-225.0	-87.0	1	0.1	2	0.1	2	5	0.75	780	2	9	88	0.4	154	80
4289	-240.0	-87.0	1	0.2	3	0.1	2	13	0.91	245	3	20	136	0.6	146	130
4290	-255.0	-87.0	1	0.3	3	0.3	5	11	1.42	685	1	20	109	0.4	228	120
4291	-272.0	-87.0	1	0.2	4	1.0	5	27	1.08	480	2	44	224	0.8	244	220
4292	-287.0	-87.0	4	0.1	2	0.1	2	15	0.46	230	3	15	82	0.4	166	150
4293	-150.0	-150.0	1	0.1	6	0.3	4	10	1.00	975	2	16	144	0.8	274	140
4294	-135.0	-150.0	1	0.3	5	0.2	6	15	0.92	2540	4	18	142	0.6	292	160
4295	-120.0	-150.0	1	0.2	4	0.2	5	16	0.90	2925	3	17	146	0.6	536	120
4296	-105.0	-150.0	1	0.1	2	0.3	6	18	1.20	1030	3	14	164	0.8	278	130
4297	-90.0	-150.0	1	0.1	2	0.1	3	11	1.35	605	3	19	112	0.6	284	130
4298	-75.0	-150.0	1	0.3	4	0.1	7	7	2.68	1335	2	11	70	0.4	394	80
4299	-60.0	-150.0	1	0.2	4	0.1	4	11	1.51	780	2	10	82	0.4	158	70

SOIL SAMPLE RESULTS

sample	east	north	sample type	ag ppm.	as ppm.	bi ppm.	co ppm.	cu ppm.	fe %	mn ppm.	mo ppm.	ni ppm.	pb ppm.	sb ppm.	zn ppm.	hg ppb.
4301	-45.0	-153.0	1	0.5	10	0.6	17	48	3.09	1185	5	11	102	0.4	334	90
4302	-30.0	-150.0	1	0.5	10	0.5	11	19	3.16	6250	4	9	126	0.8	945	110
4303	-12.0	-150.0	1	0.2	3	0.1	4	17	1.00	375	7	10	50	0.4	102	90
4304	0.0	-150.0	1	0.5	5	0.1	3	21	1.14	345	3	11	58	0.6	86	240
4305	-2.0	-204.0	4	0.5	3	0.5	2	27	0.60	90	4	20	470	1.2	270	190
4306	-15.0	-205.0	1	0.2	5	0.1	5	8	1.63	1415	2	12	106	0.4	282	140
4307	-30.0	-205.0	1	0.4	3	0.1	4	16	1.31	2000	2	16	148	0.4	494	140
4308	-45.0	-203.0	1	0.3	9	0.5	5	18	1.14	2465	3	20	232	1.6	480	180
4309	-50.0	-203.5	1	0.6	5	0.1	4	23	0.85	2920	3	10	56	0.2	526	120
4310	-75.0	-205.0	4	0.3	4	0.7	4	25	0.81	1240	4	22	234	1.4	420	240
4311	-90.0	-205.0	1	0.2	5	0.1	3	7	1.59	830	3	10	64	0.4	182	100
4312	-105.0	-205.0	1	0.2	7	3.0	6	11	3.14	1470	3	13	60	0.4	372	100
4313	-120.0	-205.0	1	0.5	6	0.6	14	21	3.08	8575	2	18	132	0.8	992	120
4314	-135.0	-205.0	1	0.2	6	0.4	10	7	2.41	2130	2	14	114	0.4	370	90
4315	-150.0	-205.0	1	0.1	3	0.1	3	2	1.74	950	2	4	20	0.1	140	50
4316	-165.0	-205.0	4	0.5	12	0.4	6	17	1.02	6170	1	17	126	0.6	852	170
4317	-180.0	-205.0	4	0.1	3	0.3	2	15	0.60	1565	2	14	108	0.6	382	160
4318	-195.0	-205.0	1	0.1	3	0.1	4	7	1.48	1345	2	11	76	0.2	284	80
4319	-210.0	-205.0	1	0.3	3	0.1	9	17	1.70	10000	4	11	48	0.2	1072	100
4321	-225.0	-205.0	1	0.2	2	0.3	5	13	1.16	3335	1	11	126	0.4	346	100
4322	-240.0	-205.0	1	0.1	4	0.1	3	10	1.10	1015	1	13	116	0.2	224	110
4323	-255.0	-205.0	1	0.2	2	0.3	4	15	0.98	1875	2	16	180	0.8	428	140
4324	-270.0	-205.0	1	0.2	2	0.4	3	19	0.63	1205	2	21	228	0.8	266	200
4350	-240.0	-250.0	1	0.3	1	0.3	1	18	0.73	45	3	10	120	0.6	114	120
4351	-283.0	-205.0	1	0.3	2	0.1	4	12	1.16	1210	1	11	88	0.1	184	100



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CERTIFICATE

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Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 28-AUG-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	6	Dry, sieve to -80 mesh
238	6	NITRIC-AQUA REGIA DIGESTION
287	6	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
6	6	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	6	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	6	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
1929	6	Co ppm: 9 element, soil & rock	ICP-AES	1	10000
1931	6	Cu ppm: 9 element, soil & rock	ICP-AES	1	10000
1932	6	Fe %: 9 element, soil & rock	ICP-AES	0.01	15.00
1937	6	Mn ppm: 9 element, soil & rock	ICP-AES	5	10000
1938	6	Mo ppm: 9 element, soil & rock	ICP-AES	1	10000
1940	6	Ni ppm: 9 element, soil & rock	ICP-AES	1	10000
1004	6	Pb ppm: 9 element, soil and rock	ICP-AES	5	10000
22	6	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
1950	6	Zn ppm: 9 element, soil & rock	ICP-AES	2	10000



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Analytical Chemists * Geochemists * Registered Assayers
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PHONE: 416-890-0310

JACKSON, ROBERT

5 CAMERON CRESCENT
TORONTO, ON
M4G 1Z7

Page Number: 1
Total Pages: 1
Invoice Date: 28-AUG-90
Invoice No.: I-9021383
P.O. Number:

Project:
Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE OF ANALYSIS A9021383

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe t	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm		
2001	201 238	< 0.2	2	< 0.1	8	21	2.17	665	< 1	14	4	0.2	44		
2002	201 238	< 0.2	2	< 0.1	10	26	1.84	390	< 1	14	< 2	< 0.2	36		
2003	201 238	< 0.2	7	0.1	6	21	1.45	340	< 1	7	4	0.2	42		
2004	201 238	< 0.2	34	0.1	14	32	3.19	645	< 1	18	8	< 0.2	68		
2005	201 238	< 0.2	1	0.1	10	13	2.28	1400	< 1	17	10	< 0.2	164		
3001	201 238	0.2	5	0.2	7	54	1.82	725	< 1	12	38	0.2	132		

CERTIFICATION:

B. Coughlin



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M4G 1Z7

A9021381

Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE

A9021381

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 29-AUG-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	17	Geochem ring to approx 150 mesh
294	17	Crush and split (0-10 pounds)
238	17	NITRIC-AQUA REGIA DIGESTION
287	17	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
6	17	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	17	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	17	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	17	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	17	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	17	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	17	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	17	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	17	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	17	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	17	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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Page Number: 1
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CERTIFICATE OF ANALYSIS A9021381

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm			
001	205 294	< 0.2	< 1	0.2	20	0.4	30	7	30	< 0.2	< 0.2	360			
002	205 294	< 0.2	< 1	0.2	10	< 0.1	20	5	< 2	0.2	< 0.2	27			
003	205 294	< 0.2	1	0.2	8	0.8	10	4	< 2	< 0.2	< 0.2	480			
004	205 294	0.2	< 1	< 0.1	10	4.8	20	4	20	0.2	< 0.2	2500			
005	205 294	0.4	7	< 0.1	66	>200	89000	5	50	30.0	< 0.2	>10000			
006	205 294	< 0.2	1	< 0.1	22	30.0	3700	4	8	3.8	< 0.2	6800			
007	205 294	3.1	4	0.1	14	12.4	580	4	>10000	6.0	< 0.2	5600			
008	205 294	0.3	< 1	0.2	18	20.0	170	3	750	0.6	< 0.2	10000			
009	205 294	< 0.2	1	0.1	22	3.2	100	3	106	0.2	< 0.2	680			
010	205 294	0.4	< 1	0.2	28	0.6	140	5	46	< 0.2	< 0.2	112			
011	205 294	1.1	8	< 0.1	36	0.1	100	4	26	0.2	< 0.2	76			
012	205 294	< 0.2	< 1	0.1	10	0.1	70	1	10	< 0.2	< 0.2	43			
013	205 294	< 0.2	< 1	0.1	120	1.6	40	5	64	0.2	< 0.2	760			
014	205 294	< 0.2	< 1	< 0.1	14	< 0.1	30	5	10	< 0.2	< 0.2	235			
015	205 294	< 0.2	< 1	0.1	10	< 0.1	30	3	< 2	< 0.2	< 0.2	40			
016	205 294	0.3	48	0.3	240	< 0.1	40	4	8	< 0.2	0.6	52			
1001	205 294	< 0.2	< 1	0.2	8	1.0	30	3	86	< 0.2	< 0.2	420			

CERTIFICATION:

Hart Bickler



Chemex Labs Ltd.

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TORONTO, ON
M4G 1Z7

A9021382

Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE

A9021382

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 11-SEP-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	17	Sample split from other certif
200	17	Whole rock fusion

* NOTE 1:

Code 1000 is used for repeat gold analyses
It shows typical sample variability due to
coarse gold effects. Each value is
correct for its particular subsample.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	17	Al2O3 %: Whole rock	ICP-AES	0.01	99.00
542	17	BaO %: Whole rock	ICP-AES	0.01	99.00
588	17	CaO %: Whole rock	ICP-AES	0.01	99.00
586	17	Fe2O3(total) %: Whole rock	ICP-AES	0.01	99.00
821	17	K2O %: Whole rock	ICP-AES	0.01	99.00
593	17	MgO %: Whole rock	ICP-AES	0.01	99.00
596	17	MnO %: Whole rock	ICP-AES	0.01	99.00
599	17	Na2O %: Whole rock	ICP-AES	0.01	99.00
597	17	P2O5 %: Whole rock	ICP-AES	0.01	99.00
592	17	SiO2 %: Whole rock	ICP-AES	0.01	99.00
595	17	TiO2 %: Whole rock	ICP-AES	0.01	99.00
475	17	L.O.I. %: Loss on ignition	FURNACE	0.01	99.00
540	17	Total %	CALCULATION	0.01	N/A



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to: JACKSON, ROBERT
 5 CAMERON CRESCENT
 TORONTO, ON
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Page Number: 1
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Project:
 Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE OF ANALYSIS A9021382

SAMPLE DESCRIPTION	PREP CODE	Al2O3 %	BaO %	CaO %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
001	299 200	1.11	< 0.01	49.38	0.53	1.26	3.00	0.02	0.12	0.02	4.78	0.06	39.98	100.25
002	299 200	0.57	< 0.01	29.14	0.72	0.46	20.48	0.06	0.14	0.02	2.58	0.02	45.14	99.34
003	299 200	0.69	< 0.01	28.56	2.14	0.48	19.45	0.57	0.15	< 0.01	2.93	0.04	44.38	99.41
004	299 200	0.85	< 0.01	28.82	2.21	1.01	19.45	0.45	0.23	0.33	3.18	0.04	43.69	100.25
005	299 200	0.62	< 0.01	27.28	0.89	0.08	18.72	0.04	0.13	0.08	7.45	0.03	33.70	89.03
006	299 200	0.10	< 0.01	30.91	0.44	0.08	20.62	0.02	0.07	0.03	2.96	< 0.01	43.15	98.39
007	299 200	0.31	< 0.01	27.97	0.95	0.08	19.98	0.13	0.09	0.01	2.49	0.01	42.24	94.28
008	299 200	0.84	0.16	24.38	3.00	0.46	18.63	0.21	0.11	0.04	12.52	0.04	33.93	94.32
009	299 200	1.42	0.01	31.06	1.77	1.29	14.93	0.18	0.09	0.10	7.18	0.12	40.36	98.50
010	299 200	0.55	< 0.01	1.70	4.14	0.07	1.02	0.02	0.15	0.04	89.62	0.01	1.86	99.20
011	299 200	15.76	0.08	2.68	7.87	5.36	15.23	0.01	0.17	0.91	38.88	1.20	9.25	97.41
012	299 200	0.73	0.01	1.95	0.52	0.25	0.91	0.01	0.10	0.78	93.15	0.05	1.43	99.88
013	299 200	0.92	0.06	49.06	0.46	0.40	0.82	0.06	0.18	0.03	5.29	0.04	40.43	97.74
014	299 200	1.41	0.01	46.83	0.67	1.05	0.70	0.02	0.28	0.04	7.80	0.06	38.96	97.83
015	299 200	2.03	< 0.01	23.93	0.95	0.34	22.29	0.09	0.15	< 0.01	9.22	0.10	39.02	98.12
016	299 200	14.84	< 0.07	8.67	5.81	5.95	3.65	0.02	1.20	0.41	48.16	2.61	7.36	98.75
1001	299 200	0.72	< 0.01	27.22	1.43	1.04	19.61	0.27	0.16	0.01	4.58	0.04	44.23	99.32

CERTIFICATION: _____

B. Coughlin



Chemex Labs Ltd.

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PHONE: 416-624-2806

To: JACKSON, ROBERT

5 CAMERON CRESCENT
TORONTO, ON
M4G 1Z7

A9022674

Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE

A9022674

JACKSON, ROBERT

Project:
P.O. #: NONE

Samples submitted to our lab in Mississauga, ON.
This report was printed on 17-SEP-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	2	Received sample as pulp

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
312	1	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	1	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0



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5 CAMERON CRESCENT
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P.O. Number: NONE

Project:

Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE OF ANALYSIS

A9022674

SAMPLE DESCRIPTION	PREP CODE	Pb %	Zn %								
005 007	214 --- 214 --	----- 2.60	5.43 -----								

CERTIFICATION:

W. S. [Signature]



Chemex Labs Ltd.

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JACKSON, ROBERT
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TORONTO, ON
M4G 1Z7

A9025851

Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE

A9025851

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 7-NOV-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
217	35	Geochem ring entire sample
238	35	NITRIC-AQUA REGIA DIGESTION
287	35	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
20	35	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
6	35	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	35	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	35	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
1929	35	Co ppm: 9 element, soil & rock	ICP-AES	1	10000
1931	35	Cu ppm: 9 element, soil & rock	ICP-AES	1	10000
1932	35	Fe %: 9 element, soil & rock	ICP-AES	0.01	15.00
1937	35	Mn ppm: 9 element, soil & rock	ICP-AES	5	10000
1938	35	Mo ppm: 9 element, soil & rock	ICP-AES	1	10000
1940	35	Ni ppm: 9 element, soil & rock	ICP-AES	1	10000
1004	35	Pb ppm: 9 element, soil and rock	ICP-AES	5	10000
22	35	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
1950	35	Zn ppm: 9 element, soil & rock	ICP-AES	2	10000



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JACKSON, ROBERT

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Project:
Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE OF ANALYSIS A9025851

SAMPLE DESCRIPTION	PREP CODE	Hg ppb	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm
010001	217 238	30	< 0.2	1	< 0.1	8	23	1.92	250	< 1	10	10	0.2	144
010002	217 238	200	0.3	2	0.1	7	89	1.56	865	< 1	17	60	0.2	128
010003	217 238	60	< 0.2	1	< 0.1	4	15	0.99	150	< 1	4	4	< 0.2	76
010004	217 238	80	< 0.2	2	< 0.1	11	13	1.36	3980	< 1	6	32	0.2	154
010005	217 238	140	< 0.2	1	< 0.1	4	25	1.20	165	4	12	26	0.4	176
010006	217 238	130	1.0	3	0.4	< 1	14	0.56	290	< 1	3	86	3.4	206
010007	217 238	130	< 0.2	1	< 0.1	1	11	0.70	80	< 1	2	22	0.4	272
010008	217 238	230	< 0.2	3	< 0.1	2	31	0.37	300	1	16	164	< 0.2	190
010009	217 238	140	< 0.2	1	< 0.1	1	57	0.23	10	29	20	108	1.4	660
010010	217 238	170	< 0.2	2	0.1	2	35	0.61	445	6	8	10	< 0.2	200
010011	217 238	180	< 0.2	2	< 0.1	9	38	1.65	3440	2	16	54	0.4	470
010012	217 238	130	< 0.2	1	< 0.1	2	24	0.42	135	5	8	24	< 0.2	132
010013	217 238	320	0.5	1	0.4	2	23	0.45	110	2	10	224	0.2	76
010014	217 238	250	< 0.2	< 1	0.1	8	132	1.46	145	4	33	26	0.2	436
010015	217 238	210	< 0.2	< 1	< 0.1	3	79	0.50	390	6	25	46	< 0.2	274
010016	217 238	250	< 0.2	1	< 0.1	1	20	0.46	115	12	7	64	< 0.2	256
010020	217 238	150	< 0.2	1	< 0.1	2	30	0.77	425	6	10	8	< 0.2	194
010026	217 238	100	< 0.2	2	< 0.1	11	50	2.28	330	2	20	54	0.2	198
010027	217 238	80	< 0.2	< 1	< 0.1	3	12	0.58	65	< 1	6	18	< 0.2	40
010028	217 238	340	0.6	1	0.1	28	239	1.58	710	4	55	34	0.2	120
010029	217 238	70	< 0.2	2	< 0.1	6	8	1.29	160	< 1	4	12	0.2	100
010030	217 238	100	< 0.2	4	< 0.1	9	25	1.93	790	< 1	10	24	< 0.2	184
010031	217 238	80	< 0.2	5	0.1	8	21	1.49	2530	1	9	26	0.4	362
010032	217 238	110	< 0.2	3	0.5	4	17	1.23	360	< 1	6	106	0.4	538
010033	217 238	270	0.2	8	0.3	3	23	1.63	515	1	14	84	1.6	460
010034	217 238	240	1.6	5	0.8	2	32	1.74	165	< 1	7	128	1.4	482
010035	217 238	220	< 0.2	1	0.1	1	86	0.27	30	52	18	60	0.4	432
010036	217 238	80	< 0.2	4	< 0.1	10	8	3.34	7380	< 1	11	24	0.2	304
010037	217 238	230	< 0.2	1	0.2	2	69	0.57	180	14	12	138	0.4	132
010038	217 238	250	< 0.2	1	< 0.1	2	83	0.40	80	5	10	18	< 0.2	122
010039	217 238	80	< 0.2	1	< 0.1	11	18	2.23	475	< 1	17	14	< 0.2	154
010040	217 238	110	< 0.2	4	< 0.1	8	21	2.15	945	< 1	9	24	< 0.2	204
010041	217 238	80	< 0.2	1	< 0.1	8	17	1.91	505	< 1	15	16	< 0.2	144
2006	217 238	30	< 0.2	< 1	< 0.1	3	2	1.59	100	< 1	5	2	< 0.2	20
2007	217 238	10	< 0.2	< 1	< 0.1	4	12	1.47	145	< 1	5	2	< 0.2	18

CERTIFICATION:

B. Coughlin



Chemex Labs Ltd.

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To: JACKSON, ROBERT

5 CAMERON CRESCENT
TORONTO, ON
M4G 1Z7

A9025850

Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE

A9025850

JACKSON, ROBERT

Project:
P.O.#:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 21-NOV-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	19	Sample split from other certif
200	19	Whole rock fusion

* NOTE 1:

Code 1000 is used for repeat gold analyses
It shows typical sample variability due to
coarse gold effects. Each value is
correct for its particular subsample.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	19	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
542	19	BaO %: Whole rock	ICP-AES	0.01	99.99
588	19	CaO %: Whole rock	ICP-AES	0.01	99.99
586	19	Fe2O3(total) %: Whole rock	ICP-AES	0.01	99.99
821	19	K2O %: Whole rock	ICP-AES	0.01	99.99
593	19	MgO %: Whole rock	ICP-AES	0.01	99.99
596	19	MnO %: Whole rock	ICP-AES	0.01	99.99
599	19	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	19	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	19	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	19	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	19	L.O.I. %: Loss on ignition	FURNACE	0.01	99.99
540	19	Total %	CALCULATION	0.01	N/A



Chemex Labs Ltd.

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 Invoice Date: 21-NOV-90
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 P.O. Number:

Project:
 Comments: ATTN: R. JACKSON CC: A. SOEVER

CERTIFICATE OF ANALYSIS A9025850

SAMPLE DESCRIPTION	PREP CODE	Al2O3 %	BaO %	CaO %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
0017	299 200	1.22	0.02	27.80	0.62	0.64	19.17	0.07	0.24	0.08	11.41	0.08	36.81	98.16
0018	299 200	0.30	0.01	28.44	0.28	0.20	20.94	0.04	0.15	0.01	3.53	0.02	43.59	97.51
0019	299 200	0.19	< 0.01	32.21	0.56	0.10	22.09	0.03	0.05	< 0.01	1.61	< 0.01	41.86	98.73
0020	299 200	0.13	< 0.01	28.60	1.09	0.06	24.67	0.04	0.05	< 0.01	2.38	< 0.01	43.88	100.90
0021	299 200	< 0.01	< 0.01	33.99	< 0.01	0.09	24.44	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	42.41	101.00
0022	299 200	0.15	< 0.01	30.26	0.45	0.03	22.44	0.02	0.12	< 0.01	27.87	< 0.01	17.79	99.15
0023	299 200	0.14	< 0.01	28.77	4.05	0.02	22.95	0.12	0.05	< 0.01	13.75	< 0.01	29.23	99.10
0024	299 200	0.13	< 0.01	29.77	0.32	0.04	22.57	0.02	0.11	< 0.01	1.59	< 0.01	43.51	98.09
0025	299 200	0.15	< 0.01	28.06	1.07	0.08	24.30	0.02	0.05	< 0.01	6.47	< 0.01	39.27	99.50
1002	299 200	15.66	0.04	4.77	10.93	2.80	3.49	0.21	4.93	0.43	53.78	1.00	1.15	99.18
1003	299 200	6.97	0.04	29.84	2.26	1.52	2.62	0.04	1.66	0.17	31.23	0.30	21.64	98.28
1004	299 200	0.81	< 0.01	47.41	0.51	0.27	3.24	0.04	0.32	0.09	4.84	0.04	40.94	98.53
1005	299 200	18.45	2.60	4.71	1.30	2.80	10.52	0.03	5.06	0.13	45.46	0.04	6.51	97.61
1006	299 200	1.53	0.07	27.76	0.30	1.15	16.71	0.02	0.38	0.08	21.57	0.01	28.36	97.92
1007	299 200	0.26	< 0.01	29.24	0.38	0.08	20.55	0.02	0.28	0.07	2.85	0.01	43.99	97.74
1008	299 200	0.38	0.01	27.86	0.66	0.18	19.91	0.31	0.23	0.10	4.48	0.02	43.51	97.65
1009	299 200	0.58	0.04	21.48	1.77	0.07	20.09	0.08	0.56	0.06	51.87	0.03	1.84	98.47
1010	299 200	0.47	< 0.01	31.08	8.56	0.20	19.31	0.09	0.10	0.27	9.77	< 0.01	24.24	94.11
1011	299 200	15.94	0.06	1.68	5.61	7.96	2.42	0.01	1.84	0.17	61.50	0.94	1.37	99.49

CERTIFICATION: _____

B. Coughlin



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: JACKSON, ROBERT

5 CAMERON CRESCENT
TORONTO, ON
M4G 1Z7

A9025849

Comments: ATTN: R. JACKSON CC: ALAR SOEVER

CERTIFICATE

A9025849

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 14-NOV-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	19	Geochem ring to approx 150 mesh
294	19	Crush and split (0-10 pounds)
238	19	NITRIC-AQUA REGIA DIGESTION
287	19	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
6	19	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	19	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	19	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	19	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	19	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	19	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	19	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	19	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	19	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	19	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	19	Zn ppm: HNO3-aqua regia digest	AAS	1	10000
316	4	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0



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Page Number: 1
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 Invoice No.: I-9025849
 P.O. Number:

Project:
 Comments: ATTN: R. JACKSON CC: ALAR SOEVER

CERTIFICATE OF ANALYSIS A9025849

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm	Zn %		
0017	205 294	< 0.2	1	< 0.1	6	0.4	20	2	4	< 0.2	< 0.2	170	-----		
0018	205 294	0.7	5	0.3	27	17.8	3000	2	6	6.2	< 0.2	3900	-----		
0019	205 294	0.7	2	< 0.1	112	>200	75000	2	16	14.6	0.2	>10000	4.68		
0020	205 294	2.4	9	< 0.1	40	23.0	8600	2	225	13.2	< 0.2	4300	-----		
0021	205 294	2.3	10	0.5	79	95.0	62000	2	184	37.0	< 0.2	>10000	2.17		
0022	205 294	1.0	7	< 0.1	60	145.0	60000	1	184	32.0	< 0.2	>10000	3.25		
0023	205 294	< 0.2	1	< 0.1	9	2.1	780	2	2	0.6	< 0.2	500	-----		
0024	205 294	0.5	1	0.4	5	5.3	350	2	200	1.8	< 0.2	875	-----		
0025	205 294	4.4	16	0.9	44	45.0	5100	1	940	37.0	0.2	>10000	0.98		
1002	205 294	< 0.2	1	< 0.1	80	0.5	190	2	16	0.8	< 0.2	260	-----		
1003	205 294	< 0.2	1	< 0.1	12	0.2	100	2	4	0.2	< 0.2	52	-----		
1004	205 294	< 0.2	1	< 0.1	4	< 0.1	50	5	1	0.2	< 0.2	23	-----		
1005	205 294	< 0.2	1	< 0.1	1	< 0.1	120	4	20	0.4	< 0.2	60	-----		
1006	205 294	< 0.2	1	< 0.1	8	16.0	120	1	1	< 0.2	< 0.2	2900	-----		
1007	205 294	0.4	1	0.2	5	4.9	300	2	134	1.6	< 0.2	800	-----		
1008	205 294	< 0.2	1	< 0.1	10	11.5	1300	3	2	0.2	< 0.2	2200	-----		
1009	205 294	< 0.2	1	< 0.1	1	0.2	80	1	3	0.2	< 0.2	41	-----		
1010	205 294	< 0.2	6	0.1	35	< 0.1	70	24	2	0.2	< 0.2	50	-----		
1011	205 294	< 0.2	1	< 0.1	6	< 0.1	40	2	< 1	< 0.2	< 0.2	70	-----		

CERTIFICATION:

Hart Bickler



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M4G 1Z7

A9027576

Comments: CC: A. SOEVER

CERTIFICATE

A9027576

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 18-DEC-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
299	2	Sample split from other certif
200	2	Whole rock fusion

* NOTE 1:

Code 1000 is used for repeat gold analyses
It shows typical sample variability due to
coarse gold effects. Each value is
correct for its particular subsample.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	2	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
542	2	BaO %: Whole rock	ICP-AES	0.01	99.99
588	2	CaO %: Whole rock	ICP-AES	0.01	99.99
586	2	Fe2O3(total) %: Whole rock	ICP-AES	0.01	99.99
821	2	K2O %: Whole rock	ICP-AES	0.01	99.99
593	2	MgO %: Whole rock	ICP-AES	0.01	99.99
596	2	MnO %: Whole rock	ICP-AES	0.01	99.99
599	2	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	2	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	2	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	2	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	2	L.O.I. %: Loss on ignition	FURNACE	0.01	99.99
540	2	Total %	CALCULATION	0.01	N/A



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CERTIFICATE OF ANALYSIS A9027576

SAMPLE DESCRIPTION	PREP CODE	Al2O3 %	BaO %	CaO %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %
27 ROCK	299 200	0.18	< 0.01	28.91	0.21	0.07	21.60	0.04	0.15	< 0.01	2.53	< 0.01	45.35	99.06
28 ROCK	299 200	0.16	< 0.01	30.50	0.24	0.10	20.77	0.07	0.11	< 0.01	2.50	< 0.01	45.20	99.67

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A9027575

Comments: CC: A. SOEVER

CERTIFICATE

A9027575

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 11-DEC-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	2	Geochem ring to approx 150 mesh
294	2	Crush and split (0-10 pounds)
238	2	NITRIC-AQUA REGIA DIGESTION
287	2	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
6	2	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	2	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	2	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
2	2	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
7	2	Cd ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
20	2	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000
3	2	Mo ppm: HNO3-aqua regia digest	AAS	1	1000
4	2	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
22	2	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
16	2	Se ppm: HCl-KClO3 digest, ext	AAS-BKGD CORR	0.2	100.0
5	2	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



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CERTIFICATE OF ANALYSIS A9027575

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Cu ppm	Cd ppm	Hg ppb	Mo ppm	Pb ppm	Sb ppm	Se ppm	Zn ppm			
27 ROCK	205 294	< 0.2	< 1	0.4	10	1.7	30	1	18	0.4	< 0.2	300			
28 ROCK	205 294	0.4	< 1	1.0	66	12.2	110	1	8	1.0	< 0.2	2250			

Hautsichler

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A9027577

Comments: CC: A. SOEVER

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A9027577

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 13-DEC-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	160	Dry, sieve to -80 mesh
238	160	NITRIC-AQUA REGIA DIGESTION
287	160	Special dig'n with organic ext'n

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
6	160	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	160	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	160	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
1929	160	Co ppm: 9 element, soil & rock	ICP-AES	1	10000
1931	160	Cu ppm: 9 element, soil & rock	ICP-AES	1	10000
1932	160	Fe %: 9 element, soil & rock	ICP-AES	0.01	15.00
1937	160	Mn ppm: 9 element, soil & rock	ICP-AES	5	10000
1938	160	Mo ppm: 9 element, soil & rock	ICP-AES	1	10000
1940	160	Ni ppm: 9 element, soil & rock	ICP-AES	1	10000
1004	160	Pb ppm: 9 element, soil and rock	ICP-AES	5	10000
22	160	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
1950	160	Zn ppm: 9 element, soil & rock	ICP-AES	2	10000
20	160	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000



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5 CAMERON CRESCENT
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Page Number: 1
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CERTIFICATE OF ANALYSIS A9027577

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe t	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4001	201 238	0.3	3	< 0.1	6	26	0.78	2470	1	11	70	0.4	450	100
4002	201 238	< 0.2	3	< 0.1	8	7	1.99	1925	1	10	24	0.4	294	80
4003	201 238	< 0.2	3	0.1	6	3	2.11	1555	< 1	7	16	0.2	188	60
4004	201 238	< 0.2	8	0.2	7	7	1.62	6370	2	11	100	0.8	354	110
4005	201 238	< 0.2	6	0.4	5	17	1.08	5370	1	20	192	1.0	632	190
4006	201 238	< 0.2	6	0.2	7	11	2.96	1320	1	8	54	0.4	316	70
4007	201 238	< 0.2	7	0.2	6	10	1.73	3200	1	4	56	0.4	214	100
4008	201 238	< 0.2	2	< 0.1	3	5	2.02	800	1	4	26	0.2	108	60
4009	201 238	< 0.2	1	< 0.1	4	5	1.17	730	1	7	12	0.2	256	60
4010	201 238	< 0.2	4	< 0.1	3	5	1.14	725	1	5	26	0.2	172	60
4011	201 238	< 0.2	2	0.1	3	4	1.28	565	< 1	4	22	0.2	178	40
4012	201 238	< 0.2	2	< 0.1	3	5	1.76	805	1	5	16	0.2	160	50
4013	201 238	< 0.2	2	0.1	3	4	2.11	805	2	5	28	0.2	214	50
4014	201 238	< 0.2	3	0.1	3	2	1.14	530	< 1	5	36	0.2	242	60
4015	201 238	< 0.2	1	< 0.1	3	3	1.87	385	1	7	20	0.2	140	30
4016	201 238	< 0.2	2	0.1	5	2	2.56	1465	1	7	28	0.2	152	60
4017	201 238	< 0.2	1	0.1	2	2	1.24	280	< 1	4	18	0.2	84	30
4018	201 238	< 0.2	3	< 0.1	1	6	0.96	325	1	7	60	0.4	162	100
4019	201 238	< 0.2	3	< 0.1	2	4	1.11	925	1	4	20	0.2	150	50
4020	201 238	< 0.2	2	0.1	2	3	1.16	425	< 1	4	20	0.2	158	40
4021	201 238	0.3	4	< 0.1	3	57	1.47	3930	< 1	9	48	0.4	974	100
4022	201 238	< 0.2	3	0.1	6	7	1.78	1585	1	15	40	0.4	210	90
4023	201 238	< 0.2	3	< 0.1	5	9	1.37	2750	3	9	44	0.4	300	120
4024	201 238	< 0.2	1	< 0.1	4	3	1.80	830	< 1	5	20	0.2	198	50
4025	201 238	< 0.2	2	< 0.1	4	9	1.73	2160	1	6	26	0.2	262	40
4026	201 238	< 0.2	2	< 0.1	4	8	2.08	1250	1	6	22	< 0.2	226	70
4027	201 238	0.2	2	< 0.1	7	16	2.79	1080	< 1	10	28	0.6	302	60
4028	201 238	< 0.2	2	< 0.1	3	4	1.91	575	< 1	6	18	0.2	246	40
4029	201 238	< 0.2	7	0.2	4	16	1.75	995	1	7	62	0.6	480	110
4030	201 238	< 0.2	1	< 0.1	4	8	1.82	1110	< 1	5	16	0.2	246	60
4031	201 238	0.3	5	2.9	4	11	1.78	815	< 1	7	46	0.4	268	120
4032	201 238	< 0.2	7	0.4	10	17	2.61	4580	3	10	30	0.6	348	60
4033	201 238	0.2	2	0.1	5	9	2.60	755	1	7	26	0.2	206	60
4034	201 238	< 0.2	3	< 0.1	2	8	1.38	460	1	5	20	0.4	140	70
4035	201 238	0.3	3	0.2	3	16	1.52	750	< 1	6	30	0.2	300	60
4036	201 238	0.2	3	< 0.1	4	22	1.29	910	3	12	54	0.6	466	150
4037	201 238	0.4	5	0.1	7	30	1.76	2270	1	20	42	0.4	506	100
4038	201 238	0.3	5	0.1	4	13	1.40	1110	1	10	42	0.4	258	80
4039	201 238	0.3	5	0.1	5	16	2.39	2220	1	18	58	0.6	260	70
4040	201 238	< 0.2	1	< 0.1	4	8	1.83	1170	1	6	16	0.2	242	70

CERTIFICATION:

B. Coughlin



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Page Number: 2
 Total Pages: 4
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Project:
 Comments: CC: A. SOEVER

CERTIFICATE OF ANALYSIS A9027577

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe t	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4041	201 238	< 0.2	3	< 0.1	4	13	1.65	955	< 1	7	30	0.4	262	100
4042	201 238	< 0.2	2	< 0.1	2	11	1.42	445	< 1	5	30	0.2	224	100
4043	201 238	0.2	2	0.5	1	14	1.52	600	< 1	10	82	0.8	432	150
4044	201 238	< 0.2	1	0.2	2	2	1.15	180	< 1	4	26	0.2	210	60
4045	201 238	0.4	4	2.1	3	16	1.69	1685	< 1	6	96	0.4	568	210
4046	201 238	0.2	6	0.1	3	16	2.31	1245	< 1	8	50	1.2	618	200
4047	201 238	0.3	1	< 0.1	1	8	0.61	235	< 1	4	44	0.6	394	500
4048	201 238	< 0.2	1	< 0.1	1	6	0.38	120	< 1	1	26	< 0.2	150	100
4049	201 238	0.3	3	0.2	4	8	1.83	625	< 1	7	52	0.2	440	100
4050	201 238	< 0.2	2	< 0.1	2	2	1.11	245	< 1	3	24	0.2	464	70
4051	201 238	< 0.2	2	0.1	4	7	1.85	1170	< 1	4	22	0.4	264	80
4052	201 238	< 0.2	3	0.1	4	13	1.73	1635	< 1	3	10	0.6	384	140
4053	201 238	< 0.2	7	0.3	< 1	14	2.71	2790	< 1	7	44	0.4	674	110
4054	201 238	< 0.2	3	0.2	3	8	1.44	870	< 1	4	28	0.4	238	90
4055	201 238	< 0.2	6	0.6	4	13	2.42	2430	< 1	9	68	0.8	612	110
4056	201 238	< 0.2	3	0.3	3	4	1.95	510	< 1	6	24	0.2	248	60
4057	201 238	< 0.2	3	0.1	3	11	1.55	1205	< 1	2	7	0.2	384	80
4058	201 238	0.3	4	0.3	6	13	1.57	6470	< 1	8	64	0.6	752	200
4059	201 238	7.5	11	6.8	6	137	3.19	4280	< 1	5	14	16.6	562	220
4060	201 238	< 0.2	1	0.1	2	2	1.03	275	< 1	1	4	0.8	392	70
4061	201 238	< 0.2	7	0.4	4	16	1.72	2360	< 1	3	14	1.0	448	160
4062	201 238	1.4	10	< 0.1	8	350	2.69	8300	< 1	21	95	2.4	520	450
4063	201 238	0.4	3	0.7	4	24	1.11	975	< 1	4	21	1.4	276	250
4064	201 238	< 0.2	4	0.2	4	21	3.18	1955	< 1	2	21	0.6	556	210
4065	201 238	1.3	8	0.6	5	28	1.79	755	< 1	1	10	5.6	1620	250
4066	201 238	0.2	3	0.2	3	7	1.70	615	< 1	1	5	0.4	248	70
4067	201 238	< 0.2	3	0.1	3	9	1.57	975	< 1	1	9	0.4	228	120
4068	201 238	0.8	8	0.9	5	15	2.03	2200	< 1	2	8	1.8	690	180
4069	201 238	1.5	4	< 0.1	1	432	1.14	65	< 1	2	22	9.0	1390	1500
4070	201 238	0.7	1	< 0.1	< 1	255	0.37	20	< 1	13	44	18.4	2610	1200
4071	201 238	< 0.2	1	0.1	2	30	0.93	45	< 1	2	12	1.2	358	200
4072	201 238	< 0.2	1	< 0.1	2	30	0.29	95	< 1	1	16	1.0	346	240
4073	201 238	0.2	3	0.1	3	12	1.05	550	< 1	10	60	0.2	216	110
4074	201 238	< 0.2	3	0.1	4	10	1.66	730	< 1	1	11	0.2	212	90
4075	201 238	< 0.2	3	0.2	3	7	0.72	730	< 1	6	32	0.2	90	50
4076	201 238	< 0.2	3	0.3	8	20	2.74	1550	< 1	1	7	0.4	716	80
4077	201 238	< 0.2	2	0.9	3	5	1.67	845	< 1	1	4	0.4	334	60
4078	201 238	< 0.2	6	0.2	4	16	1.66	1405	< 1	2	10	1.4	488	130
4079	201 238	< 0.2	2	0.1	1	8	0.93	600	< 1	1	8	0.4	324	100
4080	201 238	0.8	1	< 0.1	1	139	0.34	40	< 1	1	8	8.0	1930	700

CERTIFICATION:

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5 CAMERON CRESCENT
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SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4081	201 238	< 0.2	3	0.5	3	11	1.15	1395	1	11	174	1.0	358	180
4082	201 238	< 0.2	2	0.3	4	25	1.42	3210	< 1	8	66	0.4	328	90
4083	201 238	0.2	3	0.9	3	16	0.76	2220	5	19	284	2.2	290	250
4084	201 238	0.2	3	0.4	3	18	1.35	255	5	17	174	1.2	138	120
4085	201 238	< 0.2	4	0.4	5	14	1.41	1775	2	8	92	0.2	248	80
4086	201 238	< 0.2	3	0.3	3	9	1.25	2670	3	8	60	0.4	230	50
4087	201 238	0.2	3	0.6	5	18	0.81	3280	4	26	240	1.2	594	210
4088	201 238	0.6	1	0.5	2	11	0.64	745	3	14	198	1.4	224	230
4089	201 238	0.3	7	0.8	6	20	1.68	7580	1	9	120	0.8	1765	120
4090	201 238	< 0.2	5	0.5	5	9	1.39	3440	2	12	112	0.6	552	70
4091	201 238	< 0.2	3	< 0.1	4	20	0.96	3470	3	21	216	< 0.2	596	230
4092	201 238	< 0.2	2	0.2	2	12	0.74	1130	6	20	92	0.8	240	170
4093	201 238	0.2	1	0.8	3	16	0.75	1940	5	29	266	1.2	470	210
4094	201 238	< 0.2	6	0.4	3	10	1.94	1695	1	10	132	0.8	544	150
4095	201 238	< 0.2	2	0.3	3	14	0.89	1060	3	27	192	0.8	340	270
4096	201 238	< 0.2	2	< 0.1	1	5	0.68	110	1	7	50	0.2	166	110
4097	201 238	< 0.2	3	< 0.1	2	33	2.06	1160	< 1	7	30	< 0.2	488	80
4098	201 238	< 0.2	3	0.2	4	10	0.87	2910	2	9	60	0.8	424	140
4099	201 238	< 0.2	2	< 0.1	1	7	0.82	345	4	6	30	0.2	104	110
4100	201 238	< 0.2	5	0.4	5	7	1.34	3270	1	7	52	0.2	546	80
4101	201 238	< 0.2	2	0.3	2	14	0.97	1245	6	12	160	1.0	200	230
4102	201 238	< 0.2	3	0.3	2	16	0.74	1490	7	12	156	0.8	246	220
4103	201 238	< 0.2	3	0.6	3	17	1.08	2090	8	15	194	1.4	364	210
4104	201 238	< 0.2	3	0.3	1	16	0.71	265	3	6	84	0.6	192	90
4105	201 238	< 0.2	3	0.3	3	13	1.52	325	1	6	66	0.6	232	80
4106	201 238	< 0.2	5	0.6	5	20	1.93	3220	3	9	64	0.4	366	100
4107	201 238	< 0.2	10	1.7	12	15	2.85	>10000	3	13	58	0.8	698	130
4108	201 238	< 0.2	5	0.4	3	6	1.42	735	1	7	92	0.6	144	70
4109	201 238	< 0.2	3	0.4	4	3	2.52	725	< 1	6	36	0.2	156	60
4110	201 238	< 0.2	3	0.3	3	12	0.70	875	1	18	204	1.2	352	320
4111	201 238	< 0.2	2	0.4	4	15	1.04	2100	2	19	162	0.8	414	220
4112	201 238	< 0.2	2	0.4	3	19	0.78	855	2	19	122	1.0	280	240
4113	201 238	< 0.2	1	< 0.1	1	19	0.43	85	6	15	52	0.6	130	190
4114	201 238	< 0.2	1	< 0.1	2	13	0.97	585	3	16	50	< 0.2	340	110
4115	201 238	< 0.2	2	0.1	3	30	1.25	675	1	31	106	0.6	192	110
4116	201 238	< 0.2	5	0.4	5	16	1.49	1275	< 1	11	90	0.4	364	110
4117	201 238	< 0.2	2	0.5	3	12	0.95	575	2	14	178	1.0	208	160
4118	201 238	< 0.2	6	0.6	3	13	1.45	440	2	20	178	1.2	200	190
4119	201 238	< 0.2	4	0.3	3	10	1.13	855	2	10	134	0.8	146	130
4120	201 238	< 0.2	1	0.2	3	10	1.08	935	1	15	166	0.8	266	260

CERTIFICATION:

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SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4121	201 238	< 0.2	9	2.8	7	10	1.74	4050	3	19	226	1.2	366	160
4122	201 238	< 0.2	4	0.7	4	12	1.35	2140	1	10	90	0.6	242	100
4123	201 238	< 0.2	3	0.3	6	16	0.97	7050	2	15	114	0.8	726	130
4124	201 238	< 0.2	3	1.4	4	28	0.98	405	4	24	552	1.8	224	190
4125	201 238	< 0.2	2	0.1	3	7	1.75	1265	1	8	60	0.4	290	80
4126	201 238	< 0.2	3	1.0	4	19	0.89	2190	3	15	196	1.6	424	200
4127	201 238	< 0.2	2	0.5	4	15	1.05	2030	2	15	192	1.0	412	160
4128	201 238	< 0.2	2	0.5	3	21	0.66	5520	4	17	200	1.4	472	270
4129	201 238	< 0.2	5	0.2	7	5	1.46	9570	5	9	46	0.4	420	160
4130	201 238	< 0.2	2	< 0.1	3	7	1.41	1610	3	8	108	0.6	268	140
4131	201 238	< 0.2	1	< 0.1	< 1	6	1.46	85	1	6	78	0.2	68	50
4132	201 238	< 0.2	1	< 0.1	1	7	0.37	50	13	10	94	0.8	232	180
4133	201 238	0.3	1	0.8	1	32	0.44	35	3	14	316	2.2	144	170
4134	201 238	0.2	1	0.9	6	19	0.84	7120	6	24	364	2.0	516	180
4135	201 238	< 0.2	1	0.2	3	8	1.13	2600	1	7	78	0.2	292	90
4136	201 238	< 0.2	2	0.2	3	14	1.25	3480	2	13	142	0.6	534	180
4137	201 238	< 0.2	2	< 0.1	2	10	0.70	1720	4	8	52	0.8	396	170
4138	201 238	0.2	2	0.7	4	20	0.74	3440	4	19	384	1.8	526	240
4139	201 238	< 0.2	2	< 0.1	3	13	0.77	1505	4	11	92	0.8	336	170
4140	201 238	< 0.2	3	< 0.1	2	9	1.40	1565	3	9	102	0.4	240	140
4141	201 238	< 0.2	3	0.2	2	17	0.90	375	2	15	172	0.8	298	110
4142	201 238	0.2	2	0.6	2	14	0.59	120	3	15	280	2.6	164	220
4143	201 238	0.2	2	0.3	3	15	0.77	1360	2	13	152	1.4	402	220
4144	201 238	< 0.2	2	< 0.1	4	9	1.39	555	1	11	108	0.4	278	120
4145	201 238	< 0.2	6	0.6	5	23	1.25	4400	1	18	242	1.0	870	180
4146	201 238	< 0.2	7	0.1	6	15	2.76	3210	2	9	60	0.6	406	90
4147	201 238	0.3	7	0.1	6	22	1.51	8450	< 1	12	80	0.2	1070	130
4148	201 238	< 0.2	4	< 0.1	3	16	0.90	965	1	13	94	0.2	280	110
4149	201 238	< 0.2	10	0.1	4	15	1.22	940	1	18	158	0.6	302	190
4150	201 238	< 0.2	6	< 0.1	7	33	4.10	7170	< 1	15	52	0.2	252	130
4151	201 238	< 0.2	6	< 0.1	5	19	2.87	3140	< 1	16	102	0.4	214	140
4152	201 238	< 0.2	3	< 0.1	5	11	1.41	1540	1	16	54	0.2	244	90
4153	201 238	< 0.2	5	0.2	5	14	3.96	1645	1	20	174	0.8	260	150
4154	201 238	< 0.2	5	< 0.1	7	8	3.49	585	< 1	13	48	0.4	118	130
4155	201 238	< 0.2	1	< 0.1	6	24	2.09	910	1	19	92	0.6	210	100
4156	201 238	< 0.2	1	0.1	5	96	1.06	1415	1	46	86	0.8	576	190
4157	201 238	< 0.2	2	< 0.1	1	18	0.47	220	3	15	100	0.8	106	230
4158	201 238	< 0.2	3	0.1	2	23	0.69	1215	1	21	146	0.6	480	220
4159	201 238	< 0.2	8	0.1	10	38	1.78	3540	3	22	70	0.6	360	160
4160	201 238	< 0.2	7	0.2	6	18	5.64	6210	1	18	68	0.6	222	130

CERTIFICATION:



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5 CAMERON CRESCENT
TORONTO, ON
M4G 1Z7

A9027578

Comments: CC: A. SOEVER

CERTIFICATE

A9027578

JACKSON, ROBERT

Project:
P.O. #:

Samples submitted to our lab in Mississauga, ON.
This report was printed on 20-DEC-90.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	168	Dry, sieve to -80 mesh
238	169	NITRIC-AQUA REGIA DIGESTION
287	169	Special dig'n with organic ext'n
217	1	Geochem ring entire sample

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
6	169	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.2	100.0
13	169	As ppm: HNO3-aqua regia digest	AAS-HYDRIDE/EDL	1	10000
23	169	Bi ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.1	1000
1929	169	Co ppm: 9 element, soil & rock	ICP-AES	1	10000
1931	169	Cu ppm: 9 element, soil & rock	ICP-AES	1	10000
1932	169	Fe %: 9 element, soil & rock	ICP-AES	0.01	15.00
1937	169	Mn ppm: 9 element, soil & rock	ICP-AES	5	10000
1938	169	Mo ppm: 9 element, soil & rock	ICP-AES	1	10000
1940	169	Ni ppm: 9 element, soil & rock	ICP-AES	1	10000
1004	169	Pb ppm: 9 element, soil and rock	ICP-AES	5	10000
22	169	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
1950	169	Zn ppm: 9 element, soil & rock	ICP-AES	2	10000
20	169	Hg ppb: HNO3-HCl digestion	AAS-FLAMELESS	10	100000



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SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4161	201 238	0.2	< 1	< 0.1	1	52	0.15	55	18	11	18	< 0.2	200	110
4162	201 238	0.6	< 1	< 0.1	< 1	117	0.15	55	2	36	10	0.2	56	170
4163	201 238	0.3	3	< 0.1	3	4	1.19	910	3	6	46	0.2	126	90
4164	201 238	0.6	8	0.2	7	19	3.86	8980	2	17	138	0.6	492	160
4165	201 238	0.3	1	< 0.1	9	3	4.41	1260	1	20	20	< 0.2	126	70
4166	201 238	< 0.2	1	< 0.1	9	7	2.37	255	< 1	21	8	< 0.2	58	30
4167	201 238	0.8	10	0.3	11	21	3.94	6210	4	17	86	1.2	266	170
4168	201 238	0.2	1	< 0.1	4	1	2.53	295	1	8	12	< 0.2	86	40
4169	201 238	0.2	1	< 0.1	3	4	2.43	785	3	5	16	0.2	104	50
4170	201 238	0.3	2	< 0.1	4	6	2.01	795	< 1	9	32	0.2	138	70
4171	201 238	0.2	1	< 0.1	3	3	2.20	125	< 1	6	8	< 0.2	88	30
4172	201 238	0.2	1	< 0.1	6	3	2.75	1380	< 1	10	24	0.4	134	70
4173	201 238	0.4	5	0.1	5	14	1.55	2120	1	12	102	0.4	502	130
4174	201 238	0.3	5	< 0.1	4	6	1.59	595	2	7	38	0.2	188	90
4175	201 238	0.6	5	< 0.1	3	21	1.10	2890	8	9	56	1.0	342	180
4176	201 238	0.2	5	< 0.1	5	14	1.73	1080	3	10	100	0.4	274	110
4177	201 238	0.2	6	< 0.1	2	4	1.38	420	4	5	70	0.4	164	80
4178	201 238	0.4	5	< 0.1	3	9	1.17	920	1	6	48	0.2	244	70
4179	201 238	0.4	2	< 0.1	2	18	0.57	1270	1	7	38	< 0.2	228	100
4180	201 238	0.2	2	< 0.1	5	4	2.09	650	< 1	9	20	0.2	104	60
4181	201 238	< 0.2	1	< 0.1	1	14	0.33	880	1	13	150	< 0.2	316	210
4182	201 238	< 0.2	5	< 0.1	4	26	0.90	3580	2	15	168	0.6	616	200
4183	201 238	< 0.2	5	< 0.1	2	8	1.04	850	2	11	148	0.4	260	170
4184	201 238	< 0.2	6	< 0.1	5	5	1.44	2060	1	13	56	0.4	286	160
4185	201 238	0.3	5	0.1	5	12	1.11	6470	2	12	132	0.8	546	200
4186	201 238	< 0.2	4	< 0.1	4	11	1.04	3940	1	13	142	0.4	458	240
4187	201 238	< 0.2	2	< 0.1	3	8	1.02	1040	2	13	162	0.4	268	170
4188	201 238	0.2	5	< 0.1	4	11	1.92	2270	2	16	132	0.2	338	140
4189	201 238	0.3	4	0.8	8	10	2.15	1395	2	10	96	0.4	406	110
4190	201 238	< 0.2	4	< 0.1	3	13	0.90	775	1	15	122	0.2	398	150
4191	201 238	0.2	2	0.2	2	16	0.70	1470	2	12	138	0.4	492	170
4192	201 238	0.4	6	< 0.1	4	32	1.16	3790	14	21	142	0.4	388	240
4193	201 238	0.3	6	< 0.1	4	12	3.16	3150	2	12	84	0.2	224	160
4194	201 238	0.2	5	< 0.1	3	14	1.92	1895	2	15	116	0.2	266	170
4195	201 238	0.4	2	0.1	10	5	7.00	2670	1	18	32	< 0.2	258	150
4196	201 238	< 0.2	1	< 0.1	3	< 1	2.97	120	2	7	16	< 0.2	84	40
4197	201 238	0.5	1	< 0.1	< 1	5	0.29	85	17	4	22	< 0.2	156	140
4198	201 238	< 0.2	1	< 0.1	1	229	0.16	220	8	35	22	0.6	296	210
4199	201 238	< 0.2	< 1	< 0.1	1	73	0.21	45	6	17	88	0.2	278	170
4200	201 238	< 0.2	6	< 0.1	4	8	1.35	695	1	14	102	0.4	344	130

CERTIFICATION:

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CERTIFICATE OF ANALYSIS A9027578

SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe t	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4201	201 238	< 0.2	< 1	< 0.1	1	87	0.15	50	63	20	10	0.8	180	150
4202	201 238	< 0.2	< 1	< 0.1	6	3	1.80	165	2	10	8	< 0.2	94	30
4203	201 238	< 0.2	1	0.2	5	4	2.13	245	1	7	10	0.4	144	30
4204	201 238	< 0.2	1	0.6	7	11	2.45	880	1	12	20	0.2	124	50
4205	201 238	< 0.2	2	< 0.1	6	19	0.90	3140	2	18	66	0.4	130	110
4206	201 238	0.3	7	0.6	12	16	5.35	2990	2	38	188	0.8	282	160
4207	201 238	0.2	4	0.2	7	15	4.47	2770	1	22	158	0.4	252	150
4208	201 238	0.6	6	0.3	11	27	4.17	6420	1	31	194	0.4	452	170
4209	201 238	0.2	7	0.2	8	8	3.64	1485	1	21	88	0.2	194	70
4210	201 238	0.2	2	0.1	7	19	1.34	2360	1	30	218	0.2	468	130
4211	201 238	0.4	4	0.1	6	8	2.97	570	1	20	112	0.2	132	90
4212	201 238	0.6	2	0.1	8	8	5.12	1665	1	17	18	< 0.2	130	100
4213	201 238	0.3	2	0.1	9	7	3.83	735	1	17	30	< 0.2	148	60
4214	201 238	0.4	4	0.2	6	22	0.95	1665	2	20	130	0.2	588	170
4215	201 238	0.3	3	0.2	3	14	0.94	355	2	13	118	0.4	128	90
4216	201 238	0.7	8	0.3	10	22	6.08	>10000	2	17	90	0.2	438	200
4217	201 238	< 0.2	4	< 0.1	5	10	1.67	1385	2	9	54	0.2	186	90
4218	201 238	0.6	2	0.2	10	11	6.68	1990	1	13	14	< 0.2	244	140
4219	201 238	1.5	2	< 0.1	2	31	0.54	590	2	13	32	1.0	182	200
4220	201 238	0.2	3	< 0.1	5	9	1.08	1600	< 1	13	74	< 0.2	286	80
4221	201 238	0.6	19	< 0.1	10	33	2.91	2460	5	28	12	1.4	588	210
4222	201 238	0.3	1	< 0.1	3	46	0.77	655	8	19	20	< 0.2	210	200
4223	201 238	0.7	3	0.2	11	10	13.05	8010	5	32	36	0.2	330	240
4224	201 238	0.5	2	0.2	10	15	10.25	9330	2	33	24	< 0.2	420	330
4225	201 238	0.2	4	< 0.1	6	11	1.94	2250	2	11	82	0.4	234	120
4226	201 238	0.7	6	0.5	4	28	1.11	595	2	23	236	1.2	266	170
4227	201 238	0.6	2	< 0.1	3	25	0.46	975	2	21	142	0.6	354	240
4228	201 238	0.4	2	< 0.1	3	25	0.52	1925	< 1	12	60	< 0.2	418	170
4229	201 238	0.3	4	0.1	4	18	0.76	1625	1	21	144	0.2	562	180
4230	201 238	0.3	5	0.4	5	15	0.95	2490	3	19	180	0.6	332	170
4231	201 238	0.2	4	0.1	7	6	0.93	2270	2	7	22	0.2	210	90
4232	201 238	0.2	2	0.1	2	6	0.68	910	< 1	5	34	0.2	124	80
4233	201 238	0.2	4	< 0.1	4	6	1.93	1350	1	7	20	< 0.2	156	60
4234	201 238	0.2	2	< 0.1	2	8	1.22	700	1	8	70	0.4	136	80
4235	201 238	0.4	2	< 0.1	3	18	0.77	90	2	11	108	0.4	170	190
4236	201 238	< 0.2	2	< 0.1	3	7	1.27	1020	3	7	50	0.2	130	90
4237	201 238	< 0.2	4	< 0.1	6	16	1.29	4180	1	9	58	0.2	414	120
4238	201 238	0.2	4	0.1	4	7	0.97	5150	5	8	44	0.6	364	160
4239	201 238	0.3	3	0.1	4	16	0.67	3300	3	19	110	0.6	292	230
4240	201 238	0.3	5	0.4	4	17	0.81	2820	3	22	226	1.2	356	230

CERTIFICATION:

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SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4241	201 238	0.4	8	0.2	9	24	2.21	8050	3	9	70	0.4	594	100
4242	201 238	0.2	4	< 0.1	5	17	1.09	4910	1	6	36	0.2	326	90
4243	201 238	0.2	3	< 0.1	6	9	1.81	1500	1	16	66	0.4	624	100
4244	201 238	0.4	5	0.2	11	14	2.43	5140	2	13	98	0.6	1915	90
4245	201 238	0.6	3	0.4	9	10	2.02	1520	< 1	18	52	0.4	486	100
4246	201 238	0.5	4	< 0.1	8	20	2.09	775	2	20	144	0.6	584	110
4247	201 238	0.5	2	< 0.1	2	16	0.71	880	2	9	62	0.4	442	130
4248	201 238	0.5	8	0.2	9	42	1.98	2610	1	15	94	0.4	492	150
4249	201 238	< 0.2	1	< 0.1	2	61	0.36	130	10	16	46	0.6	390	150
4250	201 238	< 0.2	1	< 0.1	1	49	0.23	400	3	14	16	< 0.2	284	150
4251	201 238	0.3	2	< 0.1	6	17	1.30	405	3	27	144	0.8	232	160
4252	201 238	0.3	5	0.1	11	16	2.70	4410	2	27	60	0.2	176	90
4253	201 238	0.3	2	< 0.1	7	13	1.59	110	2	33	110	< 0.2	144	120
4254	201 238	0.2	1	< 0.1	1	55	0.24	20	2	17	48	< 0.2	518	120
4255	201 238	< 0.2	2	< 0.1	< 1	12	0.19	25	2	5	36	< 0.2	134	130
4256	201 238	0.4	5	< 0.1	4	36	1.64	1330	3	11	90	0.6	322	220
4257	201 238	0.6	1	< 0.1	1	425	0.36	40	1	36	46	< 0.2	288	220
4258	201 238	0.5	6	< 0.1	6	22	1.09	885	1	13	100	0.4	268	150
4259	201 238	0.5	6	0.4	8	21	1.31	1655	1	11	70	0.6	414	130
4260	238 287	0.2	1	< 0.1	1	32	0.29	470	6	11	48	0.4	358	130
4261	201 238	0.4	5	0.1	6	19	0.83	2280	2	11	72	0.2	484	120
4262	201 238	0.4	3	< 0.1	5	12	0.89	490	1	13	74	0.4	366	100
4263	201 238	0.5	4	0.3	5	18	1.02	1635	2	22	200	1.2	870	190
4264	201 238	0.3	4	0.1	6	10	1.84	1635	< 1	8	66	0.6	846	90
4265	201 238	0.3	3	0.1	5	12	1.53	1360	1	9	76	0.6	452	110
4266	201 238	0.2	3	< 0.1	2	6	1.20	240	3	5	42	0.4	188	100
4267	201 238	0.4	1	< 0.1	1	23	0.28	445	3	6	60	0.2	474	120
4268	201 238	0.2	3	< 0.1	5	28	1.55	90	2	18	52	0.2	118	130
4269	201 238	0.2	1	< 0.1	6	3	2.42	175	2	8	14	< 0.2	98	70
4270	201 238	0.2	3	< 0.1	3	7	0.85	510	1	14	82	0.4	234	80
4271	201 238	< 0.2	3	0.1	5	12	0.72	895	3	21	160	0.6	406	180
4272	201 238	< 0.2	1	< 0.1	1	146	0.43	15	7	11	6	0.2	64	320
4273	201 238	< 0.2	1	< 0.1	2	16	0.51	40	2	7	4	< 0.2	76	160
4274	201 238	< 0.2	1	< 0.1	3	18	0.28	400	1	10	130	0.4	640	160
4275	201 238	< 0.2	2	< 0.1	4	7	0.67	380	2	11	106	0.4	244	130
4276	201 238	2.5	5	1.2	9	16	1.74	5910	2	7	154	1.2	864	140
4277	201 238	0.5	3	< 0.1	4	13	0.60	2170	2	13	134	0.4	536	160
4278	201 238	0.2	7	0.2	4	6	0.85	1670	1	9	88	0.4	526	90
4279	201 238	1.1	10	1.0	5	29	1.00	5060	1	9	112	1.8	2010	120
4280	201 238	< 0.2	2	< 0.1	3	6	0.80	340	1	7	36	0.2	138	60

CERTIFICATION: _____

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SAMPLE DESCRIPTION	PREP CODE	Ag ppm Aqua R	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
4281	201 238	0.4	3	0.1	6	12	1.21	3270	1	9	54	0.4	602	70
4282	201 238	0.2	3	0.4	3	12	0.54	410	2	16	160	1.6	204	200
4283	201 238	0.2	4	0.1	8	9	2.11	2370	2	11	58	0.4	248	70
4284	201 238	< 0.2	4	0.1	4	9	0.92	2520	2	10	88	0.6	274	110
4285	201 238	0.2	2	0.3	4	13	0.64	1980	3	15	184	1.0	388	120
4286	201 238	< 0.2	5	0.1	6	13	0.81	6250	4	14	98	0.8	702	180
4287	201 238	0.3	8	0.2	12	12	1.70	>10000	7	7	80	0.6	842	120
4288	201 238	< 0.2	2	< 0.1	2	5	0.75	780	2	9	88	0.4	154	80
4289	201 238	0.2	3	0.1	2	13	0.91	245	3	20	136	0.6	146	130
4290	201 238	0.3	3	0.3	5	11	1.42	685	1	20	108	0.4	228	120
4291	201 238	0.2	4	1.0	5	27	1.08	480	2	44	224	0.8	244	220
4292	201 238	< 0.2	2	< 0.1	2	15	0.46	230	3	15	82	0.4	166	150
4293	201 238	< 0.2	6	0.3	4	10	1.00	975	2	16	144	0.8	274	140
4294	201 238	0.3	5	0.2	6	15	0.92	2540	4	18	142	0.6	292	160
4295	201 238	0.2	4	0.2	5	16	0.90	2930	3	17	146	0.6	536	120
4296	201 238	< 0.2	2	0.3	6	18	1.20	1030	3	14	164	0.8	278	130
4297	201 238	< 0.2	2	< 0.1	3	11	1.35	605	3	19	112	0.6	284	130
4298	201 238	0.3	4	< 0.1	7	7	2.68	1335	2	11	70	0.4	394	80
4299	201 238	0.2	4	< 0.1	4	11	1.51	780	2	10	82	0.4	150	70
4300	201 238	0.3	4	0.3	6	9	1.75	505	1	19	96	0.4	206	100
4301	201 238	0.5	10	0.6	17	48	3.09	1185	5	11	102	0.4	334	90
4302	201 238	0.5	10	0.5	11	19	3.16	6250	4	9	126	0.8	946	110
4303	201 238	0.2	3	< 0.1	4	17	1.00	375	7	10	50	0.4	102	90
4304	201 238	0.5	5	< 0.1	3	21	1.14	345	3	11	58	0.6	86	240
4305	201 238	0.5	3	0.5	2	27	0.60	90	4	20	470	1.2	270	190
4306	201 238	0.2	5	0.1	5	8	1.63	1415	2	13	106	0.4	282	140
4307	201 238	0.4	3	0.1	4	16	1.31	2000	2	16	148	0.4	494	140
4308	201 238	0.3	9	0.5	5	18	1.14	2470	3	20	232	1.6	480	180
4309	201 238	0.6	5	< 0.1	4	23	0.85	2920	3	10	66	0.2	526	120
4310	201 238	0.3	4	0.7	4	25	0.81	1240	4	22	234	1.4	420	240
4311	201 238	0.2	5	0.1	3	7	1.69	830	3	10	84	0.4	182	100
4312	201 238	0.2	7	3.0	6	11	3.14	1470	3	13	60	0.4	372	100
4313	201 238	0.5	6	0.6	14	21	3.08	8580	2	18	132	0.8	992	120
4314	201 238	0.2	6	0.4	10	7	2.41	2130	2	14	114	0.4	370	90
4315	201 238	< 0.2	3	0.1	3	2	1.74	950	2	4	20	< 0.2	140	60
4316	201 238	0.5	12	0.4	6	17	1.02	6170	1	17	126	0.6	852	170
4317	201 238	< 0.2	3	0.3	2	15	0.60	1565	2	14	108	0.6	382	160
4318	201 238	< 0.2	3	0.1	4	7	1.48	1345	2	11	76	0.2	284	80
4319	201 238	0.3	3	< 0.1	9	17	1.70	>10000	4	11	48	0.2	1070	100
4320	201 238	< 0.2	2	< 0.1	5	11	0.71	2470	9	9	70	0.4	286	150

CERTIFICATION:

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SAMPLE DESCRIPTION	PREP CODE		Ag ppm	As ppm	Bi ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Sb ppm	Zn ppm	Hg ppb
			Aqua R												
4321	201	238	0.2	2	0.3	5	13	1.16	3340	1	11	126	0.4	346	100
4322	201	238	< 0.2	4	0.1	3	10	1.10	1015	1	13	116	0.2	224	110
4323	201	238	0.2	2	0.3	4	15	0.98	1875	2	16	180	0.8	428	140
4324	201	238	0.2	2	0.4	3	19	0.63	1205	2	21	228	0.8	266	200
4350	201	238	0.3	1	0.3	1	18	0.73	45	3	10	120	0.6	114	120
4351	201	238	0.3	2	< 0.1	4	12	1.16	1210	1	11	88	< 0.2	184	100
010017	201	238	0.3	1	< 0.1	2	76	0.69	40	59	13	74	0.2	112	130
010018	201	238	0.2	1	< 0.1	6	12	1.51	1460	3	11	28	< 0.2	244	70
010019	201	238	< 0.2	1	< 0.1	3	47	1.11	125	4	9	20	< 0.2	112	100

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**GRENVILLE RECONNAISSANCE LEGEND
FOR SHEETS IN POCKET**

ROCK TYPES

- 8 GRANITIC ROCKS**
 - a massive granitic intrusions
 - b granitic gneiss
 - c basement gneiss complex, migmatite
 - d granodiorite
 - P pegmatite
- 7 SYENITIC ROCKS**
 - a massive syenite
 - b syenite gneiss
- 6 MAFIC ROCKS**
 - a gabbro
 - b diabase dyke
 - c amphibolite
 - d diorite
- 5 METAVOLCANIC ROCKS**
 - a quartz-feldspar+/-biotite gneiss
 - b intermediate metavolcanic gneisses
 - c mafic metavolcanics
 - d pillowed mafic volcanics
- 4 METASEDIMENTARY ROCKS**
 - a quartz-feldspar-biotite gneiss
 - b biotite schist
 - c hornblende biotite gneiss
 - d calcisilicate gneiss - calcareous paragneiss
 - Q quartzite
- 3 SILICATED DOLOMITIC MARBLES (>15% SILICATES)**
 - a serpentine silicated dolomitic marble
 - b diopsidic/tremolitic dolomitic marble
 - c dolomitic marble with bands massive diopside
 - d massive diopside
 - e quartz-diopside rock
 - Q chert, quartzite
- 2 DOLOMITIC MARBLE**
 - a white dolomitic marble
 - b grey graphitic dolomitic marble
 - c pyritic dolomitic marble
 - d serpentine dolomitic marble
 - e calcitic dolomitic marble
 - t tremolitic dolomitic marble
 - B buff dolomitic marble
- 1 CALCITIC MARBLE**
 - a white calcitic marble
 - b graphitic phlogopitic calcitic marble
 - c grey banded calcitic marble
 - d dirty calcisilicate rich calcitic marble
 - dd calcitic marble with calcisilicate bands
 - e dolomitic calcitic marble
 - p pink calcitic marble
 - s f.g. mylonite derived from calcitic marbles
 - G grey calcitic marble

MODIFIERS FOR ALL ROCK TYPES

- fg fine grained
- cg coarse grained
- phlog phlogopite
- R rusty

MINERALIZATION

- Zn Positive Zinc Test
- Zn Sphalerite (estimated <1% Zn)
- ZN Sphalerite (estimated >1% Zn)
- Pb Galena
- PY Pyrite
- po Pyrrhotite

SYMBOLS

- ⊙ Organic Bank Sample Location
- △ Till Sample Location
- Rock Sample Location
- Soil Sample Location
- * Government Lake Sediment Sample Location
- ▲ Government Till Sample Location
- Government Rock Sample Location
- Outcrop
- Subcrop or area of discontinuous outcrop
- x Boulder or float
- ⋯ Scarp or steep slope
- == --- --- Road, bush road, trail
- Swamp, stream, lake
- Claim post, located, unlocated position assumed
- Fence
- High Tension Power Line with Towers
- 32 Foliation showing dip
- 10 Lineation showing plunge
- 2→10 Minor fold, showing style and plunge direction
- Fault
- Geological contact

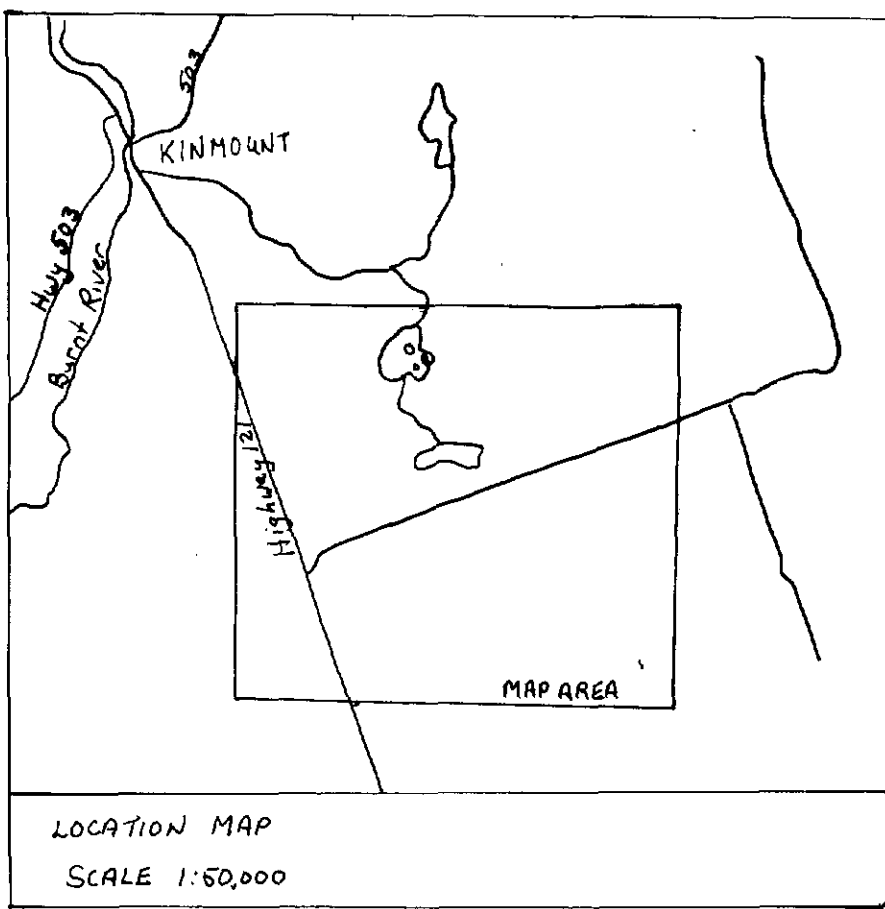


HALIBURTON AREA

NTS 310
GEOLOGY AND SAMPLE LOCATIONS
For Legend, See GREVILLE RECONNAISSANCE LEGEND

Scale 1:25,000

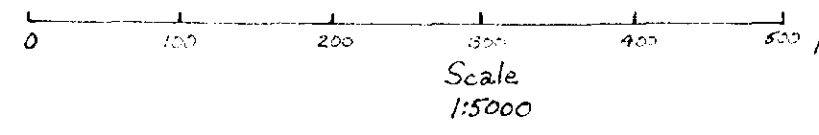


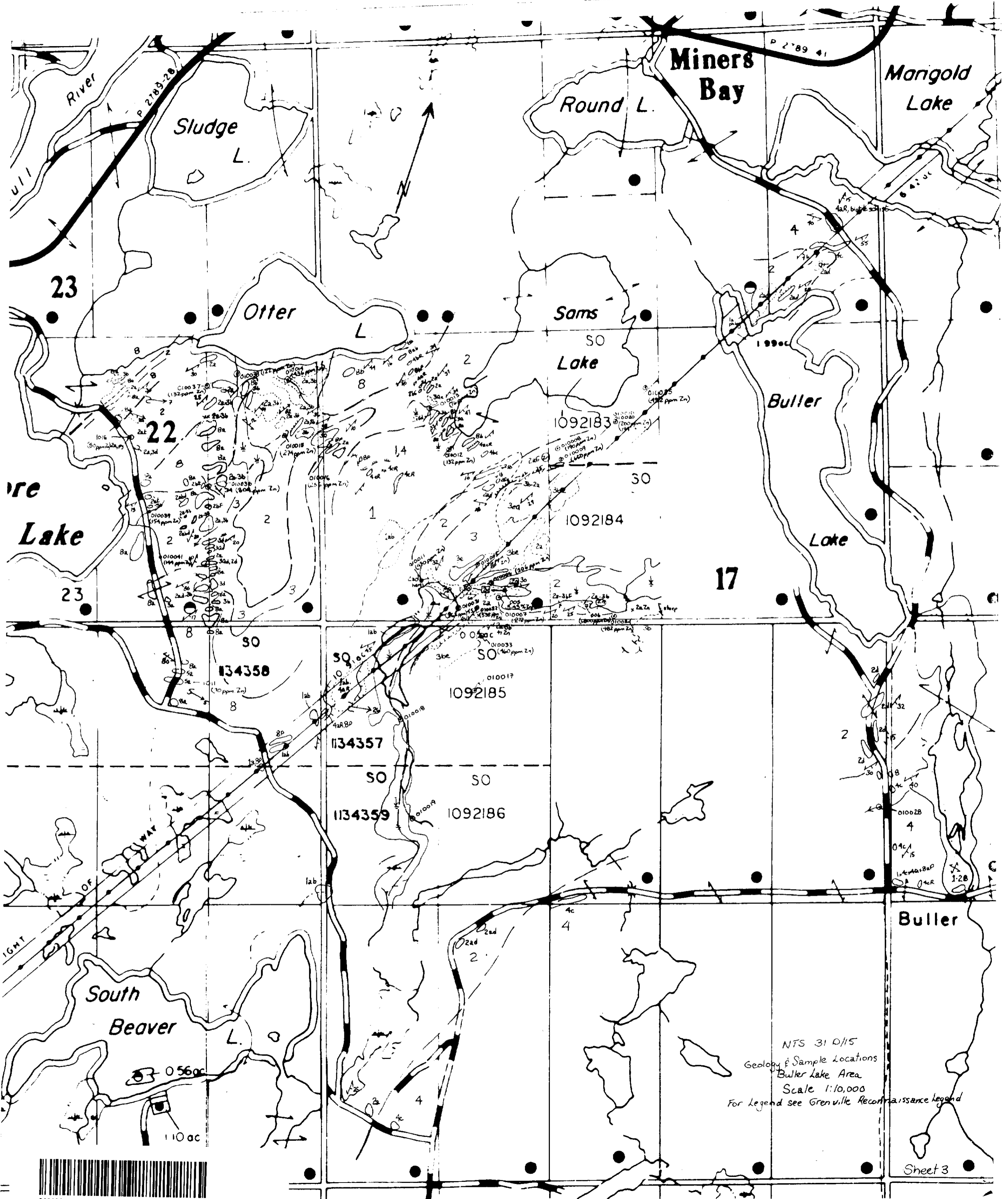


LOCATION MAP
SCALE 1:60,000

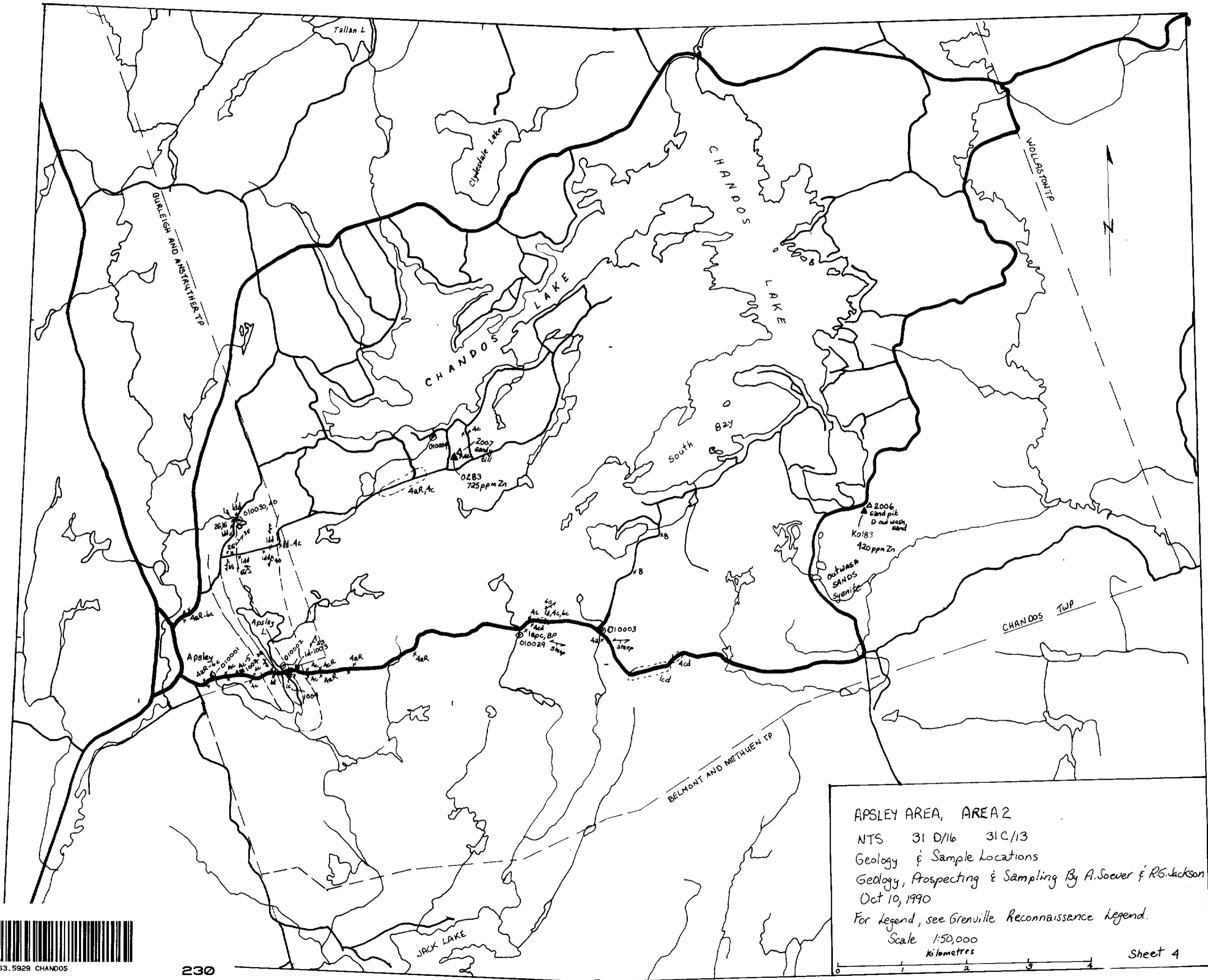


For legend, see Grenville Reconnaissance report
 NTS 81 L/15
 KINMOUNT ANOMALY
 AREA 1
 GALWAY TOWNSHIP
 Prospecting & Geology by
 A. Soever & Robert G. Jackson
 May 22 & 24, 1990
 Sheet 2



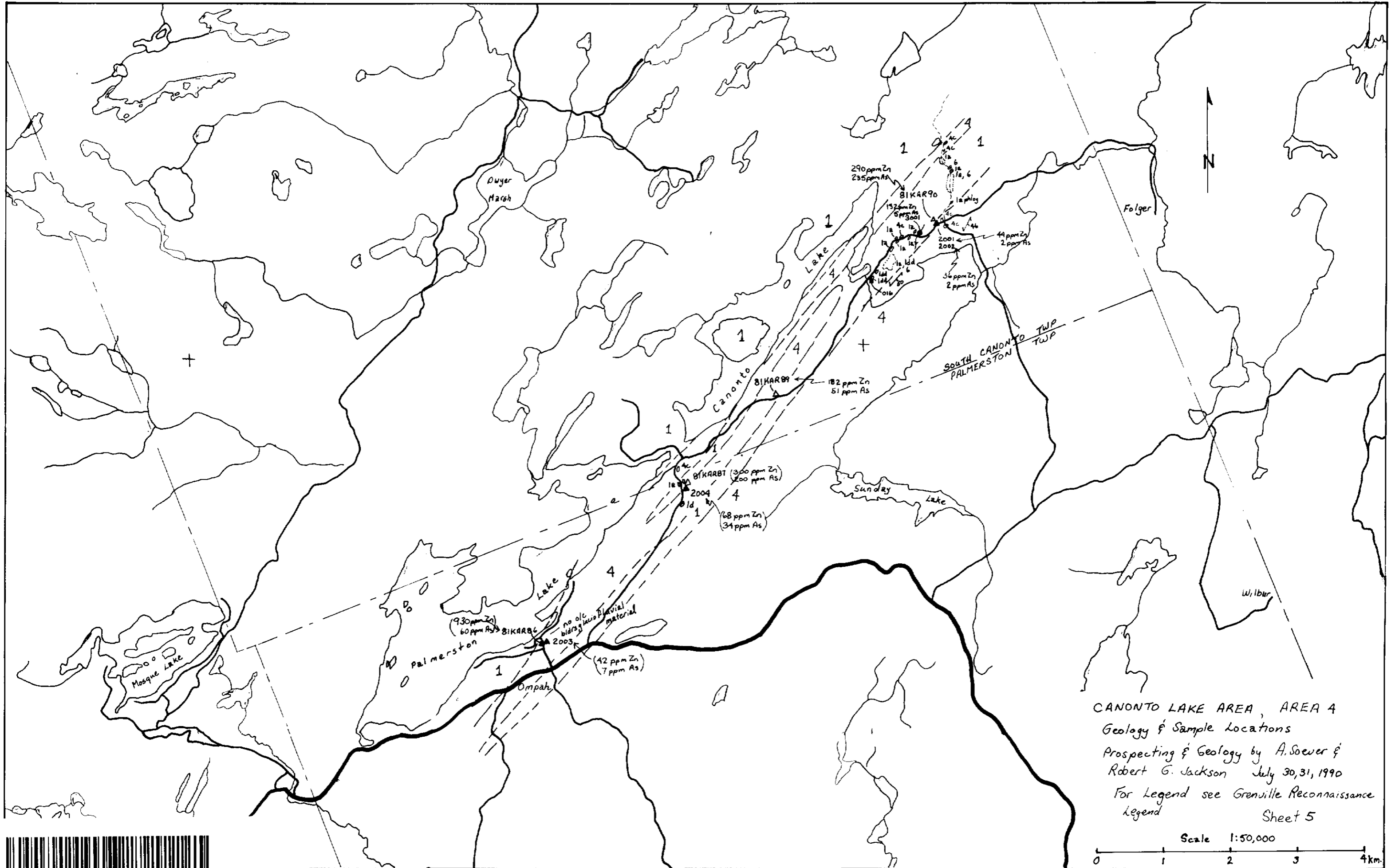


31C135W010 63.5929 CHANDOS

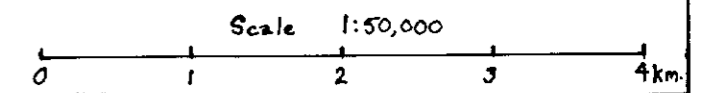


APSLEY AREA, AREA 2
 NTS 31 D/16 31C/13
 Geology & Sample Locations
 Geology, Prospecting & Sampling By A. Soever & R.G. Jackson
 Oct 10, 1990
 For legend, see Grenville Reconnaissance Legend.
 Scale 1:50,000
 kilometres





CANONTO LAKE AREA, AREA 4
 Geology & Sample Locations
 Prospecting & Geology by A. Soever &
 Robert G. Jackson July 30, 31, 1990
 For Legend see Grenville Reconnaissance
 Legend Sheet 5



LEGEND

ROCK TYPES

8 GRANITIC ROCKS

a - massive granite
b - granitic gneiss
P - pegmatite

6 MAFIC ROCKS

a - gabbro
c - amphibolite

5 METAVOLCANIC ROCKS

a - mafic metavolcanic rocks

4 METASEDIMENTARY ROCKS

a - quartz - feldspar - biotite gneiss
b - biotite schist
c - hornblende biotite gneiss
d - calciferous gneiss - calcareous pyroxene
Q - quartzite

3 SILICATED DOLOMITIC MARBLES (sistilicats)

a - serpentinous silicated dolomitic marble
b - diopside / tremolitic dolomitic marble
c - dolomitic marble with bands of massive diopside
d - massive diopside
e - quartz - diopside rock
Q - quartzite

2 DOLOMITIC MARBLES

a - white dolomitic marble
b - grey banded dolomitic marble
c - pyritic dolomitic marble
d - serpentinitic dolomitic marble
e - calcitic dolomitic marble
G - grey dolomitic marble

1 CALCITIC MARBLES

a - white calcitic marble
b - graphitic phlogopitic calcitic marble
c - grey banded calcitic marble
d - calciferous rich calcitic marble
e - dolomitic calcitic marble

MODIFIERS FOR ALL ROCK TYPES

Pg - fine grained
Cg - coarse grained
R - Rhythmic
sp - serpentine
W - white

MINERALIZATION

Zn - Baseline Zinc Test
S - Sphalerite (estimated < 1% Zn)
Pb - Galena (estimated > 1% Zn)
Rb - pyrite
P - pyrrhotite

SYMBOLS

o - organic bank sample location, value in brackets
□ - rock sample location, value in brackets

o - outcrop
o - subcrop or area of discontinuous outcrop
x - boulder or float
su - Scarp or steep slope

--- Road, bush road, trail

Swamp, Stream, Lake

Clam Post

Fence

High tension Power Line & tower

Edge of clearing

Foliation showing dip

Lamination, showing plunge

Minor fold showing plunge

Geologic contact

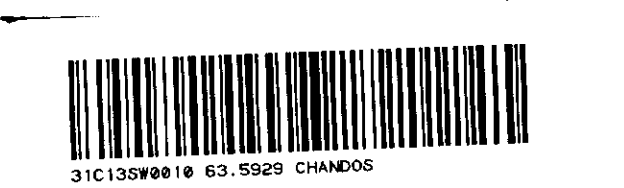
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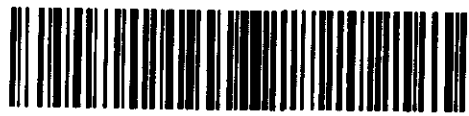
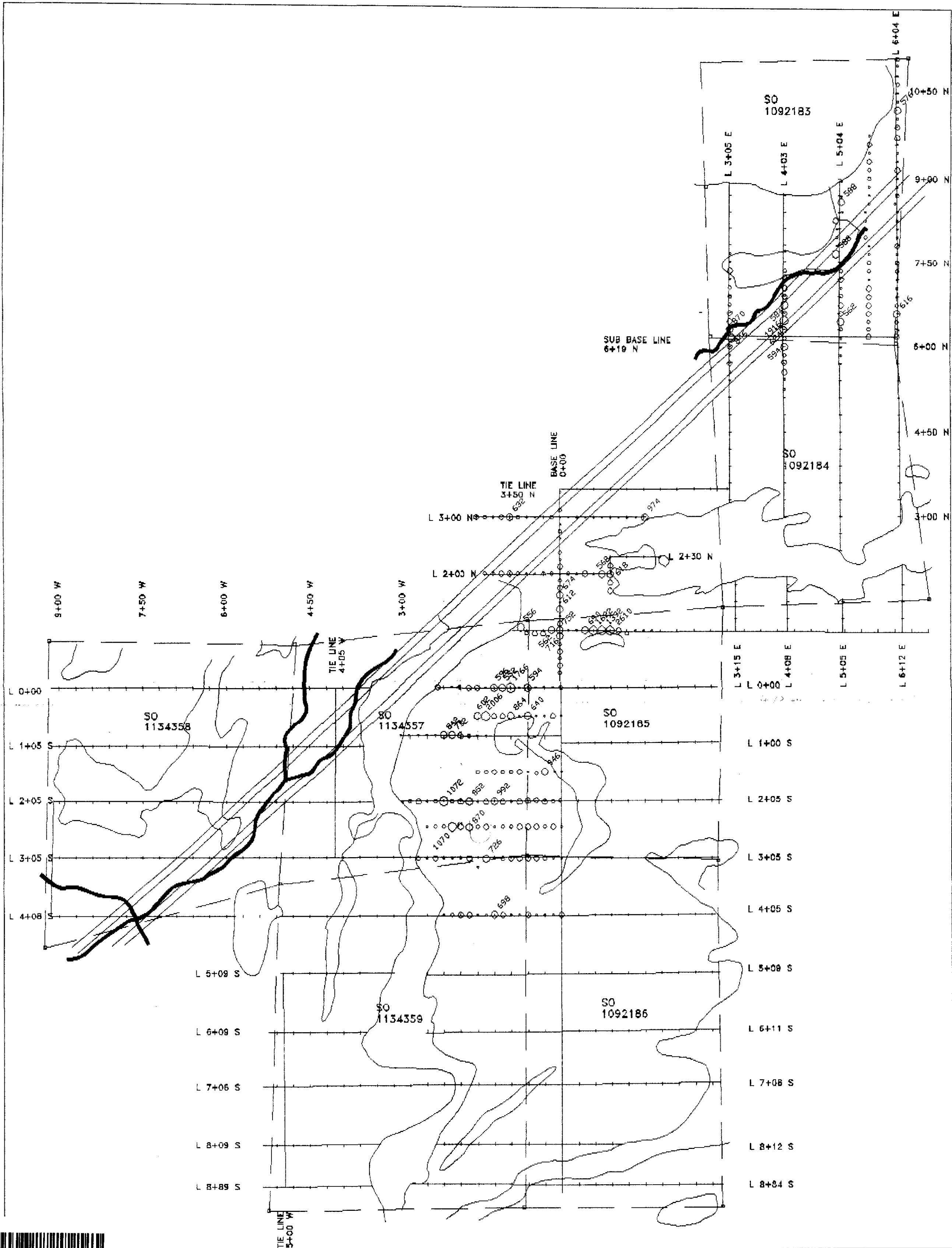


BULLER LAKE PROPERTY, LUTHERWORTH TOWNSHIP
NTS 31 D/15
GEOLOGY AND SAMPLE LOCATIONS

Geology by A. Sauer & R.E. Jackson
Oct 14, 1990 - Dec 1, 1990

Scale 1:2000



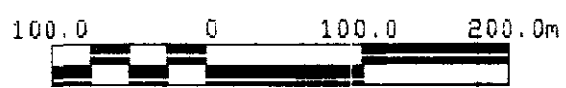


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260

LEGEND

- Below 250.00
- Below 350.00
- Below 550.00
- Below 1000.00
- Below 20000.00



DRAWN BY _____ DATE _____

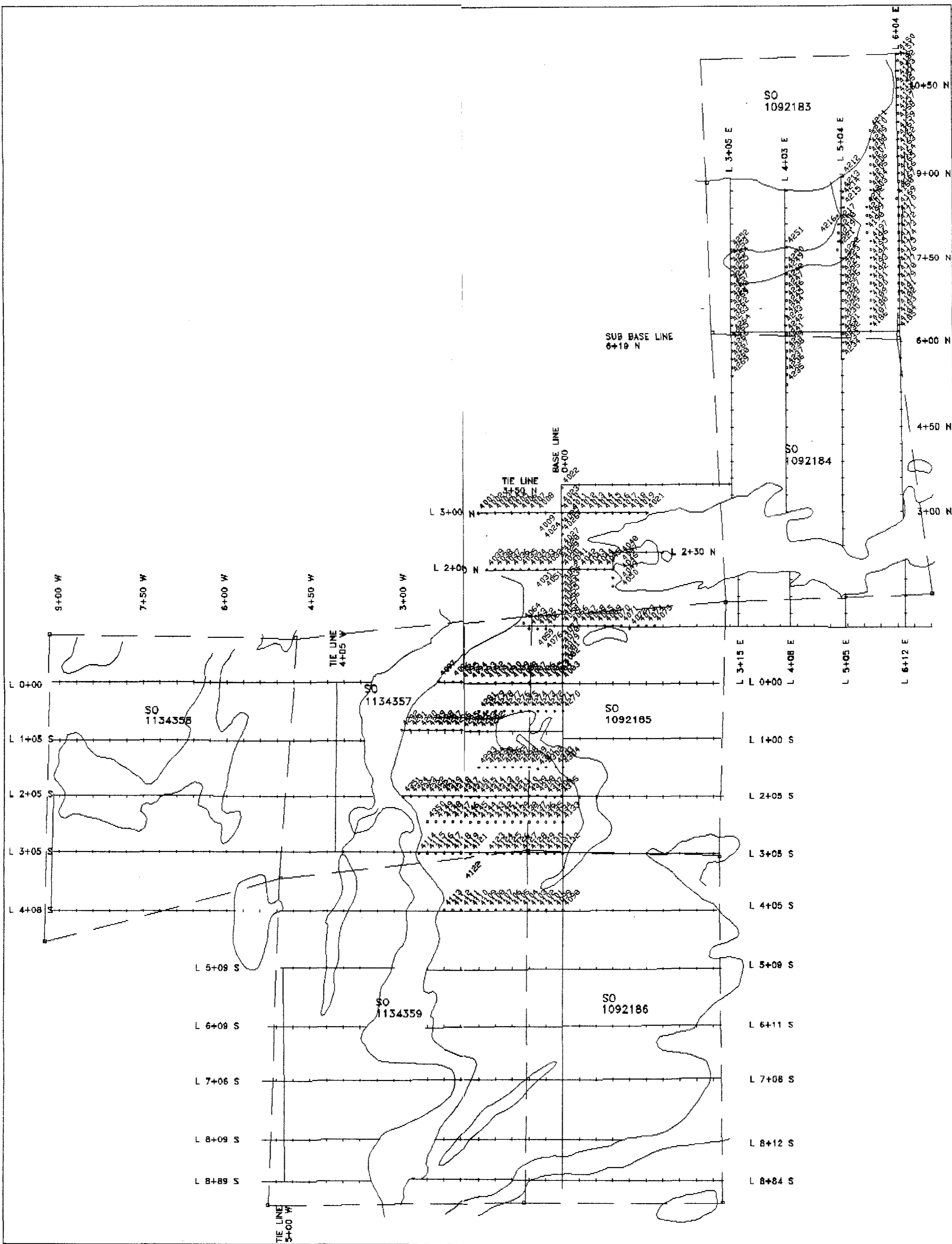
REVISED BY _____ DATE _____

BULLER LAKE PROPERTY

SOIL GEOCHEMICAL SURVEY
ZINC IN SOILS
PPM.

SCALE 1:5000

DWG Sheet 7



31C1350010 63.5929 CHANDOS



DRAWN BY	DATE
REVISD BY	DATE
SCALE 1:5000	
DWG Sheet 0	

BULLER LAKE PROPERTY
 SOIL GEOCHEMICAL SURVEY
 SAMPLE LOCATION