



52G15NW0007 2 15242 SIX MILE LAKE

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NORANDA EXPLORATION COMPANY, LIMITED
(no personal liability)

SUMMARY REPORT OF WORK - 1993

SIX MILE LAKE

N.T.S. 52G/14, 52G/15

NORTHWEST ONTARIO DISTRICT

2.15242

PROJECT NO. 1320
THUNDER BAY, ONTARIO
DECEMBER, 1993

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RECORDS
SECTION
DIVISION

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SUMMARY

The western half of the Six Mile Lake Volcanic Cycle represents a proximal VMS environment and the thickness of the Six Mile Lake Volcanic Cycle is equivalent to the South Sturgeon Lake volcanic cycle which hosts the former producing deposits at Mattabi, Sturgeon Lake and Lyon lake. However the Six Mile Lake region lacks untested strong AEM anomalies. Four areas of moderate VMS style alteration have been identified in a lithogeochemical sampling program. Two of them are 3-4 kms long and a weak IP anomaly coincident with the location of a weak AEM anomaly was detected in the Cobb Lake alteration zone. Some high angle lineaments or orthogonal fault structures which intersect these alteration zones are prospective exploration targets. In the absence of an EM anomaly to help vector drill site location along the favourably altered stratigraphy, more IP surveying is proposed to isolate weak mineralization proximal to ore at depth.

1.0 INTRODUCTION

The Six Mile Lake area is situated on the northern limb of a broad regional syncline in the Sturgeon Lake greenstone belt. Exploration work in 1992 on the staked properties had evidenced some encouraging geological and geochemical features in our search for VMS mineralization including:

- 1) Rocks of possible exhalite affinities within the Cobb Lake grid area.
- 2) Notable iron carbonate alteration in the rocks near the contact of the Six Mile Lake felsic unit with the overlying North Sturgeon Cycle Mafic Metavolcanic Group.
- 3) Sodid depletion in a number of samples of the felsic sequence.
- 4) Presence of felsic rock samples that plot within the favourable FII(b)-FIII fields on the Leshar Ternary diagram (90% of known VMS deposits in the Abitibi as well as the Mattabi and South Bay deposits in the Wabigoon and Uchi belts respectively occur in Group FII(b)-FIII Tholeiitic volcanics).
- 5) Several Cu-Zn soil anomalies in the Cobb Lake region; one cluster of zinc in soil anomalies roughly coincided with some weak AEM anomalies. Angular float of schistose and pyritic (2-10%) porphyritic/quartz eye felsic volcanic occurs 200 meters E-SE of the anomaly.
- 6) Presence of high level, sub-volcanic intrusions within 2-3 km of the top of the Six Mile Lake felsic pyroclastic unit.

Drill testing in the first 100 vertical meters of the strong AEM conductors in the region was done over twenty years ago. For the most part the geological record from this drilling is inadequate for identifying key VMS components such as marker horizons, alteration and distinct volcanic units important in interpreting former volcanic environments and depositional processes. Recent exploration in other mining camps such as Noranda and Matagami over the past 5 or 6 years has shown that a number of opportunities do exist in the lower 200-3000 meters. However, the target requires a high level of geological input, deep searching geophysical methods and longer drill holes.

Volcanic-associated massive sulphide deposits are related to mineralogically and chemically distinct alteration zones. It is generally accepted that these zones represent crosscutting, subconformable or conformable synvolcanic alteration features, which are coeval with and have been metamorphosed with the massive sulphides. Chemically these zones are usually characterized by loss of Na and Ca and addition of Fe, Mg, Cu and Zn. The zones of increased alteration intensity can be used as vectors leading to ore. In addition alteration zones associated with VMS deposits like Mattabi are very large, with strike lengths of several kilometers and depths of hundreds to thousands of meters. Recognition of these zones is clearly an important exploration guide. Although the geochemical attributes of the alteration pipes associated with Noranda-type deposits are generally predictable on the basis of their mineralogical composition, distinctive mineralogical zoning is not nearly as pronounced near Mattabi-type deposits. The latter formed in relatively shallow water and have a much more carbonate-rich, chlorite poor alteration assemblage. The carbonate-rich Na-depleted alteration is relatively diffuse or "unfocused" for 6 km along strike from the deposit but appears to be amenable to detection with the determination of chemical gains and losses through lithogeochemical studies.

During 1993, ground geophysical and lithogeochemical programs were continued in the Six Mile Lake area to help identify any alteration cells and/or untested geophysical anomalies diagnostic of potential VMS mineralization.

2.0 LOCATION AND ACCESS (Figures 1, 2)

The Six Mile Lake area is located in the Sturgeon Lake-Savant Lake region, NTS 52G/14 and 52G/15, approximately 215 km northwest of Thunder Bay, Ontario. The area is bounded by latitudes 50°05'N and 49°52'N and longitudes 91°08'W and 90°46'W. The community of Savant Lake is situated 40 km north; Highway 599 provides access from Ignace, Ontario, 80 km to the south. Logging and tourist camp roads referred to locally as the Six Mile Lake road, the Handcuff Lake road, the Cobb Bay road and the McLeod Lake road, in conjunction with local lakes, afford additional access to the Six Mile Lake properties.

3.0 PROPERTY DISPOSITION (Figure 2)

As of October 31, 1993, the Six Mile Lake project was comprised of five properties encompassing a total of 20 unpatented mining claims (249 claim units, 3984 hectares). These claims lie in the Penassi Lake and the Six Mile Lake areas - claim sheets G.2526 and G.2561. They were staked by Noranda Exploration which holds a 100% interest. The claims listed below can be found on Maps 1 and 2 at the end of this report.

CLAIM BLOCK	# OF CLAIM UNITS	AREA	RECORDING DATE
PA 1195525	15	Penassi Lake	04/22/92
PA 1195526	15	Penassi Lake	04/22/92
PA 1195527	16	Penassi Lake	05/04/92
PA 1195554	12	Six Mile Lake	04/27/92
PA 1195574	12	Six Mile Lake	04/22/92
PA 1195575	15	Penassi Lake	04/22/92
PA 1195577	16	Penassi Lake	04/22/92
PA 1195578	15	Penassi Lake	05/04/92
PA 1195579	16	Penassi Lake	05/04/92
PA 1195580	15	Penassi Lake	05/04/92
PA 1195581	16	Penassi Lake	05/04/92
PA 1195582	3	Penassi Lake	05/04/92
PA 1195584	15	Penassi Lake	05/04/92
PA 1195585	15	Penassi Lake	05/04/92
PA 1195802	3	Penassi Lake	08/19/92
PA 1195803	12	Six Mile Lake	08/19/92
PA 1195804	6	Six Mile Lake	08/19/92

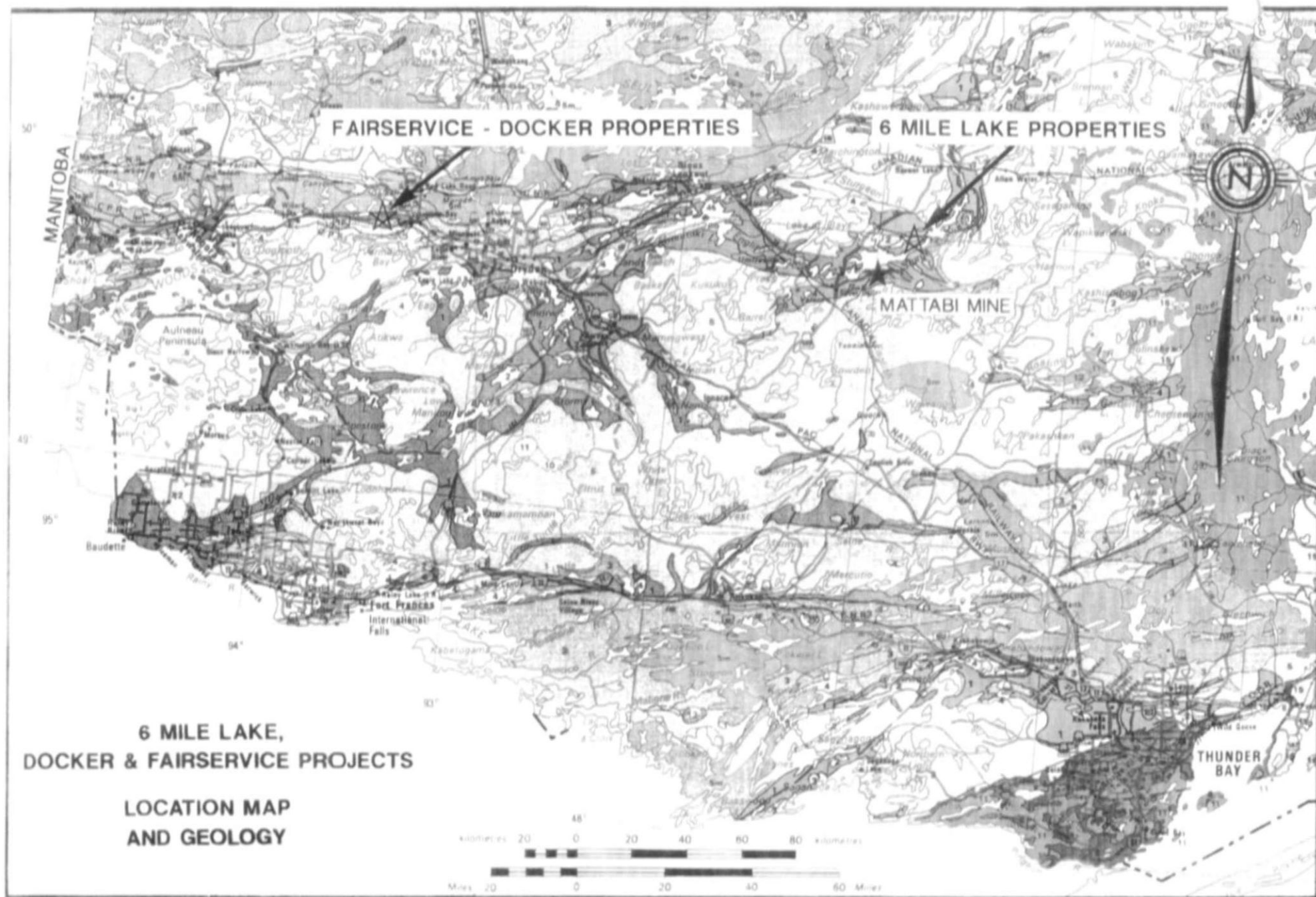
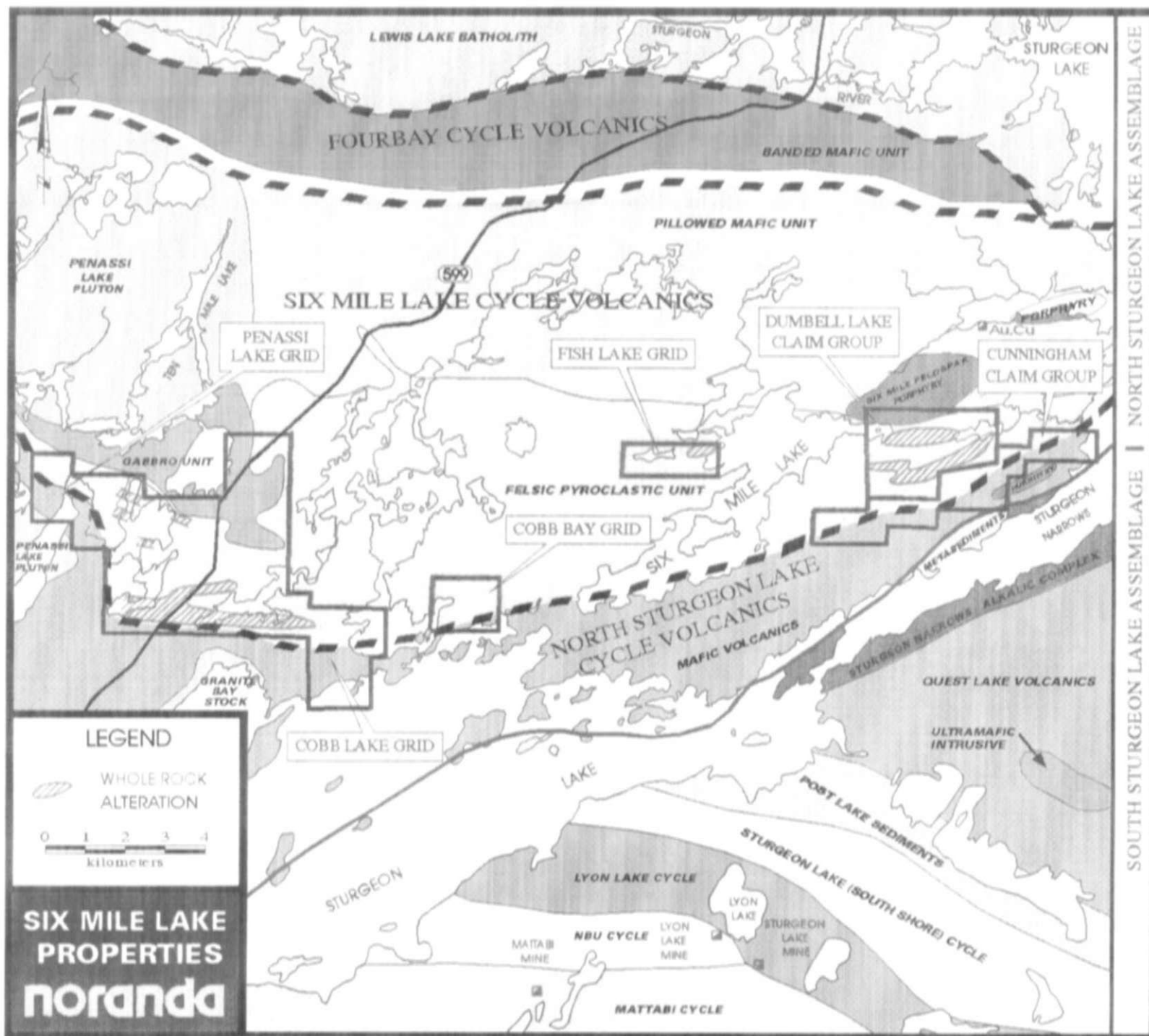


FIGURE 1



CLAIM BLOCK	# OF CLAIM UNITS	AREA	RECORDING DATE
PA 1195805	4	Six Mile Lake	08/19/92
PA 1195806	16	Six Mile Lake	08/19/92
PA 1195807	12	Six Mile Lake	08/19/92

4.0 PREVIOUS WORK

The Six Mile Lake area was previously mapped by Trowell (1974, 1976, 1983). Beggs (1975) completed a north-south traverse across the north limb stratigraphy as part of a thesis on the petrology and geochemistry of the Six Mile Lake area. The Ontario Geological Survey completed airborne magnetic and electromagnetic surveys for the entire Sturgeon Lake-Savant Lake area in 1990. Most recently, the central and eastern portions of the area have been geologically mapped by Don Robinson (OGS, 1992).

The Six Mile Lake area has undergone two major episodes of exploration activity. Discovery of Mattabi in 1969 sparked a wave of exploration for base metals in the late 1960's and early 1970's. Rio Tinto Exploration Ltd., Granges Ltd., Noranda Exploration, Conwest, Selco, as well as Mattagami Lake Mines Ltd. completed massive sulphide exploration programs with no success. Approximately 3 km west of Sturgeon Narrows, a massive pyritic sulphide lens up to 5m thick, hosted by the Six Mile Lake Cycle felsic pyroclastic unit that is capped by a Fe-carbonate alteration zone was geologically mapped in 1973 by Santa Maria Mines Ltd. IP later traced this zone for 1200 meters strike length. However, drilling of this zone as recently as 1985 yielded only trace amounts of base and precious metals. The second period of exploration activity centered around the "rediscovery" of gold in the early 1980's at King Bay. Several drilling campaigns by companies such as Steep Rock Resources, Hudson Bay Exploration, Falconbridge Ltd., Almanden Resources, Abermin Corp., W.G. Wahl Ltd., and Primrose Gold have subsequently tested the occurrence and surrounding area. Gold values over narrow and irregular quartz vein widths were intersected in drilling programs.

Geological data inventory folios have been completed for the Fourbay Lake, Six Mile Lake and Penassi Lake areas (OGS, 1986, 1987 and 1989), summarizing the previous exploration for the area. The following is a brief summary of previous exploration on each of the Six Mile Lake properties which are covered by this report. The reader should refer to Figure 2 and Map 3 for property locations and previous drill holes and geophysical anomalies.

(I) Penassi Lake Grid Area

1969-70: Mattagami staked 16 claims over AEM Anomaly H; anomaly had coincident airborne EM and Mag; follow-up Crone JEM and fluxgate mag in 1970 outlined 3 strong, narrow conductors with magnetic coincidence; a Radem survey later in 1970 outlined three more areas of weak, non-magnetic conductivity; drilled two holes; intersected .7 meters of 0.2% Zn in graphitic tuff in one hole and andesite - no assays - in second hole; remaining four conductors have never been tested.

- 1970-71:** Labow, L.F., staked 10 claims between Graystone and Cobb Lakes, bordered on the west by Highway 599 (Daering Explorers Option) and 15 claims immediately east of Daering property (Win-Eldrich Mines); completed ground mag, radem VLF surveys and geologic mapping; delineated 4 conductive zones on Daering property and 2 discontinuous conductive zones without mag anomalies on Win-Eldrich Mines property; drilled 7 holes totalling 918 meters testing conductors, intersected felsic volcanics, no economic mineralization.
- 1971-72:** Imperial Oil Limited staked 100 claims in McKee Lake area; carried out geological mapping; HLEM and mag surveys, picked up 3 conductors; drilled 3 holes totalling 288m testing all 3 conductors, one hole tested the southern extension of Matagami conductor 8-1 and intersected 0.6 meters of 0.06% Cu and 0.10% Zn in a siliceous tuff.
- 1992:** Norex carried out linecutting, geology, HLEM, Mag, soil and lithogeochemical surveys; HLEM and Mag surveys delineated a shallow conductor up to 30m thick, geological mapping identified the conductive horizon as a barren graphitic sulphide iron formation.

(II) Cobb Lake Grid Area

- 1970-72:** Scandia Mining and Exploration staked 26 claims in the Cobb Lake - Granite Bay area; completed ground mag and HLEM, no EM conductors; optioned by Noranda Exploration in 1972; carried out CEM and VLEM surveys, found 3 weak CEM anomalies; also completed soil geochem survey, found 5 zones of coincident zinc and copper concentrations. Weak conductors were never drilled.
- 1970:** Mattagami Lake Mines Limited staked 9 claims (Group 9) on north shore of Sturgeon Lake immediately south of Cobb Bay; carried out ground mag and JEM. 2 conductive zones delineated. 2 drill holes totalling 415 meters encountered no economic mineralization.
- 1973:** Granges carried out EM-17 on 269 claims east of Cobb Lake and Granite Bay.
- 1992:** Norex carried out a small amount of linecutting, HLEM and Mag, geology, rock and soil geochemical surveys; a weak conductor was delineated in the southwest end of the property; chlorite, sericite and carbonate schists mark zones of alteration within the felsic rocks; chert/exhalite textures have been identified in the southeastern region of Cobb Lake, limited petrochemical data suggests hydrothermal alteration patterns related to VMS type mineralization; several zones of Cu, Zn in soil enrichment exhibited.

(III) Cobb Bay Grid Area

- 1971:** Spooner Mines and Oils Ltd. staked 484 claims within southern portion of Cobb Lake and Cobb Bay, Byline Lake and south over Sturgeon Lake; completed airborne Mag and EM surveys.
- 1972:** Granges Exploration Ltd. optioned Spooner claims; completed 5 drill holes over northern portion of Sturgeon Lake and south of Cobb Bay. No economic mineralization encountered; in hole SPO-14 just south of Cobb Bay, intersected graphite and chert beds carrying 2-5% disseminated pyrite within rhyolitic to dacitic lapillistone.
- 1992:** Norex completed some linecutting, geology, rock and soil geochemical surveys; some weak zinc in soil enrichment was exhibited in an area underlain by quartz-carbonate-sericite schists along strike with weak AEM anomalies to the west.

(IV) Fish Lake Grid Area

- 1971-72:** Dome Exploration Ltd. staked 33 claims north of Six Mile Lake and east of Saunders Lake; completed airborne mag, flat except for SE corner near Fish Lake; carried out ground mag and EM, many narrow mag anomalies delineated, no conductors.
- 1970-72:** Rio Tinto Canadian Exploration Ltd. held 161 claims from Byline Lake to northwestern portion of Six Mile Lake (Byline, Hydra and Pamike properties); conducted soil geochem, ground mag, TURAM EM and geological mapping; delineated a 400 meter thick rhyolite flow breccia in a thick sequence of felsic pyroclastics; minor Zn and Cu mineralization was reported associated with rhyolite flow breccia unit; four copper occurrences and one zinc occurrence were reported, two of them occur with Turam conductors and were drilled with 4 holes, no economic mineralization was intersected; a grab sample south of Fish Lake ran 0.51% Zn and was never drilled.
- 1992:** Norex carried out some linecutting, geology, rock and soil geochemical surveys; localized zones of intense sericite $\pm$ carbonate $\pm$ chlorite alteration were exhibited along strike with weak AEM anomalies.

(V) Dumbell Lake Claim Group Area

- 1970:** Ross Kidd staked 20 claims east of Six Mile Lake, carried out airborne mag and EM, no anomalies.
- 1970-71:** Bordun Mining (Quebec) Ltd. staked 16 claims NE of Six Mile Lake; completed ground mag and EM-16 and SE-200, delineated 3 narrow mag anomalies within mafic flows, no SE-200 anomalies, several EM-16 conductors.
- 1970:** Rio Tinto Canadian Exploration Ltd. held the Amalgamated Beau Belle Option claim group east of Six Mile Lake; completed ground mag and EM, geology and 2 drill holes totalling 276 meters testing a Turam conductor in mafic intrusives, no economic mineralization was encountered.
- 1971:** Dome Exploration held 15 claims east of Six Mile lake, carried out ground mag and EM.
- 1970-71:** Conwest held claims on the Dumbell Lake - King Bay area; completed geology, airborne mag and EM.
- 1992:** Norex staked 5 claim blocks north of the Cunningham option claim group; no work was done.

5.0 PERSONNEL

Geologic, prospecting and lithosampling surveys were carried out by R. Felix, M. Stares and S. Stares, Mike MacIsaac, Sean McCaan, Greg Collins, Chris Geren and Mark Jamieson all employees of Noranda Exploration Company, Limited. Linecutting was contracted to Stares Contracting Ltd. of Thunder Bay, Ontario. A review of AEM/AMAG survey tapes from the 1969 Questor Input Survey for Mattagami Lake Mines was completed by Greg Hodges, District Geophysicist, Northwest Ontario. Ground geophysics was carried out by Rod Swire, Jonathan MacIsaac, Dave Maclean, George Doucet and Calvin Sedleski. Lithogeochemical plots were provided by the author and Greg Hodges. All programs were supervised by the author, John Sullivan - District Geologist, Northwest Ontario and Greg Hodges.

6.0 REGIONAL GEOLOGY (Figure 2)

The regional geology has been described by Trowell (1974, 1976, 1983) and Robinson (1992). The area occurs within the western region of the Wabigoon Subprovince and is underlain by an Archean supracrustal succession. The Six Mile Lake area is situated on the northern limb of a broad regional syncline in the Sturgeon Lake greenstone belt; the south limb (South Sturgeon Lake Assemblage) is host to all base metal deposits found as yet, including the former producing (VMS) Zn-Cu-Pb-Ag deposits at Mattabi, Sturgeon Lake and Lyon Lake. OGS mapping indicates that the geology of the Six Mile Lake area consists of south-facing, homoclinal sequence of two mafic to felsic volcanic cycles overlain by a third mafic volcanic cycle (Map 3). The lower 1900 meter mafic to felsic cycle is referred to as the Fourbay Cycle. The overlying 6,000-10,000 meter mafic to felsic cycle is referred to as the Six Mile Lake Cycle and the uppermost 1,500-2,000 meter mafic cycle with thin (<100m) discontinuous felsic volcanic lenses is the North Sturgeon Cycle. The thickness of the entire South Sturgeon Lake volcanic pile is equivalent to the second volcanic cycle - the Six Mile Lake Cycle. Robinson (1992) suggested that the western half of the second volcanic cycle's felsic pyroclastic unit represents a more proximal VMS environment. Mafic dykes, sills and sheets as well as quartz feldspar porphyry and feldspar porphyry dikes and sills are characteristically numerous throughout the Six Mile Lake Cycle. Two feldspar porphyry stocks, up to 1500m by 5000m, occur at and near the stratigraphic top of the second mafic cycle near King Bay and Six Mile Lake. The volcanic succession is bounded to the north by the Lewis Lake Batholith, to the west by the Penassi Lake Pluton and to the south by clastic sedimentary rocks of the Sturgeon Narrows Group. The sedimentary rocks face north and are in disconformable contact with the North Sturgeon Lake Volcanic Assemblage. The sedimentary rocks have been subsequently intruded by the Sturgeon Narrows Alkaline Syenite complex. All supracrustal rocks have been metamorphosed under greenschist and locally almandine-amphibolite facies conditions.

7.0 1993 PROGRAMS

Early in 1993, the survey tapes from the 1969 Questor Input Survey for Mattagami Lake Mines which covered the Six Mile Lake properties were examined for untested anomalies. None were found. Any potential ore mineralization is assumed to be at depth (>200 meters). Most of the deep search ground geophysical tools are suspect for this type of exploration and probably wouldn't be effective unless they were set upon a known conductive horizon. The best scenario that can be aspired to at this stage at Six Mile is that shallow weak mineralization is proximal to ore at depth. Consequently, efforts were made to outline stratigraphic targets.

7.1 Gridding

7.1.1 Cobb Lake Property (Map 3)

In 1992, gridding and ground geophysics had been limited to a selected area on the Cobb Lake property (L8+00W to L4+00E). In order to extend ground geophysical coverage to further test the extent and strength of the soil geochem anomalies and some weak AEM anomalies, approximately 20 km of line were cut at 200 meter line spacings between L18+00W to L22+00E. Previous control gridding was at 1 km line spacing except for the section between 8W to 4E. All lines were also cut to 10+00N from last year's northing of 7+00N.

7.1.2 Dumbell Lake Property (Map 4)

Three lines were cut to facilitate IP surveying on the property. Two of the lines (8+00W, 0E) were extensions to the north of the grid cut on the Cunningham property to the south. A total of 3 km of new lines was cut.

7.2 Lithogeochemistry

The purpose of the lithogeochemical sampling was to identify major element and trace element enrichment/depletion trends typical of hydrothermal alteration associated with volcanic massive sulphide deposits, summarized below:

Table 1
Characteristics of Alteration Associated with VMS Deposits

DEPOSIT TYPE	ALTERATION TYPE		CHEMICAL CHARACTERISTICS	EXAMPLES
Cu-Zn	pipe	core	Enriched in Mg, Fe, S, Cu. Depleted in Na, Ca, Sr, Si with local Na enrichment in central zones. Excess alumina.	Hillbach (Riveria & Hodgson, 1980).
		margin	Enriched in K ₂ O Fe. Depleted in Na, Ca, Sr. Sulphide development variable. Aluminous.	
	lower conformable		Enriched in SiO ₂ , Na ₂ O, depleted in MgO, Fe; possibly depleted in base metals.	Noranda area (Gibson, 1979). Matagami area (MacGeehan and MacLean, 1980).
Zn-Cu (Pb)	pipe		Enriched in SiO ₂ , Fe, (S), Hn; depleted in Na ₂ O, MgO, CaO, Sr.	Sturgeon Lake area (Franklin et al., 1975).
	lower conformable zone		Na depleted, Sr depleted, CO ₂ enriched.	Sturgeon Lake area (Franklin et al., 1975).
Zn-Pb-Cu	pipe		Core is Na, Ca depleted; Si, Fe, K, Cu enriched. Chlorite zone is also Na, Ca depleted. Mg, Fe enriched. Outer zones may be Na-enriched (spilitized).	Kuroko (Shirozu, 1974 Iijima, 1974, Izawa et al., 1978).
	outer zone		Na, Mg, K enriched? Little data available.	Kuroko (Iijima, 1974) Woodlawn, Australia (Petersen and Lambert, 1979). New Brunswick (Seif, 1980).

A total of 233 samples was collected along 200 meter lines across each of the Six Mile Lake Properties. With the exception of the Cobb Lake grid, most traversing was done along flag and compass lines. The samples were submitted to Chemex Labs of Thunder Bay for whole rock and zinc

determinations. Sample locations are plotted on Maps 3 and 4. Sample descriptions and geochemical analyses are appended.

7.3 Geophysics

There were two periods of ground geophysics during 1993.

1) Gradient Induced Polarization and ground magnetometer surveys were carried out in January over soil geochem and weak AEM anomalies near sulphide occurrences on the Cobb Lake property. A total of 8.2 km of gradient IP and 20.6 km of ground mag was done between L 18+00W and Line 22+00E; L8+00W was also run with pole-dipole array IP for a total of 1 km.

2) Selected lines of pole-dipole IP and magnetometer surveying were conducted in September-October over areas on the Cobb Lake and Dumbell Lake properties. These areas had been highlighted from the lithogeochemical sampling program. The objective was to delineate chargeability anomalies associated with disseminated sulphide mineralization within a region of VMS-style altered felsic pyroclastics.

Lines 800W, 0E and 1300E were surveyed on the Dumbell Lake property and lines 600W and 2200E were surveyed on the Cobb Lake property for a total of 5.7 km.

Data is plotted on Maps 5 to 16 and on Figure 5.

Instrumentation

Magnetics

A magnetic survey measures alterations in the earth's naturally occurring magnetic field caused by changes in the magnetization of the rocks in the earth. These changes are due mainly to the presence of the magnetic minerals: magnetite and to a lesser extent pyrrhotite and ilmenite. Mapping these minerals can be an aid to geologic mapping.

The magnetic data were collected with a proton precession magnetometer, which measures the absolute value of the total magnetic field of the earth to an accuracy of ± 0.1 nTesla. Readings are normally taken at 12.5m intervals. Correction for diurnal drift was by reference to a base station magnetometer.

The magnetometer used was a Scintrex MP3.

Induced Polarization

Induced polarization (IP) and resistivity exploration methods are used to measure the electrical characteristics of the local geology.

An electric voltage is applied to the earth in the form of an on-off-on-negative-off wave. The voltage measured while the current is on is used to calculate the resistivity (resistance to electric current), and the decaying voltage during the off time measures the amount of electric charge that the earth can hold.

This charge is held by metallic minerals and also by clay-like minerals.

Because IP responds to effects on small metallic particles, it is particularly useful for detecting disseminated metallic minerals.

The first IP/Resistivity survey was undertaken on the Cobb Lake property by a Noranda crew utilizing gradient array with a 50m dipole. A 2.5 kw Phoenix generator and transmitter (IPT-1B) were used with the ELREC-6 time domain receiver.

The IP survey that was conducted on the Dumbell and Cobb Lake properties in September-October utilized a pole-dipole array with a dipole length of 50m and array spacings of $n = 1$ to 6 ipoles. This array uses a single transmitter electrode on the grid and a series of pairs of receiver electrodes spaced at each 'n' interval. The other current electrode is situated 1 kilometer or more from the grid.

The parameters measured at each station were current (I), electrode potential (V) and chargeability (M). The apparent resistivities (R) were calculated from the measured currents and potentials such that $R = KV/I$ where K is a geometric factor related to the geometry of the array. The measured chargeability is a function of the polarizability of the ground and is expressed in MV/V.

The receiver used was the ELREC = 6 time domain receiver. The transmitter used was a Phoenix IPT-1 3.0 kw system with a two second on-time.

8.0 DISCUSSION OF RESULTS

Results of the gradient IP surveying on the west end of the Cobb Lake grid were inconclusive. Limited geological recce work on the IP anomalies found in January 1993 and on the 1992 soil anomalies did not explain or qualify the anomalies. Results of the lithogeochemical sampling indicated that weak to moderate alteration is highlighted in four regions on the Six Mile Lake properties. They are:

- 1) Cobb Lake grid
- 2) Dumbell Lake property
- 3) Cobb Lake Road-McKee Lake Region
- 4) Fish Lake grid

Alteration on the latter two regions is discontinuous and spotty; more ground truthing is required prior to undertaking IP surveying. Results to date on the Cobb Lake and Dumbell Lake properties are more encouraging and are discussed below.

8.1 Lithogeochemistry

In order to map alteration and use it as a guide to deep drilling, the application of chemical alteration indices was used to measure alteration intensity. Two indices, Ishikawa and ACNK, which are relatively insensitive to primary igneous variation, proved to be encouraging and helped to prioritize areas for continued exploration. The following table outlines the various ranges of alteration intensity used for the Six Mile Lake properties.

TABLE 2
General relationship between alteration intensity and alteration indices.

INTENSITY OF ALTERATION	ISHIKAWA	ACNK
Nil	30 to 50	<1.2
Weak	60 to 70	1.2 to 2.0
Moderate	70 to 80	2.0 to 3.0
Strong	80 to 90	3.0 to 4.0
Intense	>90	>4.0

**TABLE 3
ALTERED ROCK SAMPLES - COBB LAKE GRID**

SAMPLE #	LOCATION	SiO₂	K₂O	Na₂O	ISH	ACNK	Zn
1318-H	6W/3 + 20N	77.16	3.98	1.46	74	1.82	
1208-D	8 + 00W/1 + 25N	78.18	5.09	1.31	73	3.74	9
1211-H	14W/3 + 00N	79.31	3.69	1.31	67	3.30	17
1208-C	5 + 00E/2 + 30N	74.65	3.99	2.07	66	3.53	5
303-F	25 + 00E/3 + 20N	69.40	5.47	1.00	65	2.63	68
1208-A	4 + 00E/0 + 75N	79.17	3.93	2.36	62	2.63	10
029-O	4 + 00E/1 + 25N	79.52	3.44	0.27	60	1.28	18
1318-I	4 + 25W/5 + 00N	78.15	4.36	2.29	60	1.18	
1208-P	16 + 00E/4 + 00N	75.19	4.21	2.45	60	2.26	21
192-L	19 + 00E/	77.48	3.62	2.58	58	1.39	
1307-E	32E/5 + 25S	83.4	2.14	0.97	58	1.4	
1208-T	18 + 00E/4 + 00N	70.20	4.69	3.74	57	2.54	24
1307-H	22E/3 + 25N	79.68	3.86	2.69	57	1.2	
1311-E	22E/2 + 60N	73.89	2.66	1.86	56	1.77	
1318-C	8W/1 + 60S	77.63	4.04	3.74	51	1.08	
1211-E	4 + 00W/3 + 25N	64.46	3.46	7.29	29	1.23	17

**TABLE 4
ALTERED ROCK SAMPLES - DUMBELL LAKE**

SAMPLE #	LOCATION	SiO₂	K₂O	Na₂O	ISH	ACNK	Zn
302-J	7 + 00W/11 + 50N	68.59	4.46	0.26	71	4.03	31
302-C	0 + 50W/6 + 00N	73.44	4.07	0.2	69	3.97	17
1211-A	21 + 50E/9 + 00N	77.24	2.77	2.57	53	2.44	27
273719	10 + 50E/6 + 50N	69.00	3.20	.48	66		
191-I	0E/4 + 50N	72.38	3.22	0.22	51		
1210-U	18 + 00E/8 + 00N	72.34	3.21	1.98	58		15
1211-B	25 + 00E/10 + 00N	49.39	2.17	2.31	50	1.31	84
191-G	1 + 00E/7 + 50N	70.56	2.10	1.94	51		
191-F	4 + 00E/17 + 00N	72.35	1.58	1.45	57		
304-L	11 + 50E/14 + 00N	54.60	0.96	2.23	50		100
304-P	13 + 00E/9 + 00N	61.77	2.89	2.64	57	2.85	108

SAMPLE #	LOCATION	SiO ₂	K2O	Na ₂ O	ISH	ACNK	Zn
1781-E	13+00W/18+00N	60.47	0.78	4.59	22	.86	72
302-I	6+00W/12+00N	67.28	0.46	6.42	24	1.11	53
1210-I	7+50W/22+00N	68.97	0.20	3.66	8.14	1.05	35
1210-K	4+00W/18+00N	72.06	1.07	6.56	19	1.42	12
1210-L	5+00W/16+00N	70.34	0.42	6.76	17	1.22	
1210-M	5+50W/14+50N	70.83	0.28	7.56	19	1.15	

TABLE 5
ALTERED ROCK SAMPLES - COBB BAY RD-McKEE LAKE REGION

SAMPLE #	LOCATION	SiO ₂	K2O	Na ₂ O	ISH	ACNK	Zn
303-R (felsic)	Cobb Bay Rd.	60.45	4.12	1.56	62	2.84	62
304-C (mafic)	Cobb Bay Rd.	58.3	1.22	1.35	63	3.16	105
1395-D (felsic)	McKee Lake	73.94	3.33	0.47	52	1.98	190
1395-J (felsic)	McKee Lake	66.83	3.24	1.17	58	2.16	240
1395-M (felsic)	McKee Lake	77.87	2.62	2.17	54	2.73	19
304-T (felsic)	McKee Lake	68.89	3.89	2.52	57	3.07	27
1395-C (felsic)	McKee Lake	59.86	0.43	3.61	23	0.91	470
1395-O (felsic)	McKee Lake	63.17	0.11	4.78	22	0.87	86
303-M (felsic)	South Graystone Lake	69.2	1.23	5.66	23	1.27	51
303-O	South Graystone Lake	69.08	0.93	5.31	22	1.25	39
303-P	South Graystone Lake	69.15	0.60	5.18	20	1.28	36
303-U	South Graystone Lake	67.97	.06	7.85	16	1.04	61
303-V	South Graystone Lake	69.04	.13	7.69	14	1.03	63
304-W	Handcuff Lake	73.15	1.10	3.87	23	1.03	34
1209-E	Handcuff Lake	66.13	1.41	4.97	18	.97	27

TABLE 6
ALTERED ROCK SAMPLES - FISH LAKE GRID

SAMPLE #	LOCATION	SiO ₂	K2O	Na ₂ O	ISH	ACKK	Zn
1779-G ✓	0/5+25N	64.69	3.32	0.44	82	5.22	48
1778-B (QFP) ✓	18W/1+68N	69.44	1.18	6.70	17	1.22	10
301-A ✓	8W/1+47N	74.99	1.17	4.86	24	1.24	16

• ISH - Ishikawa Alteration Index

$$= \frac{\text{Mgo} + \text{K2O}}{\text{Mgo} + \text{K2O} + \text{Na}_2\text{O} + \text{CaO}} \times 100$$

$$\text{ACNK} = \frac{(\text{Al}_2\text{O}_3/102)}{(\text{CaO}/56) + (\text{Na}_2\text{O}/62) + (\text{K2O}/94)}$$

Zn = Zinc (ppm)

8.1.1 Cobb Lake Property (Figure 3)

The best target region based on whole rock alteration and soil geochemistry is the 4 km long zone within the high silica (>75% SiO₂) felsic pyroclastics near the top of the Six Mile Lake Cycle volcanics between L18+00W to L22+00E. The felsics from the region also typically fall within prime exploration target fields (Leshier FII (b) or F(III) on ternary plots of trace element geochemistry (see Summary Report of Work 1992, Six Mile Lake Property). Samples from the altered zone are enriched in K₂O and depleted in Na₂O, exhibit Ishikawa indices as high as 74 and some ACNK indices >2.00. The sample with the best combination of chemical indices (sample 1208-D) is located immediately south of weak AEM responses under the waters of Cobb Lake.

8.1.2 Dumbell Lake Property (Figure 4)

There appear to be two zones of whole rock alteration straddling a TURAM geophysical anomaly which Rio tested with two holes in 1971. Rio intersected mainly diorite intrusive with lesser felsic tuffs and reported a best assay of 0.02% Cu over 3.8 feet. The southern altered zone is longer (≥3 km strike length) and lies down stratigraphy from the Cunningham Fe carbonate zone. There also appears to be a zone of Na₂O enrichment off to the WNW from the K₂O enriched - Na₂O depleted altered felsics.

8.2 Geophysics

8.2.1 Cobb Lake Property

The west end of the Cobb Lake grid that was surveyed with gradient IP (from 1800W to 200W) detected moderate to strong chargeability anomalies just north of the baseline on lines 18W to 14W and 6W to 2W (the limits of the survey). A chargeability anomaly was also detected at 550N-575N on 4W and 2W.

The resistivity anomalies detected by the gradient survey are probably mapping the overburden thickness. They are not uniformly coincident with the chargeability anomalies (indicating that the chargeability anomalies are not caused solely by proximity to bedrock). The major chargeability anomalies lie on the north edge of resistivity anomalies, suggesting that the anomalies may be associated with the structure which causes the bedrock to rise.

The previous magnetic survey shows a strong east-west anomaly at 125N which is non-conductive. It may represent a mafic to ultramafic body. A new survey was completed with the IP. Additional east-west anomalies occur between 300N and 500N, and at 650N on L1000E.

Northeast trending mag lows and/or breaks in the strong east-west anomalies may be interpreted as high angle lineaments or orthogonal fault structures (Figure 5). The three lines that were surveyed on the Cobb Lake grid using a pole-dipole array detected a strong anomaly on 600W and 800W at about 0N, with indications of another south of the coverage at about 150S. An indistinct anomaly was also detected deep at around 500N on L600W.

Line 2200E was surveyed across the east end of Cobb Lake, and much of the line crossed open water. There is a strong anomaly on the south end of the line from 100S to the south.

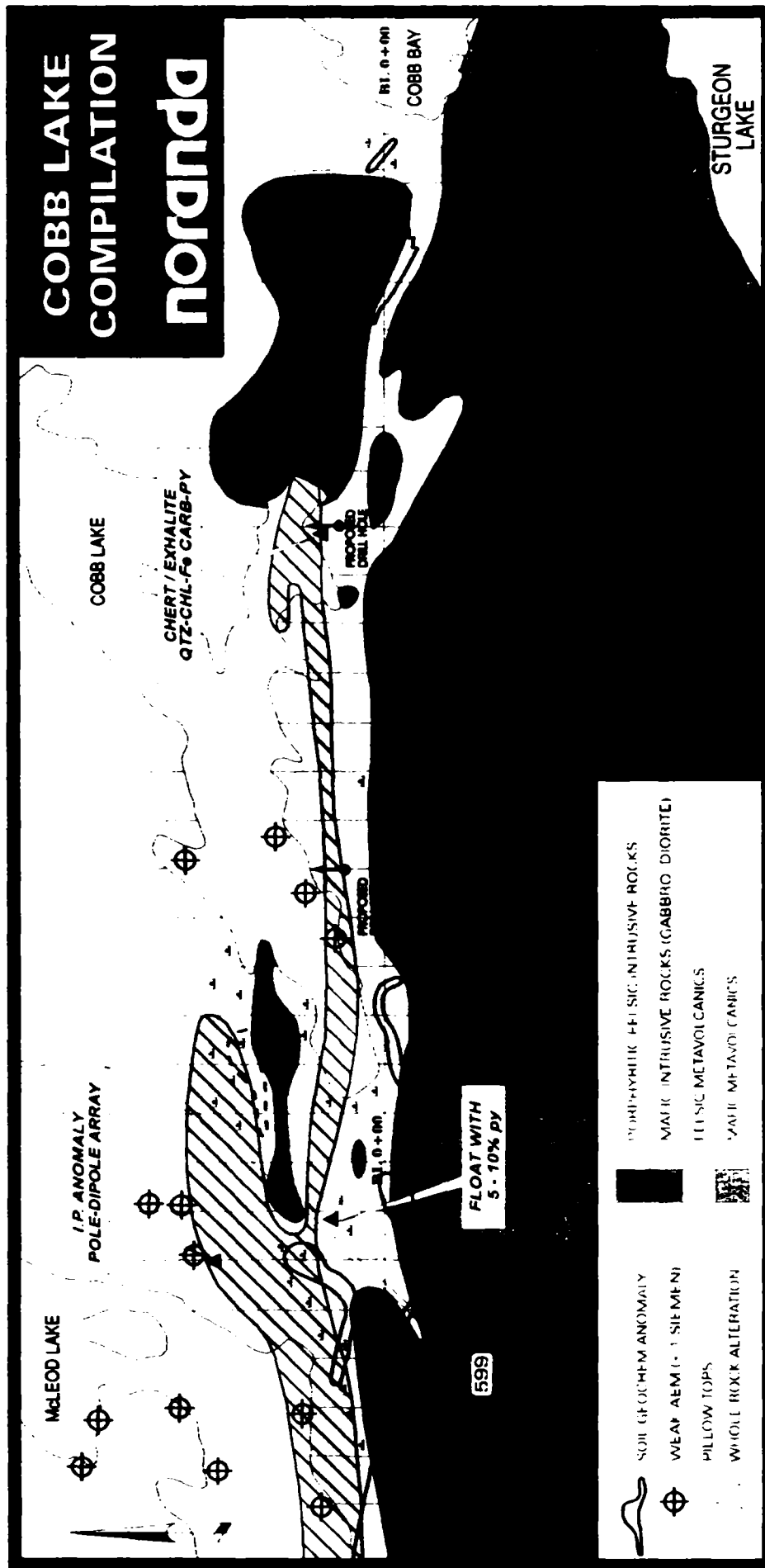
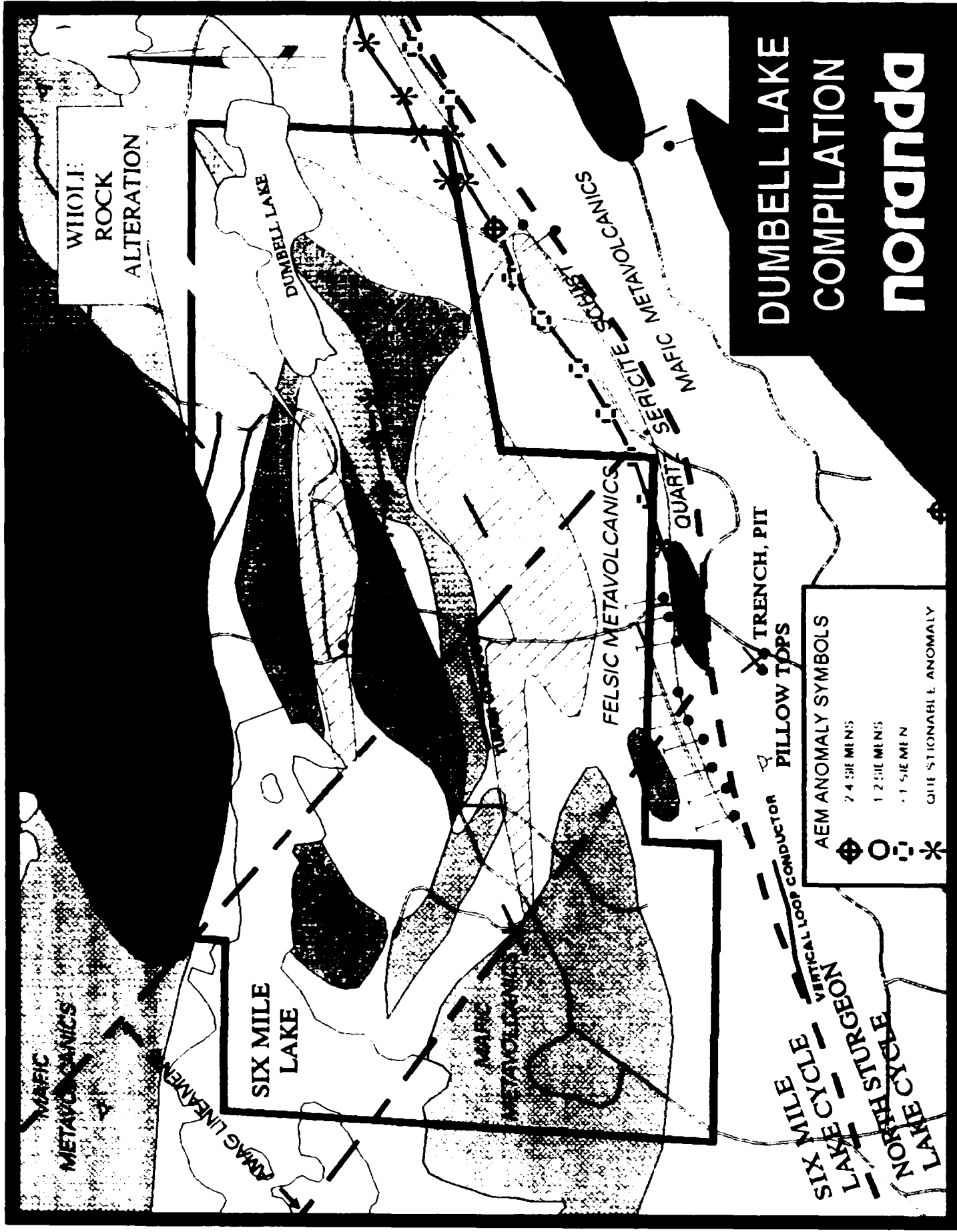


FIGURE 3



DUMBELL LAKE COMPILATION noranda

FIGURE 4

Line 800E which crosses over the most intense section of the alteration zone and the accompanying weak HEM anomalies under Cobb Lake was not surveyed because of the wide expanse between the shores of Cobb Lake; winter ice conditions are needed.

8.2.2 Dumbell Lake Property

On the Dumbell Lake property the only significant anomalies were at 100S on 0E, and 150N on 800W. Both of these are at the extreme south end of the surveyed lines, off of the Dumbell Lake properties. Because they were off of the properties, the crew did not extend the lines to complete coverage of the anomalies. These anomalies were evaluated in 1992 and no further work was recommended. They were interpreted as point source anomalies with no potential for economic significance (see Report of Work - 1992, Cunningham Option Property).

9.0 CONCLUSIONS AND RECOMMENDATIONS

Exploration efforts in 1993 were focused on developing drill targets within the second volcanic cycle - the Six Mile Lake Cycle - on the Norex staked properties of the Six Mile Lake region. However, the target stratigraphy lacks untested AEM anomalies. Lithogeochemical and IP surveying programs were applied as a 'vector' approach in the search for deep massive sulphides.

Weak to moderate VMS-style whole rock alteration is suggested in four sectors of the target stratigraphy. Two of them, the Cobb Lake and Dumbell Lake zones are 3-4 kms long. No anomalies were found on three lines of IP surveying across the Dumbell Lake zone. IP surveying across the Cobb Lake zone detected strong anomalies at about 0N and 150S on lines 600W and 800W, and from 150S to the south on L2200E. Each of these anomalies is underlain by mafic metavolcanics of the third volcanic cycle-the North Sturgeon Volcanic Cycle and hence do not warrant further testing. An indistinct anomaly was also detected deep at around 500N on L600W. This anomaly is proximal to a cluster of zinc in soil anomalies and is also 'up-ice' about 200 meters from angular float of schistose and pyritic quartz eye felsic volcanics.

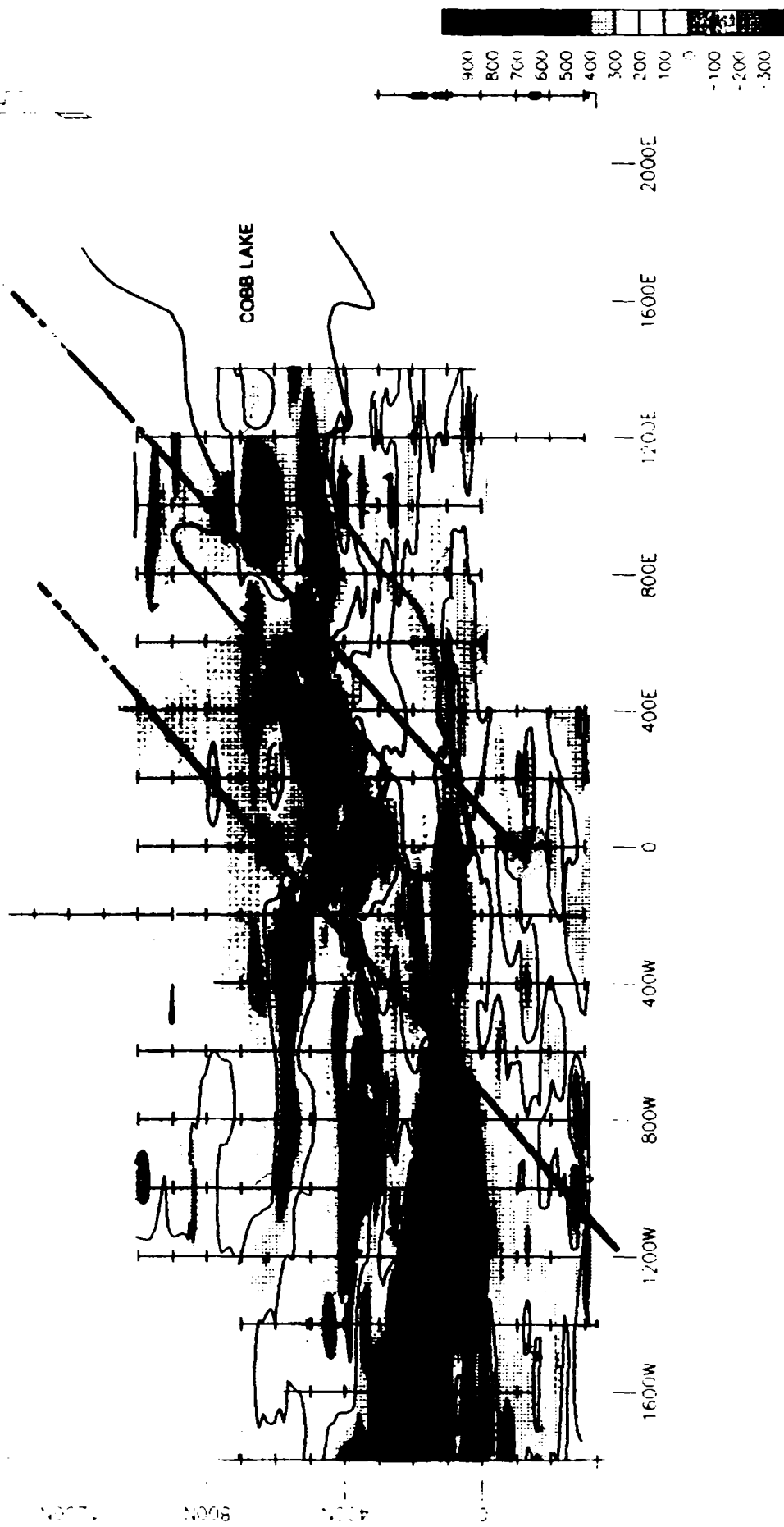
More detail sampling and lithogeochemistry is proposed to further evaluate the Cobb Bay - McKee Lake region. IP surveying should continue to test for deep sparsely mineralized targets on the Cobb Lake alteration zone, e.g. L800E and L1000E. Stratigraphic drill testing with DHPEM surveying is proposed on IP targets developed in the favourable stratigraphy, e.g. L600W/500N).

It is recommended that the integration of lithogeochemistry with geology, geophysics and a generalized VMS model be continued to outline stratigraphic targets and guide deep drilling to target depths ≥ 200 meters.

A proposed budget is as follows:

Phase I

Linecutting	7 km x \$400/km	\$ 2,800	
Mag	8 km x \$125/km	1,000	
IP	10 km x \$1500/km	15,000	
Geology	10 days x \$350/day	3,500	
Rocks	240 rocks x \$25/sample	<u>6,000</u>	
			\$ 28,300



Instrument: Dens. IV
Contour Interval: 200, 1000m

COBB LAKE

MAGNETIC SURVEY

TOTAL FIELD

PROJECT: SIX MILE
BASELINE AZIMUTH: 90 deg

DATE: Oct 93

NIS

SURVEY BY: NWG
FILE: m1320co

noranda

Exploration Company, Ltd.



FIGURE 5

Phase II

Diamond drilling (2 holes)	700m x \$75/m	\$52,500	
Downhole EM	2 holes x \$2000/hole	4,000	
Assaying/core splitting	100 s x \$25/sample	2,500	
Engineering	20 days x \$350/day	7,000	
Services		<u>5,700</u>	
			<u>\$ 71,700</u>
	TOTAL		\$100,000

Respectfully submitted,

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)



Reg Felix
Sr. Project Geologist
Northwest Ontario District

Thunder Bay, Ontario
December, 1993

APPENDIX I

Lithosample Descriptions and Analyses

LAB CHIEF

NORANDA EXPLORATION COMPANY, LIMITED
PROJECT NO 1320 **PROPERTY S.Y.**

PROPERTY SIX MILE LAKE

2.1.5

CERT. NO.

GRID REFERENCE FISH LAKE GRID / 6060 GAN GRID / DUMMEL LAKE DATE JULY 23/93

DATE JULY 23/93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	GRID WIDTH	ASSAYS			CO-ORDINATES		SAM RUN
				WR	Cu	Au			
A	Felsic ash tuff, siliceous	GR	Fish Lake	✓			B400 W	1+47 N	5m/c-s
B	" lapilli tuff			✓				1+70 N	
C	Coarse grained mafic lavae			✓				2+51 N	
D	Fine grained mafic flow			✓				2+90 N	
E	" " "hem, 1/4 py, perphy			✓				4+87 N	
F	Mafic vol (chlorite schist?), porphyritic	FLUAT		✓			G+90 W	5+00 N	
G	Basal crystal tuff, 3mm dia. clear quartz eyes	GR		✓			G+00 W	5+00 N	
H	" lapilli tuff			✓				4+04 N	
I	" " "siliceous, to py, chpy			✓				3+30 N	
J	Felsic ash tuff, siliceous, to py, chpy			✓				2+20 N	
K	Felsic crystal tuff, Q.E., calcareate			✓				1+56 N	
L	Felsic lapilli tuff, rebarite, siliceous			✓				0+40 N	
M	Felsic ash tuff			✓				0+35 N	
N	Felsic lavas, to py, pods of shorite (shard?)		Cab Bay	✓			G+15 W	3+60 N	
O	C.G. mafic, gabbro/dior			✓			* sample taken		
P	Felsic lapilli tuff, to - 1/4 py			✓			from o/c in small		
Q	" "			✓			bay just north of		
R	" "			✓			base line 1/400 W		
S	F.C. mafic flow			✓					
T	Mafic vol., Fe-carb, 1-3' euhedral py.	ELANT	BHP GR	✓					From lake shore
U	Mafic flow, med grained, to py	GR	POWELL LK.	✓					ROAD TRAVERSES
V	Mafic vol., Cu-grained, GABRO?			✓					
W	" "			✓					

LAB CHEMISTRY

PROJECT NO. 1320 **PROPERTY SIX MILE LAKE**

NTS

CERT. NO. _____

GRID REFERENCE DUMRELL LAKE / CORA LAKE GRID

DATE JULY 26/93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES		SCALE IN
				Wt					
A	Mafic volcanic, medium grained	CRAI	DIMES LK.	/			R04D TR4VERSES	S.M/C.G	
B	Felsic Vol. lapilli ash tuff, Fe-carb, strong foliation			/					
C	" " " " " " " " " " " "			/					
D	" " " " " " " " " " " "			/					
E	Felsic agglomerate, clasts < 5m, porphyritic, Fe-carb			/					
F	Mafic flow med to coarse grained			/					
G	Felsic lapilli stone, Fe-carb, pegmatite, cherty clasts			/					
H	Coarse mafic intrusive, gabbro/dior			/					
I	Mafic tuff, feldspar and quartz frags			/					
J	Felsic lapilli tuff			/					
K	Coarse mafic intrusive, gabbro			/					
L	Felsic crystal tuff			/					
M	Pillowed mafic flows, Fe-carb			/					
N	Fine grained mafic flow			/					
O	Gabbro, coarse grained, equidimensional			/					
P	Fine grained mafic flow			/					
Q	Felsic crystal tuff, quartz crystals		CORAL LAKE	/			30+00 E	6+25 S	
R	" " " " " " " " " " " "			/			"	5+75 S	
S	Mafic vol, med-coarse grained, massive, gabbro?			/			"	11+20 S	
T	Fine grained mafic, shear zone, Fe-carb, pl. dis pgs			/			"	11+45 S	
U	Mafic ash tuff, vesicular, chlorite med. talus			/			28+00 E	19+00 S	
V	Mafic intrusive, massive, gabbro			/			26+00 E	0+80 N	
W	Felsic crystal-tuff, chert, quartz rich	/	/	/			"	1+75 N	

NORANDA EXPLORATION COMPANY, LIMITED

Nº 303

Write - Office
Yellow - Field

LAB CHEMEX

PROJECT NO. 1320 PROPERTY SIX MILE LAKE

N.T.S.

CERT. NO. _____

GRID REFERENCE COAB LAKE GRID

DATE JULY 27/93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS				CO-ORDINATES		SAMPLER
				LAB						
A	Felsic lapilli tuff, elongated fragments	CRAB		✓				26100E	2190N	SM/C.S.
B	Felsic crystal tuff			✓				3440N		
C	Felsic lepidolite, mottled, massive			✓				5120N		
D	massive, fine grained			✓				5160N		
E	C.S. massive, fine, massive			✓				25100E	3440N	
F	Felsic lapilli stone, elongated frag up to 6"			✓				"	3420N	
G	Felsic, indurated, medium to coarse grained			✓				TRAVELLED OFF		
H	" coarse grained			✓				COAB RAY ROAD, SEC		
I	"			✓				RECOVERED CRAB FOLD		
J	"			✓				SAMPLE LOCATION		
K	Massive vol, med grained, massive			✓						
L	Massive tuff			✓						
M	Interbedded to felsic crystal tuff			✓						
N	Massive, stone, indurated, med grained, massive			✓						
O	Tuffaceous to felsic crystal tuff			✓						
P	Intermediate crystal tuff			✓						
Q	Massive volcanic, med grained, massive			✓						
R	Felsic, fragmental, lapilli, calcareous			✓						
S	Massive volcanic, med grained, massive			✓						
T	Felsic tuff, sands, Fe-carb			✓						
U	"			✓						
V	"			✓						
W	Massive to intermediate crystal tuff, chert clots			✓						

NORANDA EXPLORATION COMPANY, LIMITED

Nº 304

LAB CHEMEX

PROJECT NO. 1320 PROPERTY SIX MILE LAKE

N.T.S.

CERT. NO. _____

GRID REFERENCE COBQ LAKE / DUMBEL LAKE

DATE JULY 29/93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES		SAMPLER
				WR					
A	Mafic to intermediate crystal tuff, chlorite clasts	GRAB		✓			TRAVERSES OFF COBQ	S.M./C.G.	
B	Coarse grained mafic, massive, massive			✓			GRAB NO. SEE REGIONAL		✓
C	Altered mafic, potash alt, with foliated, fine gr.			✓			MAP FOR LOCATIONS		
D	Mafic vol, med grained, Fe-calc, to py			✓			TRAVERSES NORTH OF		
E	Coarse grained mafic, calcareous massive			✓			GRANSTONE AK. SEE		
F	" " " "			✓			REGIONAL MAP FOR		
G	" " " "			✓			LOCATIONS.		
H	" " " "			✓			DUMBEL LAKE TRAVERSES		
I	" " " "			✓			SEE REGIONAL MAP.		
J	Mafic volcanic, med grained, massive			✓					
K	Felsic hypolite			✓					
L	Felsic hypolite			✓					
M	Felsic hypolite			✓					
N	Mafic, calc tuff, chlorite, to py			✓					
O	Coarse grained mafic, calcareous			✓					
P	Felsic hypolite, sericite, chlorite, to py, chlorite			✓					
Q	Mafic volcanic, med grained			✓					
R	Mafic tuff, siliceous, coarse grained, massive			✓					
S	Mafic vol, med grained, Fe-calc			✓			TRAVERSES SOUTH		
T	Intermediate vol, Fe-calc, 1/2 py			✓			OF HANDCUP AK		
U	Felsic, coarse grained, Fe, med. foliation			✓			RD (TEN MILE		
V	Mafic tuff, massive, felsic fragments			✓			LAKE RD?) SEE		
W	Felsic hypolite, tuff, Blue G.E., med. foliation			✓			REGIONAL MAP		✓

LAB _____ CHEMEX _____

CERT. NO. _____

NORANDA EXPLORATION COMPANY, LIMITED

Nº 305

Write - Office
Yellow - Field

PROJECT NO. 1320 PROPERTY SIX MILE LAKE

GRID REFERENCE COB3 LAKE

N.T.S. _____

DATE July 93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES	SAMPLER
				W _R	C _H	Zn		
A	massive large grained, carbonate, dolomite, to py	GRAB		✓			SEE REGIONAL MAP	S.M./C.C.
B	feldspar, buff, G.E., weakly sericitic	✓		✓			FOR LOCATION SOUTH	
C	conglomeratic, bititic, quartz, calcareous, quartz, dolomite, calcareous rock	FLUID				✓	OF 10 MILE LAKE RD.	✓
D								
E								
F								
G								
H								
I								
J								
K								
L								
M								
N								
O								
P								
Q								
R								
S								
T								
U								
V								
W								

NORANDA EXPLORATION COMPANY, LIMITED

Nº 1208

White - Office
Yellow - Field

LAB CHEM EX

PROJECT NO. 1320

PROPERTY Six Mile Lake

N.T.S.

CERT. NO. _____

GRID REFERENCE COBB LAKE

CLAIM Block

DATE July 22, 1911

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES		SAMPLER
				Wt	Gr	Vol	E	N	
A	Felsic crystal Tuff	CRAG		✓			4400 E	0+75N	G.C.
B	MAFIC Extrusive Flow			✓			6400 E	0450N	
C	Felsic CRYSTAL Tuff some obsidian			✓			5400 E	2+30N	
D	Felsic CRYSTAL Tuff → some quartzization			✓			8400 E	1435N	
E	MAFIC Flow Lapilli tuff.			✓			8400 E	0410N	
F	MAFIC INTENSIVE mud → coarse granitic			✓			8400 E	1450 S	
G	MAFIC CRYSTAL Tuff			✓			8475	2+75 S	
H	fine grained intrusive MAFIC			✓			14400 E 14400 E	1425 S	
I	med - coarse grained mafic intrusive			✓			14400 E	1475 S	
J	fine grained mafic intrusive → felsic			✓			15400 E	2+75 S	
K	MAFIC extrusive Flow			✓			16400 E	2450 S	
L	MAFIC Extrusive - fine			✓			16400 E	0+35N	
M	Inter mediate mafic tuff (very fine grained)			✓			16400 E	0+75N	
N	Medium grained mafic intrusive			✓			16400 E	1+25 N	
O	Felsic Crystal tuff (10-15% quartz)			✓			16400 E	2+75N	
P	Felsic Lapilli tuff			✓			16400 E	3+75N	
Q	CRYSTAL Tuff (felsic) 10-15% quartz			✓			16400 E	4+75N	
R	CRYSTAL Tuff (felsic) coarse grained			✓			17450 E	3400 N	
S	Felsic cycloporphyritic tuff (medium grained)			✓			18400 E	4400 N	
T	Medium grained felsic tuff (quartzite)			✓			18400 E	1+25 S	
U	MAFIC extrusive			✓			20400 E	1+75 N	
V	MAFIC coarse grained intrusive mafic			✓			20400 E	2+50 N	
W	Felsic Crystal tuff fine grained			✓					

Notes Form: C: Internal Sample Form

LAB CHEMEX

NORANDA EXPLORATION COMPANY, LIMITED

Nº 1209

Write - Office
Yellow - Field

CERT. NO. _____

PROJECT NO. 1320 PROPERTY SIX MILE LAKE

N.T.S. _____

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS		CO-ORDINATES		SAMPLER
				CUR.		ROUTE	STNS N.	
A	Felsic lapilli tuff. (clench clasts)			✓		ROUTE	STNS N.	D. C.
B	MAFIC EXTRUSIVE			✓		TREAUERSES		
C	med-coarse granular mafic intrusive			✓		OFF OF CURB		
D	Felsic cngl tuff.			✓		BAY ROAD		
E	Felsic cngl tuff.			✓		See legend		
F	Felsic cngl tuff.			✓				
G	medic $\Rightarrow$ fine grained mafic			✓		MAP FOR		
H	mafic lapilli tuff.			✓				
I	Felsic lapilli tuff.			✓		SAMPLE LOCATION		
J	mafic effusive tuff			✓				
K	coarse grained intrusive mafic			✓				
L	mafic intrusive tuff			✓				
M	the medium to fine grained mafic			✓				
N	Solus very arch tuff.			✓				
O	mafic intrusive - cngl. of mafic			✓				
P	Felsic ash tuff.			✓				
Q	mafic intrusive Felsic tuff.			✓		South of Cold Lake South of house dog area		
R	Estimate mafic flow			✓				
S	Saturated mafic flow 513 Pyrite.			✓		See location		
T	Felsic ash Tuff 1933 iron carb.			✓				
U	Fine grained mafic extrusive flow			✓				
V	mafic - and mafic flow			✓				
W	Intrusive $\Rightarrow$ felsic crystalline tuff.			✓				

From: Chemex Inc. SMO Subplot 412, in May 2011

LAB CHEMEX

PROJECT NO. 1320 PROPERTY Sixmile Lake Claim N.E.T.S.

CERT. NO. _____

GRID REFERENCE Method Graystone Lake / Hammond Lake DATE July 29, 1924

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES	SAMPLER
				W.B.				
A	medium coarse grained intrusive mafic	dyke		✓			North of Graystone Lake	✓
B	fine grained intrusive mafic			✓				
C	coarse grained intrusive mafic			✓				
D	Felsic dykelet tuff			✓			See location map.	✓
E	coarse grained gabbro			✓				
F	coarse grained mafic intrusive			✓				
G	fine grained mafic extensive			✓			See location map	✓
H	fine grained mafic extensive			✓				
I	Felsic extensive (crystal tuff)			✓				
J	coarse grained intrusive mafic			✓			See location map	✓
K	Felsic crystal tuff			✓				
L	Felsic crystal tuff			✓				
M	Felsic crystal tuff			✓			See location map	✓
N	medium grained intrusive mafic < 1/2 pyrite			✓				
O	fine grained mafic intrusive			✓				
P	fine grained mafic intrusive < 1/2 pyrite			✓			See location map	✓
Q	mafic extensive tuff			✓				
R	fine grained mafic extensive			✓				
S	Altered intrusive mafic (epite coeknoes)			✓			See location map	✓
T	Felsic crystal tuff			✓				
U	Felsic tuff - altered gabbro & felsic		1 1/2 in.	✓				
V	Felsic crystal tuff			✓			See location map	✓
W	Crystalline zone - (crystal tuff)		5 in.	✓				

LAB CHEMEX

CERT. NO. _____

NORANDA EXPLORATION COMPANY, LIMITED

Nº 1211

White - Office
Yellow - Field

PROJECT NO. 1320 PROPERTY Six mile Lake Claim N.T.S.

GRID REFERENCE Dumbell Lake Claim N.E. corner DATE July 30, 1961

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES	SAMPLER
				U	K			
A	Quartzed felsic lapilli tuff	crv		✓			U/E Dumbell	G.C.
B	fine grained mafic extensive						Lake	
C	felsic lapilli tuff - iron carbonate						iron	
D	mafic intermediate gabbro						lake	
E	felsic crystal tuff						4400E 3425N	
F	coarse grained mafic tuff						2450E 4400N	
G	crystal felsic tuff						2400E 5400N	
H	felsic lapilli tuff						by calibration South Star	
I								
J								
K								
L								
M								
N								
O								
P								
Q								
R								
S								
T								
U								
V								
W								

LAB Chamney

PROJECT NO. 1320 PROPERTY Six Mile

N.T.S. 525/14
DATE July 30/8

GRID REFERENCE McKee Lake

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS				CO-ORDINATES		EXAMINER
A	Freshly exposed foliar, yellowish, pyrophytic, dark									
B	alt. xil top / pyrophytic, yellow, brown	"								
C	Foliar, light, yellow, / T.C.C. 6.00000									
D	alt. xil, small, to T.C.C. 1.00000									
E	Foliar, light, T.C.C. / 1.00000 13.00000, alt.									
F	Pyrophytic, yellow, brown									
G	Foliar, light, T.C.C. / 1.00000, alt.									
H	Foliar, light, T.C.C. / 1.00000, alt.									
I	Quartz, small, light, T.C.C.									
J	Foliar, light, T.C.C. / 1.00000, alt.									
K	Foliar, light, T.C.C. / 1.00000, alt.									
L	Quartz, small, light, T.C.C.									
M	Pyrophytic, light, T.C.C. / 1.00000, alt.									
N	Pyrophytic, light, T.C.C. / 1.00000, alt.									
O	Pyrophytic, light, T.C.C. / 1.00000, alt.									
P	"									
Q	Foliar, small, to T.C.C. 1.00000, alt.									
R										
S										
T										
U										
V										
W										

LAB Chenier

CERT. NO. _____

NORANDA EXPLORATION COMPANY, LIMITED
PROJECT NO. 1320 PROPERTY Field Note
Six Mile Lake Creek

N.T.S.

DATE _____

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS				CO-ORDINATES		SAMPLER
A	Caldero? Elliptical, 11g, 11g							L180V	0765N	AN/KC
B	Quartz, Reddish-brown, massive							L180V	1468N	
C	Caldero - massive							L180V	1493N	
D	Elliptical, massive, 10-15cm, 10-15cm							L180V	2172N	
E	Caldero, massive							L180V	4400V	
F	massive							L180V	4190V	
G	Elliptical, massive, 10-15cm, 10-15cm							L180V	2155N	
H	Caldero, massive							L180V	2115N	
I	massive, 10-15cm, 10-15cm, 10-15cm							L180V	0760V	
J	Caldero, 10-15cm, 10-15cm, 10-15cm							L180V	1420V	
K	Caldero, 10-15cm, 10-15cm, 10-15cm							L180V	4400V	
L	massive, 10-15cm, 10-15cm, 10-15cm							L180V	4190V	
M	massive, 10-15cm, 10-15cm, 10-15cm							L180V	2155N	
N	massive, 10-15cm, 10-15cm, 10-15cm							L180V	2115N	
O	massive, 10-15cm, 10-15cm, 10-15cm							L180V	0760V	
P	massive, 10-15cm, 10-15cm, 10-15cm							L180V	1420V	
Q	massive, 10-15cm, 10-15cm, 10-15cm							L180V	4400V	
R	massive, 10-15cm, 10-15cm, 10-15cm							L180V	4190V	
S	massive, 10-15cm, 10-15cm, 10-15cm							L180V	2155N	
T	massive, 10-15cm, 10-15cm, 10-15cm							L180V	2115N	
U	massive, 10-15cm, 10-15cm, 10-15cm							L180V	0760V	
V	massive, 10-15cm, 10-15cm, 10-15cm							L180V	1420V	
W	massive, 10-15cm, 10-15cm, 10-15cm							L180V	4400V	

LAB _____

CERT. NO. _____

NORANDA EXPLORATION COMPANY, LIMITED

Nº 1779

PROJECT NO. 1520 PROPERTY Six Mile LK

GRID REFERENCE 9 F1511AK2

N.T.S.

DATE July 29/9

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS		CO-ORDINATES		SAMPLER
A	tuFF, Qtz eyes, < 1cm ^{greenish} quartz			ZN	WR	1-1W	2735N	M.S
B	tuFF, Qtz eyes, acm, sericite, ^{greenish} quartz				WR	1-1W	2735N	
C	tuFF, Silicious, Qtz eyes, IR, ^{quartz} quartz				WR	1-1W	1+25N	
D	tuFF, slightly sharded, ^{quartz} quartz	CU	2N			1-2W	1+65N	(WR)
E	tuFF, shericite, 520ppm IR, 2N,		6(1N)	CU, ZN	WR	1-2W	1+75N	
F	520, 04 (ELCAT)			CU	ZN	AU	0+35E	5725N
G	tuFF, Sericite, ^{quartz} quartz				WR			5725N
H	intrusive, IR, cu, 2N,			CU	ZN			
I	intrusive, 1-1W ^{quartz} quartz				WR			
J	" " " "				WR			
K	tuFF, Carbonated, Coars grained,				WR			
L	tuFF, 1-1W grained				WR			
M								
N								
O								
P								
Q								
R								
S								
T								
U								
V								
W								

LAB Chemery

PROJECT NO. 1320 PROPERTY Six Mile Lake area

N.T.S. _____

CERT. NO. _____

GRID REFERENCE _____

DATE _____

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES		SAMPLER
A	charified, false volcanic, 2-35.Py greyish blue, Mn	Mn		Assoc 1	Au	Cu	Zn		MS/RE
B	false volcanic, 25. grey, massive			Indicative					MS/RE
C	false volcanic, 4-7/10.25 blue, fine, 15, dark grey, Mn, Mn, Mn			Assoc 1	Au	Cu	Zn		MS/RE
D	false volcanic, light grey, 15, 3-5/10.25 blue, fine, Mn			Assoc 1	Au	Cu	Zn		MS/RE
E									
F									
G									
H									
I									
J									
K									
L									
M									
N									
O									
P									
Q									
R									
S									
T									
U									
V									
W									

NORANDA EXPLORATION COMPANY, LIMITED

Nº 1781

Write - Office
Yellow - Field

LAB Chemex

PROJECT NO. 1320 PROPERTY Six Mile Lake (Doubtful Lake area)

N.T.S. _____

CERT. NO. _____

GRID REFERENCE _____

DATE _____

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS				CO-ORDINATES		SAMPLES
A	Make note, massive pyrite ch. 1 ft. py									14.11
B	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
C	Make note, 13 pyrite, 1 ch. 1 ft. py									
D	" " " " " "									
E	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
F	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
G	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
H	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
I	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
J	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
K	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
L	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
M	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
N	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
O	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
P	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
Q	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
R	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
S	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
T	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
U	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
V	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									
W	Make note, small ch. 1 ft. py, grey clay, brownish, more ch.									



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assessors
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2808

TO: NORANDA EXPLORATION COMPANY LIMITED
960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number :1-4
Total Pages :2
Certificate Date: 16-AUG-97
Invoice No.: 18318430
P.O. Number : TB 64534
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
301A	200 274	13.46	1.54	0.01	2.20	1.17	0.84	0.02	4.86	0.03	74.99	0.19	1.60	100.90	310
301B	200 274	14.98	11.00	0.01	13.31	0.09	6.80	0.20	1.58	< 0.01	45.96	1.00	3.26	99.20	30
301C	200 274	15.41	10.70	0.03	11.43	0.54	9.17	0.18	1.92	< 0.01	45.44	0.64	3.07	98.55	110
301D	200 274	15.44	10.03	0.01	11.94	0.08	8.37	0.19	2.14	< 0.01	45.38	0.71	3.44	97.73	10
301E	200 274	10.70	4.97	0.03	25.48	1.74	3.02	0.17	0.62	0.03	52.36	0.34	0.66	100.00	360
301F	200 274	14.51	4.18	0.01	3.74	1.49	1.89	0.06	3.87	0.04	65.36	0.37	5.23	100.75	360
301G	200 274	15.58	10.08	0.02	11.27	0.03	8.17	0.17	1.58	< 0.01	46.52	0.85	4.08	99.36	10
301H	200 274	17.09	3.27	< 0.01	10.17	0.13	5.25	0.11	4.41	< 0.01	53.32	0.61	4.62	98.90	40
301I	200 274	14.99	11.32	< 0.01	12.23	0.03	7.47	0.19	1.49	< 0.01	46.89	0.84	2.93	98.20	10
301J	200 274	15.34	2.16	< 0.01	2.59	2.34	2.19	0.03	3.15	0.04	69.20	0.30	3.86	101.20	330
301K	200 274	14.51	10.68	< 0.01	12.90	0.05	6.86	0.21	1.50	< 0.01	47.59	0.77	2.77	97.66	10
301L	200 274	16.40	2.65	< 0.01	2.03	2.26	0.52	0.03	4.05	0.05	70.75	0.45	1.97	101.15	480
301M	200 274	15.04	4.54	< 0.01	4.17	1.86	1.25	0.09	3.38	0.15	64.21	0.59	5.82	98.90	580
301N	200 274	15.18	11.16	< 0.01	12.44	0.07	4.33	0.20	2.08	< 0.01	45.13	1.22	5.72	97.55	10
301P	200 274	15.94	3.53	< 0.01	4.56	1.40	2.50	0.08	5.20	0.16	62.60	0.63	4.29	100.90	310
301Q	200 274	16.19	5.40	< 0.01	4.75	1.03	2.04	0.11	4.35	0.15	62.27	0.64	3.48	100.40	260
301R	200 274	15.80	2.61	< 0.01	4.73	1.32	2.83	0.09	5.26	0.16	63.54	0.82	3.54	100.50	270
301S	200 274	14.98	12.33	< 0.01	14.00	0.08	4.87	0.20	1.95	0.01	41.07	1.19	8.13	96.82	30
301T	200 274	15.26	6.78	< 0.01	12.07	0.02	7.36	0.18	2.22	< 0.01	46.13	0.78	6.88	97.70	10
301V	200 274	14.53	8.48	< 0.01	12.38	0.03	7.68	0.20	1.97	< 0.01	47.13	0.93	4.76	98.11	10
301W	200 274	11.46	5.88	< 0.01	20.70	0.08	4.77	0.27	2.65	< 0.01	46.88	2.07	2.89	97.67	30
301X	200 274	15.68	5.84	< 0.01	12.52	0.94	4.55	0.18	2.38	0.02	45.81	1.31	8.91	98.25	150
301Y	200 274	11.60	10.60	< 0.01	12.87	1.02	6.30	0.16	0.66	< 0.01	36.70	1.14	16.67	97.74	150
302A	200 274	14.14	1.77	0.02	2.75	4.07	0.28	0.04	0.20	0.01	73.44	0.40	3.89	101.00	470
302B	200 274	13.54	0.18	0.01	1.77	1.92	0.07	0.02	1.92	0.04	78.40	0.36	2.39	100.60	260
302C	200 274	16.26	1.28	< 0.01	2.47	3.58	0.27	0.04	3.52	0.08	70.46	0.45	2.89	101.30	330
302D	200 274	15.13	9.11	< 0.01	15.14	0.04	7.35	0.22	1.38	< 0.01	44.42	1.13	3.98	97.92	10
302E	200 274	16.83	6.02	< 0.01	6.27	1.53	2.95	0.14	3.28	0.09	61.51	0.84	1.47	100.65	660
302F	200 274	15.00	10.96	0.02	11.97	0.08	7.19	0.18	1.61	< 0.01	47.04	0.81	3.82	98.69	20
302G	200 274	15.55	1.89	0.01	4.67	0.46	2.12	0.08	6.42	0.04	67.28	0.44	1.92	100.90	140
302H	200 274	17.09	2.07	< 0.01	2.34	4.46	1.23	0.03	0.26	0.04	68.59	0.42	4.42	100.95	310
302I	200 274	15.37	10.85	0.02	12.48	0.06	7.39	0.18	1.98	< 0.01	45.98	0.93	3.29	98.54	40
302J	200 274	16.32	1.29	< 0.01	3.87	2.34	1.38	0.04	2.88	0.07	70.14	0.45	3.29	102.10	340
302K	200 274	19.86	1.06	0.01	7.63	1.66	4.70	0.08	2.38	0.03	57.01	0.93	4.91	100.25	260
302L	200 274	14.41	11.21	0.01	12.73	0.04	6.45	0.18	0.97	< 0.01	46.90	1.04	3.73	97.68	10
302M	200 274	14.77	9.42	0.01	11.11	0.03	7.82	0.18	2.68	< 0.01	47.91	0.71	4.10	98.78	10
302N	200 274	14.86	4.57	0.01	15.88	0.03	8.16	0.25	3.54	0.02	45.13	1.28	4.54	98.24	30
302O	200 274	12.39	0.93	0.02	2.73	1.68	0.42	0.03	4.47	0.01	76.86	0.13	1.67	101.05	170
302P	200 274	16.20	0.93	< 0.01	5.57	2.44	2.11	0.06	4.09	0.06	66.14	0.47	2.77	100.85	480
302Q	200 274	12.39	7.55	< 0.01	16.48	0.40	3.88	0.22	3.02	0.10	49.71	1.89	2.37	97.92	100

CERTIFICATION:

Stuart B. Buehler



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-8
Total Pages : 2
Certificate Date: 18-AUG-83
Invoice No. : 18318430
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	LD ppm	LD ppm	SR ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
301A	208 274	< 10	30	90	20	190	4	16						
301B	208 274	< 10	< 5	210	30	60	52	52						
301C	208 274	< 10	10	140	10	20	40	46						
301D	208 274	< 10	< 5	100	20	30	56	51						
301P	208 274	< 10	65	20	10	80	12	61						
301Q	208 274	< 10	30	110	10	100	14	40						
301K	208 274	< 10	< 5	170	20	50	94	67						
301L	208 274	< 10	< 5	140	10	60	220	99						
301V	208 274	< 10	< 5	150	20	40	164	49						
301M	208 274	< 10	50	90	< 10	100	9	41						
301N	208 274	< 10	< 5	140	20	40	138	55						
301O	208 274	< 10	60	180	10	110	30	20						
301P	208 274	< 10	45	210	10	180	28	49						
301P	208 274	< 10	< 5	160	30	60	104	106						
301P	208 274	< 10	25	110	10	160	26	69						
301Q	208 274	< 10	15	240	10	160	22	92						
301M	208 274	< 10	40	200	10	150	20	75						
301M	208 274	< 10	5	140	30	70	148	112						
301V	208 274	< 10	< 5	110	20	40	116	77						
301V	208 274	< 10	< 5	240	20	50	82	77						
301W	208 274	< 10	5	100	50	80	88	95						
302A	208 274	< 10	20	40	30	70	44	100						
302B	208 274	< 10	25	60	30	60	200	108						
302C	208 274	< 10	60	20	30	210	78	17						
302D	208 274	< 10	30	100	< 10	80	10	31						
302E	208 274	< 10	55	80	10	100	20	65						
302P	208 274	< 10	< 5	190	30	60	76	85						
302Q	208 274	< 10	20	450	20	110	50	42						
302R	208 274	< 10	< 5	180	20	40	128	53						
302I	208 274	< 10	25	140	10	110	24	53						
302J	208 274	< 10	105	20	< 10	110	15	31						
302K	208 274	< 10	5	160	20	50	94	61						
302L	208 274	< 10	75	90	10	110	20	61						
302M	208 274	< 10	50	160	20	80	72	80						
302N	208 274	< 10	5	210	20	50	68	56						
302O	208 274	< 10	5	220	20	40	20	52						
302P	208 274	< 10	10	80	30	70	28	126						
302Q	208 274	< 10	75	80	40	140	8	20						
302K	208 274	< 10	50	80	< 10	90	2	49						
302L	208 274	< 10	5	160	50	130	88	70						

CERTIFICATION:

Arthur B. Bollen



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers
5175 Timberline Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2808

TO: NORANDA EXPLORATION COMPANY LIMITED

860 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number :2-A
Total Pages :2
Certificate Date: 16-AUG-93
Invoice No.: 18318430
P.O. Number : TB 84534
Account: BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	AL2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mg2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
3025	208 274	12.63	4.49	< 0.01	17.76	0.32	3.08	0.20	3.78	0.15	50.21	1.92	4.52	99.07	110
3026	208 274	17.47	7.06	< 0.01	8.07	1.67	3.99	0.17	2.79	0.08	49.16	0.94	8.67	100.10	440
3027	208 274	14.33	8.69	< 0.01	12.19	0.18	6.48	0.22	4.48	< 0.01	48.18	1.09	2.31	98.18	30
3028	208 274	13.20	1.69	< 0.01	2.10	3.87	0.20	0.04	2.48	0.02	73.88	0.14	1.70	101.35	730
3029	208 274	11.46	2.32	< 0.01	2.28	2.76	0.43	0.04	2.28	< 0.01	77.66	0.12	1.31	100.70	300
3030	208 274	11.14	1.39	< 0.01	1.62	3.12	0.23	0.02	2.27	0.01	79.06	0.14	1.10	100.10	280
3031	208 274	16.63	5.20	< 0.01	8.18	0.21	4.72	0.12	5.50	0.12	55.00	0.94	2.73	101.00	90
3032	208 274	16.03	5.20	< 0.01	9.89	0.43	4.41	0.15	4.00	0.18	55.30	0.98	3.38	99.96	110
3033	208 274	17.12	4.06	< 0.01	11.22	0.78	4.33	0.22	5.32	0.29	49.91	1.37	4.78	99.31	180
3034	208 274	15.08	2.24	< 0.01	3.41	5.47	0.55	0.07	1.00	< 0.01	69.40	0.16	3.93	101.35	710
3035	208 274	15.59	5.10	< 0.01	11.60	0.04	7.87	0.16	2.87	< 0.01	46.55	0.92	8.19	98.91	10
3036	208 274	14.58	10.77	< 0.01	14.32	0.02	4.99	0.21	8.85	< 0.01	47.83	1.37	3.86	98.82	< 10
3037	208 274	15.48	9.03	< 0.01	12.94	0.04	8.31	0.18	2.13	< 0.01	45.91	1.00	3.80	98.84	40
3038	208 274	15.66	7.47	< 0.01	11.67	0.04	6.20	0.18	3.32	< 0.01	45.62	0.99	7.87	99.04	10
3039	208 274	15.66	2.29	< 0.01	4.24	1.25	2.01	0.04	4.28	0.06	66.59	0.42	3.63	100.50	290
3040	208 274	15.73	2.50	< 0.01	3.95	0.91	1.96	0.05	5.36	0.07	66.74	0.42	3.12	100.80	290
3041	208 274	16.01	1.80	< 0.01	2.89	1.23	1.01	0.03	5.66	0.06	69.20	0.35	2.34	100.60	320
3042	208 274	16.65	2.47	< 0.01	15.64	0.05	9.62	0.18	3.09	< 0.01	40.24	1.07	7.04	98.08	20
3043	208 274	15.97	2.21	< 0.01	3.45	0.93	1.16	0.04	5.31	0.06	69.08	0.51	2.57	101.20	260
3044	208 274	15.50	1.93	< 0.01	3.14	0.60	1.17	0.03	5.18	0.10	69.15	0.42	2.99	100.20	160
3045	208 274	14.57	6.73	< 0.01	13.35	0.35	5.14	0.17	1.79	0.02	48.81	1.21	6.94	99.09	90
3046	208 274	12.62	2.36	< 0.01	4.62	4.12	3.18	0.04	2.56	0.04	60.45	0.82	5.10	100.60	390
3047	208 274	12.78	7.78	< 0.01	15.34	0.08	5.46	0.22	2.55	0.08	48.02	1.57	4.33	98.22	20
3048	208 274	16.96	0.91	< 0.01	3.91	1.28	1.48	0.02	5.65	0.08	67.61	0.45	2.73	101.00	810
3049	208 274	15.85	1.28	< 0.01	3.82	0.06	1.65	0.04	7.85	0.06	67.97	0.41	2.03	101.05	40
3050	208 274	15.50	1.30	< 0.01	3.58	0.13	1.32	0.05	7.69	0.08	69.04	0.39	2.28	101.40	90
3051	208 274	15.60	3.82	< 0.01	3.76	2.53	1.61	0.03	2.34	0.08	66.30	0.42	5.15	101.35	390
3052	208 274	15.61	2.82	< 0.01	3.55	2.29	1.65	0.03	3.81	0.07	67.67	0.39	3.21	100.80	380
3053	208 274	14.00	9.20	< 0.01	16.72	0.10	5.19	0.21	2.72	0.02	48.00	1.15	3.60	99.92	30
3054	208 274	17.33	1.78	< 0.01	9.37	1.22	4.01	0.05	1.35	0.02	58.30	1.20	5.67	100.30	140
3055	208 274	14.89	7.37	< 0.01	15.74	0.18	5.99	0.26	0.77	< 0.01	35.82	1.08	11.64	97.76	80
3056	208 274	15.15	11.40	< 0.01	12.13	0.07	8.24	0.19	1.48	< 0.01	46.53	0.78	3.01	99.01	30
3057	208 274	14.59	10.43	< 0.01	13.95	0.19	8.31	0.20	1.84	< 0.01	46.11	0.91	2.06	98.62	30
3058	208 274	13.27	5.82	< 0.01	13.53	0.61	3.21	0.19	3.82	0.08	56.23	1.41	0.90	99.08	180
3059	208 274	13.43	10.02	< 0.01	15.89	0.10	6.48	0.24	1.54	0.04	47.71	1.15	2.08	98.70	10
3060	208 274	15.48	7.17	< 0.01	13.89	0.02	7.41	0.20	2.24	0.04	46.94	1.10	4.87	99.11	10
3061	208 274	14.45	12.48	< 0.01	11.89	0.02	8.75	0.19	1.59	< 0.01	46.29	0.78	3.10	99.61	20
3062	208 274	13.64	10.64	< 0.01	14.28	0.02	5.26	0.22	2.77	0.04	40.74	1.05	11.19	99.30	10
3063	208 274	15.69	3.84	< 0.01	9.68	0.96	5.21	0.16	2.23	0.02	56.60	0.62	6.59	99.39	120
3064	208 274	15.48	0.73	< 0.01	2.05	2.42	1.03	0.03	4.51	0.08	71.92	0.31	1.79	100.35	470

CERTIFICATION:

Stuart B. Buehler



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-8
Total Pages : 2
Certificate Date: 18-AUG-93
Invoice No. : 18318430
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	lb ppm	lb ppm	Sc ppm	Y ppm	Sc ppm	Cu ppm	Sn ppm						
302T	208 274	< 10	5	80	40	140	220	110						
302U	208 274	< 10	40	140	10	100	82	96						
302V	208 274	< 10	< 5	150	20	50	116	51						
302W	208 274	20	95	80	50	300	6	70						
302A	208 274	20	100	150	40	300	5	38						
303B	208 274	10	95	430	30	190	6	19						
303C	208 274	< 10	< 5	240	10	100	42	64						
303D	208 274	< 10	5	200	20	130	146	85						
303E	208 274	< 10	20	240	20	130	6	215						
303F	208 274	30	170	40	60	400	14	68						
303G	208 274	< 10	< 5	50	10	40	22	79						
303H	208 274	< 10	< 5	140	30	60	82	69						
303I	208 274	< 10	< 5	190	20	30	98	58						
303J	208 274	< 10	< 5	100	20	30	126	89						
303K	208 274	< 10	30	190	< 10	90	10	33						
303L	208 274	< 10	20	310	< 10	100	4	66						
303M	208 274	< 10	25	370	< 10	100	14	51						
303N	208 274	< 10	< 5	80	20	40	30	133						
303O	208 274	< 10	20	310	< 10	100	4	39						
303P	208 274	< 10	15	300	< 10	100	2	36						
303Q	208 274	< 10	< 5	110	20	50	54	98						
303R	208 274	< 10	80	110	< 10	90	16	62						
303S	208 274	< 10	5	270	30	310	116	110						
303T	208 274	< 10	3	200	< 10	110	2	66						
303U	208 274	< 10	< 5	200	< 10	100	3	61						
303V	208 274	< 10	< 5	150	< 10	90	2	63						
303W	208 274	< 10	50	130	< 10	100	2	42						
304A	208 274	< 10	55	150	< 10	100	2	30						
304B	208 274	< 10	< 5	140	20	50	106	78						
304C	208 274	< 10	35	170	10	50	82	105						
304D	208 274	< 10	5	50	20	30	220	220						
304E	208 274	< 10	< 5	90	10	30	86	49						
304F	208 274	< 10	5	90	20	40	58	40						
304G	208 274	< 10	10	160	30	120	38	82						
304H	208 274	< 10	< 5	100	20	50	160	55						
304I	208 274	10	< 5	150	20	40	118	95						
304J	208 274	< 10	< 5	170	10	20	132	48						
304K	208 274	< 10	< 5	30	20	40	110	98						
304L	208 274	< 10	25	40	10	50	70	100						
304M	208 274	< 10	50	110	< 10	90	8	32						

CERTIFICATION:

David B. Baker



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED
980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1
Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-4
Total Pages : 2
Certificate Date: 18-AUG-93
Invoice No. : 18318430
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
301A	208 274	13.46	1.34	0.01	2.20	1.17	0.84	0.02	4.86	0.03	74.99	0.19	1.60	100.90	310
301B	208 274	14.98	11.00	0.01	13.31	0.09	6.80	0.20	1.58	< 0.01	45.96	1.00	3.26	98.20	30
301C	208 274	15.41	10.70	0.03	11.43	0.54	9.17	0.19	1.92	< 0.01	45.44	0.64	3.07	98.55	110
301D	208 274	15.44	10.03	0.01	11.94	0.08	8.37	0.18	2.14	< 0.01	45.38	0.71	3.44	97.73	10
301E	208 274	10.70	4.97	0.03	25.48	1.74	3.02	0.17	0.62	0.03	52.26	0.34	0.66	100.00	360
301F	208 274	14.51	4.18	0.01	3.74	1.49	1.89	0.06	3.87	0.04	65.36	0.37	5.33	100.75	360
301G	208 274	15.58	10.08	0.02	11.27	0.03	8.17	0.17	1.58	< 0.01	46.52	0.85	4.08	98.36	10
301H	208 274	17.09	3.27	< 0.01	10.17	0.13	5.25	0.11	4.41	< 0.01	53.22	0.61	4.62	98.90	40
301I	208 274	14.99	11.32	< 0.01	12.23	0.03	7.47	0.19	1.49	< 0.01	46.69	0.84	2.93	98.20	10
301K	208 274	15.34	2.16	< 0.01	2.59	2.34	2.19	0.03	3.15	0.04	69.20	0.30	3.86	101.20	330
301L	208 274	14.31	10.68	< 0.01	12.90	0.05	6.86	0.21	1.50	< 0.01	47.59	0.77	2.77	97.66	10
301M	208 274	16.40	2.65	< 0.01	2.03	2.26	0.52	0.03	4.05	0.05	70.75	0.45	1.97	101.15	480
301N	208 274	15.04	4.84	< 0.01	4.17	1.88	1.25	0.09	3.38	0.15	64.21	0.59	5.82	101.15	580
301O	208 274	15.18	11.16	< 0.01	12.44	0.07	4.33	0.20	2.08	< 0.01	45.13	1.22	5.72	97.55	10
301P	208 274	15.94	3.53	< 0.01	4.56	1.40	2.50	0.08	5.20	0.16	62.60	0.63	4.29	100.90	310
301Q	208 274	16.19	5.40	< 0.01	4.75	1.03	2.04	0.11	4.35	0.15	62.27	0.64	3.48	100.40	240
301R	208 274	15.80	2.61	< 0.01	4.73	1.32	2.83	0.09	5.26	0.16	63.54	0.62	3.54	100.80	270
301S	208 274	14.98	12.33	< 0.01	14.00	0.08	4.87	0.20	1.95	0.01	41.07	1.19	8.13	98.82	30
301T	208 274	15.26	6.78	< 0.01	12.07	0.02	7.36	0.18	2.22	< 0.01	46.13	0.78	6.88	97.70	10
301V	208 274	14.53	8.48	< 0.01	12.38	0.03	7.68	0.20	1.97	< 0.01	47.13	0.93	4.76	98.11	10
301W	208 274	11.46	5.88	< 0.01	20.70	0.08	4.77	0.27	2.65	< 0.01	46.88	2.07	2.89	97.67	30
301X	208 274	15.68	5.64	< 0.01	12.52	0.94	4.65	0.18	2.38	0.02	45.81	1.31	8.91	98.25	150
301Y	208 274	11.60	10.60	< 0.01	12.87	1.02	6.30	0.16	0.66	< 0.01	36.70	1.14	16.67	97.74	150
302A	208 274	14.14	1.77	0.02	2.75	4.07	0.28	0.04	0.20	0.01	73.44	0.40	3.89	101.00	470
302B	208 274	13.54	0.18	0.01	1.92	1.92	0.07	0.02	1.92	0.04	78.40	0.36	2.39	100.60	260
302C	208 274	15.26	1.28	< 0.01	2.47	3.58	0.27	0.04	3.52	0.08	70.46	0.45	2.89	101.30	330
302D	208 274	15.13	9.11	0.01	15.14	0.04	7.35	0.22	1.38	< 0.01	44.42	1.13	3.98	97.92	10
302E	208 274	16.83	6.02	< 0.01	6.27	1.53	2.95	0.14	3.28	0.09	61.51	0.54	1.47	100.65	660
302F	208 274	15.00	10.96	0.02	11.97	0.08	2.12	0.08	1.61	< 0.01	67.04	0.81	3.82	98.69	20
302G	208 274	15.55	1.89	0.01	4.67	0.46	2.12	0.08	6.42	0.04	67.28	0.44	1.92	100.90	140
302H	208 274	17.09	2.07	< 0.01	2.34	4.46	1.23	0.03	0.26	0.04	68.59	0.42	4.42	100.95	310
302I	208 274	15.37	10.85	0.02	12.48	0.06	7.39	0.18	1.98	< 0.01	45.98	0.93	3.29	99.84	40
302J	208 274	16.32	1.29	< 0.01	1.38	2.34	1.38	0.04	2.88	0.07	70.14	0.45	3.29	102.10	340
302K	208 274	19.86	1.06	0.01	7.63	1.66	4.70	0.08	2.38	0.03	57.01	0.53	4.91	100.25	240
302L	208 274	14.41	11.31	0.01	12.73	0.04	6.45	0.18	0.97	< 0.01	46.90	1.04	3.73	97.68	10
302M	208 274	14.77	9.42	0.01	11.11	0.03	7.82	0.18	2.68	< 0.01	47.91	0.71	4.10	98.78	10
302N	208 274	14.86	4.57	0.01	15.88	0.03	8.16	0.25	3.54	0.02	45.13	1.25	4.54	99.24	30
302O	208 274	12.39	0.63	0.02	2.73	1.68	0.42	0.03	4.47	0.01	76.86	0.13	2.67	101.05	170
302P	208 274	16.20	0.93	< 0.01	5.57	2.44	2.11	0.06	4.09	0.06	66.14	0.47	1.77	100.85	480
302Q	208 274	12.29	7.55	< 0.01	16.48	0.40	3.88	0.22	3.02	0.10	49.71	1.89	2.37	97.92	100

CERTIFICATION:

Trust Borden



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-8
Total Pages : 2
Certificate Date: 16-AUG-83
Invoice No.: 18318430
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	ND ppm	Nb ppm	Bi ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
301A	208 274	< 10	30	90	20	190	4	16						
301B	208 274	< 10	< 5	210	30	60	52	52						
301C	208 274	< 10	< 10	140	10	20	40	46						
301D	208 274	< 10	< 5	100	20	30	56	51						
301E	208 274	< 10	65	20	10	80	12	61						
301F	208 274	< 10	30	110	10	100	14	40						
301G	208 274	< 10	< 5	170	20	50	94	67						
301H	208 274	< 10	< 5	140	10	60	220	99						
301I	208 274	< 10	< 5	150	20	40	164	49						
301J	208 274	< 10	50	90	< 10	100	9	41						
301K	208 274	< 10	< 5	140	20	40	138	55						
301L	208 274	< 10	60	180	10	110	30	20						
301M	208 274	< 10	45	210	10	180	28	49						
301N	208 274	< 10	< 5	160	30	60	104	106						
301P	208 274	< 10	25	110	10	160	26	69						
301Q	208 274	< 10	15	240	10	160	22	92						
301R	208 274	< 10	40	200	10	150	20	75						
301S	208 274	< 10	5	140	30	70	148	112						
301T	208 274	< 10	< 5	110	20	40	116	77						
301V	208 274	< 10	< 5	240	20	50	82	77						
301W	208 274	< 10	5	100	50	80	88	95						
302A	208 274	< 10	20	40	30	70	44	100						
302B	208 274	< 10	25	60	30	60	200	108						
302C	208 274	< 10	60	20	30	210	78	17						
302D	208 274	< 10	30	100	< 10	80	10	31						
302E	208 274	< 10	55	80	10	100	20	65						
302F	208 274	< 10	< 5	190	30	60	76	85						
302G	208 274	< 10	20	450	20	110	50	42						
302H	208 274	< 10	< 5	180	20	40	128	53						
302I	208 274	< 10	25	140	10	110	24	53						
302J	208 274	< 10	105	20	< 10	110	15	31						
302K	208 274	< 10	5	160	20	50	94	61						
302L	208 274	< 10	75	90	10	110	20	61						
302M	208 274	< 10	50	160	20	80	72	80						
302N	208 274	< 10	5	210	20	50	68	56						
302O	208 274	< 10	5	220	20	40	20	52						
302P	208 274	< 10	10	80	30	70	28	126						
302Q	208 274	< 10	75	80	40	140	8	20						
302R	208 274	< 10	50	80	< 10	90	2	49						
302S	208 274	< 10	5	160	50	130	88	70						

CERTIFICATION:

David B. Bueler



Chemex Labs Ltd.

Analytical Chemists - Geochemists - Registered Assayers
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PHONE: 416-624-2806

TO: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-A
Total Pages : 2
Certificate Date: 18-AUG-93
Invoice No.: 18318430
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	AL2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
302T	208 274	12.63	4.49	< 0.01	17.76	0.32	3.08	0.20	3.78	0.15	50.21	1.92	4.52	99.07	110
302U	208 274	17.47	7.06	< 0.01	8.07	1.67	3.99	0.17	2.79	0.08	49.16	0.94	8.67	100.10	440
302V	208 274	14.33	8.69	< 0.01	13.19	0.43	6.48	0.22	3.49	< 0.01	48.18	1.09	2.31	98.18	30
302W	208 274	13.20	1.69	< 0.01	2.10	3.87	0.20	0.04	4.48	0.02	73.88	0.14	1.70	101.35	730
303A	208 274	11.46	2.32	< 0.01	2.28	2.76	0.43	0.04	2.28	< 0.01	77.66	0.12	1.31	100.70	300
303B	208 274	11.14	1.39	< 0.01	1.62	3.12	0.23	0.02	2.27	0.01	79.06	0.14	1.10	100.10	280
303C	208 274	17.63	5.82	< 0.01	8.18	0.21	4.72	0.12	5.50	0.12	55.00	0.94	2.73	101.00	90
303D	208 274	16.03	5.20	< 0.01	9.89	0.43	4.41	0.15	4.00	0.18	55.30	0.98	3.38	99.96	110
303E	208 274	17.12	4.06	< 0.01	11.22	0.78	4.33	0.22	5.32	0.29	49.91	1.27	4.78	99.31	180
303F	208 274	15.08	2.24	< 0.01	3.41	5.47	0.55	0.07	1.00	< 0.01	69.40	0.16	3.93	101.35	710
303G	208 274	15.59	5.10	< 0.01	11.60	0.04	7.87	0.16	2.87	< 0.01	46.55	0.92	8.19	98.91	10
303H	208 274	14.58	10.77	< 0.01	14.32	0.02	4.99	0.21	2.85	< 0.01	47.83	1.37	3.86	98.82	< 10
303I	208 274	15.48	9.03	< 0.01	12.94	0.04	8.31	0.18	2.13	< 0.01	45.91	1.00	3.80	98.84	40
303J	208 274	15.66	7.47	< 0.01	11.67	0.04	6.20	0.18	3.32	< 0.01	45.62	0.99	7.87	99.04	10
303K	208 274	15.66	2.29	< 0.01	4.24	1.25	2.01	0.04	4.28	0.06	66.59	0.42	3.63	100.50	290
303L	208 274	15.73	2.50	< 0.01	3.95	0.91	1.96	0.05	5.36	0.07	66.74	0.42	3.12	100.80	290
303M	208 274	16.01	1.80	< 0.01	2.89	1.23	1.01	0.03	5.66	0.06	69.20	0.35	2.34	100.60	320
303N	208 274	18.65	2.47	< 0.02	15.64	0.05	9.62	0.18	3.09	< 0.01	40.24	1.07	7.04	98.08	20
303O	208 274	15.97	2.21	< 0.01	3.45	0.93	1.16	0.04	5.31	0.06	69.08	0.41	2.57	101.20	260
303P	208 274	15.50	1.93	< 0.01	3.14	0.60	1.17	0.03	5.18	0.10	69.15	0.42	2.99	100.20	160
303Q	208 274	14.57	6.73	< 0.01	13.35	0.35	5.14	0.17	1.79	0.02	48.81	1.21	6.94	99.09	90
303R	208 274	19.62	2.36	< 0.01	4.62	4.12	2.18	0.04	1.56	0.04	60.45	0.52	5.10	100.60	390
303S	208 274	12.78	7.78	< 0.01	15.34	0.08	5.46	0.22	2.55	0.08	48.02	1.57	4.33	98.22	20
303T	208 274	16.96	0.81	< 0.02	3.91	1.28	1.48	0.02	5.55	0.08	67.61	0.45	2.73	101.00	510
303U	208 274	15.85	1.28	< 0.01	3.82	0.06	1.65	0.04	7.85	0.06	67.97	0.41	2.03	101.05	40
303V	208 274	15.50	1.30	< 0.02	3.58	0.13	1.32	0.05	7.69	0.08	69.04	0.39	2.28	101.40	90
303W	208 274	15.60	3.52	< 0.02	3.76	2.53	1.61	0.04	2.34	0.08	66.30	0.42	5.15	101.35	390
304A	208 274	15.61	2.52	< 0.02	3.55	2.19	1.65	0.03	3.81	0.07	67.67	0.39	3.21	100.80	380
304B	208 274	14.00	9.20	< 0.01	14.72	0.10	5.19	0.21	2.72	0.02	48.00	1.15	3.60	98.82	30
304C	208 274	17.33	1.78	< 0.01	9.37	1.22	4.01	0.05	1.35	0.02	58.30	1.20	5.67	100.30	140
304D	208 274	14.89	7.37	< 0.01	19.74	0.18	5.99	0.26	0.77	< 0.01	35.82	1.08	11.64	97.76	80
304E	208 274	15.15	11.40	< 0.02	12.13	0.07	8.24	0.19	1.48	< 0.01	46.53	0.78	3.01	99.61	20
304F	208 274	14.59	10.43	< 0.02	13.95	0.19	8.31	0.20	1.84	< 0.01	46.11	0.91	2.06	98.62	30
304G	208 274	13.27	5.82	< 0.01	13.93	0.61	3.21	0.19	3.82	0.08	56.23	1.41	0.90	99.08	180
304H	208 274	13.43	10.02	< 0.02	15.89	0.10	6.48	0.24	1.54	0.04	47.71	1.15	2.08	98.70	10
304I	208 274	15.48	7.17	< 0.05	13.89	0.02	7.41	0.20	2.24	0.04	46.94	1.10	4.57	99.11	10
304J	208 274	14.45	12.48	< 0.09	11.89	0.02	8.75	0.19	1.59	< 0.01	46.29	0.75	3.10	99.61	20
304K	208 274	13.64	10.04	< 0.05	14.28	0.02	5.26	0.22	2.77	0.02	40.74	1.05	11.19	99.30	10
304L	208 274	15.69	3.84	< 0.01	9.68	0.96	5.21	0.14	2.33	0.02	56.60	0.62	6.59	99.59	120
304M	208 274	15.48	0.73	< 0.01	2.05	2.42	1.03	0.03	4.31	0.08	71.92	0.31	1.79	100.35	470

CERTIFICATION:

Stuart B. Borden



Chemex Labs Ltd.

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

TO: NORANDA EXPLORATION COMPANY LIMITED

880 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-8
Total Pages : 2
Certificate Date: 18-AUG-83
Invoice No. : 18318430
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318430

SAMPLE	PREP CODE	MD ppm	RD ppm	SC ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
302P	208 274	< 10	5	80	40	140	220	110						
302U	208 274	< 10	40	140	10	100	82	96						
302V	208 274	< 10	< 5	150	20	50	116	51						
302W	208 274	20	95	80	50	300	5	70						
303A	208 274		100	150	40	300	5	38						
303B	208 274	10	95	430	30	190	6	19						
303C	208 274	< 10	< 5	240	10	100	42	64						
303D	208 274	< 10	5	200	20	130	146	85						
303E	208 274	< 10	20	240	20	130	6	215						
303F	208 274	30	170	40	60	400	14	68						
303G	208 274	< 10	< 5	50	10	40	22	79						
303H	208 274	< 10	< 5	140	30	60	82	69						
303I	208 274	< 10	< 5	190	20	30	98	58						
303J	208 274	< 10	< 5	100	< 10	30	126	89						
303K	208 274	< 10	30	190	< 10	90	10	33						
303L	208 274	< 10	20	310	< 10	100	4	66						
303M	208 274	< 10	25	370	< 10	100	14	51						
303N	208 274	< 10	< 5	80	20	40	30	133						
303O	208 274	< 10	20	310	< 10	100	4	36						
303P	208 274	< 10	15	300	< 10	100	2							
303Q	208 274	< 10	< 5	110	20	50	54	98						
303R	208 274	< 10	80	110	< 10	90	16	62						
303S	208 274	< 10	5	270	30	110	116	110						
303T	208 274	< 10	3	200	< 10	110	2	66						
303U	208 274	< 10	< 5	200	< 10	100	5	61						
303V	208 274	< 10	< 5	150	< 10	90	2	63						
303W	208 274	< 10	50	130	< 10	100	2	42						
304A	208 274	< 10	55	150	< 10	100	2	30						
304B	208 274	< 10	< 5	140	20	50	106	78						
304C	208 274	< 10	35	170	10	50	82	105						
304D	208 274	< 10	5	50	20	30	220	220						
304E	208 274	< 10	< 5	90	10	30	86	49						
304F	208 274	< 10	5	90	20	40	58	40						
304G	208 274	< 10	10	160	30	120	38	82						
304H	208 274	< 10	< 5	100	20	50	160	55						
304I	208 274	10	< 5	150	20	40	118	95						
304J	208 274	< 10	< 5	170	10	20	132	48						
304K	208 274	< 10	< 5	30	20	40	110	98						
304L	208 274	< 10	25	40	10	50	70	100						
304M	208 274	< 10	50	110	< 10	90	8	32						

CERTIFICATION:

Handwritten signature



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED
960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

A9318430

Comments: ATTN: REG FELIX

CERTIFICATE A9318430

NORANDA EXPLORATION COMPANY LIMITED

Project: 1320
P.O.#: TB 84634

Samples submitted to our lab in Vancouver, BC.
This report was printed on 18-AUG-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	80	Assay ring to approx 150 mesh
274	80	0-15 lb crush and split
200	80	Whole rock fusion
238	80	Micro-aqua-regia digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	80	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
586	80	CaO %: Whole rock	ICP-AES	0.01	99.99
590	80	Cr2O3 %: Whole rock	ICP-AES	0.01	100.00
586	80	Fe2O3 (total) %: Whole rock	ICP-AES	0.01	100.00
621	80	K2O %: Whole rock	ICP-AES	0.01	99.99
593	80	MnO %: Whole rock	ICP-AES	0.01	99.99
596	80	MgO %: Whole rock	ICP-AES	0.01	99.99
599	80	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	80	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	80	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	80	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	80	L.O.I. %: Loss on Ignition	FURNACE	0.01	99.99
540	80	Total %	CALCULATION	0.01	100.00
891	80	Ba ppm	ICP	10	10000
973	80	Nb ppm	ICP	10	10000
1067	80	Rb ppm	ICP	5	10000
898	80	Sr ppm	ICP	10	10000
974	80	Y ppm	ICP	10	10000
978	80	Zr ppm	ICP	10	10000
2	80	Cu ppm: EM03-aqua regia digest	AAS	1	10000
5	80	En ppm: EM03-aqua regia digest	AAS	1	10000



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TO: NORANDA EXPLORATION COMPANY LIMITED
960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

2
A9318432

Comments: ATTN: REG FELIX

CERTIFICATE

A9318432

NORANDA EXPLORATION COMPANY LIMITED

Project: 1320
P.O. #: TB 84634

Samples submitted to our lab in Vancouver, BC.
This report was printed on 17-AUG-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	80	Assay ring to approx 150 mesh
274	80	0-15 lb crush and split
200	80	Whole rock fusion
238	80	Nitric-aqua-regia digestion

Can't find 1204, 1, 6

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	80	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
588	80	CaO %: Whole rock	ICP-AES	0.01	99.99
590	80	Cr2O3 %: Whole rock	ICP-AES	0.01	100.00
586	80	Fe2O3 (total) %: Whole rock	ICP-AES	0.01	100.00
821	80	K2O %: Whole rock	ICP-AES	0.01	99.99
593	80	MgO %: Whole rock	ICP-AES	0.01	99.99
596	80	MnO %: Whole rock	ICP-AES	0.01	99.99
599	80	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	80	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	80	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	80	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	80	L.O.I. %: Loss on ignition	FOURNACE	0.01	99.99
540	80	Total %	CALCULATION	0.01	105.00
891	80	Ba ppm	ICP	10	10000
973	80	Hb ppm	ICP	10	10000
1067	80	Rb ppm	ICP	5	10000
898	80	Br ppm	ICP	10	10000
974	80	Y ppm	ICP	10	10000
978	80	Kr ppm	ICP	10	10000
2	80	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
5	80	Zn ppm: HNO3-aqua regia digest	AAS	1	10000



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assessors
5175 Timberlea Blvd., Mississauga, Ontario, Canada L4W 2S3
PHONE: 416-624-2808

To: NORANDA EXPLORATION COMPANY LIMITED
960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-A
Total Pages : 2
Certificate Date: 17-AUG-93
Invoice No. : 18318432
P.O. Number : TB 84634
Account : BULF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	AL2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
304M	208 274	17.14	1.81	< 0.01	12.94	0.45	5.47	0.13	3.78	0.05	49.66	1.18	5.24	97.86	128
304O	208 274	13.85	9.14	< 0.01	12.27	0.03	6.71	0.20	3.15	0.02	48.72	0.95	5.12	98.17	30
304P	208 274	20.00	1.43	< 0.01	4.67	2.89	2.51	0.05	2.64	0.06	61.77	0.36	4.50	100.90	388
304Q	208 274	15.90	3.82	0.01	16.99	0.10	8.40	0.26	2.43	0.03	39.87	1.43	7.82	97.06	30
304R	208 274	14.05	0.78	< 0.01	4.01	0.36	2.11	0.07	5.96	0.04	71.31	0.30	1.78	100.70	188
304E	208 274	15.69	2.09	0.02	8.05	1.07	3.98	0.13	3.92	0.08	60.62	0.68	4.01	100.35	418
304F	208 274	17.63	0.83	0.03	2.68	3.89	0.62	0.02	2.52	0.08	68.89	0.44	2.87	100.80	430
304V	208 274	14.69	1.50	0.03	3.19	2.62	1.17	0.06	2.95	0.10	71.53	0.42	1.98	100.25	388
304W	208 274	14.85	3.40	0.03	6.03	1.54	1.71	0.09	3.77	0.21	65.87	0.80	1.92	100.30	288
304X	208 274	12.99	3.38	0.04	3.02	1.10	1.03	0.05	3.87	0.08	73.15	0.29	1.34	100.35	260
305A	208 274	15.14	4.19	0.04	8.10	0.25	7.29	0.13	3.15	0.11	55.40	0.66	5.08	99.54	90
305B	208 274	12.84	2.45	0.04	3.39	2.04	1.36	0.07	3.29	0.11	72.30	0.44	2.30	100.65	328
1208A	208 274	11.98	0.34	0.04	1.17	3.93	0.42	< 0.01	2.36	0.05	79.17	0.12	1.32	100.90	928
1208B	208 274	13.85	7.41	0.02	16.24	0.24	5.54	0.21	2.98	0.16	47.62	1.87	1.92	98.06	90
1208C	208 274	13.53	0.21	0.06	2.82	3.99	0.55	0.01	2.07	0.04	74.65	0.13	2.10	100.15	788
1208D	208 274	12.16	0.59	< 0.01	1.37	5.09	0.10	0.02	1.31	0.02	78.18	0.12	1.48	100.45	438
1208E	208 274	16.04	6.45	< 0.01	8.48	0.81	3.95	0.19	4.48	0.21	55.24	1.11	2.47	99.44	288
1208F	208 274	12.87	13.23	< 0.03	8.64	0.97	8.80	0.19	2.89	0.80	44.47	0.77	4.62	98.28	388
1208G	208 274	10.88	12.41	< 0.01	10.49	0.06	3.50	0.22	0.37	< 0.01	59.80	0.40	1.22	99.37	18
1208H	208 274	16.39	10.03	0.01	10.71	0.64	7.45	0.19	2.51	< 0.01	47.59	0.39	2.56	98.48	110
1208I	208 274	12.33	7.44	< 0.01	17.88	0.42	4.80	0.28	3.32	0.10	47.81	2.06	1.45	97.90	68
1208J	208 274	13.74	10.89	< 0.01	13.37	0.10	6.26	0.21	2.73	< 0.01	48.23	0.83	0.99	97.37	38
1208K	208 274	14.24	13.06	< 0.01	13.64	0.25	8.96	0.23	1.45	< 0.01	43.66	0.38	1.24	97.13	28
1208L	208 274	16.18	11.42	< 0.01	10.10	0.50	7.34	0.18	1.78	< 0.01	48.55	0.40	1.86	98.33	68
1208M	208 274	13.75	14.23	< 0.01	12.79	0.04	3.70	0.18	0.34	0.07	48.76	1.01	2.53	97.41	28
1208N	208 274	14.82	10.04	0.01	13.37	0.23	5.53	0.22	2.26	0.03	47.75	1.01	2.20	97.37	68
1208O	208 274	13.73	0.46	0.02	2.91	2.91	0.26	0.02	4.44	0.03	76.02	0.14	0.83	100.75	478
1208P	208 274	11.63	0.59	0.03	4.24	4.21	0.42	0.04	2.45	0.03	75.19	0.12	1.17	100.10	828
1208Q	208 274	15.75	7.68	0.02	8.20	0.51	5.37	0.09	2.57	0.16	55.37	0.94	3.33	99.99	188
1208R	208 274	11.59	0.25	0.04	1.74	2.36	0.27	0.01	3.61	0.05	79.31	0.14	1.25	100.50	318
1208S	208 274	12.95	0.74	0.03	2.60	2.07	0.76	0.03	4.22	0.04	74.37	0.13	1.25	99.19	448
1208T	208 274	16.86	0.16	0.04	2.61	4.69	0.64	0.01	3.74	0.07	70.20	0.29	1.73	100.75	888
1208U	208 274	14.30	11.55	0.05	10.72	0.34	7.23	0.02	2.18	0.02	48.54	0.55	2.30	99.96	88
1208V	208 274	14.26	9.88	< 0.01	13.52	0.18	5.78	0.22	3.25	0.01	47.95	0.94	1.61	97.61	78
1208W	208 274	12.36	0.33	0.03	2.47	2.31	0.43	0.01	4.14	0.03	76.84	0.12	1.33	100.40	388
1209A X	208 274	12.10	0.49	0.03	1.86	3.19	0.27	0.02	4.00	0.06	77.14	0.12	1.13	100.40	848
1209B	208 274	16.60	5.69	0.02	10.49	0.07	2.89	0.20	3.06	0.20	51.23	1.36	4.23	99.04	38
1209C	208 274	13.48	5.61	< 0.01	16.35	0.04	4.92	0.21	3.86	0.08	44.67	1.87	6.56	97.66	28
1209D	208 274	16.75	2.65	< 0.01	3.33	2.15	1.45	0.06	4.57	0.07	66.74	0.36	3.11	101.25	518
1209E	208 274	15.74	4.38	0.01	2.70	1.41	0.62	0.03	4.97	0.11	66.13	0.43	4.32	100.85	278

CERTIFICATION:

Barth B. Sellen



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-B
Total Pages : 2
Certificate Date: 17-AUG-83
Invoice No. : 18318432
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	Mo ppm	Nb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Sa ppm						
304M	208 274	< 10	10	20	10	80	106	135						
304O	208 274	< 10	5	220	20	50	110	63						
304P	208 274	< 10	70	120	< 10	110	16	108						
304Q	208 274	< 10	< 5	30	20	60	71	170						
304R	208 274	< 10	< 5	100	< 10	80	4	46						
304S	208 274	< 10	35	190	10	100	22	94						
304T	208 274	< 10	100	140	10	140	8	27						
304V	208 274	< 10	30	120	10	140	20	36						
304W	208 274	< 10	30	160	20	200	24	63						
305A	208 274	< 10	30	180	10	160	6	34						
305B	208 274	< 10	< 5	180	10	90	10	79						
1208A	208 274	< 10	50	120	10	230	9	66						
1208B	208 274	< 10	95	30	50	320	2	10						
1208C	208 274	< 10	10	210	40	110	82	59						
1208D	208 274	20	100	40	40	340	3	5						
1208E	208 274	< 10	120	50	30	290	3	9						
1208F	208 274	< 10	30	260	20	120	40	64						
1208G	208 274	< 10	10	850	20	220	16	75						
1208H	208 274	< 10	< 5	60	20	20	41	29						
1208I	208 274	< 10	30	180	10	10	54	29						
1208J	208 274	< 10	5	110	30	90	76	50						
1208K	208 274	< 10	< 5	40	20	30	118	20						
1208L	208 274	< 10	< 5	70	10	10	54	23						
1208M	208 274	< 10	20	140	10	20	32	17						
1208N	208 274	< 10	< 5	460	20	70	88	33						
1208O	208 274	< 10	15	130	20	50	124	45						
1208P	208 274	20	80	90	30	330	6	19						
1208Q	208 274	< 10	100	70	30	270	6	21						
1208R	208 274	< 10	10	320	10	120	18	57						
1208S	208 274	10	85	70	20	190	3	13						
1208T	208 274	20	100	110	40	200	4	77						
1208U	208 274	< 10	130	70	50	230	4	24						
1208V	208 274	< 10	10	250	20	40	73	28						
1208W	208 274	< 10	< 5	100	20	30	130	33						
1208X	208 274	10	105	90	40	160	6	22						
1209A	208 274	10	75	80	30	160	4	32						
1209B	208 274	< 10	< 5	310	20	110	60	173						
1209C	208 274	< 10	< 5	30	40	80	74	75						
1209D	208 274	< 10	45	250	< 10	90	7	36						
1209E	208 274	< 10	30	250	< 10	100	24	27						

CERTIFICATION:

David Boudier



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

860 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number :2-A
Total Pages :2
Certificate Date: 17-AUG-83
Invoice No.: 18318432
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
1209P ?	200 274	13.84	9.07	< 0.01	15.57	0.30	5.47	0.22	1.07	0.04	47.37	1.28	3.60	97.84	20
1209G ?	200 274	15.96	2.13	0.02	3.29	1.59	1.39	0.04	5.09	0.10	68.82	0.41	2.60	101.35	440
1209M	200 274	17.46	3.53	0.02	7.91	1.27	3.59	0.04	5.83	0.04	53.70	1.08	5.01	99.97	510
1209I	200 274	18.35	1.59	0.02	2.34	3.62	1.02	0.04	3.13	0.10	68.14	0.47	2.46	101.30	760
1209J	200 274	15.65	6.14	0.01	14.67	0.56	6.78	0.23	2.59	0.03	43.34	1.34	6.49	97.73	170
1209K	200 274	15.64	4.17	0.02	15.47	0.48	7.63	0.19	1.59	0.08	42.32	1.64	8.76	97.99	130
1209L	200 274	15.01	9.55	0.02	12.96	0.31	7.52	0.19	1.54	0.01	46.16	0.92	3.80	97.99	10
1209M	200 274	14.15	8.84	0.01	12.71	0.34	6.89	0.19	2.96	0.03	46.54	1.05	4.62	98.33	30
1209N	200 274	14.33	6.50	< 0.01	12.35	0.63	4.55	0.15	3.09	0.05	48.99	0.98	8.38	99.01	80
1209O	200 274	16.33	10.92	0.02	12.66	0.21	7.05	0.19	1.42	< 0.01	44.59	0.90	3.87	98.17	10
1209P	200 274	15.84	1.82	< 0.01	3.90	1.78	1.53	0.05	4.27	0.09	68.27	0.41	3.11	101.10	380
1209Q	200 274	16.37	0.47	< 0.01	1.68	2.19	0.73	< 0.01	4.24	0.07	72.41	0.37	2.04	100.50	310
1209R	200 274	15.12	5.52	< 0.01	14.25	0.35	5.71	0.27	3.17	0.07	44.42	1.28	8.40	98.52	20
1209S	200 274	14.46	5.92	0.01	15.85	0.37	5.12	0.27	3.30	0.08	43.10	1.29	7.80	97.57	40
1209T	200 274	18.04	0.41	0.02	3.18	0.64	0.92	0.02	8.23	0.10	67.20	0.41	1.78	100.95	120
1209U	200 274	12.63	4.97	< 0.01	14.32	0.21	4.60	0.19	1.76	0.08	49.55	1.49	7.80	97.61	30
1209V	200 274	14.91	7.68	< 0.01	9.36	0.16	3.59	0.13	2.57	0.22	55.34	1.34	3.93	99.14	20
1209W	200 274	18.98	1.52	< 0.01	4.37	1.80	0.86	0.05	4.04	0.11	64.84	0.86	3.52	100.70	300
1210A	200 274	15.54	9.35	< 0.01	12.88	0.28	7.59	0.22	2.57	0.01	46.54	1.10	1.88	97.97	30
1210B	200 274	13.45	3.50	< 0.01	5.66	0.27	3.87	0.07	2.48	0.09	68.11	0.99	2.32	100.30	70
1210C	200 274	14.72	10.81	0.01	12.60	0.38	7.80	0.20	1.78	< 0.01	47.07	0.82	1.63	97.83	20
1210D	200 274	14.69	2.50	< 0.01	2.62	1.01	0.64	0.04	4.95	0.08	72.42	0.35	1.09	100.00	160
1210E	200 274	14.76	10.65	< 0.01	12.51	0.37	7.55	0.20	1.91	< 0.01	47.50	0.83	1.43	97.83	40
1210F	200 274	15.08	11.02	< 0.01	12.46	0.36	7.32	0.19	1.90	< 0.01	46.70	0.92	1.82	97.69	20
1210G	200 274	17.40	6.17	0.04	15.60	0.79	10.02	0.20	2.30	< 0.01	44.63	0.87	4.41	102.45	40
1210I	200 274	14.13	4.01	< 0.01	3.04	0.20	0.48	0.07	3.66	0.08	68.97	0.38	4.48	99.51	290
1210J	200 274	14.33	9.55	< 0.01	11.19	1.53	6.08	0.17	2.57	0.07	50.76	0.89	2.96	100.10	20
1210K	200 274	16.67	0.48	< 0.01	0.83	1.07	0.56	0.01	6.56	0.06	72.06	0.42	1.22	99.95	370
1210L	200 274	15.76	0.90	< 0.01	2.74	0.42	1.19	0.06	6.76	0.11	70.34	0.37	1.60	100.25	270
1210M	200 274	15.46	0.49	0.01	2.92	0.28	1.58	0.03	7.56	0.10	70.83	0.36	1.27	100.90	160
1210N	200 274	14.34	7.17	< 0.01	13.47	0.27	4.16	0.20	4.66	0.09	48.21	1.38	3.75	97.71	60
1210O	200 274	15.52	7.59	< 0.01	13.19	0.22	6.44	0.18	2.19	0.04	47.66	1.08	3.78	98.30	20
1210P	200 274	15.32	4.04	< 0.01	13.59	0.48	8.17	0.16	2.90	0.03	45.73	1.05	7.19	98.64	10
1210Q	200 274	18.00	3.22	< 0.01	14.33	0.25	4.04	0.15	5.01	0.06	45.44	1.61	5.64	97.76	190
1210R	200 274	17.12	4.30	0.08	20.45	0.70	12.10	0.28	1.21	0.06	36.01	1.43	7.06	100.80	10
1210S	200 274	13.16	7.16	< 0.01	12.91	0.24	7.78	0.18	2.96	0.02	48.96	1.13	3.21	97.76	30
1210T	200 274	17.87	2.31	< 0.01	2.33	3.99	1.13	0.03	3.11	0.09	66.09	0.31	3.69	100.95	470
1210U	200 274	15.85	0.82	< 0.01	2.67	3.21	0.31	0.03	1.98	0.09	72.34	0.25	2.77	100.08	290
1210V	200 274	12.16	0.60	0.02	3.51	1.57	0.39	0.06	4.15	0.04	75.50	0.20	2.22	100.30	390
1210W	200 274	17.02	0.10	0.01	3.43	2.09	0.17	0.06	3.23	0.06	71.18	0.44	3.20	101.00	190

CERTIFICATION:

Stuart B. Borden



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assessors
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-824-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-8
Total Pages : 2
Certificate Date: 17-AUG-83
Invoice No. : 18318432
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	Mo ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Sn ppm						
12097	208 274	< 10	20	210	30	60	82	97						
12098	208 274	< 10	40	240	< 10	210	5	34						
12099	208 274	< 10	35	130	20	50	114	65						
12091	208 274	< 10	60	100	10	120	14	18						
12097	208 274	< 10	10	280	30	60	78	228						
1209K	208 274	< 10	< 5	70	20	70	8	188						
1209L	208 274	< 10	< 5	100	20	30	72	64						
1209M	208 274	< 10	< 5	200	20	40	78	65						
1209N	208 274	< 10	< 5	170	20	60	80	118						
12090	208 274	< 10	< 5	180	20	30	94	69						
1209P	208 274	< 10	25	240	< 10	100	6	81						
1209Q	208 274	< 10	40	180	< 10	100	12	19						
1209R	208 274	< 10	< 5	140	30	60	62	127						
1209S	208 274	< 10	< 5	80	30	60	86	124						
1209T	208 274	< 10	< 5	120	< 10	110	4	51						
1209U	208 274	< 10	< 5	70	30	90	108	131						
1209V	208 274	< 10	< 5	370	20	120	44	89						
1209W	208 274	< 10	45	300	< 10	80	19	53						
1210A	208 274	< 10	< 5	120	20	60	76	103						
1210B	208 274	< 10	< 5	130	10	140	2	48						
1210C	208 274	< 10	< 5	80	20	40	112	28						
1210D	208 274	< 10	15	90	< 10	100	6	27						
1210E	208 274	< 10	< 5	80	20	40	98	40						
1210F	208 274	< 10	< 5	100	20	50	78	29						
1210G	208 274	< 10	< 5	80	20	50	14	100						
1210T	208 274	< 10	45	170	10	110	10	35						
1210J	208 274	< 10	< 5	130	40	110	38	45						
1210K	208 274	< 10	< 5	280	< 10	90	2	12						
1210L	208 274	< 10	15	100	< 10	120	10	38						
1210M	208 274	< 10	10	130	< 10	120	4	35						
1210N	208 274	< 10	< 5	200	40	80	158	82						
1210O	208 274	< 10	< 5	250	20	60	78	79						
1210P	208 274	< 10	< 5	40	20	60	90	93						
1210Q	208 274	< 10	< 5	40	30	70	102	100						
1210R	208 274	< 10	< 5	160	40	60	58	170						
1210S	208 274	< 10	< 5	110	30	60	86	60						
1210T	208 274	< 10	70	30	< 10	110	12	32						
1210U	208 274	< 10	55	70	< 10	90	16	15						
1210V	208 274	< 10	30	70	20	200	32	33						
1210W	208 274	< 10	45	120	< 10	80	16	15						

CERTIFICATION: David B. Jones



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2808

To: NORANDA EXPLORATION COMPANY LIMITED
980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Page Number : 1-A
Total Pages : 2
Certificate Date: 17-AUG-93
Invoice No. : 18318432
P.O. Number : TB 94534
Account : BUF

Project: 1320
Comments: ATTN: REG FELIX

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
304M	208 274	17.14	1.81	< 0.01	12.94	0.45	5.47	0.13	3.78	0.05	49.66	1.18	5.24	97.86	120
304O	208 274	13.85	9.14	< 0.01	12.27	0.03	6.71	0.20	3.15	0.02	48.72	0.55	3.12	98.17	30
304P	208 274	20.00	1.43	< 0.01	4.67	2.89	2.51	0.05	2.64	0.06	61.77	0.36	4.50	100.90	380
304Q	208 274	15.90	3.82	0.01	16.99	0.10	8.40	0.26	2.43	0.03	39.87	1.43	7.82	97.06	30
304R	208 274	14.05	0.78	< 0.01	4.01	0.36	2.11	0.07	5.96	0.04	71.21	0.30	1.78	100.70	100
304E	208 274	15.69	2.09	0.02	8.05	1.07	3.98	0.13	3.92	0.08	60.62	0.66	4.01	100.35	430
304F	208 274	17.63	0.83	0.03	2.68	3.89	0.62	0.02	2.52	0.08	68.89	0.44	2.87	100.50	430
304V	208 274	14.85	1.50	0.03	3.19	2.62	1.17	0.06	2.95	0.10	71.53	0.42	1.98	100.25	300
304W	208 274	12.99	3.38	0.04	6.03	1.54	1.71	0.09	3.77	0.21	65.97	0.80	1.92	100.30	280
305A	208 274	15.14	4.19	0.04	9.10	0.25	1.03	0.05	3.87	0.08	73.15	0.29	1.34	100.38	260
305B	208 274	12.84	2.45	0.04	3.39	2.04	1.36	0.07	3.29	0.11	55.40	0.66	5.08	99.54	90
1208A	208 274	11.98	0.34	0.04	1.17	3.93	0.42	< 0.01	2.36	0.05	79.17	0.12	1.32	100.90	320
1208B	208 274	13.85	7.41	0.02	16.24	0.24	5.54	0.21	2.98	0.16	47.62	1.87	1.92	99.06	90
1208C	208 274	13.53	0.21	0.06	2.82	3.99	0.55	0.01	2.07	0.04	74.65	0.13	2.10	100.15	790
1208D	208 274	12.16	0.59	< 0.01	1.37	5.09	0.10	0.02	1.31	0.02	78.18	0.12	1.48	100.45	430
1208E	208 274	16.04	6.45	< 0.01	8.48	0.81	3.95	0.19	4.48	0.21	55.24	1.11	2.47	99.44	280
1208F	208 274	12.87	13.31	0.03	0.64	0.97	8.80	0.19	2.89	0.80	44.47	0.77	4.62	99.28	280
1208G	208 274	10.88	12.41	< 0.01	10.49	0.06	3.50	0.22	0.37	< 0.01	59.80	0.40	1.22	99.37	110
1208H	208 274	16.39	10.03	0.01	10.71	0.64	7.45	0.19	2.51	< 0.01	47.59	0.39	2.56	98.48	110
1208I	208 274	12.33	7.44	< 0.01	17.88	0.42	4.80	0.28	3.32	0.10	47.81	2.06	1.45	97.90	60
1208J	208 274	13.74	10.89	< 0.01	13.37	0.10	6.26	0.21	2.73	< 0.01	48.23	0.83	0.99	97.37	30
1208K	208 274	14.24	13.06	< 0.01	13.64	0.25	8.96	0.23	1.45	< 0.01	43.66	0.38	1.24	97.13	20
1208L	208 274	16.18	11.42	< 0.01	10.10	0.50	7.34	0.18	1.78	< 0.01	48.55	0.40	1.86	98.33	60
1208M	208 274	13.75	14.23	< 0.01	12.79	0.04	3.70	0.18	0.34	0.07	48.76	1.01	2.53	97.41	20
1208N	208 274	14.82	10.04	0.01	13.27	0.23	5.53	0.22	2.26	0.03	47.75	1.01	2.20	97.37	60
1208P	208 274	12.73	0.46	0.02	2.91	2.91	0.26	0.02	4.44	0.03	76.02	0.14	0.83	100.78	470
1208Q	208 274	11.63	0.59	0.03	4.24	4.51	0.42	0.04	2.45	0.03	75.19	0.12	1.17	100.10	820
1208R	208 274	15.75	7.58	0.02	8.20	0.21	5.37	0.09	2.57	0.16	55.37	0.84	3.33	99.39	150
1208S	208 274	11.59	0.25	0.04	1.74	2.36	0.27	0.01	3.61	0.05	79.21	0.14	1.25	100.50	310
1208T	208 274	13.95	0.74	0.03	2.60	2.07	0.76	0.03	4.22	0.04	74.37	0.13	1.25	99.19	440
1208U	208 274	16.56	11.16	0.04	2.61	4.69	0.64	0.01	3.74	0.07	70.20	0.29	1.73	100.75	880
1208V	208 274	14.30	11.55	0.05	10.72	0.34	7.23	0.20	2.18	0.02	48.54	0.55	2.30	97.98	80
1208W	208 274	14.26	9.88	< 0.01	13.52	0.38	5.78	0.22	3.25	0.01	47.95	0.84	1.61	97.61	70
1208X	208 274	12.36	0.33	0.03	2.47	2.31	0.43	0.01	4.14	0.03	76.84	0.12	1.33	100.40	300
1208Y	208 274	12.10	0.49	0.03	1.86	3.19	0.27	0.02	4.00	0.06	77.14	0.12	1.13	100.40	840
1208Z	208 274	16.60	8.69	< 0.02	10.49	0.07	2.89	0.20	3.06	0.20	51.23	1.36	4.23	99.04	30
1209A	208 274	13.48	5.61	< 0.01	16.35	0.04	4.92	0.21	3.86	0.08	44.67	1.87	6.56	97.66	20
1209B	208 274	16.75	2.55	< 0.01	3.33	2.15	1.45	0.06	4.57	0.07	66.74	0.36	3.11	101.25	510
1209C	208 274	15.74	4.38	0.01	2.70	1.41	0.62	0.03	4.97	0.11	66.13	0.43	4.32	100.85	270

CERTIFICATION:

Handwritten signature



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-8
Total Pages : 2
Certificate Date : 17-AUG-93
Invoice No. : 18318432
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	ND ppm	Nb ppm	Sc ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
304M	208 274	< 10	10	20	10	50	106	135						
304O	208 274	< 10	5	220	20	50	110	63						
304P	208 274	< 10	70	120	< 10	110	16	108						
304Q	208 274	< 10	< 5	30	20	60	71	170						
304R	208 274	< 10	< 5	100	< 10	80	4	46						
304S	208 274	< 10	35	190	10	100	22	94						
304T	208 274	< 10	100	140	10	140	8	27						
304V	208 274	< 10	60	120	10	140	20	36						
304W	208 274	< 10	30	160	20	200	24	63						
304X	208 274	< 10	30	180	10	160	6	34						
305A	208 274	< 10	< 5	180	10	90	10	79						
305B	208 274	< 10	50	120	10	230	9	66						
1208A	208 274	< 10	95	30	50	320	2	10						
1208B	208 274	< 10	10	210	40	110	82	59						
1208C	208 274	20	100	40	40	340	3	5						
1208D	208 274	20	120	50	30	290	3	9						
1208E	208 274	< 10	30	260	20	120	40	64						
1208F	208 274	< 10	10	850	20	220	16	75						
1208G	208 274	< 10	< 5	60	20	20	41	29						
1208H	208 274	< 10	30	180	10	10	54	29						
1208I	208 274	< 10	5	110	30	90	76	50						
1208J	208 274	< 10	< 5	40	20	30	118	20						
1208K	208 274	< 10	< 5	70	10	10	54	23						
1208L	208 274	< 10	20	140	10	20	32	17						
1208M	208 274	< 10	< 5	460	20	70	88	33						
1208N	208 274	< 10	15	130	20	50	124	45						
1208O	208 274	20	80	90	30	330	6	19						
1208P	208 274	20	100	70	30	270	6	21						
1208Q	208 274	< 10	10	320	10	120	18	57						
1208R	208 274	10	85	70	20	190	3	13						
1208S	208 274	20	100	110	40	200	4	77						
1208T	208 274	< 10	130	70	50	230	4	24						
1208U	208 274	< 10	20	250	20	40	73	28						
1208V	208 274	< 10	< 5	100	20	30	130	33						
1208W	208 274	10	105	90	40	160	6	22						
1209A	208 274	10	75	80	30	160	4	32						
1209B	208 274	< 10	< 5	310	20	110	60	173						
1209C	208 274	< 10	< 5	30	40	80	74	75						
1209D	208 274	< 10	45	250	< 10	90	7	38						
1209E	208 274	< 10	30	250	< 10	100	24	27						

CERTIFICATION: *David Buehler*



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2808

To: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-A
Total Pages : 2
Certificate Date: 17-AUG-83
Invoice No.: 18318432
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	AL2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	ppm
12097	208 274	13.84	9.07	< 0.01	15.57	0.30	5.47	0.22	1.07	0.04	47.37	1.28	3.60	97.84	20
12098	208 274	15.96	2.12	0.02	3.29	1.59	1.29	0.04	5.09	0.10	68.82	0.41	2.60	101.35	440
12099	208 274	17.46	3.53	0.02	7.91	1.27	3.59	0.13	5.83	0.04	53.70	1.08	5.01	99.57	510
12097	208 274	18.35	1.59	0.02	2.34	5.62	1.02	0.04	3.13	0.10	68.14	0.47	2.46	101.30	760
12097	208 274	15.65	6.14	0.01	14.67	0.56	6.78	0.23	2.59	0.03	43.34	1.24	6.49	97.73	170
12098	208 274	15.64	4.17	0.02	15.47	0.48	7.63	0.19	1.59	0.08	42.32	1.64	8.76	97.99	130
12099	208 274	15.01	9.55	0.02	12.96	0.31	7.52	0.19	1.54	0.01	46.16	0.92	3.00	97.99	10
12099	208 274	14.15	8.84	0.01	12.71	0.34	6.89	0.19	2.96	0.03	46.54	1.05	4.62	98.33	30
12099	208 274	16.33	6.50	< 0.01	11.35	0.63	4.55	0.15	3.09	0.05	48.99	0.98	8.58	99.01	80
12099	208 274	10.92	10.92	0.02	12.66	0.21	7.05	0.19	1.42	< 0.01	44.59	0.90	3.87	98.17	10
12099	208 274	15.84	1.82	< 0.01	3.90	1.78	1.53	0.05	4.27	0.09	68.27	0.41	3.11	101.10	380
12099	208 274	16.37	0.47	0.01	1.68	2.19	0.73	< 0.01	4.24	0.07	72.41	0.27	2.04	100.50	310
12099	208 274	15.12	5.52	< 0.01	14.25	0.35	5.71	0.22	3.17	0.07	46.42	1.28	8.40	98.52	20
12098	208 274	18.46	5.92	0.01	15.85	0.37	5.12	0.27	3.30	0.08	43.10	1.29	7.80	97.57	40
12097	208 274	10.04	0.41	0.02	3.18	0.64	0.92	0.02	8.23	0.10	67.20	0.41	1.78	100.95	120
12097	208 274	13.63	4.97	< 0.01	14.32	0.21	4.60	0.19	1.76	0.08	49.55	1.49	7.80	97.61	30
12097	208 274	14.91	7.68	< 0.01	9.36	0.16	3.59	0.13	2.57	0.22	55.34	1.24	3.93	99.14	20
12099	208 274	16.98	1.52	< 0.01	4.37	1.80	0.88	0.05	4.04	0.11	64.84	0.55	3.52	100.70	300
12108	208 274	15.54	9.35	< 0.01	12.88	0.28	7.59	0.22	2.57	0.01	46.54	1.10	1.88	97.97	30
12108	208 274	13.45	3.50	< 0.01	5.66	0.27	3.87	0.07	2.48	0.09	68.11	0.49	2.32	100.30	70
12107	208 274	14.72	10.81	0.01	12.60	0.38	7.80	0.20	1.78	< 0.01	47.07	0.82	1.63	97.83	20
12107	208 274	14.69	2.90	< 0.01	2.62	1.01	0.64	0.04	4.95	0.08	72.42	0.35	1.09	100.80	160
12107	208 274	14.76	10.65	0.01	12.51	0.37	7.65	0.20	1.91	< 0.01	47.50	0.83	1.43	97.83	40
12107	208 274	15.08	11.02	< 0.01	12.46	0.36	7.22	0.19	1.90	< 0.01	46.70	0.92	1.82	97.69	20
12107	208 274	17.40	6.17	0.04	15.60	0.79	10.02	0.30	2.30	< 0.01	46.63	0.87	4.41	102.45	40
12107	208 274	14.13	4.01	< 0.01	3.04	0.20	0.48	0.07	3.66	0.08	68.97	0.38	4.48	99.51	290
12107	208 274	14.33	9.55	< 0.01	11.19	1.53	6.08	0.17	2.57	0.07	50.76	0.89	2.96	100.10	20
12107	208 274	16.67	0.48	< 0.01	0.83	1.07	0.56	0.01	6.56	0.06	72.06	0.42	1.22	99.95	370
12107	208 274	15.76	0.90	< 0.01	2.74	0.42	1.19	0.06	7.76	0.11	70.34	0.37	1.60	100.25	270
12108	208 274	15.46	0.49	0.01	2.92	0.28	1.58	0.03	6.56	0.10	70.83	0.36	1.57	100.90	160
12108	208 274	14.34	7.17	< 0.01	13.47	0.27	4.16	0.20	4.66	0.09	48.21	1.38	3.75	97.71	60
12108	208 274	15.52	7.99	0.01	13.19	0.22	6.44	0.18	2.19	0.04	47.66	1.08	3.78	98.30	20
12109	208 274	15.32	4.04	< 0.01	13.59	0.45	8.17	0.16	2.90	0.03	45.73	1.05	7.19	98.64	10
12109	208 274	18.00	3.22	< 0.01	14.33	0.25	4.04	0.15	5.01	0.06	45.44	1.61	5.64	97.76	100
12109	208 274	17.12	4.30	0.08	20.45	0.70	12.10	0.38	1.21	0.06	36.01	1.43	7.06	100.80	10
12109	208 274	13.18	7.18	< 0.01	12.91	0.24	7.78	0.18	2.96	0.02	48.96	1.13	3.21	97.76	20
12107	208 274	17.87	2.31	< 0.01	2.33	3.99	1.13	0.03	3.11	0.09	66.09	0.31	3.69	100.95	470
12107	208 274	15.85	0.52	0.01	2.67	3.21	0.31	0.06	1.98	0.09	72.34	0.25	2.77	100.05	290
12107	208 274	12.16	0.60	0.02	3.51	1.57	0.29	0.06	4.15	0.04	75.50	0.20	2.22	100.30	300
12107	208 274	17.02	0.10	0.01	3.43	2.09	0.17	0.06	3.23	0.06	71.18	0.44	3.30	101.00	190

CERTIFICATION:

David B. Borden



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-B
Total Pages : 2
Certificate Date: 17-AUG-93
Invoice No. : 18318432
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318432

SAMPLE	PREP CODE	MB ppm	RB ppm	SE ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
13097	208 274	< 10	20	210	30	60	82	97						
13098	208 274	< 10	40	240	< 10	110	5	34						
13099	208 274	< 10	35	130	20	50	114	65						
13091	208 274	< 10	60	100	10	120	14	18						
13097	208 274	< 10	10	280	30	60	78	228						
1309K	208 274	< 10	< 5	70	20	70	8	158						
1309L	208 274	< 10	< 5	100	20	30	72	64						
1309M	208 274	< 10	< 5	200	20	40	78	65						
1309N	208 274	< 10	< 5	170	20	60	80	118						
13090	208 274	< 10	< 5	180	20	30	94	69						
1309P	208 274	< 10	25	240	< 10	100	6	81						
1309Q	208 274	< 10	40	180	< 10	100	12	19						
1309R	208 274	< 10	< 5	140	30	60	62	127						
1309S	208 274	< 10	< 5	80	30	60	86	124						
1309T	208 274	< 10	< 5	120	< 10	110	4	51						
1309U	208 274	< 10	< 5	70	30	90	108	131						
1309V	208 274	< 10	< 5	370	20	120	44	89						
1309W	208 274	< 10	45	300	< 10	80	19	53						
1310A	208 274	< 10	< 5	120	20	60	76	103						
1310B	208 274	< 10	< 5	130	10	140	2	48						
1310C	208 274	< 10	< 5	80	20	40	112	28						
1310D	208 274	< 10	15	90	< 10	100	6	27						
1310E	208 274	< 10	< 5	80	20	40	98	40						
1310F	208 274	< 10	< 5	100	20	50	78	29						
1310G	208 274	< 10	< 5	80	20	50	14	100						
1310I	208 274	< 10	45	170	10	110	10	35						
1310J	208 274	< 10	< 5	130	40	110	38	45						
1310K	208 274	< 10	30	280	< 10	90	2	12						
1310L	208 274	< 10	15	100	< 10	120	10	38						
1310M	208 274	< 10	10	130	< 10	120	4	35						
1310N	208 274	< 10	< 5	200	40	80	158	82						
1310O	208 274	< 10	< 5	250	20	60	78	79						
1310P	208 274	< 10	< 5	40	30	60	90	93						
1310Q	208 274	< 10	< 5	40	30	70	102	100						
1310R	208 274	< 10	< 5	100	40	60	58	170						
1310S	208 274	< 10	< 5	110	30	60	86	60						
1310T	208 274	< 10	70	30	< 10	110	12	32						
1310U	208 274	< 10	55	70	< 10	90	16	15						
1310V	208 274	< 10	30	70	20	200	32	33						
1310W	208 274	< 10	45	120	< 10	80	16	15						

CERTIFICATION: Stuart B. Sellen



Chemex Labs Ltd.

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5175 Timberlea Blvd., Mississauga,
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PHONE: 416-624-2806

TO: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

MAY 12 1993

Project: 1320
Comments: ATTN: R. FELIX

Page Number : 1
Total Pages : 1
Certificate Date: 06-MAY-93
Invoice No. : 18313477
P.O. Number : TB 82560
Account : BUF

CERTIFICATE OF ANALYSIS A9313477

SAMPLE	PREP	AL2O3	CaO	Cr2O3	P2O5	K2O	MgO	MnO	Fe2O	P2O5	SiO2	TiO2	LOI	TOTAL	Ba	Nb	Nb	Bi	Y	Sc
	CODE	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
22702-A	208 274	23.26	1.41	0.01	5.31	2.72	0.44	0.10	4.82	0.14	70.14	0.51	1.86	100.70	450	20	60	120	10	200

CERTIFICATION:

Handwritten signature



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: R. FELIX

Page Number : 1
Total Pages : 1
Certificate Date: 06-MAY-93
Invoice No. : 18313477
P.O. Number : TB 82560
Account : BUF

CERTIFICATE OF ANALYSIS A9313477

SAMPLE	PREP CODE	AL2O3	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SiO2	TiO2	LOI	TOTAL	Ba	Nb	Rb	Sr	Y	Zr
		%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
12702-A	208 274	13.26	1.41	0.01	5.31	2.72	0.44	0.10	4.82	0.14	70.14	0.51	1.86	100.70	450	20	60	120	10	300

CERTIFICATION:

David B. S. S. S.



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-824-2806

To: NORANDA EXPLORATION COMPANY LIMITED
860 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

A9313477

Comments: ATTN: R. FELIX

CERTIFICATE

A9313477

NORANDA EXPLORATION COMPANY LIMITED

Project: 1320
P.O. #: TB 82560

Samples submitted to our lab in Vancouver, BC.
This report was printed on 6-MAY-93.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208 274 200	1 1 1	Assay ring to approx 150 mesh 0-15 lb crush and split Whole rock fusion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	1	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
598	1	CaO %: Whole rock	ICP-AES	0.01	99.99
590	1	Cr2O3 %: Whole Rock	ICP-AES	0.01	100.00
596	1	Fe2O3 (total) %: Whole rock	ICP-AES	0.01	100.00
821	1	K2O %: Whole rock	ICP-AES	0.01	99.99
593	1	MgO %: Whole rock	ICP-AES	0.01	99.99
596	1	MnO %: Whole rock	ICP-AES	0.01	99.99
599	1	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	1	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	1	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	1	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	1	L.O.I. %: Loss on Ignition	FURNACE	0.01	99.99
540	1	Total %	CALCULATION	0.01	100.00
891	1	Ba ppm	ICP	10	10000
973	1	Nb ppm	ICP	10	10000
1067	1	Rb ppm	ICP	5	10000
898	1	Sr ppm	ICP	10	10000
974	1	Y ppm	ICP	10	10000
978	1	Zr ppm	ICP	10	10000



Chemex Labs Ltd.

Analytical Chemists - Geochemists - Registered Assayers
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Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

25 1990

Page Number : 1-A
Total Pages : 2
Certificate Date: 18-AUG-83
Invoice No. : 18318433
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Da ppm
1211A	208 274	11.93	0.34	0.03	2.25	2.77	0.47	0.04	2.57	0.03	77.24	0.16	1.95	99.78	590
1211B	208 274	15.86	4.55	0.03	11.34	2.17	4.83	0.12	2.11	0.03	49.39	0.91	7.75	99.29	270
1211C	208 274	12.53	0.54	0.04	2.74	2.79	0.40	0.03	3.09	0.02	76.95	0.17	2.07	101.35	448
1211D	208 274	13.69	0.38	0.02	15.12	0.22	5.62	0.22	2.44	0.05	46.24	1.37	4.65	98.02	50
1211E	208 274	19.15	1.94	0.03	1.80	3.46	0.29	0.09	7.29	< 0.01	64.46	0.11	2.50	101.15	620
1211F	208 274	13.94	10.82	0.03	12.95	0.17	6.90	0.18	2.76	0.01	50.04	0.99	1.86	100.65	30
1211G	208 274	11.13	1.20	0.04	2.68	2.99	0.41	0.04	3.10	0.02	77.11	0.11	1.83	99.53	810
1211H	208 274	11.31	0.24	0.05	2.59	3.69	0.50	< 0.01	1.79	0.04	79.31	0.12	1.61	99.95	440
1395A	208 274	16.78	4.60	0.04	5.70	1.00	3.16	0.08	4.25	0.08	61.45	0.49	3.23	84.98	200
1395B	208 274	15.03	5.23	0.02	6.10	0.82	3.42	0.08	3.64	0.13	61.89	0.71	3.66	100.75	140
1395C	208 274	16.77	6.78	0.02	5.47	0.43	2.66	0.08	3.61	0.09	59.86	0.50	4.45	100.70	140
1395D	208 274	12.00	2.89	0.03	1.76	3.33	0.25	0.03	0.47	0.03	73.94	0.09	3.78	98.60	330
1395E	208 274	16.04	5.11	0.04	5.65	1.33	2.81	0.09	3.55	0.09	64.23	0.51	1.29	84.70	360
1395F	208 274	16.27	3.55	0.03	5.50	1.24	2.11	0.06	4.76	0.12	64.71	0.59	1.45	84.12	320
1395G	208 274	16.43	4.36	0.02	6.56	0.47	4.08	0.10	5.03	0.09	60.15	0.58	2.72	100.60	110
1395H	208 274	18.13	11.28	0.01	7.65	0.53	7.35	0.14	3.01	< 0.01	47.90	0.35	4.16	100.50	120
1395I	208 274	15.56	5.49	< 0.01	6.26	0.63	3.60	0.09	3.64	0.10	61.72	0.56	3.21	101.05	100
1395J	208 274	15.22	2.74	< 0.01	5.24	3.24	2.09	0.13	1.17	0.12	66.83	0.56	3.76	101.05	320
1395K	208 274	15.17	4.53	0.03	8.97	0.81	7.86	0.13	1.96	0.09	53.35	0.64	6.38	99.92	290
1395L	208 274	13.44	3.72	0.01	6.40	0.59	5.14	0.10	3.74	0.13	61.86	0.60	5.00	100.75	270
1395M	208 274	12.13	0.46	< 0.01	1.77	2.62	0.49	0.01	2.17	0.04	77.87	0.18	2.73	100.50	170
1395N	208 274	16.16	4.44	< 0.01	5.19	1.56	3.30	0.07	4.31	0.14	62.18	0.67	2.90	100.95	310
1395O	208 274	14.37	4.64	< 0.01	7.25	0.11	2.47	0.12	4.78	0.10	63.17	0.60	3.21	100.90	40
1395P	208 274	13.36	7.89	< 0.01	13.34	0.06	5.86	0.22	3.10	0.06	46.65	1.05	9.06	100.65	20
1395Q	208 274	16.28	3.51	< 0.01	6.68	1.73	1.87	0.11	4.55	0.09	60.70	0.56	4.13	100.20	310
1778A	208 274	15.17	11.17	< 0.01	12.39	0.11	7.11	0.21	1.66	< 0.01	47.16	0.77	3.00	98.77	30
1778B	208 274	16.66	1.42	0.03	1.07	1.18	0.44	< 0.01	6.70	0.08	69.44	0.14	1.13	99.30	320
1778C	208 274	13.40	9.83	< 0.01	14.52	0.18	6.51	0.22	2.25	< 0.01	49.82	1.19	2.37	100.30	40
1778D	208 274	16.18	1.24	0.02	3.50	1.93	1.96	0.07	4.44	0.06	68.44	0.25	2.33	100.80	630
1778E	208 274	14.58	10.86	0.01	13.95	0.07	7.03	0.23	2.12	0.02	47.73	1.08	2.55	100.25	20
1778F	208 274	11.84	7.78	< 0.01	17.13	0.11	4.21	0.20	2.81	0.10	48.65	1.58	5.13	99.55	40
1778G	208 274	13.77	0.79	0.04	3.62	1.85	0.65	0.04	3.56	0.07	75.12	0.23	1.68	101.20	410
1778H	208 274	15.60	10.54	0.03	11.94	0.31	8.85	0.19	1.57	< 0.01	46.80	0.73	3.81	100.20	100
1778I	208 274	13.99	0.88	0.03	1.69	2.34	0.68	0.01	3.68	0.07	78.38	0.21	1.87	100.75	420
1778J	208 274	12.32	1.36	0.04	1.97	3.27	0.51	0.05	2.47	0.06	76.16	0.15	2.07	100.45	880
1778K	208 274	13.24	8.14	0.01	16.26	0.19	4.69	0.27	2.01	0.14	48.71	1.85	2.74	98.25	30
1778L	208 274	12.93	9.61	0.02	15.74	0.21	5.83	0.22	2.39	0.06	49.88	1.24	2.09	100.60	50
1778M	208 274	13.75	8.24	0.03	11.74	0.31	4.59	0.19	3.75	0.13	54.85	1.09	1.87	100.28	50
1778N	208 274	12.05	4.69	0.04	3.52	1.86	0.57	0.04	0.97	0.09	74.19	0.34	2.17	100.55	190
1778O	208 274	13.40	0.57	0.02	4.70	2.61	0.46	0.04	3.47	0.03	73.06	0.14	1.92	100.40	410

CERTIFICATION:

David B. Beller



Chemex Labs Ltd.

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

TO: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-B
Total Pages : 2
Certificate Date: 19-AUG-93
Invoice No.: 18318433
P.O. Number : TB 64634
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	MB ppm	Alb ppm	Gr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
1211A	208 274	10	50	10	30	220	4	27						
1211B	208 274	< 10	50	40	30	80	80	84						
1211C	208 274	< 10	55	20	30	190	4	15						
1211D	208 274	< 10	10	130	20	80	104	90						
1211E	208 274	10	65	80	70	450	2	17						
1211F	208 274	< 10	< 5	140	20	60	7	25						
1211G	208 274	20	65	40	40	260	12	23						
1211H	208 274	20	80	20	50	250	2	17						
1395A	208 274	< 10	30	230	10	120	34	66						
1395B	208 274	< 10	20	220	20	160	26	59						
1395C	208 274	< 10	10	250	10	110	8	470						
1395D	208 274	10	70	60	20	120	20	190						
1395E	208 274	< 10	35	220	10	110	32	62						
1395F	208 274	< 10	40	310	10	140	130	61						
1395G	208 274	< 10	10	180	10	110	32	54						
1395H	208 274	< 10	10	140	10	10	29	41						
1395I	208 274	< 10	15	260	10	110	15	60						
1395J	208 274	< 10	70	200	10	120	50	240						
1395K	208 274	< 10	20	100	10	90	28	103						
1395L	208 274	< 10	15	140	10	80	12	63						
1395M	208 274	10	75	30	20	170	2	19						
1395N	208 274	< 10	40	270	10	110	25	40						
1395O	208 274	< 10	< 5	190	20	160	24	86						
1395P	208 274	< 10	< 5	190	20	50	82	88						
1395Q	208 274	< 10	45	100	10	150	38	70						
1778A	208 274	< 10	< 5	90	20	40	102	56						
1778B	208 274	< 10	25	340	< 10	60	2	10						
1778C	208 274	< 10	< 5	100	20	50	94	44						
1778D	208 274	< 10	40	80	20	250	2	40						
1778E	208 274	< 10	< 5	130	20	60	54	53						
1778F	208 274	< 10	< 5	130	40	100	37	70						
1778G	208 274	< 10	35	110	10	180	4	23						
1778H	208 274	< 10	< 5	100	10	30	34	64						
1778I	208 274	< 10	40	70	10	200	1	13						
1778J	208 274	10	100	240	30	170	2	23						
1778K	208 274	< 10	< 5	160	30	90	42	95						
1778L	208 274	< 10	35	150	20	60	76	63						
1778M	208 274	< 10	15	520	20	90	38	38						
1778N	208 274	< 10	80	280	20	250	6	55						
1778O	208 274	20	85	90	50	300	8	46						

CERTIFICATION:

David B. Borden



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-A
Total Pages : 2
Certificate Date: 18-AUG-93
Invoice No. : 18318433
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mg2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
1778P	208 274	11.45	0.78	0.01	2.09	1.82	0.36	0.03	4.42	0.05	77.91	0.14	1.05	100.10	280
1778Q	208 274	12.02	0.46	< 0.01	1.62	3.82	0.27	0.02	3.43	0.03	77.76	0.16	1.13	100.75	450
1778R	208 274	12.61	0.10	< 0.01	3.11	2.37	0.18	0.03	4.32	0.03	75.94	0.16	1.29	100.15	300
1779B	208 274	14.61	1.96	< 0.01	1.94	1.48	1.40	0.03	4.79	0.06	71.40	0.22	2.78	100.70	250
1779C	208 274	17.97	7.61	< 0.01	5.15	1.35	2.30	0.07	2.79	0.06	56.33	0.57	6.01	100.20	250
1779G	208 274	15.27	1.20	< 0.01	6.84	3.32	4.19	0.07	0.41	0.06	64.69	0.47	4.07	100.60	400
1779I	208 274	14.72	9.52	0.01	12.21	0.08	7.12	0.19	2.16	< 0.01	47.58	0.78	3.97	98.75	10
1779J	208 274	16.87	3.11	< 0.01	10.28	0.14	6.50	0.10	3.32	0.01	53.80	0.62	5.12	99.88	50
1779K	208 274	17.04	5.13	< 0.01	8.78	0.70	3.69	0.17	2.25	0.02	52.23	0.58	9.49	100.10	180
1779L	208 274	17.63	1.07	< 0.01	10.16	0.84	5.63	0.06	3.69	0.01	55.67	0.67	4.52	99.76	190
1779M	208 274	17.64	5.93	0.02	6.14	1.17	4.64	0.09	3.29	0.10	58.23	0.53	2.95	100.75	240
1780B	208 274	14.30	9.84	0.01	11.99	1.27	6.73	0.18	0.38	0.01	42.98	0.70	11.57	99.86	150
1781A	208 274	14.97	9.35	0.02	12.81	0.06	6.97	0.20	3.25	0.02	46.85	0.94	2.67	98.11	30
1781B	208 274	15.22	3.38	0.01	2.51	1.90	0.91	0.05	3.02	0.08	69.79	0.26	4.09	101.20	190
1781C	208 274	16.22	5.54	0.01	13.41	0.03	9.12	0.20	3.23	0.03	45.05	1.07	4.34	98.25	20
1781D	208 274	15.03	10.55	0.01	13.25	0.04	7.33	0.20	2.16	0.01	45.96	1.07	2.73	98.34	10
1781E	208 274	15.13	5.43	< 0.01	6.07	0.78	2.06	0.08	4.59	0.10	60.67	1.12	4.90	100.75	150
1781F	208 274	15.67	2.30	< 0.01	4.35	0.76	2.25	0.06	5.38	0.08	67.32	0.49	2.27	100.95	220
1781G	208 274	15.99	0.60	< 0.01	4.28	0.78	2.41	0.04	5.74	0.08	68.23	0.53	2.19	100.90	180
1781H	208 274	15.54	2.77	0.01	16.81	0.03	10.92	0.16	0.20	0.03	43.59	1.22	7.80	99.08	< 10
1781I	208 274	15.09	11.66	< 0.01	13.17	0.04	6.57	0.21	2.06	0.02	47.16	1.09	2.84	99.92	20

CERTIFICATION:

David B. Borden



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
5175 Timberlea Blvd., Mississauga,
Ontario, Canada L4W 2S3
PHONE: 416-624-2808

To: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-B
Total Pages : 2
Certificate Date: 18-AUG-83
Invoice No.: 19318433
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	Mo ppm	Nb ppm	Be ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
1778P	208 274	10	70	80	20	190	4	38						
1778Q	208 274	10	85	50	30	200	14	64						
1778R	208 274	10	75	70	30	210	5	52						
1779S	208 274	< 10	30	270	< 10	80	6	23						
1779C	208 274	< 10	35	210	10	90	44	59						
1779G	208 274	< 10	70	20	10	110	2	48						
1779T	208 274	< 10	< 5	130	10	30	112	68						
1779U	208 274	< 10	< 5	110	10	50	8	77						
1779K	208 274	< 10	15	160	10	50	76	48						
1779L	208 274	< 10	20	60	10	60	42	63						
1779M	208 274	< 10	30	120	10	110	42	41						
1780A	208 274	< 10	40	160	10	30	96	100						
1781A	208 274	< 10	< 5	170	20	40	140	62						
1781B	208 274	< 10	40	80	< 10	80	14	30						
1781C	208 274	< 10	< 5	230	20	50	60	98						
1781D	208 274	< 10	< 5	110	20	40	94	77						
1781E	208 274	< 10	15	160	20	130	80	72						
1781F	208 274	< 10	20	190	10	110	30	44						
1781G	208 274	< 10	20	160	10	110	4	68						
1781H	208 274	< 10	< 5	10	20	60	76	205						
1781I	208 274	< 10	< 5	120	20	50	128	55						

CERTIFICATION:

Starts Below



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number: 1-A
Total Pages: 2
Certificate Date: 19-AUG-93
Invoice No.: 18318433
P.O. Number: TB 84534
Account: BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	Al2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Na2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
1311A	208 274	11.93	0.34	0.03	2.25	2.77	0.47	0.04	2.57	0.03	77.24	0.16	1.95	99.76	580
1311B	208 274	15.86	4.55	0.03	11.34	2.17	4.83	0.12	2.31	0.03	49.39	0.91	7.75	99.28	270
1311C	208 274	12.53	0.54	0.04	2.74	2.79	0.40	0.03	3.09	0.02	76.95	0.17	2.07	101.35	460
1311D	208 274	13.69	8.38	0.02	15.12	0.32	5.62	0.22	2.44	0.05	46.24	1.37	4.65	98.02	50
1311E	208 274	19.15	1.94	0.03	1.80	3.46	0.29	0.09	7.29	< 0.01	64.46	0.11	2.50	101.15	620
1311F	208 274	13.94	10.82	0.03	12.95	0.17	6.90	0.18	2.75	0.01	50.04	0.99	1.86	100.65	30
1311G	208 274	11.13	1.20	0.04	2.68	2.89	0.41	0.04	3.10	0.02	77.11	0.11	1.83	99.53	830
1311H	208 274	11.31	0.24	0.05	2.59	3.59	< 0.01	0.01	1.79	0.04	79.31	0.12	1.61	99.95	440
1395A	208 274	16.78	4.60	0.04	5.70	1.00	3.16	0.08	4.25	0.08	61.45	0.49	3.23	84.08	200
1395B	208 274	15.03	5.23	0.02	6.10	0.82	3.42	0.08	3.64	0.13	61.89	0.71	3.66	100.75	160
1395C	208 274	16.77	6.78	0.02	5.47	0.43	2.66	0.08	3.61	0.09	59.86	0.50	4.45	100.70	160
1395D	208 274	12.00	2.89	0.03	1.76	3.33	0.25	0.03	0.47	0.03	73.94	0.09	3.78	98.60	330
1395E	208 274	16.04	5.11	0.04	5.65	1.33	2.81	0.09	3.55	0.09	64.23	0.51	1.29	84.70	360
1395F	208 274	16.27	3.53	0.03	5.50	1.34	2.11	0.06	4.76	0.12	64.71	0.59	1.45	84.12	320
1395G	208 274	16.43	4.36	0.02	6.56	0.47	4.08	0.10	5.03	0.09	60.15	0.58	2.72	100.60	110
1395H	208 274	18.13	11.28	0.01	7.65	0.53	7.35	0.14	3.01	< 0.01	47.90	0.35	4.16	100.50	120
1395I	208 274	15.56	5.49	< 0.01	6.26	0.53	3.60	0.09	3.64	0.10	61.72	0.56	3.21	100.85	180
1395J	208 274	15.22	2.74	< 0.01	5.24	0.81	2.09	0.09	1.17	0.12	66.83	0.51	3.76	101.05	350
1395K	208 274	15.17	4.53	0.03	8.97	0.81	7.86	0.13	1.96	0.09	53.35	0.64	6.38	99.92	220
1395L	208 274	13.44	3.72	0.01	6.40	0.59	5.14	0.10	3.74	0.13	61.86	0.60	5.00	100.75	270
1395M	208 274	12.13	0.46	< 0.01	1.77	2.62	0.49	0.01	2.17	0.04	77.87	0.18	2.73	100.50	170
1395N	208 274	16.16	4.44	< 0.01	5.19	1.86	3.30	0.07	4.41	0.14	62.18	0.60	2.90	100.95	310
1395O	208 274	14.37	4.64	< 0.01	7.25	0.31	2.47	0.12	4.78	0.10	63.17	0.67	3.21	100.90	40
1395P	208 274	13.36	7.89	< 0.01	13.34	0.84	5.86	0.22	3.10	0.06	46.65	1.05	9.06	100.60	20
1395Q	208 274	16.28	3.51	< 0.01	6.68	1.73	1.87	0.11	4.55	0.09	60.70	0.56	4.13	100.20	310
1778A	208 274	15.17	11.17	< 0.01	12.39	0.11	7.11	0.21	1.65	< 0.01	47.16	0.77	3.00	98.77	30
1778B	208 274	16.66	1.42	0.03	1.07	1.18	0.44	< 0.01	6.70	0.08	69.44	0.14	1.13	98.30	320
1778C	208 274	13.40	9.83	< 0.01	14.52	0.58	6.51	0.22	2.25	< 0.01	49.82	1.19	2.37	100.50	40
1778D	208 274	16.18	1.24	0.02	3.90	1.93	1.96	0.07	4.44	0.06	68.44	0.25	2.33	100.80	600
1778E	208 274	14.58	10.86	0.01	13.95	0.07	7.03	0.23	2.12	0.02	47.73	1.08	2.55	100.25	20
1778F	208 274	11.84	7.78	< 0.01	17.13	0.11	4.21	0.20	2.81	0.10	48.65	1.58	5.13	99.55	40
1778G	208 274	13.77	0.79	0.04	3.62	1.85	0.65	0.04	3.36	0.07	75.12	0.22	1.68	101.20	410
1778H	208 274	15.60	10.54	0.03	11.94	0.31	8.85	0.19	1.57	< 0.01	46.80	0.73	3.51	100.70	100
1778I	208 274	13.99	0.88	0.03	1.69	2.34	0.68	0.01	3.48	0.07	75.38	0.21	1.97	100.75	420
1778J	208 274	12.32	1.36	0.04	1.97	3.27	0.51	0.05	2.47	0.06	76.16	0.15	2.07	100.45	550
1778K	208 274	13.24	8.14	0.01	16.26	0.19	4.69	0.27	2.01	0.14	48.71	1.85	2.74	98.25	30
1778L	208 274	12.93	9.61	0.02	15.74	0.21	5.83	0.22	2.39	0.06	49.88	1.24	2.09	100.20	80
1778M	208 274	13.75	8.24	0.03	11.74	0.34	4.59	0.19	3.75	0.13	54.85	1.09	1.97	100.65	80
1778N	208 274	12.05	4.69	0.04	3.52	1.86	0.57	0.04	0.97	0.09	74.19	0.34	2.17	100.55	190
1778O	208 274	13.40	0.57	0.02	4.70	2.61	0.46	0.04	3.47	0.03	73.06	0.14	1.92	100.40	410

CERTIFICATION:

David B. B. B.



Chemex Labs Ltd.

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Ontario, Canada L4W 2S3
PHONE: 416-624-2806

To: NORANDA EXPLORATION COMPANY LIMITED

860 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1-8
Total Pages : 2
Certificate Date: 18-AUG-83
Invoice No. : 18318433
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	Kb ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm						
1211A	208 274	< 10	50	10	30	220	4	27						
1211B	208 274	< 10	50	40	30	80	80	84						
1211C	208 274	< 10	55	20	30	190	4	15						
1211D	208 274	< 10	10	130	20	80	104	90						
1211E	208 274	10	65	80	70	450	2	17						
1211F	208 274	< 10	< 5	140	20	60	7	25						
1211G	208 274	20	65	40	40	260	12	23						
1211H	208 274	20	80	20	50	250	2	17						
1395A	208 274	< 10	30	230	10	120	34	66						
1395B	208 274	< 10	20	220	20	160	26	59						
1395C	208 274	< 10	10	250	10	110	8	470						
1395D	208 274	< 10	70	60	20	120	20	190						
1395E	208 274	< 10	35	220	10	110	32	62						
1395F	208 274	< 10	40	310	10	140	130	61						
1395G	208 274	< 10	10	180	10	110	32	54						
1395H	208 274	< 10	10	160	10	10	29	41						
1395I	208 274	< 10	15	260	10	110	15	60						
1395J	208 274	< 10	70	40	10	120	50	240						
1395K	208 274	< 10	20	100	10	90	28	103						
1395L	208 274	< 10	15	140	10	80	12	63						
1395M	208 274	10	75	30	20	170	2	19						
1395N	208 274	< 10	40	270	10	110	25	40						
1395O	208 274	< 10	< 5	190	20	160	24	86						
1395P	208 274	< 10	< 5	190	20	50	82	88						
1395Q	208 274	< 10	45	100	10	150	38	70						
1777A	208 274	< 10	< 5	90	20	40	102	56						
1777B	208 274	< 10	25	340	< 10	60	2	10						
1777C	208 274	< 10	< 5	100	20	50	94	44						
1777D	208 274	< 10	40	80	20	250	2	40						
1777E	208 274	< 10	< 5	130	20	60	54	53						
1777F	208 274	< 10	< 5	120	40	100	37	70						
1777G	208 274	< 10	35	110	10	180	4	23						
1777H	208 274	< 10	< 5	100	10	30	34	64						
1777I	208 274	< 10	40	70	10	200	1	13						
1777J	208 274	10	100	240	30	170	2	23						
1777K	208 274	< 10	< 5	160	30	90	42	95						
1777L	208 274	< 10	35	150	20	60	76	63						
1777M	208 274	< 10	15	520	20	90	38	38						
1777N	208 274	< 10	80	200	20	250	6	55						
1778O	208 274	20	85	90	50	300	8	46						

CERTIFICATION:

David B. Buehler



Chemex Labs Ltd.

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

TO: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-A
Total Pages : 2
Certificate Date: 19-AUG-83
Invoice No. : 19318433
P.O. Number : TB 84634
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	AL2O3 %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	MnO %	Mn2O %	P2O5 %	SiO2 %	TiO2 %	LOI %	TOTAL %	Ba ppm
1778P	208 274	11.45	0.78	0.01	2.09	1.82	0.36	0.03	4.42	0.05	77.91	0.14	1.05	100.10	280
1778Q	208 274	12.02	0.46	< 0.01	1.62	3.82	0.27	0.02	3.53	0.03	77.76	0.16	1.13	100.75	450
1778R	208 274	12.61	0.10	< 0.01	3.11	2.37	0.18	0.03	4.32	0.03	75.94	0.16	1.29	100.15	300
1779S	208 274	14.61	1.96	< 0.01	1.94	1.48	1.40	0.03	4.79	0.06	71.40	0.22	2.78	100.70	230
1779C	208 274	17.97	7.61	< 0.01	5.15	1.35	2.30	0.07	2.79	0.06	56.33	0.57	6.01	100.30	250
1779G	208 274	15.27	1.20	< 0.01	6.84	3.32	4.19	0.07	0.41	0.06	64.69	0.47	4.07	100.60	400
1779E	208 274	14.72	9.92	0.01	12.21	0.08	7.12	0.19	2.16	< 0.01	47.58	0.78	3.97	98.75	10
1779T	208 274	16.87	5.11	< 0.01	10.28	0.14	6.50	0.10	3.32	0.01	53.80	0.62	5.12	99.88	50
1779K	208 274	17.04	5.13	< 0.01	8.78	0.70	3.69	0.17	2.35	0.02	52.23	0.58	9.49	100.10	180
1779L	208 274	17.63	1.07	< 0.01	10.16	0.84	5.43	0.06	3.69	0.01	55.67	0.67	4.52	99.76	190
1779M	208 274	17.64	5.93	0.02	6.14	1.17	4.64	0.09	3.29	0.10	58.23	0.53	2.95	100.75	240
1780B	208 274	14.20	9.84	0.01	11.99	1.27	6.73	0.18	0.38	0.01	42.98	0.70	11.57	99.86	150
1781A	208 274	14.97	9.35	0.02	12.81	0.06	6.97	0.20	3.35	0.02	46.85	0.94	2.67	98.11	30
1781B	208 274	15.22	3.38	0.01	2.51	1.90	0.91	0.05	3.02	0.08	69.79	0.26	4.09	101.20	190
1781C	208 274	16.22	5.54	0.01	13.41	0.03	9.12	0.20	3.23	0.03	45.05	1.07	4.34	98.25	20
1781D	208 274	15.03	10.55	0.01	13.25	0.04	7.33	0.20	2.16	0.01	45.96	1.07	2.73	98.34	10
1781E	208 274	15.13	5.43	< 0.01	6.07	0.78	2.06	0.08	4.59	0.10	60.47	1.12	4.90	100.75	150
1781F	208 274	15.67	2.30	< 0.01	4.35	0.76	2.25	0.06	5.38	0.08	67.32	0.49	2.27	100.95	220
1781G	208 274	15.99	0.60	< 0.01	4.28	0.78	2.41	0.04	5.74	0.08	68.23	0.53	2.19	100.90	180
1781H	208 274	15.54	2.77	0.01	16.81	0.03	10.92	0.16	0.20	0.03	43.59	1.22	7.80	99.08	< 10
1781I	208 274	15.09	11.66	< 0.01	13.17	0.04	6.57	0.21	2.06	0.02	47.16	1.09	2.84	99.92	20

CERTIFICATION:

David B. Borden



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

860 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 2-8
Total Pages : 2
Certificate Date: 18-AUG-93
Invoice No.: 18318433
P.O. Number : TB 84534
Account : BUF

CERTIFICATE OF ANALYSIS A9318433

SAMPLE	PREP CODE	Nb ppm	Nb ppm	ST ppm	Y ppm	Zr ppm	Cu ppm	Zn ppm							
1778P	208 274	10	70	80	20	190	4	38							
1778Q	208 274	10	85	50	30	200	14	64							
1778R	208 274	10	75	70	30	210	5	52							
1778S	208 274	< 10	30	270	< 10	80	6	23							
1778C	208 274	< 10	35	210	10	90	44	59							
1778G	208 274	< 10	70	20	10	110	2	48							
1778E	208 274	< 10	< 5	130	10	30	112	68							
1778T	208 274	< 10	< 5	110	10	50	8	77							
1778K	208 274	< 10	15	160	10	50	76	48							
1778L	208 274	< 10	20	60	10	60	42	63							
1778N	208 274	< 10	30	120	10	110	42	41							
1780B	208 274	< 10	40	160	10	30	96	100							
1781A	208 274	< 10	< 5	170	20	40	140	62							
1781B	208 274	< 10	40	80	< 10	80	14	50							
1781C	208 274	< 10	< 5	230	20	50	60	98							
1781D	208 274	< 10	< 5	110	20	40	94	77							
1781E	208 274	< 10	15	160	20	130	80	72							
1781F	208 274	< 10	20	190	10	110	30	44							
1781G	208 274	< 10	20	160	10	110	4	68							
1781H	208 274	< 10	< 5	10	20	60	76	205							
1781I	208 274	< 10	< 5	120	20	50	128	55							

CERTIFICATION: Stuart B. Borden



Chemex Labs Ltd.

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

TO: NORANDA EXPLORATION COMPANY LIMITED
960 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Comments: ATTN: REG FELIX

A9318433

CERTIFICATE

A9318433

NORANDA EXPLORATION COMPANY LIMITED

Project: 1320
P.O.#: TB 84534

Samples submitted to our lab in Vancouver, BC.
This report was printed on 19-NOV-93.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
208	61	Assay ring to approx 150 mesh
274	61	0-15 lb crush and split
200	61	Whole rock fusion
238	61	Micro-aqua-regia digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
594	61	Al2O3 %: Whole rock	ICP-AES	0.01	99.99
588	61	CaO %: Whole rock	ICP-AES	0.01	99.99
590	61	Fe2O3 %: Whole Rock	ICP-AES	0.01	100.00
586	61	Fe2O3(total) %: Whole rock	ICP-AES	0.01	100.00
821	61	K2O %: Whole rock	ICP-AES	0.01	99.99
593	61	MgO %: Whole rock	ICP-AES	0.01	99.99
596	61	MnO %: Whole rock	ICP-AES	0.01	99.99
599	61	Na2O %: Whole rock	ICP-AES	0.01	99.99
597	61	P2O5 %: Whole rock	ICP-AES	0.01	99.99
592	61	SiO2 %: Whole rock	ICP-AES	0.01	99.99
595	61	TiO2 %: Whole rock	ICP-AES	0.01	99.99
475	61	L.O.I. %: Loss on Ignition	FURNACE CALCULATION	0.01	99.99
540	61	Total %		0.01	105.00
891	61	Ba ppm	ICP	10	10000
973	61	Nb ppm	ICP	10	10000
1067	61	Pb ppm	ICP	5	10000
898	61	Sr ppm	ICP	10	10000
974	61	T ppm	ICP	10	10000
978	61	Cu ppm	ICP	10	10000
2	61	Co ppm	AAS	1	10000
5	61	Zn ppm	AAS	1	10000
		EMO3-aqua regia digest			
		EMO3-aqua regia digest			



Chemex Labs Ltd.

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

To: NORANDA EXPLORATION COMPANY LIMITED

980 ALLOY DRIVE
THUNDER BAY, ONTARIO
P7B 6A1

Project: 1320
Comments: ATTN: REG FELIX

Page Number : 1
Total Pages : 1
Certificate Date: 09-AUG-93
Invoice No. : 18318434
P.O. Number : 17B 84534
Account : BUF

CERTIFICATE OF ANALYSIS

A9318434

SAMPLE	PREP CODE	AU PPB FA+AA	Cu %	Zn %						
301E	208 274	< 5	0.02	0.01						
301F	208 274	< 5	0.01	0.01						
305C	208 274	< 5	0.01	0.01						
1779A	208 274	< 5	0.01	0.01						
1779D	208 274	< 5	0.01	0.01						
1779E	208 274	< 5	0.01	0.01						
1779F	208 274	< 5	0.01	0.01						
1779K	208 274	< 5	0.01	0.01						
1780A	208 274	< 5	0.12	< 0.01						
1780C	208 274	< 5	0.01	0.03						
1780D	208 274	< 5	0.01	0.02						
1781J	208 274	< 5	0.01	0.01						

Signature of Registrar
CERTIFICATION:

REFERENCES

- Beggs, D.G., 1975:
Petrology and Geochemistry of Archean Volcanic Rocks, North of Sturgeon Lake; A thesis submitted in conformity with the requirements for the Degree of Master of Science in the University of Toronto.
- Corstorphine, W., 1978:
Preliminary Report, Cobb Lake, Reconnaissance Geology Sturgeon Lake Area, Ontario for Mattagami Lake Exploration (Company Report).
- Felix, R.A., 1992:
Summary Report of Work-1993, Six Mile Lake for Noranda Exploration Company, Limited.
- Hodges, D.J. and Manojlovic, P.M., 1993:
Application of Lithogeochemistry to Exploration for Deep VMS Deposits in High Grade Metamorphic Rocks, Snow Lake, Manitoba; Journal of Geochemical Explorations, 48 (1993) 201-224.
- Leshner, C.M., et al, 1985:
Trace element geochemistry of ore - associated with barren, felsic metavolcanic rocks in the Superior Province, Canada; Can. Journal Earth Sciences, Vol. 23, 1986, p.222-237.
- Morton, R.L., et al, 1991:
The Early Development of an Archean Submarine Caldera Complex with emphasis on the Mattabi Ash-Flow Tuff and its Relationship to the Mattabi Massive Sulphide Deposit; Economic Geology, Vol. 86, No.5, August 1991, 11p.
- Ontario Geological Survey:
Geological Data Inventory Folios, GDIF 328 - Six Mile Lake Area, GDIF 465 - Penassi Lake area, GDIF 348 - Fourbay Lake Area.
1990 Airborne electromagnetic and total intensity magnetic survey, Sturgeon Lake - Savant Lake Area, Maps 81487, 81488, 81489, 81492, 81493, 81494, 81495, scale 1:20,000.
- Robinson, D.J., 1992:
Geology of the Six Mile Lake Area; Ontario Geological Survey, Open File Report 5838, 93p.
- Steinert, G., 1976:
Preliminary Report on the North Sturgeon Lake Volcanic Belt for Mattagami Lake Mines Limited (Company Report).
- Trowell, N.F., 1974:
Squaw Lake - Sturgeon Lake Area, Northeast Arm - Sturgeon Lake Sheet, District of Thunder Bay; Ontario Division of Mines, Preliminary Map P.968, Geological Series, scale 1:15,840. Geology 1972, 1973.
1976: Geology of the Quest Lake Area, Districts of Kenora and Thunder Bay; Ontario Division of Mines, Geoscience Report 154, 60p. Accompanied by Map 2335, scale 1:31,680.
1983: Geology of the Squaw Lake - Sturgeon Lake Area - District of Thunder Bay, Ontario Geological Survey, Report 227, 114p, Accompanied by Map 2420, scale 1:31,680.
- Wallis, T.L., 1985:
Compilation of the area north of Sturgeon Lake, NTS 52G/14, 15, 52J/2, 3; Memorandum to W. MacIsaac, Noranda Exploration (Company Report).



Ontario

Ministry of
Northern Development
and Mines

Report of Work Conducted After Recording Claim

Mining Act

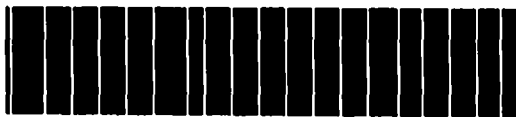
Transaction Number

W9330.00045

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 150 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.152-2

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



52G15NW0007 2.15242 SIX MILE LAKE

1320

900

Recorded Holder(s) Noranda Exploration Company, Limited		Client No. 176208
Address c/o 960 Alloy Drive, Thunder Bay, Ontario P7B 6A1		Telephone No. (807) 623-4339
Mining Division Patricia	Township/Area Six Mile & Penassie Lakes	M or G Plan No. G-2561/G-2526
Dates Work Performed From: January 1, 1993 To: October 31, 1993		

Work Performed (Check One Work Group Only)

Work Group	Type
☒ Geotechnical Survey	Linecutting, Geophysics (Mag, IP), Geochemistry
☐ Physical Work, Including Drilling	(W10)
☐ Rehabilitation	
☐ Other Authorized Work	
☐ Assays	
☐ Assignment from Reserve	

MINING DIVISION
PATRICIA
RECORDED
33 DEC 3 1993
A 9 : 49

Total Assessment Work Claimed on the Attached Statement of Costs \$ 71,500

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

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

Name	Address
R. Felix (Author) & Various Norex Personnel (see Report)	c/o 960 Alloy Drive, Thunder Bay, Ontario P7B 6A1
Stares Contracting Ltd	Thunder Bay
Chemex Labs	Thunder Bay

(attach a schedule if necessary)

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

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date Dec.1/93	Recorded Holder or Agent (Signature) <i>Barrett</i>
--	------------------	--

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.		
Name and Address of Person Certifying Cecilia M. Barrett, 960 Alloy Drive, Thunder Bay, Ontario P7B 6A1		
Telephone No. (807) 623-4339	Date Dec.1/93	Certified By (Signature) <i>Barrett</i>

For Office Use Only

Total Value Cr. Recorded # 71,500	Date Recorded 93 DEC 03	Mining Recorder <i>Thayer</i>	Received Stamp RECORDED DEC 03 1993 Receipt <i>AK</i>
	Deemed Approval Date 94 MAR 03	Date Approved	
	Date Notice for Amendments Sent		

[illegible][illegible]

Values Assigned from this Claim	Reserve: <u>Work to be</u> Claimed at a Future Date
9,000.00	
3,580.00	
2,020.00	1,480.00
	2,900.00
	1,500.00
1,300.00	
	1,020.00
	3,400.00
	1,000.00
	2,800.00
	6,000.00
	6,200.00
	DEC 3 1949
HAND C RECORDED PATRICIA MINING DIVISION	

18

**Total Number
of Claims**

71,500.00

Total Value Work Done

45,200.00

**Total Value
Work Applied**

15,900.00

Total Assigned From

26,300.00

Total Reserve

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

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

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

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

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

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

Barrett Dec 1/93



Statement of Costs
for Assessment Credit

État des coûts aux fins
du crédit d'évaluation

Transaction No./N° de transaction

W 9330.00045

Mining Act/Loi sur les mines

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

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

1320

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	26,200	42,000
	Field Supervision Supervision sur le terrain	15,800	
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type Linecutting	✓ 5,900	11,400
	Assaying	✓ 5,500	
Supplies Used Fournitures utilisées	Type Field Supplies/Wire	4,200	4,200
Equipment Rental Location de matériel	Type Truck, Boat, Quad	1,250	2,000
	IP Equipment	750	
Total Direct Costs Total des coûts directs			59,600

2. Indirect Costs/Coûts indirects

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

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Ground	5,095	5,300
	Air	125	
	Freight	80	
Food and Lodging Nourriture et hébergement		9,400	9,400
Mobilization and Demobilization Mobilisation et démobilisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			14,700
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			11,920
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs)			71,500

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

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

Filing Discounts

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

Total Value of Assessment Credit	Total Assessment Claimed
x 0.50 =	

Remises pour dépôt

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

Valeur totale du crédit d'évaluation	Évaluation totale demandée
x 0.50	

Certification Verifying Statement of Costs

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

that as Lands Administrator I am authorized

to make this ce *but I called Gaila*
✓ she said okay -
rounding things off
always now.

Attestation de l'état des coûts

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

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

à faire cette attestation.

Signature <i>Baurth</i>	Date Dec. 1/93
----------------------------	-------------------

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.



Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Geoscience Approvals Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

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

Our File: 2.15242
Transaction #: W9330.00045

April 15, 1994

Mining Recorder
Ministry of Northern
Development and Mines
Queen and Fourth
P.O. Box 3000
Sioux Lookout, Ontario
P8T 1C6

Dear Sir:

**RE: APPROVAL OF ASSESSMENT WORK ON MINING CLAIMS PA 1195525 ET AL. IN
THE SIX MILE AND PENASSI LAKE AREAS.**

**The Assessment Credits for GEOCHEMISTRY AND GEOPHYSICS, sections 13
and 14 of the Mining Act Regulations, as listed on the attached
Assessment Work Credit form, have been approved as of April 11, 1994.**

Please indicate this approval on the claim record sheets.

If you have any questions please call Clive Stephenson at
(705) 670-5856.

Yours sincerely

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

CDS/lis

cc: Assessment Files Office
Toronto, Ontario

Resident Geologist
Sioux Lookout, Ontario

ASSESSMENT WORK CREDIT FORM**FILE NUMBER: 2.15242****DATE: April 11, 1994****TRANSACTION NUMBER: W9330.00045****RECORDED HOLDER: Noranda Exploration Company Limited.****CLIENT NUMBER: 176208****TOWNSHIP OR AREA: Six Mile & Penassi Lakes Area.**

CLAIM NUMBER	VALUE OF WORK DONE ON THIS CLAIM	VALUE APPLIED ON THIS CLAIM	VALUE ASSIGNED FROM THIS CLAIM	RESERVE
PA 1195525	\$ 10 718	\$ 6 000	\$ 4 718	\$ 0
PA 1195526	\$ 6 635	\$ 6 000	\$ 635	\$ 0
PA 1195527	\$ 2 552	0	\$ 2 552	\$ 0
PA 1195554	\$ 255	\$ 400	\$ 0	\$ 0
PA 1195574	\$ 1 531	\$ 2 000	\$ 0	\$ 0
PA 1195575	\$ 255	\$ 6 000	\$ 0	\$ 0
PA 1195578	\$ 2 041	\$ 6 000	\$ 0	\$ 0
PA 1195579	\$ 2 041	\$ 6 400	\$ 0	\$ 0
PA 1195580	\$ 2 041	\$ 0	\$ 2 041	\$ 0
PA 1195581	\$ 1 888	\$ 6 400	\$ 0	\$ 0
PA 1195582	\$ 1 021	\$ 0	\$ 1 021	\$ 0
PA 1195585	\$ 5 104	\$ 6 000	\$ 0	\$ 0
PA 1195802	\$ 715	\$ 0	\$ 715	\$ 0
PA 1195803	\$ 2 399	\$ 0	\$ 2 399	\$ 0
PA 1195804	\$ 664	\$ 0	\$ 664	\$ 0
PA 1195805	\$ 2 041	\$ 0	\$ 2 041	\$ 0
PA 1195806	\$ 4 083	\$ 0	\$ 3 299	\$ 784
PA 1195807	\$ 5 055	\$ 0	\$ 0	\$ 5 055
	\$ 51 039	\$ 45 200	\$ 20 085	\$ 5 839

$$\begin{array}{rcl}
 \text{MAG} & 20.6 \text{ km} & @ \$125 = \$2575 \\
 \text{I.P.} & 9.2 \text{ km} & @ \$1500 = \$13800 \\
 \text{SampAG} & 233 & @ \$7 = \$1631 \\
 & & = \underline{18006} \\
 & 26200 - 18006 & = \$8194
 \end{array}$$

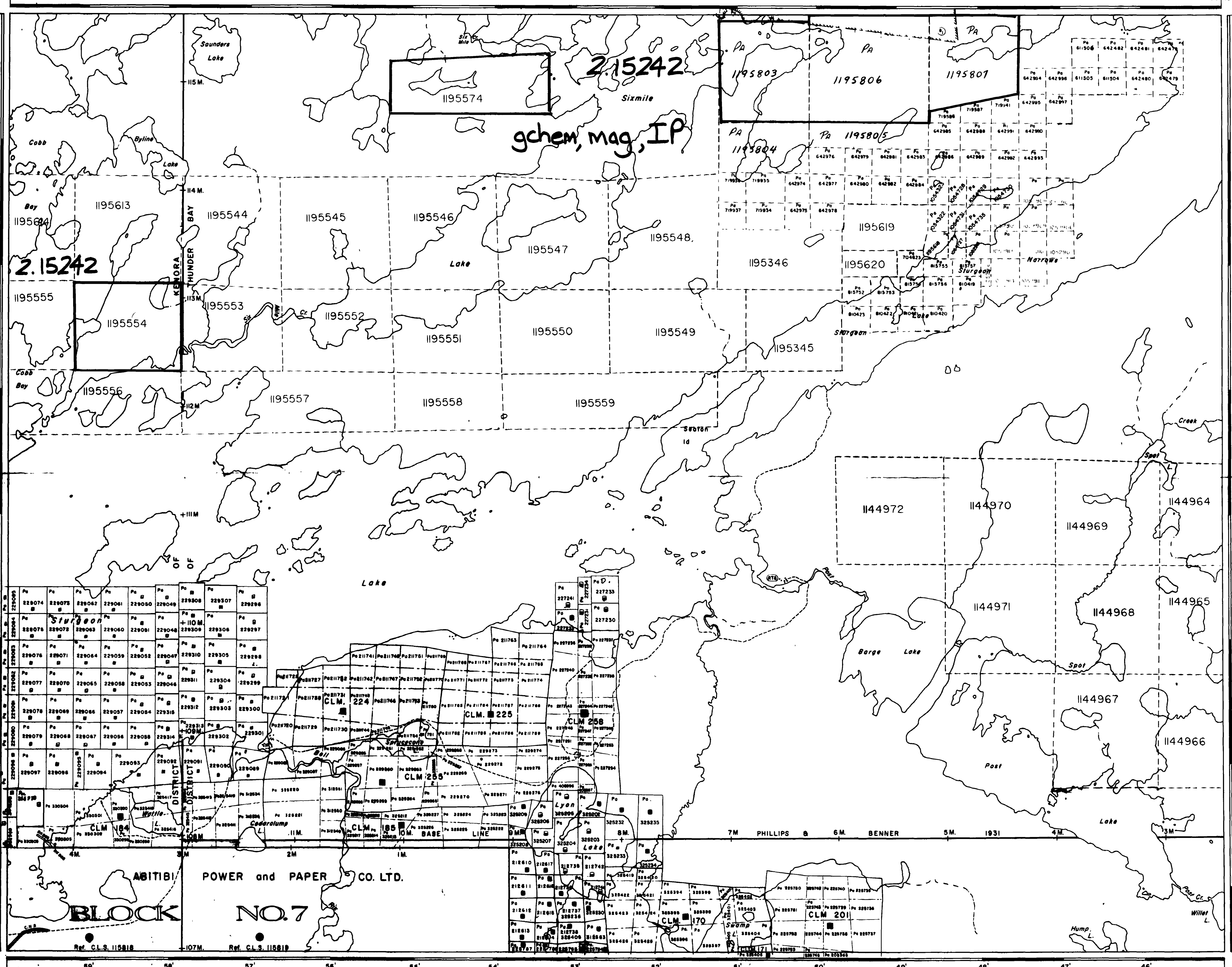
$$\begin{array}{l}
 \text{Geol. - OTH} \rightarrow \$8194 \div \$350/\text{man} \\
 \quad \quad \quad \approx 23.4 \div 2 \\
 \quad \quad \quad \approx 12 \text{ days. work}
 \end{array}$$

Fourbay Lake G-2543

March 13/91 C
Oct. 16/91 R
Apr 27/92 R
Apr 30/92 R
Aug 19/92 R

Penasi Lake G-2526

Quest Lake Area G-2556



THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

LEGEND

HIGHWAY AND ROUTE NO
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC.
LOTS, MINING CLAIMS, PARCELS, ETC.
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON-PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKES
MINES
TRAVERSE MONUMENT
REMOTE TOURIST SET-UP

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	◐
LEASE, SURFACE & MINING RIGHTS	◑
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◓
LICENCE OF OCCUPATION	◔
ORDER-IN-COUNCIL	OC
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 8, 1912, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 280, SEC. 53, SUBSEC. 1.

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
S.R.O. - SURFACE RIGHTS ONLY
M+S - MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
03 DEC 6 4 30 PM 1972				

MINING RECORDER
PATRICIA
MINING DIVISION

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 2000 4000

AREA SIXMILE LAKE

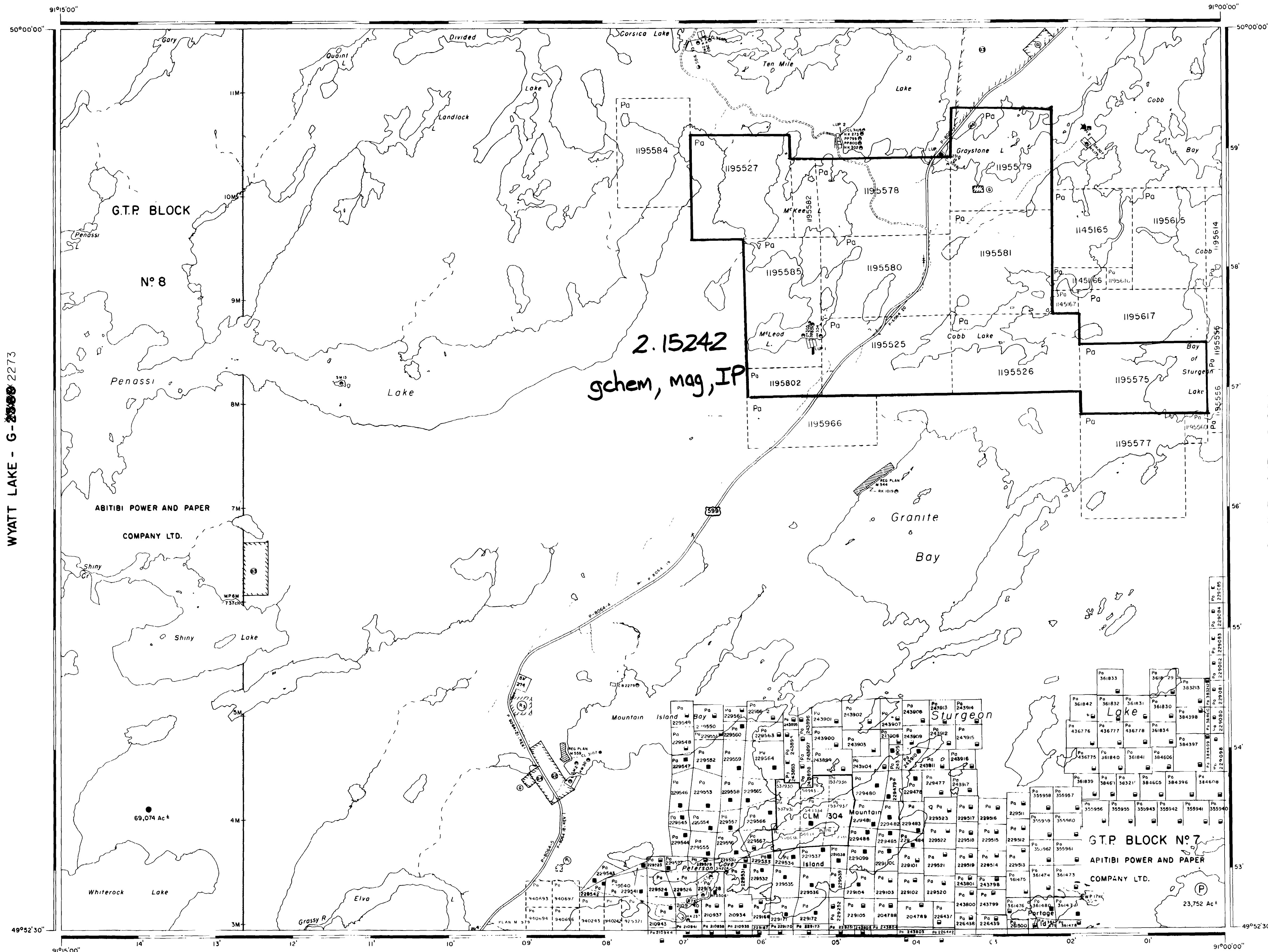
M.N.R. ADMINISTRATIVE DISTRICT
IGNACE
MINING DIVISION
PATRICIA
LAND TITLES / REGISTRY DIVISION
KENORA / THUNDER BAY

Ministry of Natural Resources
Land Management Branch

Date FEBRUARY, 1984. Number
G-2561



HANDCUFF LAKE - G-2565



WYATT LAKE - G-2560 2273

SIXMILE LAKE - G-2561

LEGEND

HIGHWAY AND ROUTE No	
OTHER ROADS	
TRAILS	
SURVEYED LINES	
TOWNSHIPS, BASE LINES, ETC	
LOTS, MINING CLAIMS, PARCELS, ETC	
UNSURVEYED LINES	
LOT LINES	
PARCEL BOUNDARY	
MINING CLAIMS ETC	
RAILWAY AND RIGHT OF WAY	
UTILITY LINES	
NON-PERENNIAL STREAM	
FLOODING OR FLOODING RIGHTS	
SUBDIVISION OR COMPOSITE PLAN	
RESERVATIONS	
ORIGINAL SHORELINE	
MARSH OR MUSKEG	
MINES	
TRAVERSE MONUMENT	

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT R.S.O. 1910 CHAP 380 SEC 63 SUBSEC 1

REFERENCES

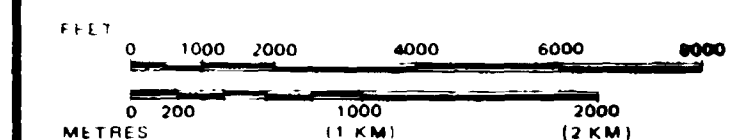
AREAS WITHDRAWN FROM DISPOSITION

M + O	MINING RIGHTS ONLY
S + O	SURFACE RIGHTS ONLY
M + S	MINING AND SURFACE RIGHTS
(A)	Description Order No Date Disposition File
(A)	Sec 36 Withdrawn 10/77 4/2/77 S.R.O. 181905
(A)	OPP Twp 10/77 12/09/86 M.B.S. Sec 31(b)
	93 DEC 6 19:47

MINING RECORDER
LUP - LAND USE PERMIT PATRICIA
(R) - REMOTE COTTAGE MINING DIVISION
(R+S) - REMOTE TOURIST SET-UP
SAND AND GRAVEL

- (G) M.T.O. PIT No 949 FILE 182148
- (G) M.T.O. PIT No 950
- (G) GRAVEL FIL 182148
- (G) GRAVEL FIL 181875 MNR 171 No 160
- (G) QUARRY PERMIT

SCALE 1 INCH = 40 CHAINS



AREA
PENASSI LAKE
M.N.R. ADMINISTRATIVE DISTRICT
DRYDEN
MINING DIVISION
PATRICIA
LAND TITLES / REGISTRY DIVISION
KENORA

Ministry of Natural Resources Land Management Branch

Date FEBRUARY, 1984

Number

9-2526

Fourbay Lake

LEGEND

93

- HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC.
LOTS, MINING CLAIMS, PARCELS, ETC.
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC.
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON-PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT
REMOTE TOURIST SET-UP

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	■
" MINING RIGHTS ONLY	■
LICENCE OF OCCUPATION	○
ORDER-IN-COUNCIL	OC
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1979, CHAP. 220, SEC. 42, SUBSEC. 1.

REFERENCES

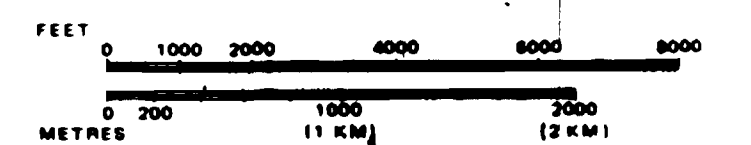
AREAS WITHDRAWN FROM DISPOSITION

DESCRIPTION	ORDER No.	Date	Disposition	File
M.R.O. - MINING RIGHTS ONLY				
S.R.O. - SURFACE RIGHTS ONLY				
M. & S. - MINING AND SURFACE RIGHTS				

SAND AND GRAVEL
GRAVEL FILE NO. 101172

2.15212

SCALE: 1 INCH = 40 CHAINS



SIXMILE LAKE

M.N.R. ADMINISTRATIVE DISTRICT
IGNACE
MINING DIVISION
PATRICIA
LAND TITLES / REGISTRY DIVISION
KENORA / THUNDER BAY

Ministry of Natural Resources
Land Management Branch
Ontario

Date: FEBRUARY, 1984. Number:

MAP 1 G-256

Bell Lake (11-1988) 22533

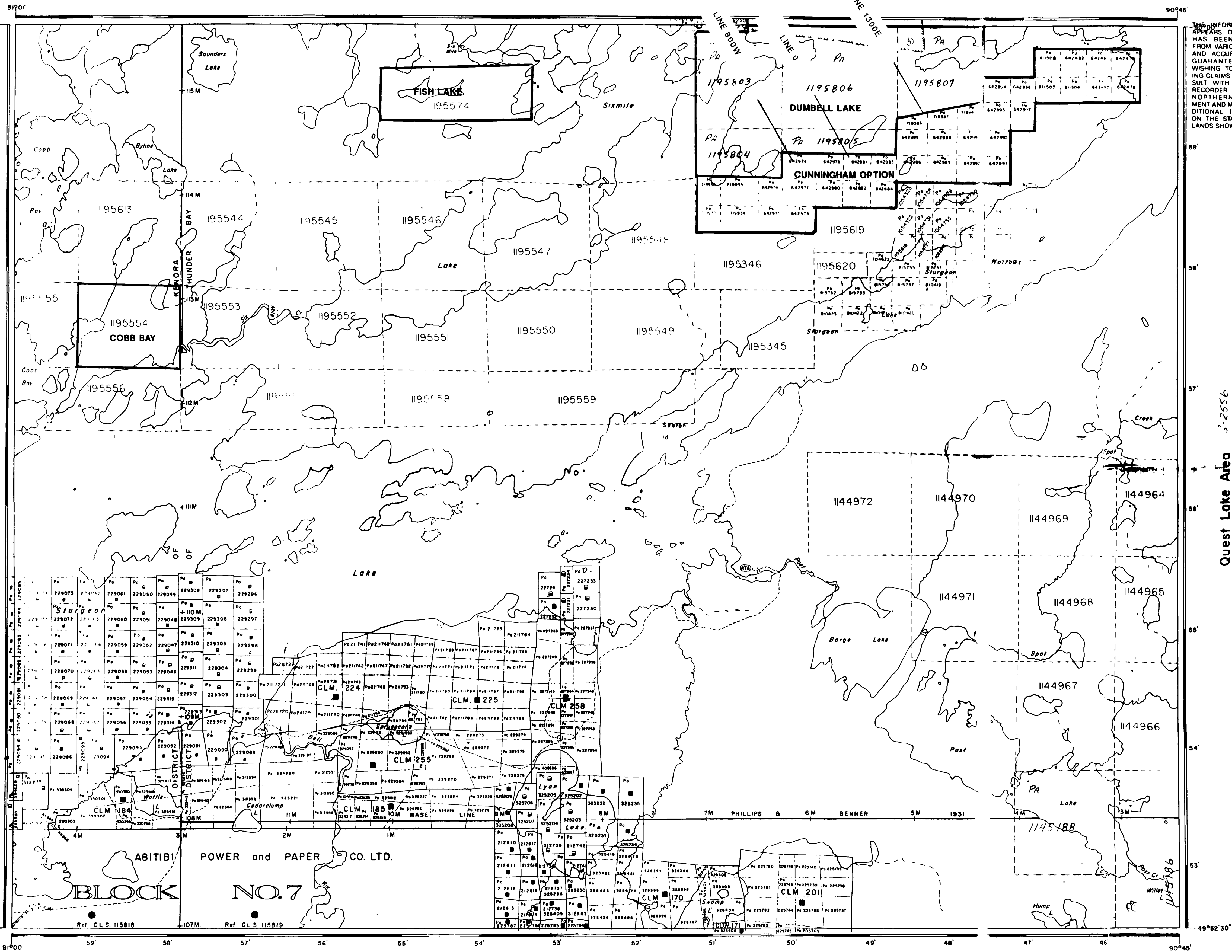
Quest Lake Area 2.2556

Penassi Lake

220

50°52'30"

March 1984
05 10 16 6
20 22 41 2
25 27 41 1
30 32 41 1
35 34 41 2



498904

HIGHWAY AND ROUTE No	
OTHER ROADS	
TRAILS	
SURVEYED LINES	
TOWNSHIPS, BASE LINES, ETC.	
LOTS, MINING CLAIMS, PARCELS, ETC.	
UNSURVEYED LINES	
LOT LINES	
PARCEL BOUNDARY	
MINING CLAIMS ETC.	
RAILWAY AND RIGHT OF WAY	
UTILITY LINES	
NON-PERENNIAL STREAM	
FLOODING OR FLOODING RIGHTS	
SUBDIVISION OR COMPOSITE PLAN	
RESERVATIONS	
ORIGINAL SHORELINE	
MARSH OR MUSKEG	
MINES	
TRAVERSE MONUMENT	
REMOTE TOURIST SET-UP	
REMOTE COTTAGE	

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 8, 1915 VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT R.S.O. 1970 CHAP. 300 SEC. 63, SUBSEC. 1

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY				
S.R.O. SURFACE RIGHTS ONLY				
M + S MINING AND SURFACE RIGHTS				
Description	Order No.	Order Date	Disposition	File
(S) 1000 1000 1000 1000 1000	1000	1000	1000	1000

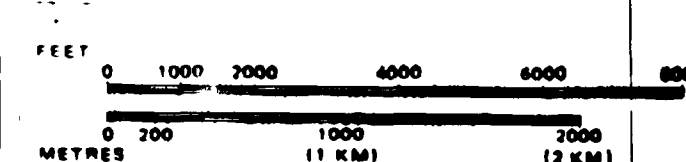
Map 2 Water lot - Ten Mile Lake Camp

Map 2 Water lot - Ten Mile Lake Camp

SAND AND GRAVEL

① M.T.C. PIT # 940 FILE # 102148
② M.T.C. PIT # 950
③ GRAVEL FILE 102148
④ GRAVEL FILE 102148, M.N.R. PIT # 105
⑤ QUARRY # 94017

SCALE: 1 INCH = 40 CHAINS

AREA
PENASSI LAKE

M.N.R. ADMINISTRATIVE DISTRICT
IGNACE
MINING DIVISION
PATRICIA
LAND TITLES / REGISTRY DIVISION
KENORA

Ministry of Natural Resources
Ontario
Land Management Branch

Date FEBRUARY, 1984

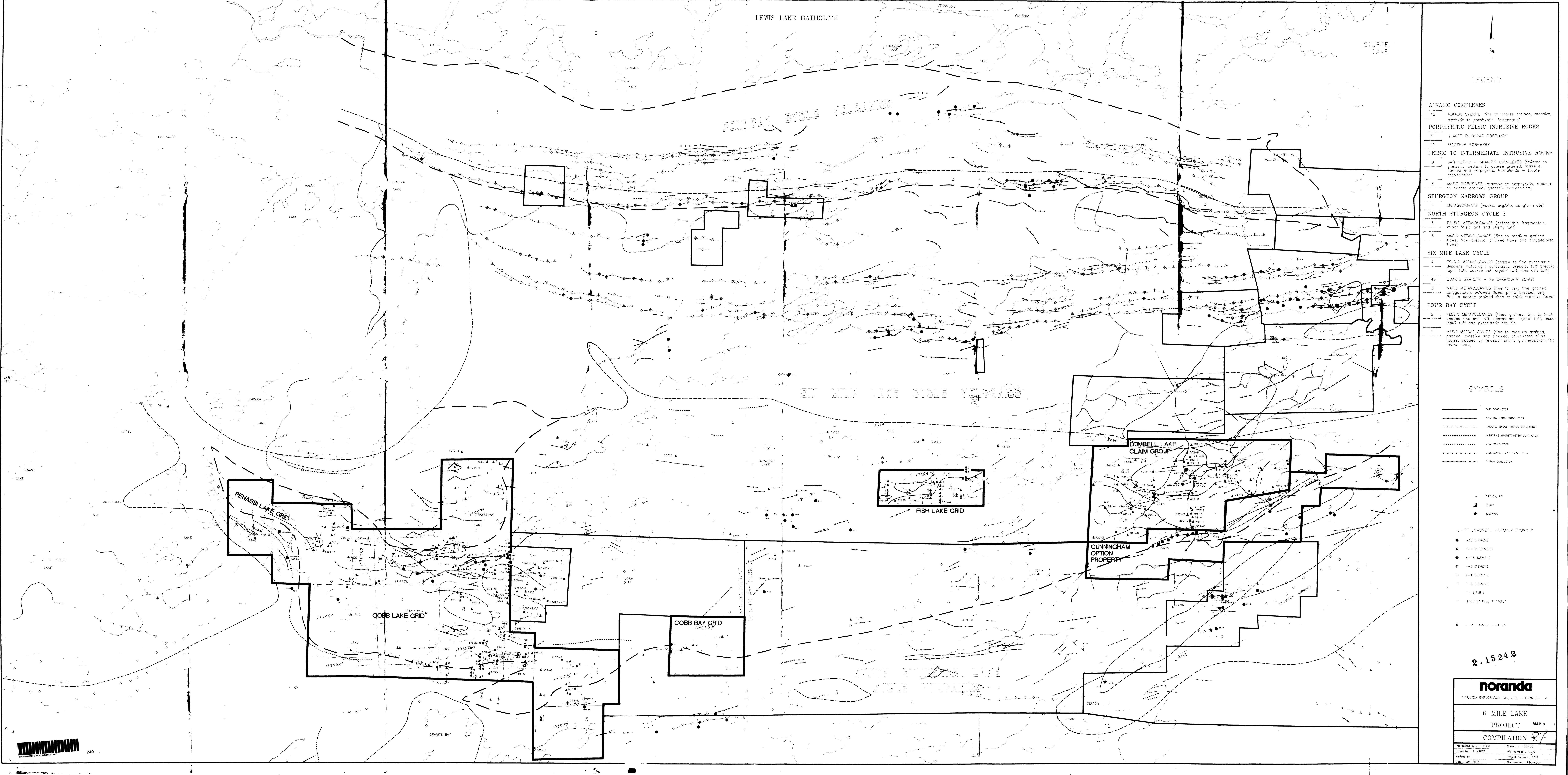
MAP 2

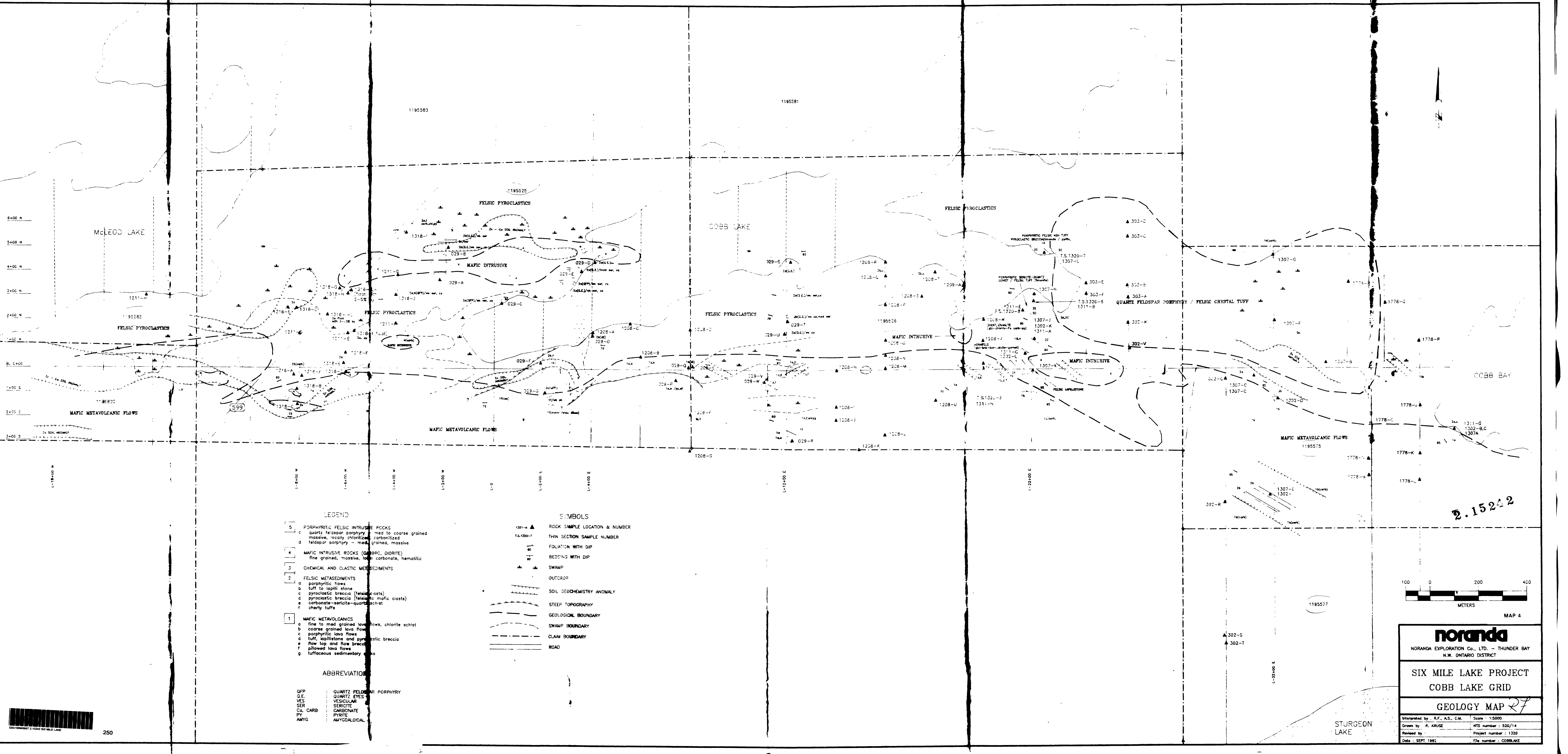
G-2526

WYATT LAKE - G-2569

SIXMILE LAKE - G-2561

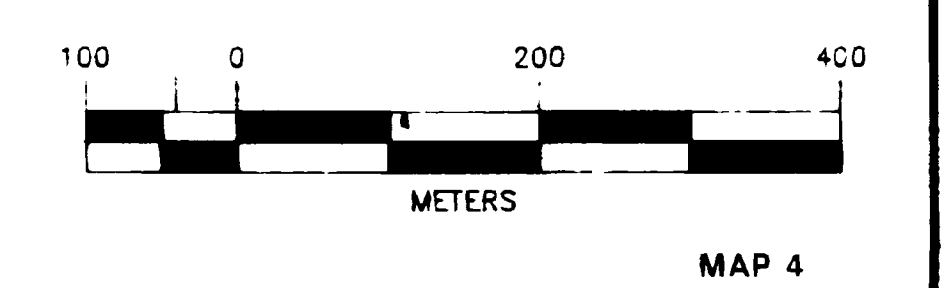
VALORA LAKE - G-2565





- LEGEND**
- 5 PORPHYRY FELSIC INTRUSIVE ROCKS
 - a quartz feldspar porphyry - med to coarse grained
 - b massive, locally chloritized, carbonized
 - c feldspar porphyry - med grained, massive
 - 4 MAFIC INTRUSIVE ROCKS (GABBRO, DIORITE)
 - a fine grained, massive, local carbonate, hematitic
 - 3 CHEMICAL AND CLASTIC METASEDIMENTS
 - 2 FELSIC METASEDIMENTS
 - a porphyritic flows
 - b tuff to lapilli stone
 - c pyroclastic breccia (felsic clasts)
 - d pyroclastic breccia (felsic mafic clasts)
 - e carbonate-sericite-quartz schist
 - f cherty tuffs
 - 1 MAFIC METAVOLCANICS
 - a fine to med grained lava flows, chlorite schist
 - b coarse grained lava flow
 - c porphyritic lava flows
 - d tuff, lapillistone and pyroclastic breccia
 - e flow top and flow breccia
 - f pillowed lava flows
 - g tuffaceous sedimentary rocks
- SYMBOLS**
- 1301-A ▲ ROCK SAMPLE LOCATION & NUMBER
 - 1318-7 THIN SECTION SAMPLE NUMBER
 - FOCUSION WITH DIP
 - BEDDING WITH DIP
 - SWAMP
 - OUTCROP
 - SOIL GEOCHEMISTRY ANOMALY
 - STEEP TOPOGRAPHY
 - GEOLOGICAL BOUNDARY
 - SWAMP BOUNDARY
 - CLAIM BOUNDARY
 - ROAD

- ABBREVIATION**
- | | |
|----------|--------------------------|
| QFP | QUARTZ FELDSPAR PORPHYRY |
| Q.E. | QUARTZ EYES |
| VES | VESICULAR |
| SER | SERICITE |
| Ca. CARB | CARBONATE |
| PY | PYRITE |
| AMYG | AMYGDALOIDAL |



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NORANDA EXPLORATION CO., LTD. - THUNDER BAY
N.W. ONTARIO DISTRICT

**SIX MILE LAKE PROJECT
COBB LAKE GRID**

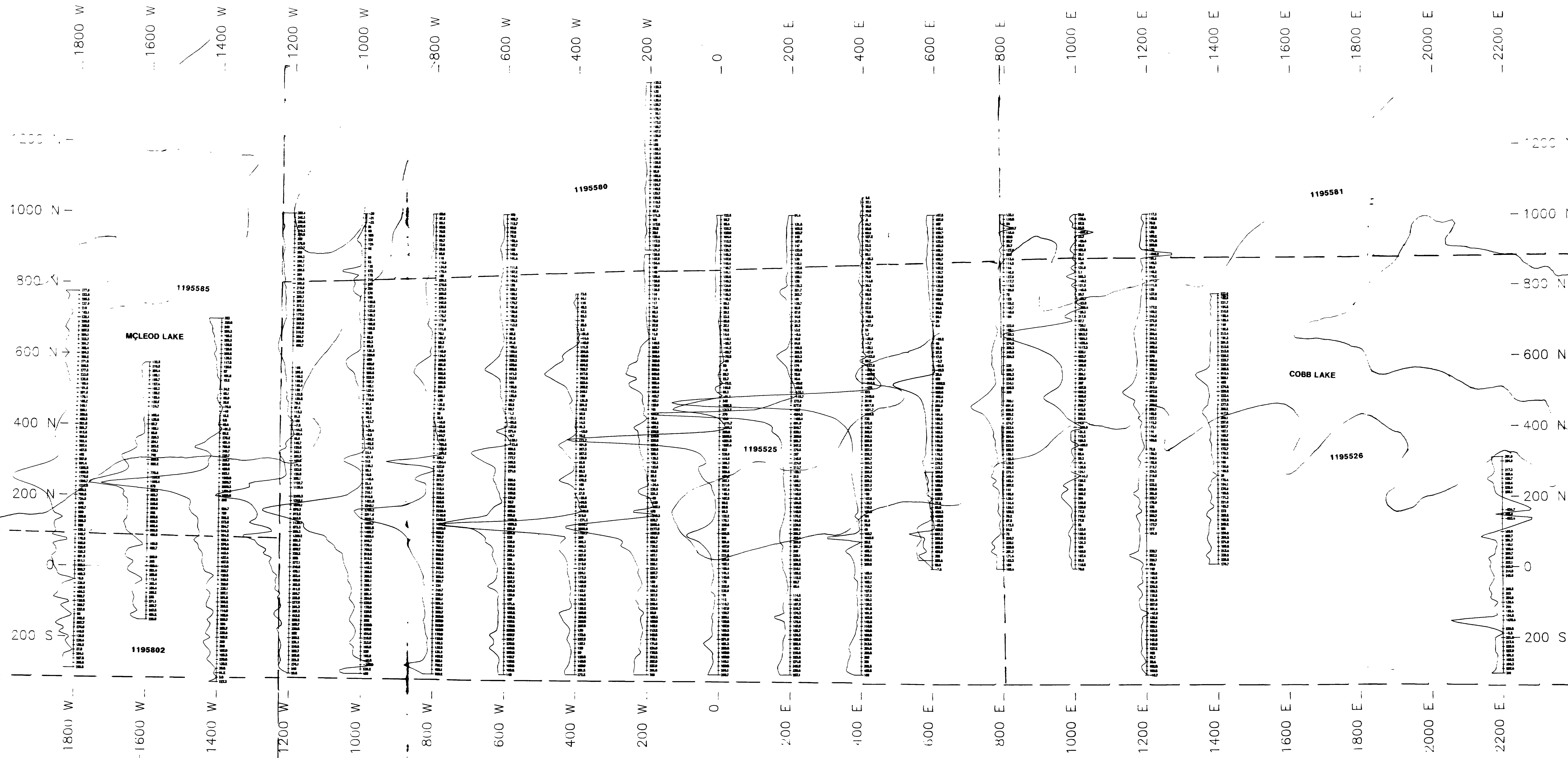
GEOLOGY MAP 27

Interpreted by: R.F., A.S., C.M.	Scale: 1:5000
Drawn by: R. KALISE	MTS number: 526/14
Revised by:	Project number: 1330
Date: SEPT 1992	File number: COBB LAKE



32015NW007 2 15242 SIX MILE LAKE

260



Instrument : EDA OMNI IV
Profile Scale 500
Profile Base Value 000
Datum : 57700

2.152.2
Scale 1:5000
50 0 50 100 150 200
(meters)

COBB LAKE

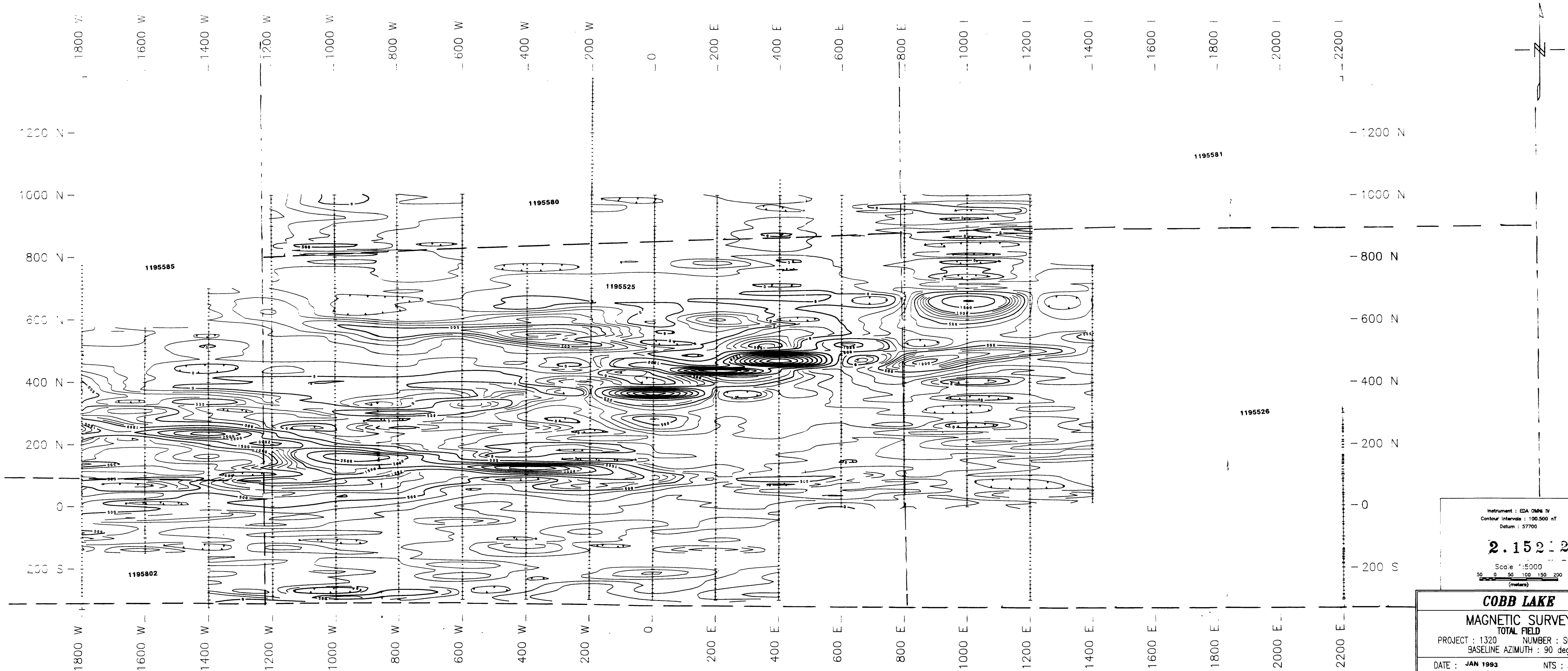
MAGNETIC SURVEY
TOTAL FIELD

PROJECT : 1320 NUMBER : SIX MILE LAKE
BASELINE AZIMUTH : 90 deg

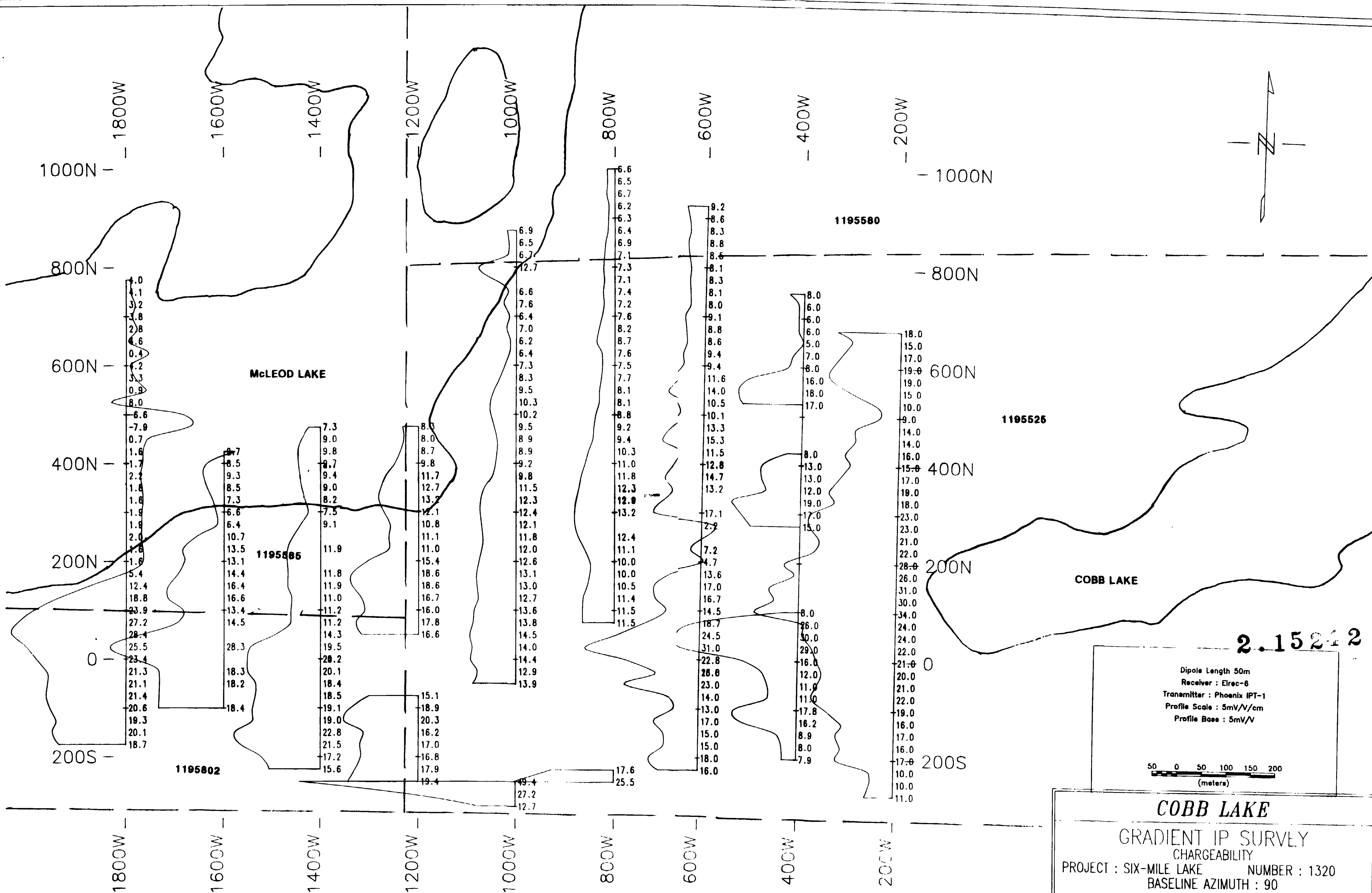
DATE : JAN 1993 NTS : 52 J/2
SURVEY BY : NORANDA EXP.
FILE : m320C0B

noranda

MAP 5



Instrument : EDA OMNI IV	
Contour intervals : 100.000 nT	
Datum : 57700	
2.152.2	
Scale : 1:5000	
50 0 50 100 150 200 (meters)	
COBB LAKE	
MAGNETIC SURVEY	
TOTAL FIELD	
PROJECT : 1320	NUMBER : SIX MILE LAKE
BASELINE AZIMUTH : 90 deg	
DATE : JAN 1993	NTS : 52 J/2
SURVEY BY :	NORANDA EXP.
FILE : m320COB	
noranda	
Exploration Company Ltd	



Dipole Length 50m
 Receiver : Elrec-8
 Transmitter : Phoenix IPT-1
 Profile Scale : 5mV/V/cm
 Profile Base : 5mV/V

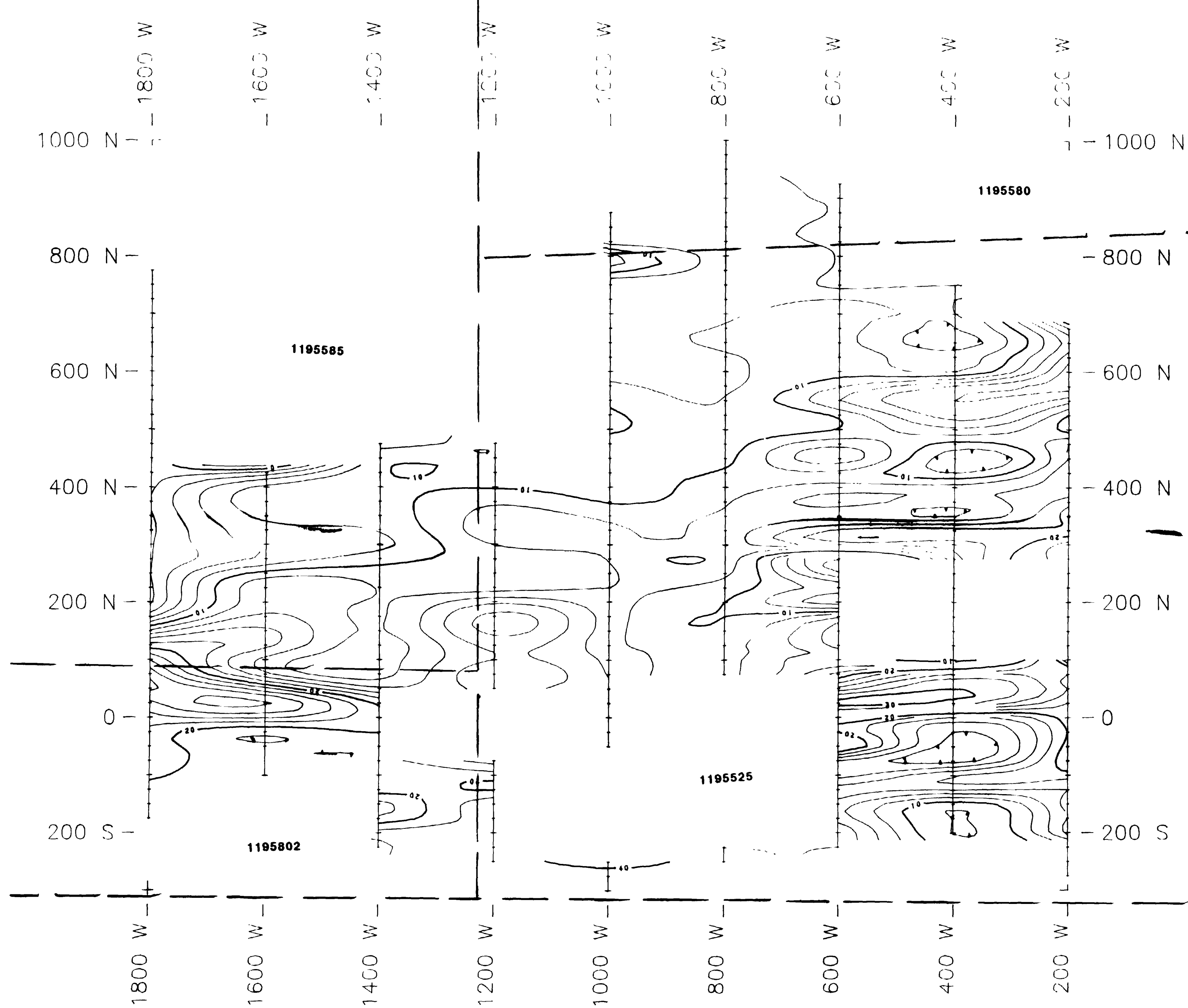
50 0 50 100 150 200
 (meters)

COBB LAKE
 GRADIENT IP SURVEY
 CHARGEABILITY
 PROJECT : SIX-MILE LAKE NUMBER : 1320
 BASELINE AZIMUTH : 90

DATE : Jan 1993 NTS : 52 J/2
 SURVEY BY : Noranda Exploration
 FILE : icobb
noranda
 Exploration Company Ltd



52G15NW0007 2 15242 SIX MILE LAKE



2.152.2

Instrument : Elrec-8
 Contour Intervals : 2-10
 Datum :
 Dipole : 50m

Scale 1:5000
 50 0 50 100 150 200
 (meters)

COBB LAKE

**GRADIENT IP SURVEY
 CHARGEABILITY**

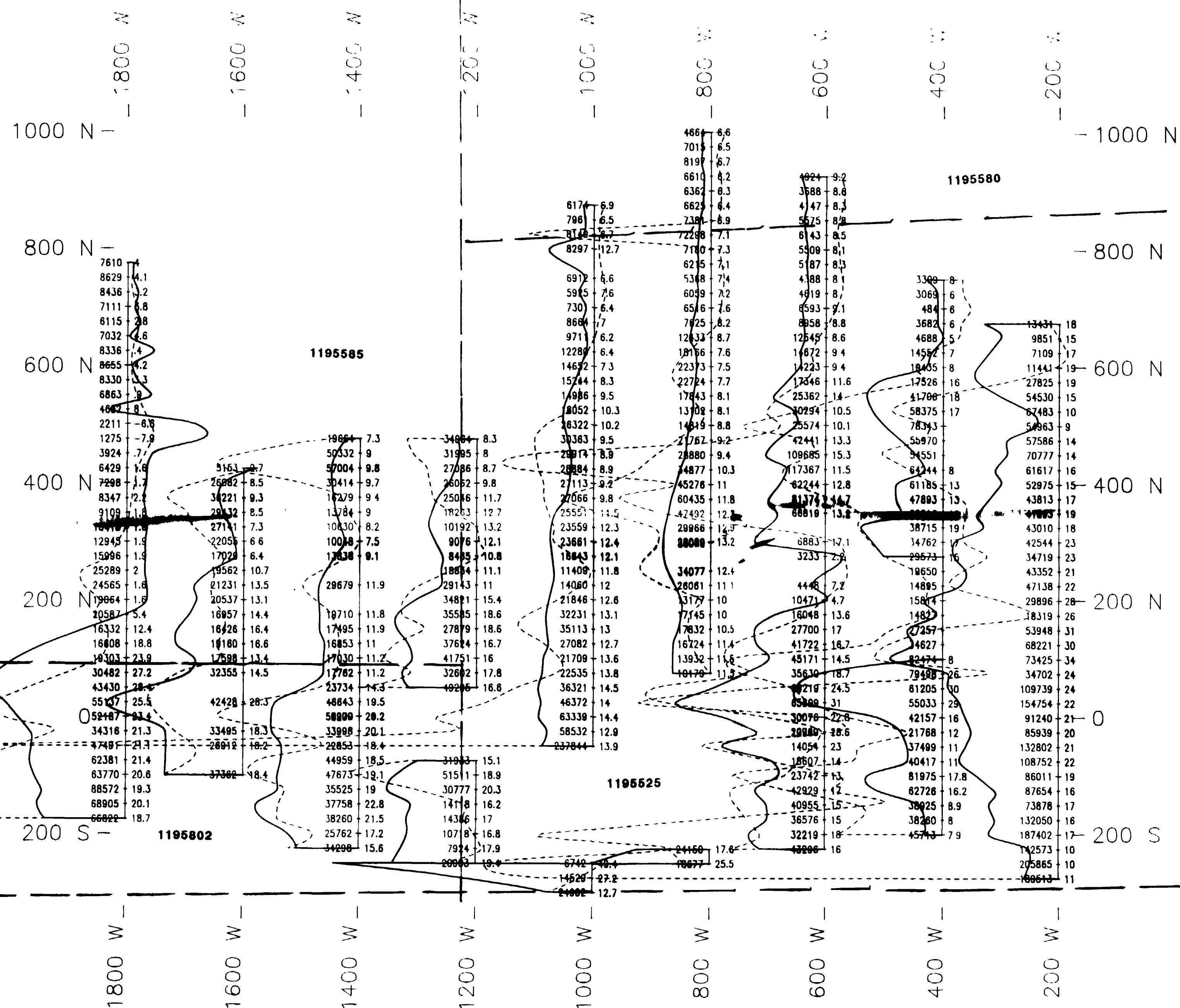
PROJECT : SIX-MILE LAKE NUMBER : 1320
 BASELINE AZIMUTH : 90 deg

DATE : Jan. 1993 NTS : 52 J/2
 SURVEY BY : Noranda Expln
 FILE : ICOBBG.XYZ

noranda
 Exploration Company Ltd



62G18NW0007 2 16242 SIX MILE LAKE



2.15242

Instrument : Eirec-6
 IP Profile Scale 5mV/V/cm
 IP Profile Base Value mV/V
 Resistivity Scale 10000 Ohm-m/cm
 Resistivity Base Value 100000 Ohm-m
 Dipole : 50m

Scale 1:5000
 50 0 50 100 150 200
 (meters)

COBB LAKE

GRADIENT IP SURVEY APPARENT RESISTIVITY

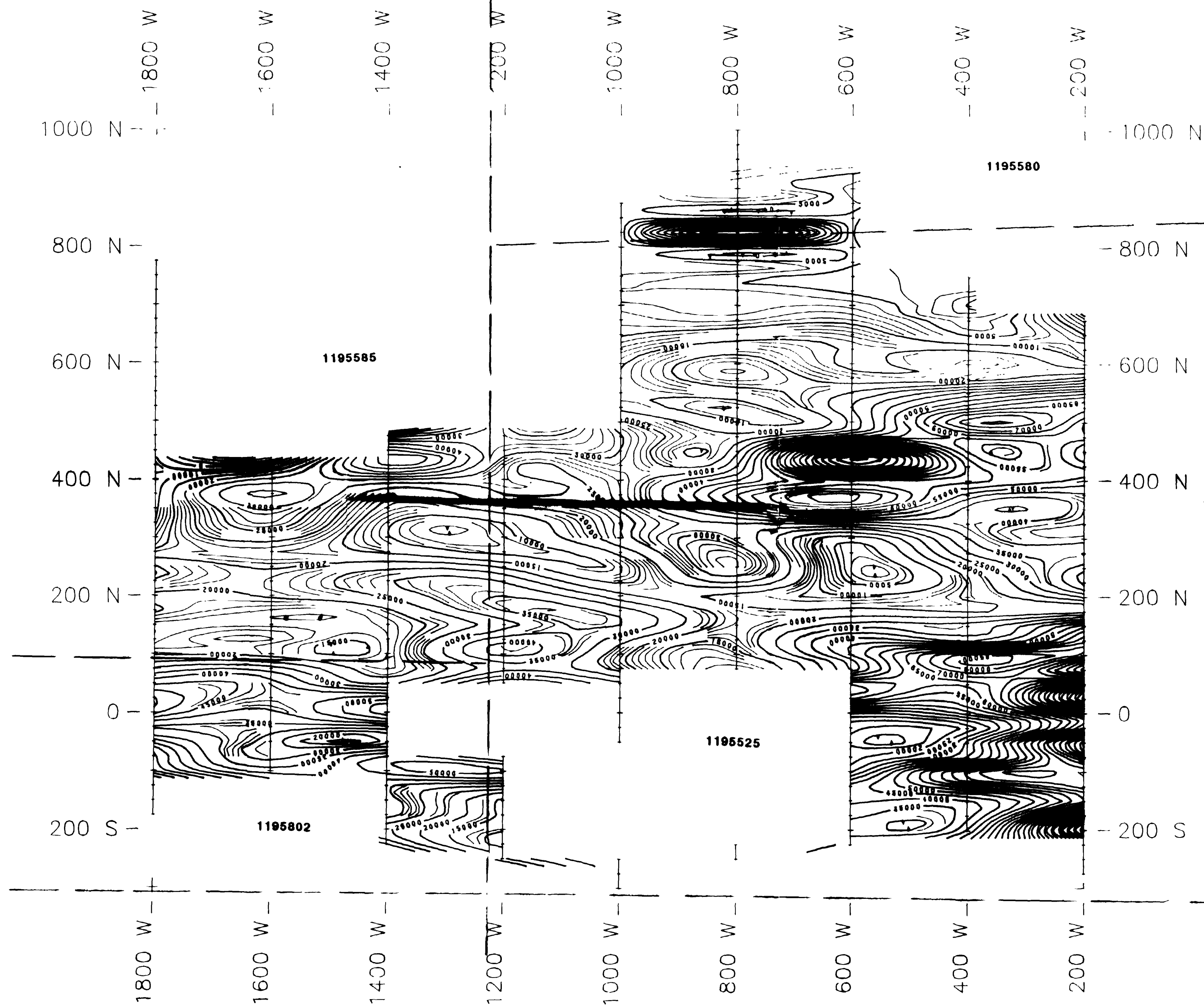
PROJECT : SIX-MILE LAKE NUMBER : 1320
 BASELINE AZIMUTH : 90 deg

DATE : Jan. 1993 NTS : 52 J/2
 SURVEY BY : Noranda Expln
 FILE : IC0BBG.XYZ

noranda

RF





2.152²

Instrument : Elrec-6
Contour Interval : 1k_5k
Datum :
Dipole : 50m

Scale 1:5000
50 0 50 100 150 200
(meters)

COBB LAKE

GRADIENT IP SURVEY APPARENT RESISTIVITY

PROJECT : SIX-MILE LAKE NUMBER : 1320
BASELINE AZIMUTH : 90 deg

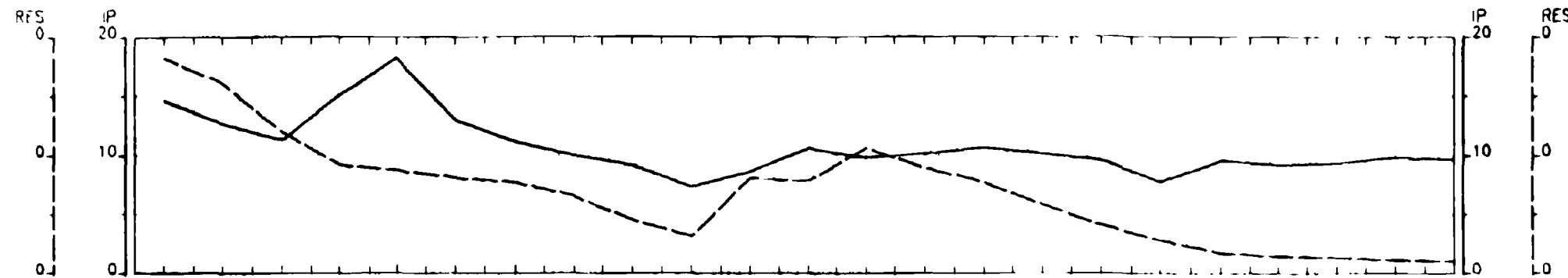
DATE : Jan. 1993 NTS : 52 J/2
SURVEY BY : Noranda Expln
FILE : ICOBG.XYZ

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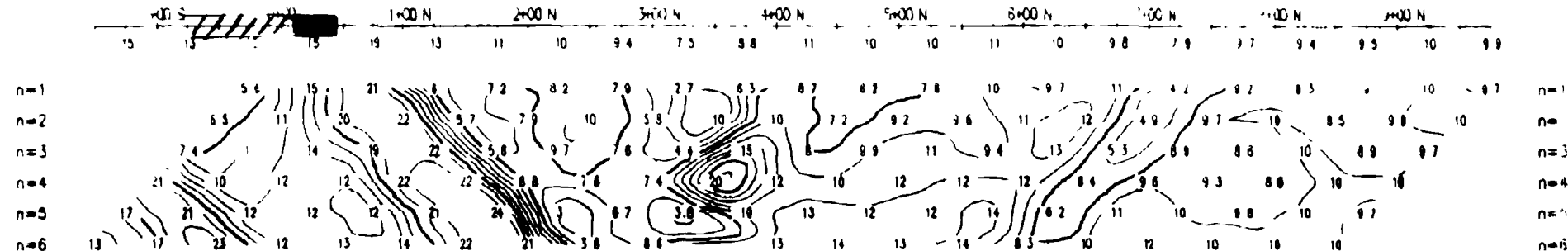
[Signature]



52G16NW0007 2 16242 SIX MILE LAKE

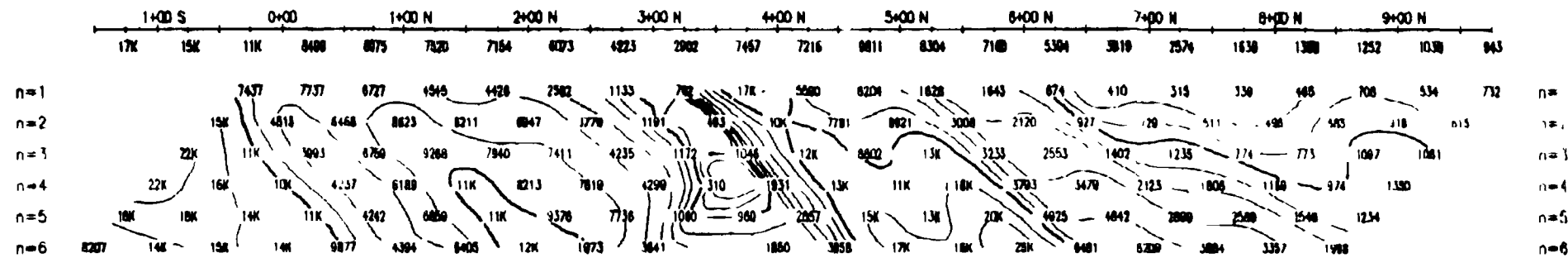


CHARGEABILITY
mV/V



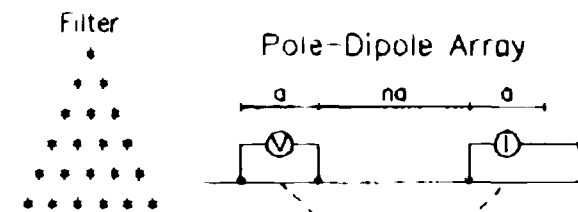
CHARGEABILITY
mV/V

APPARENT
RESISTIVITY
ohm-m



APPARENT
RESISTIVITY
ohm-m

MAP 11



2.15242
DIPOLE LENGTH $a=50m$
DIPOLE SPACINGS $n=6$
WINDOW Average
CHARGEABILITY
interval 2%, 10%
RESISTIVITY
Logarithmic 1, 1.5, 2, 3, 5, 7.5, 10.

INSTRUMENTS
RECEIVER : Eirec IP6
TRANSMITTER : Phoenix IPT-1

Scale 1:5000
50 0 50 100 150
(meters)

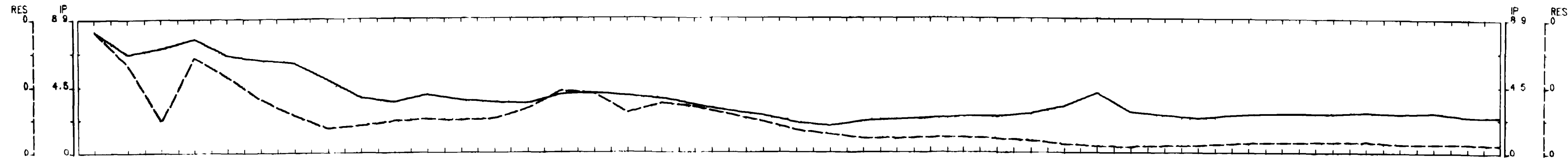
COBB LAKE
INDUCED POLARISATION
LINE L600w

Date : Sept. 93
Property : 1320 SIX MILE LK
NTS : 52 G/14, 15
Survey by Noranda Exploration

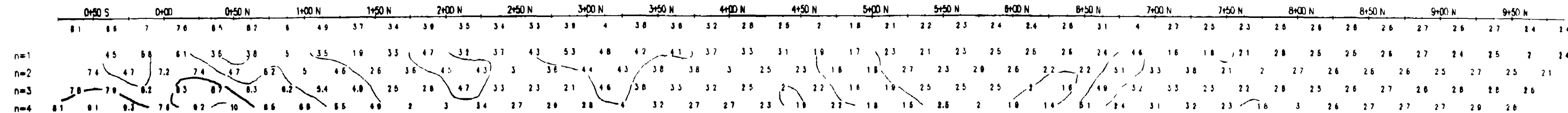
noranda
Exploration Company Ltd



62G15NW0007 2 15242 SIX MILE LAKE

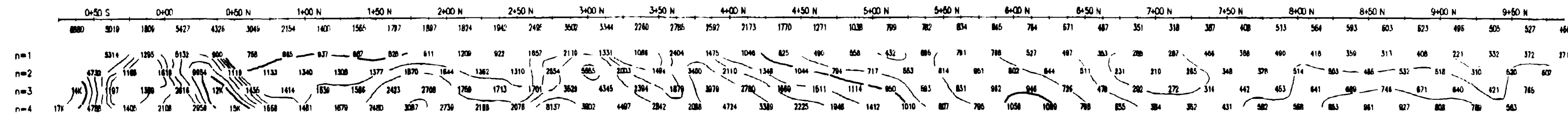


CHARGEABILITY
mV/V

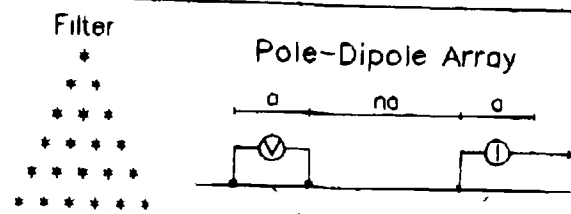


CHARGEABILITY
mV/V

APPARENT
RESISTIVITY
ohm-m



APPARENT
RESISTIVITY
ohm-m



DIPOLE LENGTH : $a=25m$
 DIPOLE SPACINGS : $n = 4$
 WINDOW : Average
 CHARGEABILITY
 Interval 2%, 10%
 RESISTIVITY
 Logarithmic 1, 1.5, 2, 3, 5, 7.5

INSTRUMENTS
 RECEIVER : Eirec IP6
 TRANSMITTER : Phoenix IPT-

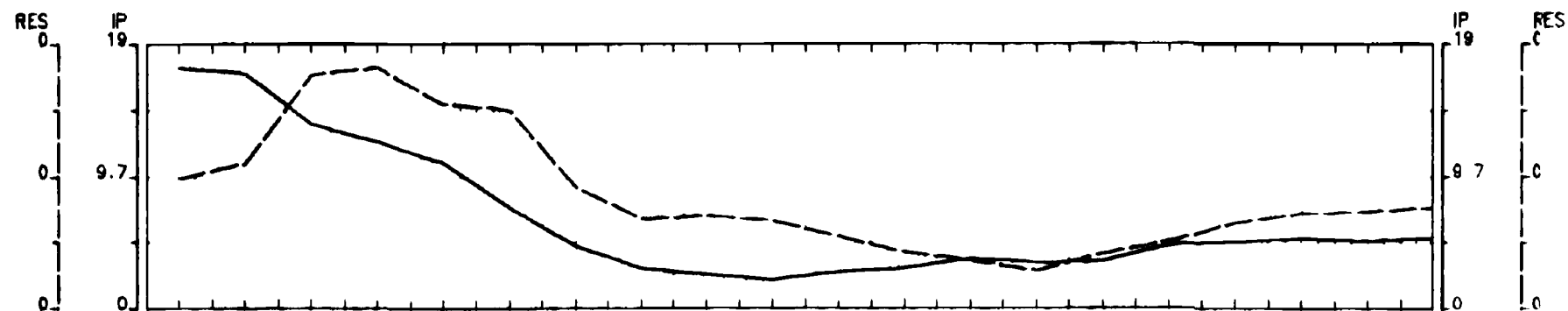
2.15242 Scale 1:2500
 25 0 25 50 75
 (meters)

COBB LAKE
INDUCED POLARISATION
LINE L800W

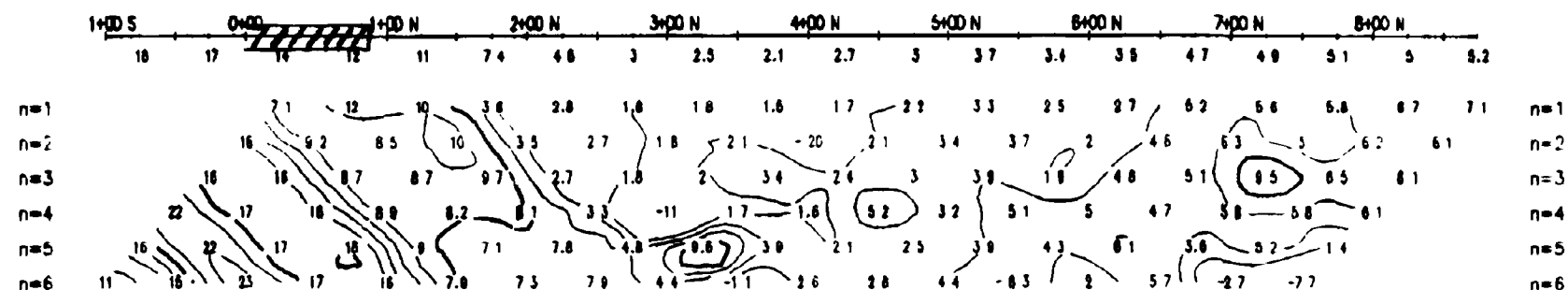
Date : Jan. 93
 Property : 1320 SIX MILE LK
 NTS : 52 G/14, 15
 Survey by : Noranda Exploration

noranda
 Exploration Company Ltd



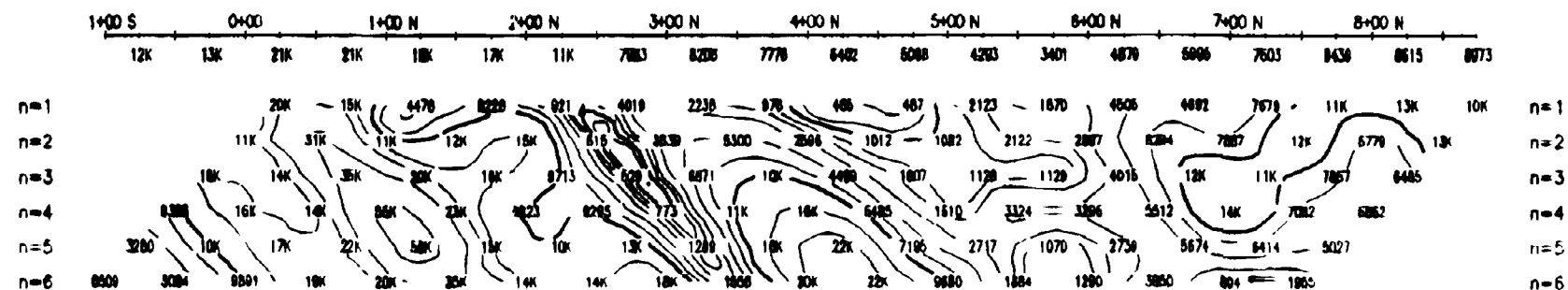


CHARGEABILITY
mV/V



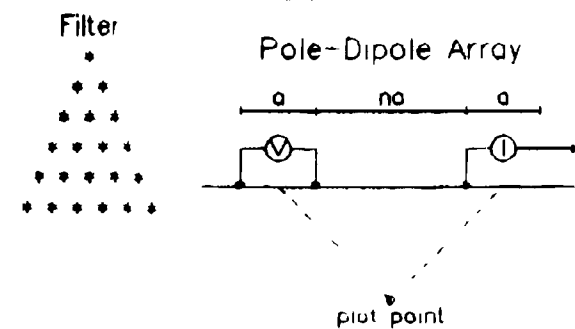
CHARGEABILITY
mV/V

APPARENT
RESISTIVITY
ohm-m



APPARENT
RESISTIVITY
ohm-m

MAP 13



DIPOLE LENGTH : $a=50m$
DIPOLE SPACINGS : $n = 6$
WINDOW Average
CHARGEABILITY
Interval 2%, 10%
RESISTIVITY
Logarithmic 1, 1.5, 2, 3, 5, 7.5, 10.

INSTRUMENTS
RECEIVER Elrec IP6
TRANSMITTER Phoenix IPT-1

Scale 1:5000
50 0 100 150
(meters)

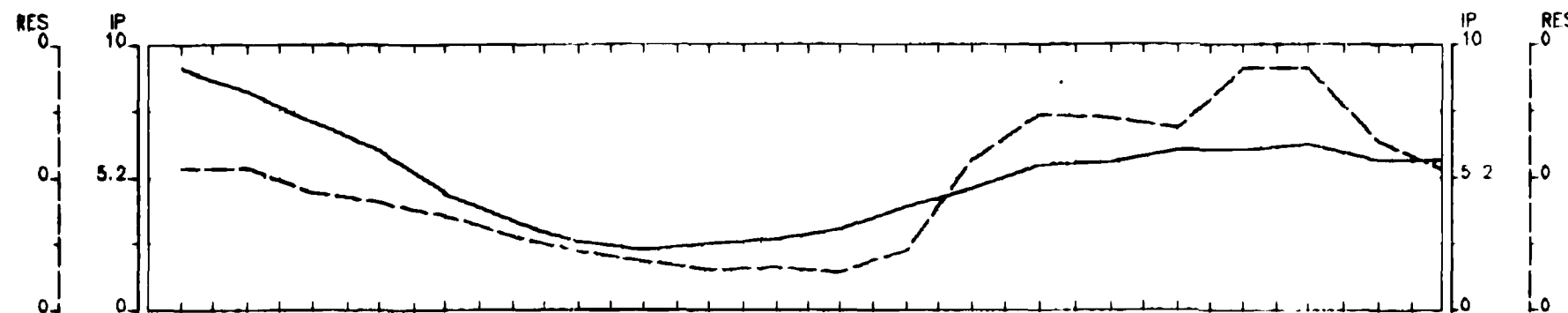
COBB LAKE
INDUCED POLARISATION
LINE L2200E

Date Sept. 93
Property 1320 SIX MILE LK
NTS 52 G/14.15
Survey by : Noranda Exploration

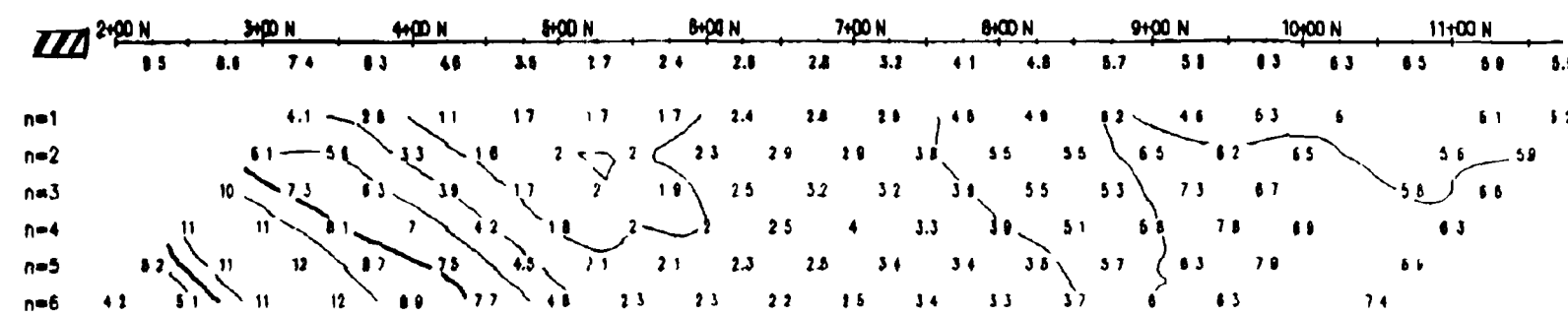
noranda
Exploration Company Ltd



52G16NW0007 2 16242 SIX MILE LAKE

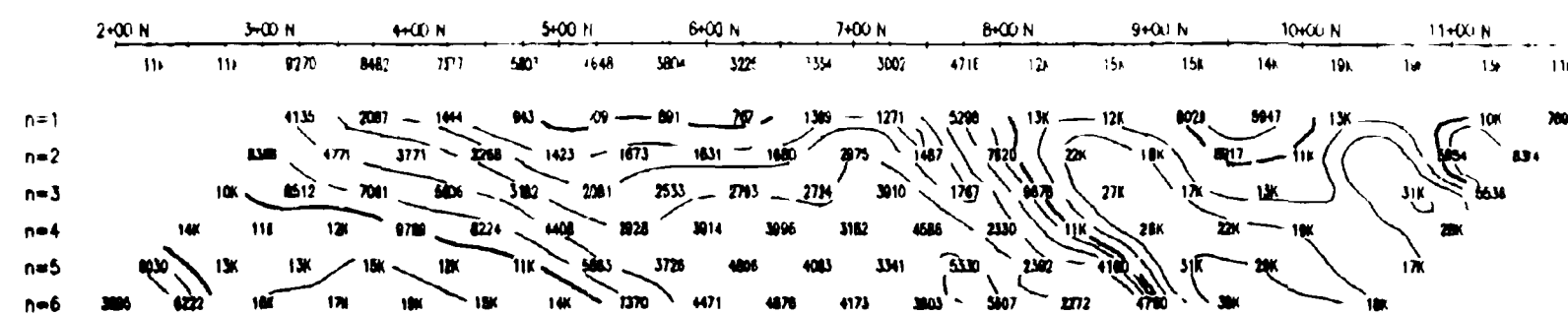


CHARGEABILITY
mV/V

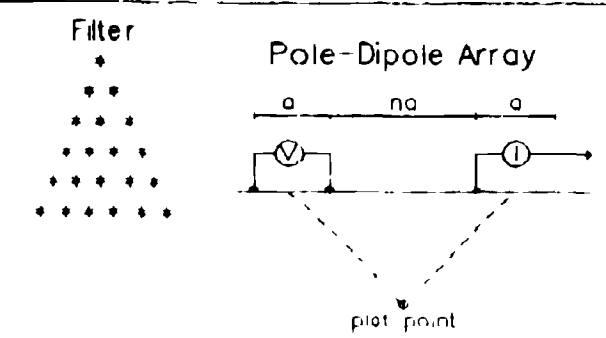


CHARGEABILITY
mV/V

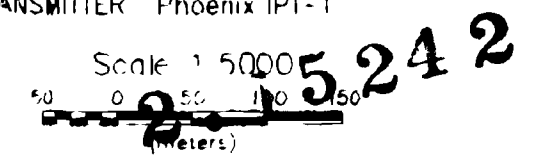
APPARENT
RESISTIVITY
ohm-m



APPARENT
RESISTIVITY
ohm-m



DIPOLE LENGTH $a=50m$
 DIPOLE SPACINGS $n = 6$
 WINDOW : Average
 CHARGEABILITY
 Interval 2%, 10%
 RESISTIVITY
 Logarithmic 1, 1.5, 2, 3, 5, 7.5, 10,
 INSTRUMENTS
 RECEIVER Eirec IP6
 TRANSMITTER Phoenix IPT-1



DUMBELL LAKE
INDUCED POLARISATION

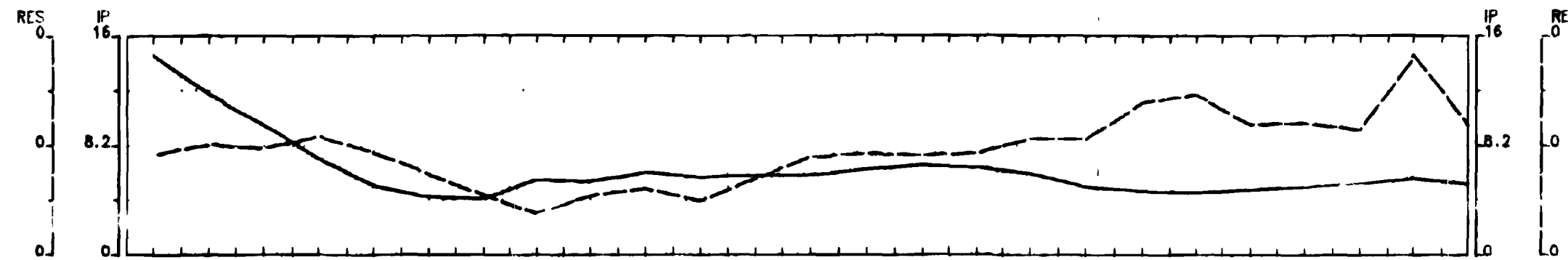
LINE L800W

Date . Sept. 93
 Property 1320 SIX MILE LK
 NTS . 52 G/14,15
 Survey by Noranda Exploration

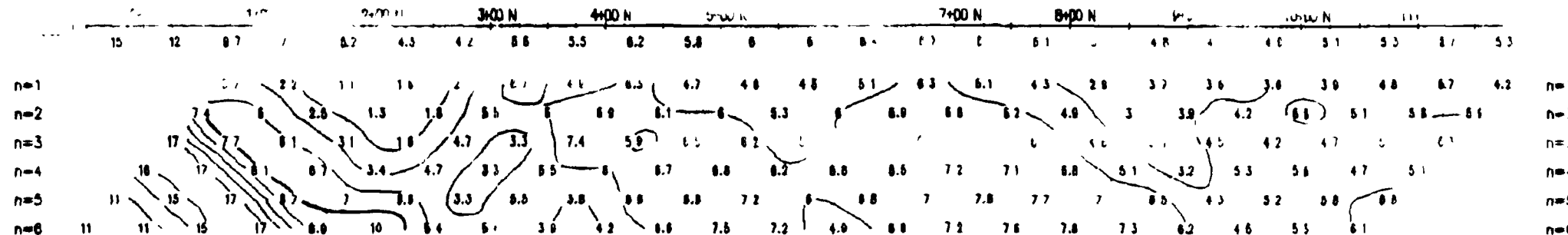
noranda
 Exploration Company Ltd



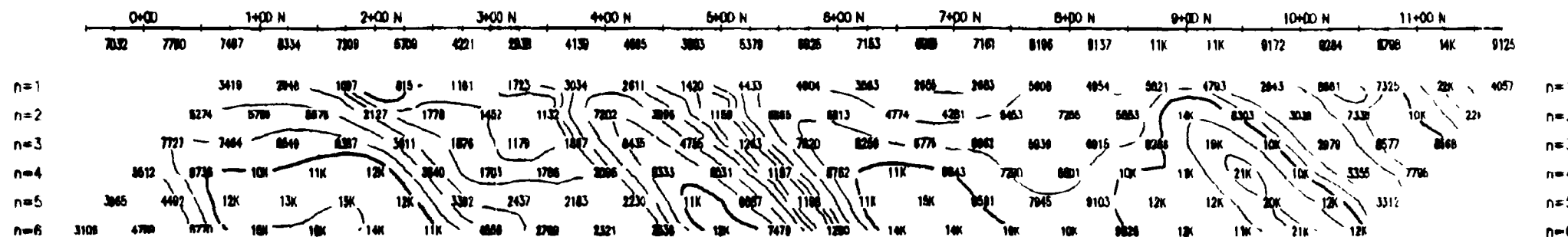
52G16NW0007 2 16242 SIX MILE LAKE



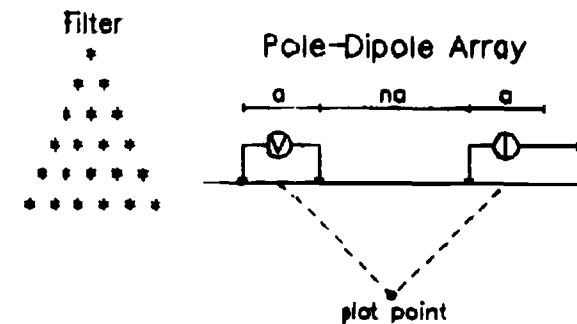
COLLECTED
mV/V



APPARENT
RESISTIVITY
ohm-m



CHARGEABILITY
mV/V



DIPOLE LENGTH : $a=50m$
DIPOLE SPACINGS : $n = 6$
WINDOW : Average
CHARGEABILITY
IP : 2%, 10%
SEMI-DEPTH
Logarithmic 1, 1.5, 2, 3, 5, 7.5, 10.

INSTRUMENTS
RECEIVER : Eirec IP6
TRANSMITTER : Phoenix IPT-1

Scale 1:5000
50 0 50 100 150
(meters)

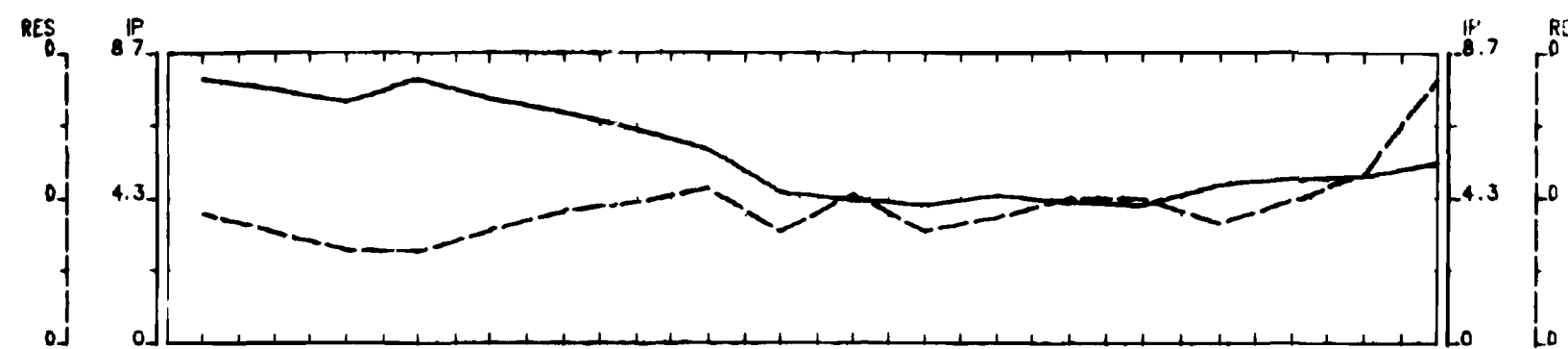
DUMBELL LAKE
INDUCED POLARISATION
LINE BLO

MAP 15

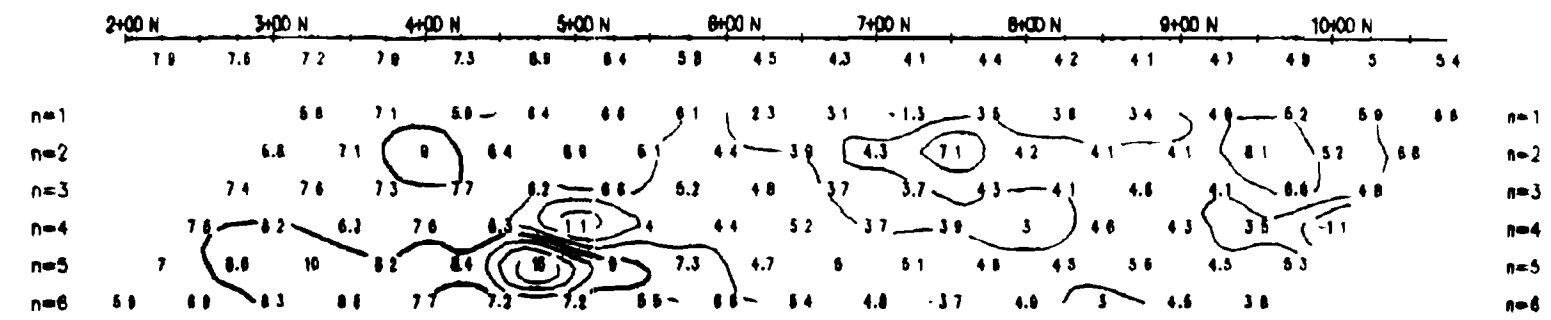
Date : Sept 93
Property : 1320 SIX MILE LK
NTS : 52 G/14.15
Survey by : Noranda Exploration
noranda
Exploration Company Ltd



52G15NW0007 2 15242 SIX MILE LAKE

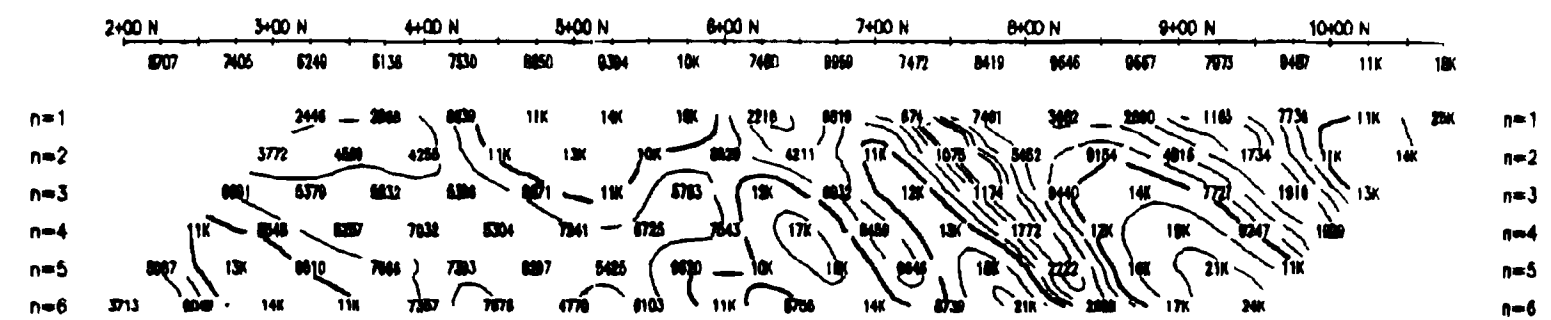


CHARGEABILITY
mV/v



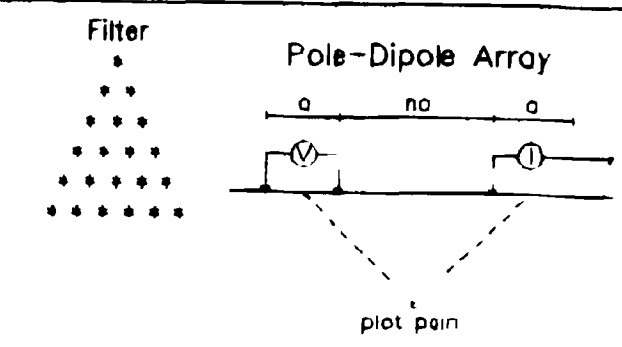
CHARGEABILITY
mV/v

APPARENT
RESISTIVITY
ohm-m



APPARENT
RESISTIVITY
ohm-m

MAP 16



DIPOLE LENGTH $a=50m$
DIPOLE SPACINGS : $n = 6$
WINDOW Average
CHARGEABILITY
Interval 2%, 10%
RESISTIVITY
Logarithmic 1, 1.5, 2, 3, 5, 7.5, 10, ..

INSTRUMENTS
RECEIVER Elrec IP'e
TRANSMITTER Phoenix IPT-1

Scale 1:5000
50 0 50 100 150
(meters)

DUMBELL LAKE
INDUCED POLARISATION
LINE L1300E

Date Sept. 93
Property : 1320 SIX MILE LK
NTS : 52 G/14, 15
Survey by : Noranda Exploration

noranda
Exploration Company Ltd