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**GEOPHYSICAL AND GEOCHEMICAL REPORT**

7/88

on the

**GRACE 1 to 5 CLAIMS**

Omineca Mining Division - British Columbia

Lat. 57° ~~11'~~<sup>10'24"</sup> N.

Long. 126° ~~52'~~<sup>50'36"</sup> W.

N.T.S. 94 E/2W

<b>SUB-RECORDER RECEIVED</b>
<b>OCT 16 1987</b>
M.R. # ..... \$..... VANCOUVER, B.C.

for

*Owner/Operator:* ASITKA RESOURCE CORPORATION

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,307**  
by

D. R. MacQuarrie, B.Sc.

**FILMED**

October 15, 1987

Vancouver, B. C.

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## SUMMARY

Asitka Resource Corporation holds 59 claim units, the Grace Group, situated in the Toodoggone River area of north central British Columbia. Access is by fixed wing aircraft, a distance of 250 kilometres north of Smithers, to the Sturdee Airstrip (used to service the Baker Mine) and thence by helicopter 14 kilometres to the property. Road access to within three kilometres of the property is now available via the recent extension of the Omineca Mine road to the Sturdee Strip from Moose Valley.

The Grace property is one of a number of important prospects in the Toodoggone gold-silver camp which has recently become the target of intense exploration activity.

The property is underlain by three main rock units. Granodiorite is part of the northwest-trending pluton of Middle Jurassic age. Marble and siltstone of the Permian Asitka Group forms at least three roof pendants within the granodiorite. Volcanic and volcanoclastic rocks of the Toodoggone volcanics outcrop on the eastern part of the claims. Main types of mineralization on the property include:

1) copper+zinc+gold in skarns along marble-granodiorite contacts, 2) gold in siliceous zones and chloritic veins with coarse pyrite in pyritic metasiltstones, and 3) gold in brecciated and silicified volcanic rocks of the Toodoggone volcanics.

In 1987 Asitka undertook a program of geochemical sampling and geophysical surveying, on the Grace 5 claim.

## CONCLUSION

Most of the gold-silver deposits in the Toodoggone "camp" are of the epithermal type. They are related to caldera and block fault structures associated with Lower Jurassic volcanism (Toodoggone volcanics). The mineralization discovered on the Grace 5 claim is of this type. The skarn occurrences on the Grace property probably

represent a deeper level of mineralization associated with plutonic rocks that are approximately the same age as, and possibly the source of, the Toodoggone volcanics.

Results of drilling and sampling of the skarn occurrences of the Grace property have revealed low but significant gold and silver values. Additional work is required to outline the gold bearing skarns.

The strong multielement geochemical anomaly outlined in the Grace 5 claim in 1986 occurs along a strong linear feature and in an area where quartz-cemented breccia containing anomalous gold values occur.

#### RECOMMENDATION

A program of detailed prospecting, rock sampling and follow-up bulldozer trenching is recommended to test the soil geochemical anomalies, located between L6N and L3N from 4+00 to 7+50E. Detailed prospecting of the VLF-electromagnetic conductors in the vicinity of L9N 2+75E to L8N 4+50E is also warranted.

Based on positive results from the above, a follow-up program of diamond drilling would be warranted.

A handwritten signature in cursive script, appearing to read "D. R. M. J.", followed by a long horizontal flourish line extending to the right edge of the page.

## INTRODUCTION

The Grace claims cover vein-type gold mineralization and skarn-type copper-zinc-gold showings in the Toadoggone River area of north central British Columbia. The Toadoggone River area recently has been subject to intensive exploration activity for epithermal gold-silver deposits.

According to Schroeter (1986), an estimated six million dollars were spent on exploration in the Toadoggone area. The largest and most significant program was carried out by SEREM Inc. on their Lawyers property 25 kilometres to the northwest. SEREM (now Cheni Gold Mines) has estimated reserves of 509,600 tonnes grading 7.2 grams per tonne gold and 260 grams per tonne silver on their Amethyst zone. Exploration by Multinational Resources is continuing on the nearby Baker Property (17 kilometres to the northwest) which produced 1,287,676 grams of gold and 25,446,258 grams of silver between 1980 and 1983. Other companies active in the area are Energex Minerals, St. Joe Canada Inc., Imperial Metals, Cassidy Resources, New Ridge Resources, Manson Creek Resources Ltd., Bart Resources Ltd., and E and B Mines Ltd., etc.

This report summarizes results of fieldwork carried out to date on the Grace property as well as results of geochemical sampling and geophysical mapping carried out by D. Sorenson and R. Walker during the period July 17 to 22, 1987.

## LOCATION, ACCESS, PHYSIOGRAPHY

The Grace property is situated 250 kilometres north of Smithers in the Toadoggone River area (Figure 1). Access is by fixed wing aircraft to the Sturdee Airstrip near the Baker Mine and thence by helicopter 14 kilometres to the property (Figure 2). Road access to within three kilometres of the property is available from the new extension of the Omineca Mine road from the north side of the bridge over the Finaly River.

GRACE CLAIMS  
LOCATION MAP  
ASITKA RESOURCE CORPORATION

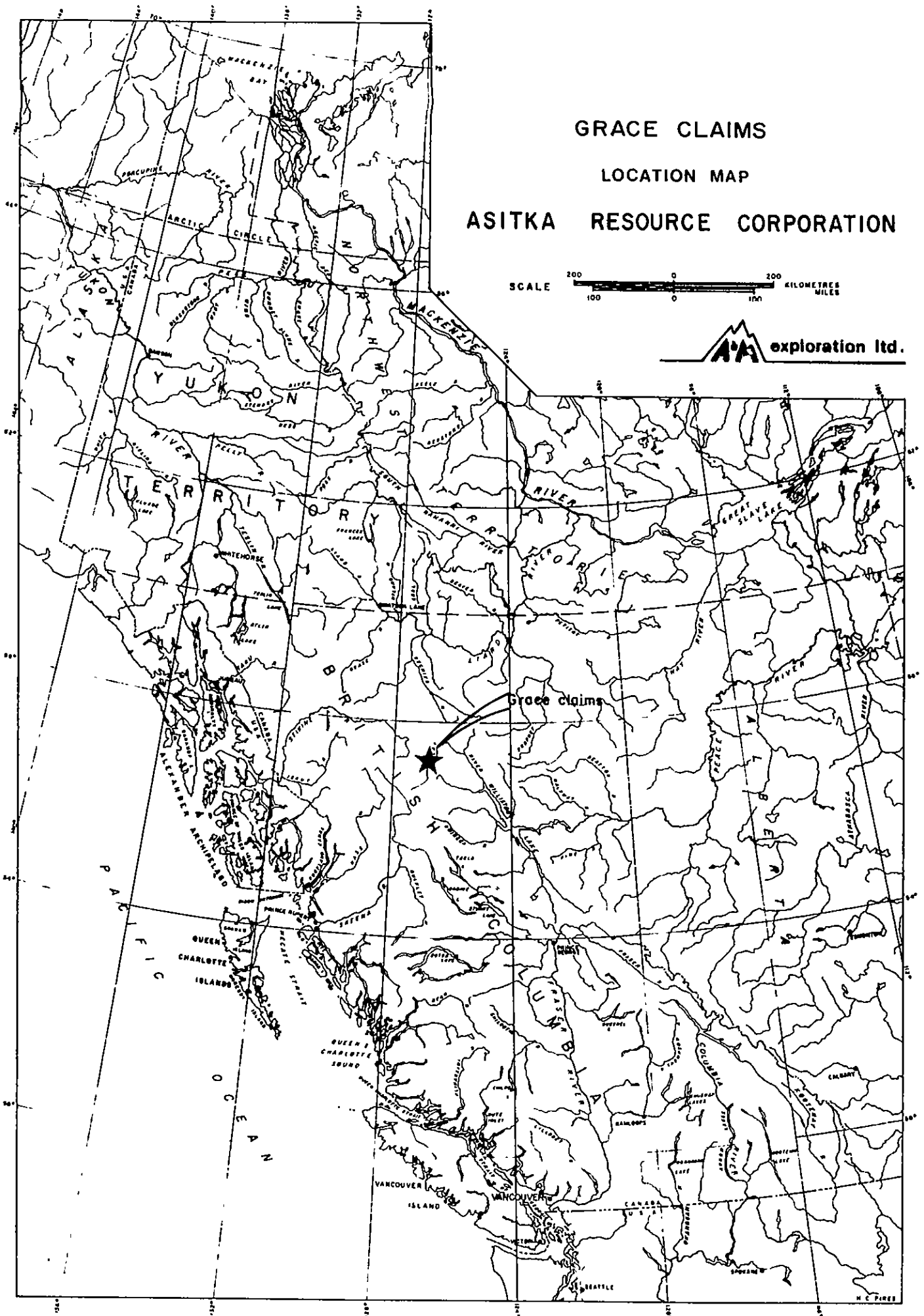
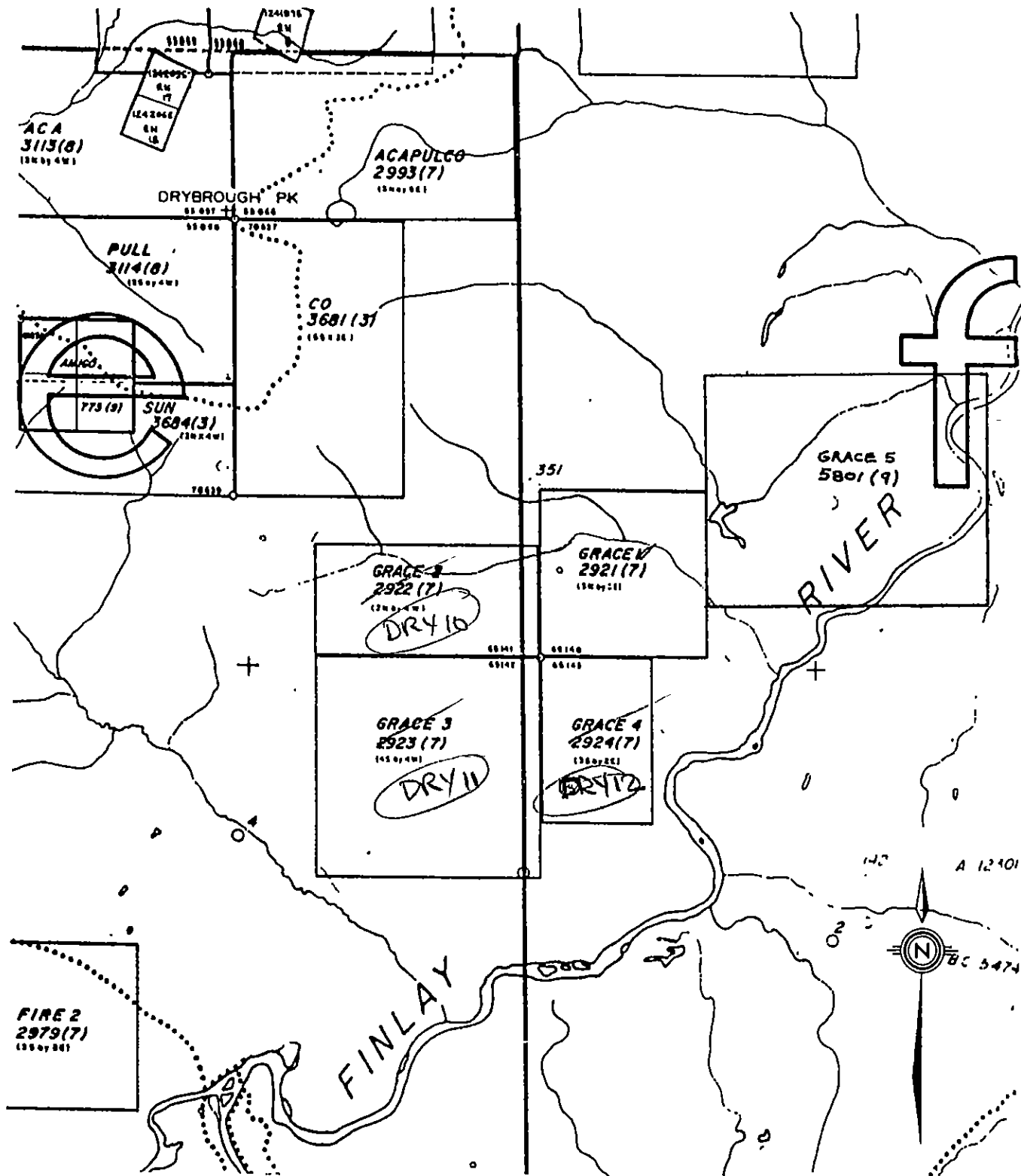


FIGURE - I



ASITKA RESOURCE CORPORATION

GRACE CLAIMS

OMINECA MINING DIVISION BRITISH COLUMBIA

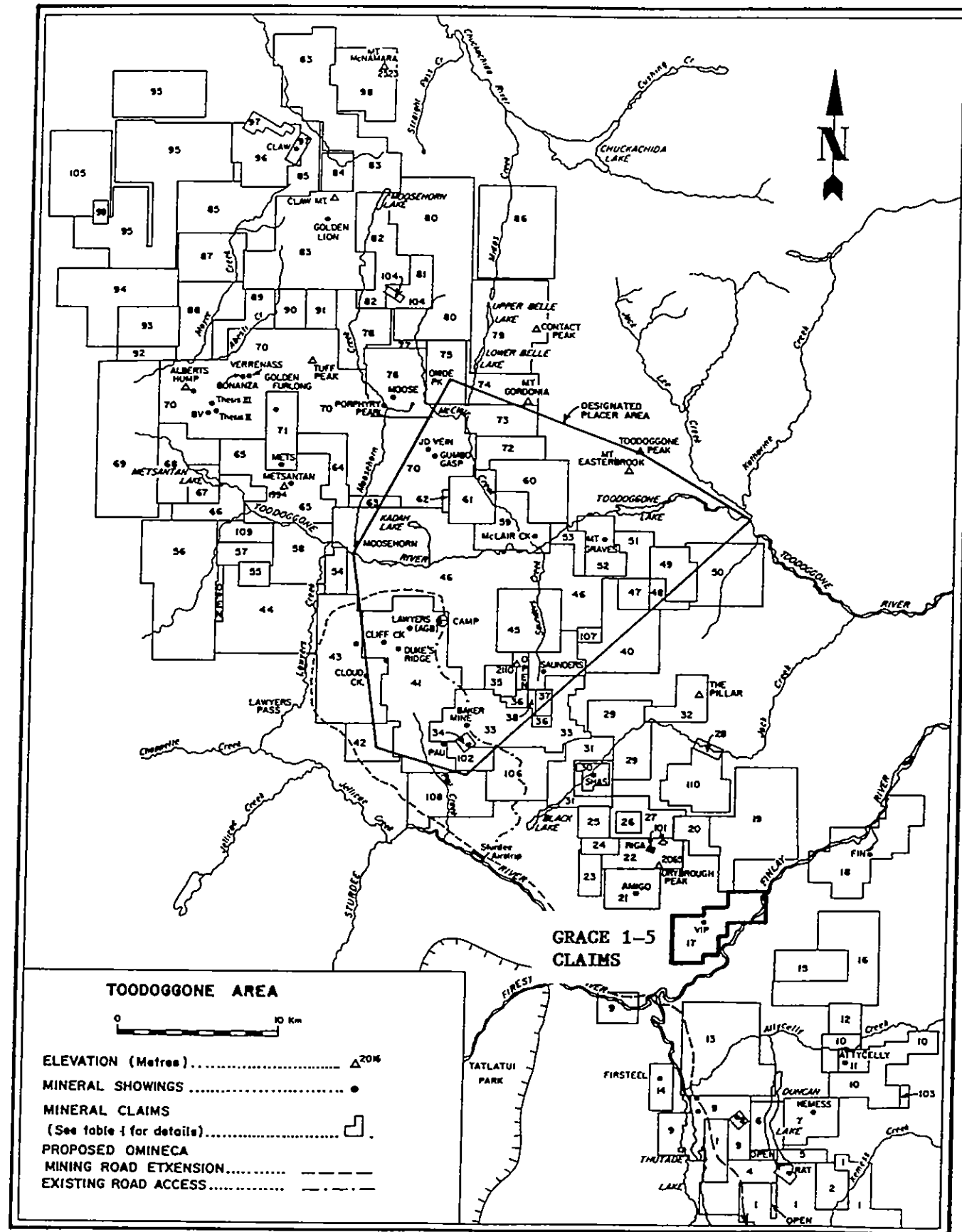
CLAIM MAP



FIGURE 2



TOODOGGONE RIVER AREA MINERAL PROPERTIES



NO.	CLAIMS	MINERAL INVENTORY NUMBER (94E)	OPERATOR	NO.	CLAIMS	MINERAL INVENTORY NUMBER (94E)	OPERATOR
1	RON 1-11	13, 14, 15	Pacific Ridge Res	55	GOLDEN STRANGLR.		
2	DU, DU 2	—	Pacific Ridge Res		GOLDEN STRANGER 2	76	Western Horizons
3	RAT	25	Cominco	56	LASSIE 1-4, LADD 1-4	—	Alexim
4	TUT 1, 2	—	Univex Mining	57	SB 3, 4	—	S. Young
5	DU 1, 2	—	Pacific Ridge Res	58	LAINIEY 1-4	—	Deep South Pet
6	DUNCAN 1-4	—	Asitka Res	59	MAC III, HYFLY I, II	1	C. Ashworth
7	NEW KEMESS 1, 2	21	Kennco	60	MAC I, II, IV	—	Hi-Tec Res.
8	CROWN-GRANTED CLAIMS	12	Cominco	61	BELLE I, 2, 4	—	Manson Creek Res.
9	LAKE 1-5	—	Pacific Ridge Res.	62	BIG LODE	—	Alexim
10	KEM 1-9	—	Inca Res.	63	KEY	—	Duke Minerals
11	AUDREY WEST, AUDREY EAST	22	ABM Mining Group	64	LEXIM 1-3, GWP 42	—	Mandusa Res.
12	AWESOME	81	Inca Res.	65	METSANTAN 1-9	64	Bart Res
13	ARK 1-7	—	Ark Energy	66	SY 2-4	—	A. L. Constantine
14	FIRESTEEL	2	SEREM	67	DISCOVERY 4	—	Black Diamond Res.
15	WRICH 1-3	82	SEREM	68	DISCOVERY 1-3	—	Duke Minerals
16	RICH 1-5	—	Golden Rule Res.	69	INDIAN GOLD 1-4, TOODOGGONE 1-4	—	Alexim
17	GRACE 1-5	48	Asitka Res.	70	AL 1-8, BERT, ERNIE, WINKLE, BULL, CHUTE, SURPRISE, GEROME, CALF MOOSE, ANTOINE LOUIS, TOUR, COW MOOSE, STURDEE, JM, JS, KADAH 1-2, BIG BIRD, GAS 1, JR, JB, JD	66, 65, 80, 78, 85, 84, 79, 91, 32	Energex
18	FIN 1-9	16	B. Pearson				
19	JOCK 4, 6-12	—	Golden Rule Res				
20	GOLDEN RING, GOLDEN RING 2	—	Newmont Expl.				
21	STAR, PULL, SUN	58	SEREM				
22	PARADISE 3, 4	—	Phillip Res.				
23	DALE	—	M. Bell				
24	LEGHORN	—	Kidd Creek Mines	71	METS 1, 2	—	Manson Creek Res.
25	JERRY	—	Phillip Res.	72	PEREGRINE, FALCON A	—	C. Ashworth
26	DAWN	—	Newmont Expl.	73	JOANNA III, JOANNA IV	—	International Westward Dev.
27	SHASTEX, PARADISE 2	—	Alexim	74	JOANNA I, II	36	Armour Res.
28	BRENDA 1-8	8	Camne Dev.	75	AMETHYST, KIDVIEW	—	Geostar
29	JK 1-5	39	Golden Rule Res.	76	SCREE 1-3, MOOSE 1-3, BULLMOOSE, GAS 2	31	New Ridge Res.
30	SHAS, SHA 1-2	50	International Shasta, Newmont	77	OXIDE 1	—	Alexim
31	SHASTA 3-5, SILVERREEF 3	—	Aretic Red Res.	78	HORN 1-5	20	Norman Res.
32	ATLAS, HERCULES	42, 83	SEREM	79	LAKE I-IV, MAGIC I, II	23	Hi-Tec Res.
33	CHAPPELLE	26, 71	Multinational Res	80	CAT 1-4, MID 1-3, BELL 1-3	59	A. L. Constantine
34	CROWN-GRANTED CLAIMS	27	O. McDonald	81	GORD DAVIES, GORDON DAVIES 2	53	Lacana
35	PEL	—	Multinational Res.	82	HORN 1-4, AS 1-3	—	Deep South Pet.
36	XT 1, 3	—	D. Stecyk	83	GUARD, LYNX 1-8, GOLDEN LION 1-11, HUMP 1-2	77, 19	Newmont Expl.
37	DAVE PRICE	—	Western Horizons				
38	XT 2	—	Golden Rule Res.				
39	GOLDEN NEIGHBOUR 1-4	37	Alban Expl., Lacana	84	SPAR MOUNTAIN	—	C Kowall
40	IAN, ADRIAN, PAUL, OTTO	—	Rhyolite Res.	85	PAW, PIKA, CAL 1, YET 1, SUET, GACHO	—	Hi-Tec Res.
41	NEW LAWYERS 1-4, LAW 1-3, BREEZE, ROAD 1-3, PERRY 1, 2, MASON 1, 2, GTW 1-3, ATTORNEY 2	66, 67, 74, 72, 73	SEREM	86	ORO I, II, URUS I-IV	—	Hi-Tec Res.
42	ATTORNEY 1, 2	—	Alexim	87	RANGER 1-4	—	Cusac Industries
43	SILVER POND, ASAP, SILVER SUN, SILVER CLOUD 1-3, SILVER CREEK	69, 75	St. Joe	88	MOYEZ 1, 2, 4	—	Geostar
44	PC 1-4, MM 1-4	—	Tanker Oil and Gas	89	SPIKE, WOLF I	—	Duke Minerals
45	SAUNDERS 1-4	40	Golden Rule Res.	90	WOLF II	—	Texpez Oil and Gas
46	GWP 1, 10-30, 34, 40, 41, 43, 200	86	Cassidy Res., Western Pacific Energy, Imperial Metals	91	WOLF III	—	Skeena Res.
47	DEBRA LYNN	—	Kelley-Kerr Energy	92	CHUCK 1, 2	—	Miramar
48	MARKER	28	Kelley-Kerr Energy	93	MOYTAN 1, II	—	Yukon Gold Placers
49	SAMMY, SUN	89	Newmont Expl.	94	ADOOG 1-5, STIK 1-4	—	Delaware Res.
50	KNIGHT, KEVIN, BISHOP, CASTLE	—	Hi-Tec Res.	95	GACHO 1-3, WILDCAT 1-3, HEAVY METAL 1-8, SHEEP ROCK 1, 2	54, 62	Alexim
51	GRAVY II, IV	—	Hemlo Expl.	96	COPPERKING 1-5 NAMERA IV	—	Western Horizons
52	GRAVES 1, 2	7, 87	Miramar	97	CLAW	46	Umex
53	GRAVY I, II, TODD	—	Kelley-Kerr Energy	98	WOLVERINE I-IV	—	Hi-Tec Res.
54	KODAH 1-2	68	SEREM	99	DAR	90	Newmont Expl.
				100	SILVER REEF	—	Newmont Expl
				101	RN	3	Windarra
				102	CASTLE MT. I	—	Dynamic Oil
				103	MESS 4	70	SEREM
				104	HAR	53	Kennco Expl.
				105	STIK 1-4	—	Delaware Res
				106	BLACK	—	Hi-Tec Res.
				107	ARGUS 2 plus?	—	Rhyolite Res
				108	HECKLE, JECKLE, TITAN	—	M. Bell
				109	SB 1, 2	—	P Crook

Figure 3: Claim Ownership Map - TOODOGGONE RIVER AREA

(After Schroeter, Diakow, and Panteleyev, 1985)

CLAIM DATA

The property consists of the Grace 1 to 5 claims (59 claim units, Figure 2). Claim data are as follows:

<u>Name</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Expiry Date</u>
Grace 1	2921	9	July 15, 1988*
Grace 2	2922	8	July 25, 1988*
Grace 3	2923	16	July 25, 1988*
Grace 4	2924	6	July 25, 1988*
Grace 5	5801	20	Sept. 20, 1988*

\* Assuming that this report is accepted for assessment purposes.

HISTORY

The claim area was originally staked by AMAX Exploration Inc. in 1973 to cover copper, molybdenum and zinc anomalies. In 1974 the company carried out 23 line kilometres of magnetic surveys, geochemical soil sampling and geological mapping (Hodgson and Lebel, 1974 Assessment Report 5144). The claims were subsequently allowed to lapse. The property was restaked in 1978 by D. R. MacQuarrie who carried out further geochemical soil sampling, VLF-electromagnetic surveys, geological mapping, prospecting, trenching, line cutting and additional claim staking in 1978 to 1980. In 1981, Tunkwa Copper Mines Ltd., under the direction of D. G. Allen, completed 44 metres of trenching, and some detailed mapping and sampling. The property was acquired in 1983 by Asitka who undertook a program of induced polarization and magnetic surveys and 291 metres of diamond drilling. Recent work by Asitka has been concentrated on the Grace 5 claim.

## GEOLOGY

### Regional Geology

The Grace claims lie within a northwesterly-trending belt of Upper Triassic basic flows and volcanoclastics of the Takla Group. The Takla Group and the Omineca intrusions form a "basement" which is unconformably overlain by Lower Jurassic Hazelton Group and Middle and Upper Jurassic Toodoggone volcanic rocks. A brief description of the main units in the region follows.

Oldest rocks in the area are wedges and roof pendants of siltstone, metasilstone and limestone that are correlated with the Asitka Group of Permian age. The Takla Group consists of andesitic to basaltic flows and breccias of which augite and feldspar porphyries are most abundant. The Hazelton Group consists of dacitic to rhyolitic volcanic conglomerates, breccias and lahars.

The "Toodoggone" volcanics outcrop over an area of 90 by 15 kilometres and appear to be localized in the Takla belt by a system of block faults (Schroeter, 1981 a). They are hosts for numerous spectacular gossans, alteration zones, and a number of significant, silver-gold deposits which are the target of much of the activity in the Toodoggone camp. The volcanic rocks are up to 1000 metres thick and consist of pyroclastics and flows of dacitic to rhyolitic composition. Age determinations range from 179 to 181 million years (Cann and Godwin, 1980, after Carter, Gabrielse, and others). Some quartz-feldspar porphyry and syenomonzonite intrusions may have been feeders to the Toodoggone volcanic rocks.

The Omineca Intrusions of Lower to Middle Jurassic age are common in the eastern and central part of the belt. Age determinations on Unit C near the Kemess deposit range from 187 to 207 million years (Cann and Godwin, 1980).

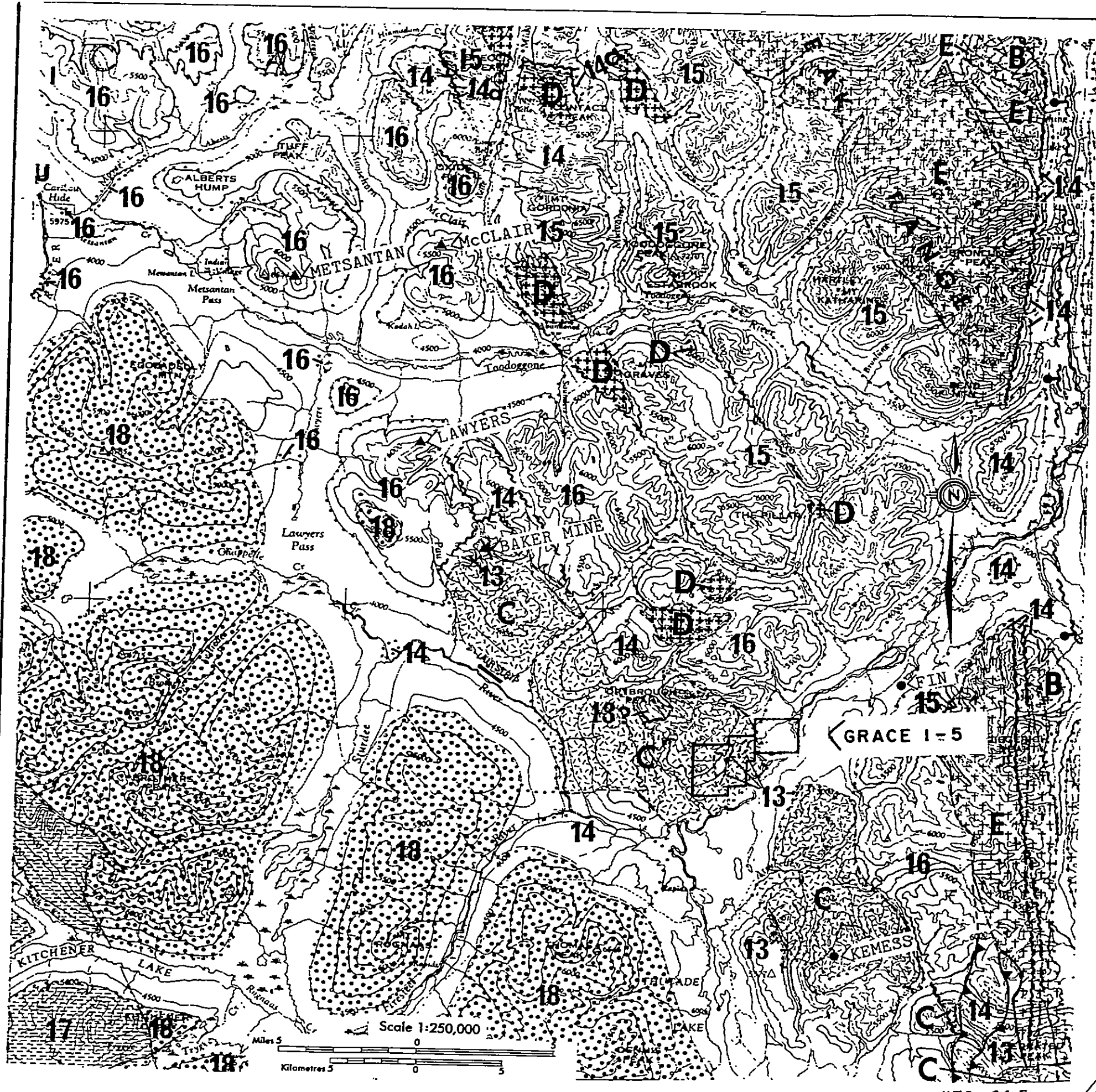
The Takla belt is bounded on the west by Upper Cretaceous to Tertiary sedimentary rocks of the Sustut Group and fault-bounded on the east by metamorphic rocks of the Omineca Crystalline belt.

Four main types of mineralization occur in the Toodoggone River area:

- 1) Porphyry copper+molybdenum+silver+gold - mainly associated with Omineca Intrusions, e.g., Kemess and Fin. Gold values are reported by Schroeter (1981 b) to exceed 0.015 oz/ton and silver values 0.1 oz/ton in these deposits.
- 2) Skarns - copper+galena+sphalerite with magnetite along intrusive-limestone contacts, e.g., Grace, Castle Mountain near the Baker Mine, and several showings west of the Kemess deposit.
- 3) Epithermal gold-silver+copper+lead+zinc fissure veins and alteration zones, related to block faulting and crater and caldera development at the time of deposition of the Toodoggone volcanics, e.g., Baker Mine, Metsantan, McClair and Lawyers.
- 4) Stratabound - copper disseminated in Takla Group volcanic rocks and galena+sphalerite+chalcopryrite occurring in or adjacent to limestone with interbedded chert in Takla Group agglomerates and tuffs.

#### Property Geology

The Grace property is underlain by four main rock types - granodiorite, marble, metasiltstone, and rhyodacite. The granodiorite (Unit 5, Figure 5) is part of a northwest-trending pluton, 35 by 5 to 8 kilometres wide, which in the claim area contains three fault-segmented roof pendants. Composition of the pluton ranges from granodiorite to quartz monzonite to syenodiorite. The rock is generally coarse-grained and contains abundant hornblende. A pinkish orange hematite? alteration is common. Each roof pendant appears to have a core of coarse-grained marble surrounded by fine-grained phyllitic metasiltstone (see 1984 reports). The metasiltstone is usually foliated with a phyllitic to weakly schistose texture and contains biotite, local sericite and scattered garnet crystals. The rock in places has a siliceous appearance and locally grades into a quartzite. Pyrite occurs irregularly disseminated (0 to 10%) in the unit. A body of chloritic augite andesite forms a unit up to 70 metres wide in the westernmost



**LEGEND**

- TERTIARY AND UPPER CRETACEOUS**  
 18 SUSTUT GROUP : Nonmarine conglomerate, shale, siltstone, tuff.
- MIDDLE AND UPPER JURASSIC**  
 17 BOWSER ASSEMBLAGE : Shale, siltstone, conglomerate.
- LOWER AND/OR MIDDLE JURASSIC**  
 16 'TOODOGONE' volcanic rocks : Dacite, latite, rhyolite, tuff, breccia, flows; includes intrusive equivalents.
- LOWER JURASSIC**  
 15 HAZELTON GROUP : Volcanic conglomerate, breccia, lahar; abundant pink feldspar porphyry sills and dikes, may include some 14 and 16.
- UPPER TRIASSIC**  
 14 TAKLA GROUP : Plagioclase porphyry, augite porphyry, tuff, agglomerate; 14a limestone; may locally include 15.
- UPPER PALEOZOIC**  
 13 ASITKA GROUP : Chert, argillite, limestone, greenstone.  
 12 : Sericite and chlorite phyllite, foliated chloritic greenstone, grit; acidic tuff, minor red chert.
- GRANITIC ROCKS**  
**LOWER JURASSIC**  
 C Quartz monzonite and granodiorite, locally megacrystic.  
 D Granodiorite, leucocratic, pink; fine to medium-grained.  
 E Hornblende quartz diorite, commonly contains biotite; foliated.
- Geological contact  
 ~~~ Fault  
 ▲ Gold-silver occurrences

Geology after Gabrielse et al (1977)

TUNKWA COPPER MINES LTD.

GRACE CLAIMS

OMINECA MINING DIVISION BRITISH COLUMBIA

REGIONAL GEOLOGY



N.T.S. 94 E

roof pendant. Bedding and foliation in the roof pendants generally trends northeasterly. Two porphyritic monzonite porphyry dikes and a number of small lamprophyre or andesite dikes have been noted on the property.

Except for the southwestern tip, the Grace 5 claim is underlain by various textured phases of rhyolite and rhyodacite (Units 1-3, Figure 5).

#### Mineralization

Mineral showings on the property consist of four main types:

- 1) copper+zinc+gold-bearing skarns within or adjacent to the marble unit;
- 2) diffuse gold-bearing quartz-chlorite-pyrite veins in metasiltsone;
- 3) molybdenite in aplite and quartz veinlets and
- 4) quartz breccias in Toodoggone volcanic rocks.

#### 1987 WORK PROGRAM

In 1987 a program of soil geochemical sampling, VLF and magnetic surveying was carried out over the Grace 5 claim. The purpose of the work was to further outline the anomalies obtained in 1985 and 1986 and to aid in the geological interpretation in the primarily overburden covered areas.

#### Geochemical Survey

A detailed flagged grid was established over the southwest part of the central part of the Grace 5 claim. A total of 99 soil and rock samples were collected at 25 metre intervals on lines spaced 50 metres apart between L3N and L5N. Soils were taken generally at a depth of at least 20 centimetres, well below the "A" horizon. Soil material consisted either of rubbly fines or glacial till which was placed in Kraft paper bags and shipped to Rosbacher Laboratory Ltd. for gold analyses by standard atomic absorption techniques. Pulps were shipped to Acme Analytical Laboratories for 30 element ICP analyses. Results are listed in Appendix I and the geochemical values are plotted on Figures 8a through 8f.

### Discussion of Results

Gold, arsenic and lead geochemical high values ( $\text{Au} \geq 20$  ppb;  $\text{As} \geq 40$  ppm;  $\text{Pb} \geq 40$  ppm) are generally single station highs and do not form contourable anomalies (see Figures 8a, c and e). Only two anomalous gold soil values were obtained in the 1987 sampling program (220 and 50 ppb); however, they occur in an area of previously outlined spot high gold anomalies, some 250 metres long extending from L5N 4+50E to L4+50N 6+75E.

Silver, copper and zinc, high, soil geochemical values ( $\text{Ag} \geq 1.0$  ppm,  $\text{Cu} \geq 100$  ppm,  $\text{Zn} \geq 100$  ppm) spatially correlate with each other in the detail grid area (see Figure 8b, d and f). In particular the area between L3+50N and L5+00N between 4+50E and 8+50E is particularly anomalous in all three elements. Maximum values of 8.5 ppm for Ag, 1199 ppm for Cu and 390 ppm for Zn, were obtained.

A program of detailed prospecting, geological mapping and rock geochemical sampling is recommended to outline the source of the soil geochemical anomalies.

### Geophysical Survey

A total of 10 line kilometres of VLF-electromagnetic and magnetic surveying were completed on a flagged and chained grid established for the purpose of the surveys.

#### VLF-Electromagnetic Survey

The purpose of the survey was to outline the structural fabric of the underlying geology and to locate the source of an airborne VLF-electromagnetic conductor located by previous surveys. The VLF-electromagnetic profiles and data listings are shown on Figure 7.

A Sabre Model 27 VLF-electromagnetic receiver, tuned to the transmitter located at Seattle, Washington, was used for all observations. With this instrument coincident relative field strength highs and dip angle cross-overs are indicative of conductors.

A conductor was located running from L9N 2+75E to L8N 4+60E and on to L7N 4+90E. Relative field strengths vary up to 72% in a background of 50% with coincident peak to peak dip angles of 12 to 16

degrees. This anomaly is classed as a good VLF conductor, and requires further exploration.

A second, less defined conductor extends from L5N 7+90E to L3N 8+25E and possibly on to L1N 8+00E. Field strengths vary from 4 to 25% above background and peak to peak dip angles vary from 10 to 13 degrees.

A third possible conductor is located at L1N 4+15E to LON 4+40E. Again field strengths vary from 15-20% above background with peak to peak dip angle cross-overs of 12 degrees.

#### Magnetic Survey

The entire grid area was surveyed utilizing a Scintrex MP-2 magnetometer. Survey control was provided by double running baseline 6+00E and by looping to the baseline.

A contoured plan of the total field magnetic values less a base level of 50,000 gammas is presented on Figure 5. Profiles and data listings are presented on Figure 6.

Magnetic values greater than 52,500 gammas appear related to granodiorite in the southwest corner of the grid and to andesitic volcanic rocks of the Toadoggone Formation in the northern and north central part of the grid. A south-southeasterly trending magnetic low extending from the southern tip of the lake at L9N 2+00E to approximately LON 6+00E is interpreted as the fault/contact between the Omineca Intrusions to the west and the Toadoggone volcanics to the east. Magnetic values of 51,500 gammas to 51,000 gammas correlate with outcrops of felsic volcanic flows and breccias. Magnetic values of less than 51,000 gammas are interpreted to coincide with areas of deeper overburden and lows associated with dipolar highs.

#### EXPLORATION POTENTIAL

Areas of interest defined to date on the Grace property are as follows:

1) Skarn Zones

Diamond drilling has established the presence of modest skarn zones



containing low but interesting gold and silver values. Additional sampling either by trenching or by drilling is warranted to fully outline the gold-bearing skarn zones, especially Zone 2 and the northern part of the west skarn zone.

2) East Gold Anomaly

In the vicinity of the East Gold Anomaly, previous sampling revealed gold values of 0.023 ounces per ton over a length of 12.5 metres in a sheared and pyritized quartzite indicating that potential exists for large tonnage low-grade material.

3) Grace 5 Claim

Results to date on the Grace 5 claim have revealed the presence of quartz-cemented breccia in volcanic rocks of the Toodoggone Group which contain anomalous gold values (up to 170 parts per billion and silver (up to 1.7 parts per million).

Major structural breaks have been defined by the magnetic surveying in the vicinity of strong multielement soil geochemistry. One good and several moderate VLF-electromagnetic conductors have also been located. One is associated with the margin of a magnetic high and the others are related to magnetic low areas possibly indicative of faults or deep overburden.

A 400x300 metre zone of anomalous multielement geochemistry, located in the southwest claim area, with spot gold soil anomalies to 220 ppb is at present unexplained.

Detailed prospecting of the above anomalies, followed up by bulldozer trenching is recommended to outline their source.

A handwritten signature in black ink, appearing to be 'D. R. Macdonald', written in a cursive style.

## REFERENCES

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CERTIFICATE

I, Douglas R. MacQuarrie, certify that:

1. I am a Consulting Geophysicist of A & M Exploration Ltd., with offices at Suite 704, 850 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia with a degree in Geology and Geophysics (B.Sc., 1975).
3. I have been practising my profession since 1975 and have been active in the mining industry since 1971.
4. I am an active member of the Canadian Institute of Mining and Metallurgy and a member of the British Columbia Geophysical Society.
5. This report is based on work carried out by D. Sorensen and K. Walker during the period July 17 to 22, 1987.
6. I hold no interest, nor do I expect to receive any, in the GRACE claims. I am a shareholder of Asitka Resource Corporation.
7. I consent to the use of this report in a Statement of Material Facts or in a Prospectus in connection with the raising of funds for the project covered by this report.

October 16, 1987  
Vancouver, B.C.

  
Douglas R. MacQuarrie,  
B.Sc.

**ROSSBACHER LABORATORY LTD.**

2225 S. SPRINGER AVENUE  
 BURNABY, B.C. V5B 3N1  
 TEL : (604) 299 - 6910

**CERTIFICATE OF ANALYSIS**

TO : A&M EXPLORATION LTD.  
 614-850 W. HASTINGS STREET  
 VANCOUVER B.C.

CERTIFICATE#: 87403  
 INVOICE#: 7863  
 DATE ENTERED: 87-08-11  
 FILE NAME: A&MB7403  
 PAGE # : 1

PROJECT: #379 A  
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| S          | 708039      | S         |

CERTIFIED BY :

*J. Rossbach*

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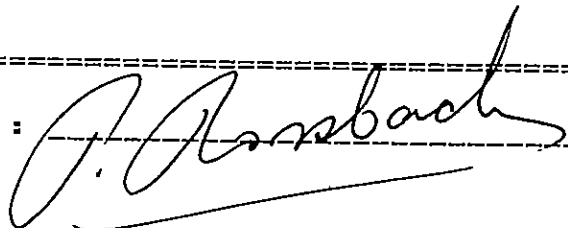
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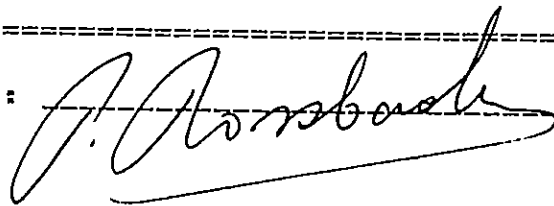
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614-850 W. HASTINGS STREET  
VANCOUVER B.C.

PROJECT: #379 A  
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 87403  
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CERTIFIED BY :



## GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH JML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
THIS LEACH IS PARTIAL FOR NM FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.  
- SAMPLE TYPE: SOLUTION

DATE RECEIVED: AUG 12 1987

DATE REPORT MAILED:

Aug 17/87

ASSAYER: *D. J. J.* DEAN TOYE, CERTIFIED B.C. ASSAYER

ROSSBACHER LABORATORY PROJECT-CERT #87403 File # 87-3194

Page 1 *FUM 379A*

| SAMPLE#  | MO  | CU  | PB  | ZN  | AS  | NI  | CO  | NM   | FE   | AS  | U   | AU  | TH  | SR  | CD  | SB  | BI  | V   | CA   | P    | LA  | CR  | MG   | BA  | TI  | B    | AL   | NA  | K   | W   |
|----------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|------|-----|-----|------|------|-----|-----|-----|
|          | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM  | %    | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | %    | %    | PPM | PPM | %    | PPM | %   | PPM  | %    | %   | %   | PPM |
| S 708001 | 1   | 79  | 16  | 113 | .2  | 45  | 26  | 1424 | 7.01 | 5   | 5   | ND  | 3   | 29  | 1   | 2   | 5   | 222 | .76  | .067 | 4   | 80  | 1.85 | 48  | .46 | 2    | 3.19 | .01 | .03 | 1   |
| S 708002 | 3   | 730 | 10  | 50  | 2.7 | 38  | 13  | 1918 | 3.77 | 12  | 5   | 2   | 7   | 37  | 1   | 2   | 4   | 73  | 1.52 | .151 | 42  | 45  | .41  | 91  | .07 | 2    | 6.93 | .01 | .03 | 1   |
| S 708003 | 1   | 132 | 18  | 82  | .1  | 37  | 26  | 902  | 6.10 | 2   | 5   | ND  | 2   | 116 | 1   | 2   | 4   | 175 | .75  | .057 | 4   | 54  | 2.07 | 56  | .63 | 2    | 2.68 | .01 | .02 | 1   |
| S 708004 | 1   | 62  | 18  | 75  | .3  | 21  | 20  | 641  | 5.99 | 2   | 5   | ND  | 2   | 42  | 1   | 2   | 2   | 213 | .70  | .030 | 3   | 47  | 1.37 | 45  | .61 | 2    | 2.24 | .01 | .03 | 1   |
| S 708005 | 8   | 84  | 11  | 52  | .1  | 17  | 7   | 398  | 2.38 | 5   | 58  | ND  | 3   | 45  | 1   | 2   | 2   | 52  | .46  | .059 | 35  | 22  | .41  | 151 | .06 | 2    | 1.36 | .01 | .03 | 1   |
| S 708006 | 3   | 31  | 16  | 48  | .1  | 17  | 7   | 336  | 2.67 | 3   | 5   | ND  | 4   | 46  | 1   | 2   | 2   | 55  | .45  | .045 | 12  | 22  | .45  | 134 | .09 | 2    | 1.39 | .01 | .04 | 1   |
| S 708007 | 1   | 59  | 24  | 108 | .1  | 7   | 12  | 740  | 4.99 | 2   | 5   | ND  | 5   | 156 | 1   | 2   | 6   | 81  | .94  | .063 | 12  | 21  | 1.20 | 74  | .23 | 2    | 4.56 | .01 | .06 | 1   |
| S 708008 | 8   | 47  | 31  | 127 | .2  | 1   | 10  | 642  | 4.41 | 2   | 5   | ND  | 5   | 64  | 1   | 2   | 3   | 56  | .48  | .033 | 13  | 4   | 1.04 | 46  | .16 | 2    | 3.20 | .01 | .08 | 1   |
| S 708009 | 5   | 41  | 20  | 84  | .6  | 2   | 8   | 339  | 4.35 | 4   | 5   | ND  | 4   | 53  | 1   | 2   | 2   | 73  | .36  | .035 | 8   | 7   | .44  | 64  | .11 | 2    | 2.73 | .01 | .04 | 1   |
| S 708010 | 4   | 28  | 36  | 125 | .4  | 4   | 8   | 329  | 4.04 | 3   | 5   | ND  | 4   | 25  | 1   | 2   | 2   | 65  | .22  | .057 | 9   | 7   | .49  | 98  | .08 | 2    | 2.75 | .01 | .03 | 2   |
| S 708011 | 3   | 54  | 23  | 84  | 1.1 | 5   | 7   | 376  | 3.18 | 3   | 5   | ND  | 5   | 115 | 1   | 2   | 2   | 53  | .74  | .047 | 7   | 6   | .45  | 73  | .08 | 2    | 5.09 | .01 | .05 | 1   |
| S 708012 | 2   | 43  | 15  | 80  | .4  | 6   | 6   | 272  | 3.01 | 2   | 5   | ND  | 5   | 85  | 1   | 2   | 2   | 49  | .53  | .055 | 7   | 9   | .41  | 95  | .07 | 3    | 5.29 | .01 | .04 | 1   |
| S 708013 | 2   | 35  | 10  | 97  | .4  | 9   | 6   | 433  | 3.01 | 2   | 5   | ND  | 4   | 116 | 1   | 2   | 3   | 44  | .81  | .097 | 7   | 10  | .55  | 81  | .09 | 2    | 5.61 | .01 | .05 | 1   |
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| S 708015 | 1   | 24  | 14  | 59  | .1  | 17  | 7   | 381  | 2.77 | 5   | 5   | ND  | 3   | 29  | 1   | 2   | 2   | 48  | .27  | .018 | 9   | 25  | .53  | 119 | .07 | 2    | 1.84 | .01 | .06 | 1   |
| S 708016 | 1   | 31  | 26  | 68  | .2  | 15  | 8   | 266  | 3.11 | 4   | 5   | ND  | 3   | 35  | 1   | 2   | 2   | 58  | .63  | .018 | 9   | 20  | .36  | 143 | .06 | 2    | 2.80 | .01 | .04 | 1   |
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| S 708024 | 1   | 17  | 11  | 64  | .1  | 52  | 8   | 269  | 2.42 | 4   | 5   | ND  | 2   | 14  | 1   | 2   | 2   | 29  | .23  | .019 | 6   | 49  | .67  | 125 | .01 | 2    | 1.56 | .01 | .07 | 1   |
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| S 708035 | 1   | 83  | 18  | 86  | .4  | 29  | 19  | 929  | 6.73 | 9   | 5   | ND  | 2   | 62  | 1   | 2   | 2   | 212 | .52  | .043 | 6   | 77  | 1.46 | 65  | .35 | 2    | 3.24 | .01 | .04 | 1   |
| S 708036 | 1   | 211 | 14  | 63  | 2.1 | 12  | 8   | 1786 | 2.63 | 13  | 5   | ND  | 1   | 83  | 1   | 2   | 2   | 65  | 4.26 | .077 | 19  | 27  | .42  | 51  | .10 | 4    | 2.40 | .01 | .06 | 1   |
| S 708037 | 1   | 67  | 20  | 115 | .5  | 31  | 22  | 1495 | 6.43 | 2   | 5   | ND  | 1   | 81  | 1   | 2   | 2   | 212 | .60  | .059 | 3   | 69  | 1.63 | 35  | .64 | 2    | 2.48 | .01 | .03 | 1   |
| S 708038 | 1   | 62  | 14  | 51  | 1.9 | 3   | 11  | 395  | 3.02 | 123 | 5   | ND  | 1   | 19  | 1   | 2   | 2   | 54  | .42  | .036 | 2   | 5   | .41  | 28  | .13 | 3    | .88  | .01 | .02 | 2   |
| S 708039 | 1   | 81  | 13  | 91  | .4  | 11  | 19  | 2078 | 5.39 | 3   | 5   | ND  | 1   | 50  | 1   | 2   | 2   | 131 | 1.07 | .027 | 3   | 9   | 1.32 | 71  | .26 | 3    | 2.93 | .01 | .04 | 1   |
| STD C    | 18  | 61  | 40  | 132 | 7.1 | 67  | 28  | 935  | 3.93 | 39  | 19  | 8   | 39  | 17  | 17  | 19  | 58  | .47 | .084 | 38   | 61  | .88 | 182  | .09 | 37  | 1.86 | .06  | .14 | 1   |     |



ROSSBACHER LABORATORY PROJECT-CERT #87403 FILE # 87-3194

| SAMPLE#  | MO<br>PPM | CU<br>PPM | PB<br>PPM | ZN<br>PPM | AG<br>PPM | NI<br>PPM | CO<br>PPM | MN<br>PPM | FE<br>% | AS<br>PPM | U<br>PPM | AU<br>PPM | TH<br>PPM | SR<br>PPM | CD<br>PPM | SB<br>PPM | BI<br>PPM | V<br>PPM | CA<br>% | P<br>% | LA<br>PPM | CR<br>PPM | MG<br>% | BA<br>PPM | TI<br>% | B<br>PPM | AL<br>% | NA<br>% | K<br>% | W<br>PPM |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|
| S 708040 | 1         | 539       | 15        | 65        | 3.0       | 12        | 14        | 721       | 4.94    | 40        | 5        | ND        | 3         | 110       | 1         | 2         | 2         | 117      | 2.50    | .032   | 0         | 7         | 1.05    | 15        | .25     | 2        | 3.01    | .01     | .02    | 1        |
| S 708041 | 1         | 81        | 24        | 86        | 2.0       | 25        | 17        | 543       | 6.15    | 32        | 5        | ND        | 2         | 53        | 1         | 2         | 4         | 138      | .65     | .023   | 8         | 49        | .96     | 42        | .34     | 6        | 4.36    | .01     | .03    | 1        |
| S 708042 | 1         | 43*       | 43        | 157       | 4.7       | 13        | 10        | 2137      | 3.28    | 27        | 5        | ND        | 2         | 51        | 4         | 2         | 2         | 37       | 1.87    | .041   | 24        | 11        | .40     | 6*        | .07     | 2        | 2.43    | .01     | .05    | 1        |
| S 708043 | 1         | 95        | 20        | 64        | .1        | 23        | 10        | 391       | 2.98    | 6         | 5        | ND        | 5         | 59        | 1         | 2         | 2         | 61       | .59     | .030   | 12        | 24        | .71     | 131       | .16     | 2        | 2.26    | .01     | .06    | 1        |
| S 708044 | 1         | 117       | 41        | 124       | 1.0       | 18        | 38        | 1560      | 12.67   | 301       | 5        | ND        | 1         | 59        | 1         | 2         | 5         | 257      | .52     | .086   | 5         | 18        | 1.25    | 41        | .63     | 2        | 2.69    | .01     | .03    | 1        |
| S 708045 | 1         | 41        | 19        | 104       | .1        | 25        | 11        | 515       | 4.63    | 8         | 5        | ND        | 4         | 43        | 1         | 3         | 2         | 85       | .36     | .064   | 10        | 27        | .64     | 153       | .14     | 2        | 3.02    | .01     | .06    | 1        |
| S 708046 | 1         | 14        | 13        | 142       | .1        | 14        | 7         | 377       | 2.83    | 4         | 5        | ND        | 5         | 44        | 1         | 2         | 2         | 61       | .44     | .037   | 10        | 19        | .47     | 120       | .10     | 2        | 1.72    | .01     | .07    | 1        |
| S 708047 | 1         | 9         | 14        | 42        | .1        | 29        | 5         | 392       | 1.67    | 6         | 5        | ND        | 1         | 15        | 1         | 2         | 2         | 34       | .14     | .015   | 8         | 33        | .39     | 137       | .03     | 2        | 1.34    | .01     | .07    | 1        |
| S 708048 | 1         | 7         | 6         | 50        | .1        | 12        | 3         | 120       | 1.08    | 2         | 5        | ND        | 1         | 14        | 1         | 2         | 2         | 23       | .14     | .021   | 8         | 18        | .20     | 95        | .03     | 2        | .80     | .01     | .06    | 1        |
| S 708049 | 1         | 13        | 14        | 144       | .1        | 38        | 7         | 268       | 3.04    | 5         | 5        | ND        | 2         | 15        | 1         | 2         | 2         | 39       | .16     | .057   | 10        | 40        | .48     | 131       | .02     | 2        | 2.17    | .01     | .09    | 1        |
| S 708050 | 1         | 17        | 19        | 81        | .1        | 25        | 10        | 508       | 2.74    | 4         | 5        | ND        | 3         | 46        | 1         | 2         | 2         | 53       | .46     | .044   | 10        | 30        | .47     | 185       | .07     | 2        | 1.56    | .01     | .07    | 1        |
| S 708051 | 1         | 9         | 14        | 99        | .1        | 8         | 4         | 189       | 2.54    | 5         | 5        | ND        | 3         | 23        | 1         | 2         | 2         | 50       | .18     | .069   | 8         | 15        | .25     | 82        | .08     | 2        | 1.48    | .01     | .05    | 1        |
| S 708052 | 1         | 18        | 10        | 122       | .2        | 12        | 7         | 325       | 3.31    | 7         | 5        | ND        | 3         | 29        | 1         | 3         | 2         | 60       | .22     | .126   | 9         | 22        | .33     | 116       | .07     | 2        | 3.02    | .01     | .05    | 2        |
| S 708053 | 1         | 13        | 12        | 72        | .1        | 9         | 5         | 189       | 3.52    | 5         | 5        | ND        | 3         | 23        | 1         | 2         | 2         | 73       | .13     | .060   | 8         | 20        | .24     | 69        | .10     | 2        | 1.54    | .01     | .04    | 1        |
| S 708054 | 1         | 127       | 38        | 131       | 1.6       | 14        | 59        | 2270      | 14.49   | 6         | 5        | ND        | 1         | 27        | 1         | 2         | 6         | 203      | .35     | .096   | 4         | 7         | 1.10    | 73        | .34     | 2        | 2.60    | .01     | .04    | 1        |
| S 708055 | 1         | 88        | 9         | 71        | .6        | 8         | 8         | 1784      | 1.70    | 3         | 5        | ND        | 1         | 44        | 1         | 2         | 2         | 40       | 1.18    | .035   | 10        | 13        | .20     | 57        | .06     | 2        | 1.00    | .01     | .04    | 1        |
| S 708056 | 1         | 119*      | 14        | 75        | 8.5       | 9         | 5         | 1109      | 1.27    | 13        | 5        | ND        | 1         | 77        | 1         | 2         | 2         | 18       | 5.49    | .192   | 30        | 13        | .14     | 45        | .01     | 3        | 1.85    | .01     | .02    | 1        |
| S 708057 | 1         | 271       | 16        | 163       | .7        | 27        | 19        | 1399      | 5.57    | 24        | 5        | ND        | 2         | 39        | 2         | 2         | 4         | 122      | .86     | .030   | 9         | 24        | 1.23    | 57        | .32     | 2        | 3.26    | .01     | .05    | 1        |
| S 708058 | 1         | 296       | 24        | 191       | 2.7       | 25        | 11        | 1530      | 3.52    | 22        | 5        | ND        | 3         | 35        | 2         | 2         | 2         | 61       | 1.18    | .023   | 15        | 29        | .54     | 75        | .09     | 5        | 2.3*    | .01     | .04    | 1        |
| S 708059 | 1         | 82        | 15        | 70        | .2        | 8         | 16        | 1206      | 4.60    | 10        | 5        | ND        | 1         | 59        | 1         | 2         | 2         | 133      | 1.08    | .044   | 4         | 5         | .88     | 76        | .15     | 2        | 2.42    | .01     | .08    | 1        |
| S 708060 | 1         | 221       | 22        | 69        | 2.4       | 9         | 28        | 3951      | 4.94    | 39        | 5        | ND        | 1         | 69        | 1         | 2         | 3         | 100      | 1.40    | .077   | 7         | 7         | .72     | 72        | .26     | 4        | 2.02    | .01     | .05    | 1        |
| S 708061 | 1         | 67        | 18        | 75        | 1.7       | 9         | 28        | 2014      | 7.31    | 71        | 5        | ND        | 1         | 32        | 1         | 2         | 2         | 203      | .66     | .072   | 5         | 8         | .94     | 97        | .52     | 2        | 2.09    | .01     | .05    | 1        |
| S 719001 | 2         | 411       | 17        | 63        | .8        | 23        | 11        | 393       | 4.50    | 8         | 5        | ND        | 8         | 23        | 1         | 2         | 2         | 61       | .47     | .058   | 40        | 21        | .33     | 127       | .15     | 2        | 6.35    | .02     | .03    | 1        |
| S 719002 | 1         | 146       | 17        | 94        | .2        | 16        | 21        | 3061      | 4.81    | 28        | 5        | ND        | 3         | 62        | 1         | 2         | 3         | 112      | 1.27    | .044   | 9         | 17        | .71     | 71        | .29     | 3        | 3.74    | .01     | .05    | 1        |
| S 719003 | 1         | 52        | 17        | 69        | .1        | 15        | 19        | 704       | 5.81    | 2         | 5        | ND        | 2         | 154       | 1         | 2         | 2         | 214      | .83     | .033   | 3         | 15        | 1.37    | 26        | .92     | 2        | 2.48    | .01     | .03    | 1        |
| S 719004 | 1         | 58        | 12        | 75        | .3        | 14        | 13        | 539       | 4.32    | 8         | 5        | ND        | 2         | 151       | 1         | 2         | 2         | 125      | .83     | .052   | 7         | 18        | 1.21    | 60        | .40     | 3        | 2.89    | .01     | .04    | 1        |
| S 719005 | 1         | 254       | 23        | 98        | .8        | 19        | 25        | 2090      | 5.67    | 9         | 5        | ND        | 1         | 156       | 1         | 2         | 2         | 157      | 1.41    | .077   | 7         | 22        | 1.94    | 44        | .42     | 4        | 3.46    | .01     | .03    | 1        |
| S 719006 | 1         | 35        | 20        | 43        | .1        | 2         | 7         | 244       | 3.23    | 3         | 5        | ND        | 17        | 186       | 1         | 2         | 2         | 74       | 1.16    | .057   | 11        | 6         | .38     | 44        | .14     | 2        | 4.00    | .01     | .05    | 1        |
| S 719007 | 1         | 15        | 15        | 46        | .1        | 2         | 4         | 321       | 1.89    | 3         | 5        | ND        | 11        | 463       | 1         | 2         | 2         | 43       | 2.41    | .049   | 11        | 5         | .31     | 68        | .07     | 2        | 5.98    | .01     | .11    | 5        |
| S 719008 | 5         | 54        | 16        | 62        | .4        | 16        | 8         | 393       | 2.58    | 8         | 6        | ND        | 5         | 69        | 1         | 2         | 2         | 57       | .80     | .065   | 18        | 23        | .49     | 141       | .08     | 2        | 1.64    | .01     | .07    | 1        |
| S 719009 | 3         | 35        | 22        | 92        | .2        | 3         | 11        | 1398      | 5.24    | 7         | 5        | ND        | 2         | 54        | 1         | 4         | 2         | 103      | .32     | .069   | 12        | 6         | .44     | 85        | .17     | 2        | 1.86    | .01     | .07    | 1        |
| S 719010 | 3         | 104       | 24        | 100       | .2        | 5         | 8         | 737       | 3.38    | 8         | 5        | ND        | 3         | 139       | 1         | 2         | 2         | 60       | .77     | .055   | 11        | 7         | .54     | 65        | .09     | 2        | 3.67    | .01     | .07    | 2        |
| S 719011 | 4         | 148       | 18        | 76        | .1        | 3         | 8         | 586       | 4.00    | 6         | 5        | ND        | 4         | 139       | 1         | 2         | 2         | 73       | .84     | .047   | 11        | 6         | .73     | 102       | .14     | 2        | 3.65    | .01     | .05    | 2        |
| S 719012 | 2         | 28        | 8         | 98        | .1        | 12        | 9         | 783       | 4.21    | 2         | 5        | ND        | 4         | 63        | 1         | 2         | 5         | 87       | .55     | .117   | 8         | 12        | .58     | 73        | .17     | 4        | 5.95    | .01     | .05    | 3        |
| S 719013 | 6         | 289       | 78        | 390       | .7        | 2         | 16        | 2967      | 3.59    | 3         | 5        | ND        | 4         | 245       | 11        | 2         | 3         | 43       | 1.63    | .036   | 12        | 4         | .71     | 500       | .03     | 2        | 3.74    | .01     | .16    | 2        |
| S 719014 | 7         | 104       | 15        | 58        | .1        | 3         | 5         | 358       | 2.12    | 5         | 5        | ND        | 7         | 106       | 1         | 2         | 2         | 48       | 1.01    | .014   | 12        | 7         | .50     | 82        | .10     | 2        | 2.46    | .01     | .06    | 2        |
| S 719015 | 5         | 42        | 12        | 119       | .4        | 5         | 7         | 487       | 3.59    | 3         | 5        | ND        | 8         | 159       | 1         | 2         | 2         | 55       | .98     | .081   | 10        | 6         | .63     | 153       | .08     | 2        | 6.28    | .01     | .08    | 3        |
| S 719016 | 6         | 95        | 21        | 94        | .3        | 2         | 8         | 481       | 4.33    | 4         | 5        | ND        | 5         | 52        | 1         | 4         | 2         | 81       | .28     | .028   | 9         | 8         | .37     | 136       | .09     | 2        | 2.86    | .01     | .04    | 1        |
| S 719017 | 5         | 42        | 24        | 111       | .6        | 7         | 10        | 422       | 4.09    | 2         | 5        | ND        | 6         | 59        | 1         | 2         | 2         | 63       | .36     | .077   | 9         | 7         | .52     | 93        | .04     | 2        | 4.88    | .01     | .04    | 2        |
| STD C    | 20        | 62        | 39        | 131       | 7.4       | 69        | 28        | 1023      | 3.96    | 41        | 20       | 8         | 39        | 54        | 18        | 17        | 23        | 60       | .48     | .091   | 40        | 60        | .88     | 180       | .09     | 37       | 1.85    | .07     | .15    | 14       |

ROSSBACHER LABORATORY PROJECT-CERT #87403 FILE # 87-3194

| SAMPLER  | MO  | CU  | PB  | ZN  | AG  | NI  | CO  | MN   | FE   | AS  | U   | AU  | TH  | SR  | CD  | SB  | BI  | V   | CA   | P    | LA  | CR  | MG   | BA  | TI  | B   | AL   | NA  | K   | M   |
|----------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|------|-----|-----|-----|
|          | PPH | PPH | PPH | PPH | PPH | PPH | PPH | PPH  | Z    | PPH | PPH | PPH | PPH | PPH | PPH | PPH | PPH | PPH | %    | %    | PPH | PPH | Z    | PPH | %   | PPH | Z    | Z   | Z   | PPH |
| S 719018 | 7   | 92  | 52  | 97  | .7  | 2   | 8   | 520  | 3.74 | 2   | 5   | ND  | 6   | 216 | 1   | 2   | 2   | 46  | 1.16 | .041 | 7   | 4   | .66  | 56  | .04 | 2   | 4.43 | .01 | .07 | 2   |
| S 719019 | 9   | 28  | 29  | 86  | .3  | 2   | 7   | 576  | 3.84 | 2   | 5   | ND  | 4   | 30  | 3   | 2   | 2   | 63  | .26  | .029 | 6   | 4   | .34  | 76  | .06 | 5   | 1.51 | .01 | .04 | 1   |
| S 719020 | 7   | 38  | 21  | 54  | .1  | 16  | 7   | 529  | 2.69 | 3   | 5   | ND  | 3   | 59  | 1   | 2   | 2   | 48  | .60  | .066 | 9   | 20  | .45  | 132 | .02 | 2   | 1.31 | .01 | .07 | 1   |
| S 719021 | 4   | 30  | 20  | 34  | .1  | 9   | 5   | 219  | 2.07 | 4   | 5   | ND  | 2   | 34  | 1   | 2   | 2   | 47  | .31  | .022 | 8   | 14  | .26  | 98  | .05 | 2   | .93  | .01 | .02 | 1   |
| S 719022 | 3   | 40  | 19  | 49  | .1  | 17  | 7   | 396  | 2.61 | 2   | 5   | ND  | 3   | 45  | 1   | 2   | 2   | 51  | .47  | .037 | 8   | 19  | .44  | 126 | .04 | 2   | 1.32 | .01 | .03 | 1   |
| S 719023 | 1   | 141 | 15  | 91  | .1  | 47  | 25  | 1467 | 5.92 | 2   | 5   | ND  | 2   | 45  | 1   | 2   | 2   | 170 | .80  | .041 | 3   | 101 | 2.50 | 35  | .49 | 3   | 2.99 | .01 | .02 | 1   |
| S 719024 | 1   | 97  | 20  | 79  | .1  | 52  | 24  | 817  | 4.40 | 2   | 5   | ND  | 2   | 45  | 1   | 2   | 2   | 208 | .35  | .036 | 2   | 100 | 2.46 | 36  | .86 | 9   | 2.81 | .01 | .01 | 1   |
| S 719025 | 1   | 40  | 12  | 72  | .4  | 26  | 12  | 367  | 4.88 | 2   | 5   | ND  | 2   | 27  | 1   | 2   | 2   | 141 | .23  | .070 | 4   | 51  | .88  | 73  | .35 | 5   | 2.02 | .01 | .02 | 1   |
| S 719026 | 1   | 32  | 21  | 68  | .1  | 28  | 13  | 404  | 5.74 | 3   | 5   | ND  | 1   | 40  | 1   | 2   | 2   | 167 | .31  | .087 | 3   | 56  | 1.07 | 54  | .57 | 5   | 1.92 | .01 | .02 | 1   |
| S 719027 | 17  | 45  | 253 | 272 | .3  | 1   | 9   | 1234 | 3.29 | 2   | 5   | ND  | 3   | 224 | 6   | 2   | 2   | 50  | 1.08 | .045 | 6   | 3   | .55  | 411 | .06 | 2   | 2.98 | .01 | .09 | 2   |
| S 719028 | 2   | 22  | 19  | 58  | .1  | 14  | 7   | 414  | 2.45 | 2   | 5   | ND  | 2   | 42  | 1   | 2   | 2   | 52  | .40  | .061 | 8   | 20  | .39  | 101 | .04 | 2   | .96  | .01 | .04 | 1   |
| S 719029 | 3   | 25  | 11  | 47  | .1  | 13  | 7   | 356  | 2.97 | 2   | 5   | ND  | 2   | 39  | 1   | 2   | 2   | 68  | .46  | .054 | 8   | 20  | .35  | 87  | .02 | 3   | .83  | .01 | .03 | 1   |
| S 719030 | 1   | 24  | 10  | 78  | .3  | 9   | 7   | 364  | 3.11 | 2   | 5   | ND  | 6   | 127 | 1   | 2   | 2   | 56  | .69  | .065 | 8   | 9   | .40  | 105 | .10 | 2   | 4.57 | .01 | .05 | 1   |
| S 719031 | 1   | 12  | 20  | 131 | .1  | 7   | 6   | 414  | 2.68 | 2   | 5   | ND  | 8   | 97  | 1   | 2   | 2   | 44  | .49  | .084 | 7   | 9   | .60  | 91  | .05 | 2   | 4.27 | .01 | .05 | 1   |
| S 719032 | 1   | 9   | 16  | 34  | .1  | 6   | 5   | 185  | 2.41 | 2   | 5   | ND  | 5   | 97  | 1   | 2   | 2   | 56  | .54  | .023 | 4   | 8   | .26  | 81  | .06 | 2   | 1.73 | .01 | .04 | 1   |
| S 719033 | 1   | 10  | 16  | 33  | .1  | 5   | 5   | 746  | 2.25 | 2   | 5   | ND  | 8   | 130 | 1   | 2   | 2   | 56  | .79  | .029 | 5   | 7   | .27  | 97  | .06 | 2   | 1.76 | .01 | .04 | 1   |
| S 719034 | 1   | 105 | 13  | 72  | .1  | 13  | 22  | 1274 | 5.59 | 2   | 5   | ND  | 1   | 31  | 1   | 2   | 2   | 123 | .72  | .033 | 4   | 7   | 2.16 | 41  | .16 | 3   | 2.96 | .01 | .02 | 1   |
| S 719035 | 1   | 73  | 12  | 64  | 1.0 | 10  | 18  | 676  | 6.61 | 106 | 5   | ND  | 1   | 9   | 1   | 2   | 2   | 119 | .20  | .019 | 2   | 4   | 1.43 | 36  | .12 | 8   | 3.13 | .01 | .03 | 1   |
| S 719036 | 1   | 110 | 12  | 79  | 1.0 | 14  | 18  | 1043 | 5.41 | 4   | 5   | ND  | 1   | 36  | 1   | 2   | 2   | 142 | .44  | .041 | 2   | 8   | 1.55 | 39  | .34 | 8   | 2.56 | .01 | .03 | 1   |
| S 719037 | 1   | 51  | 18  | 77  | .1  | 13  | 19  | 1386 | 5.58 | 2   | 5   | ND  | 1   | 33  | 1   | 2   | 2   | 171 | .83  | .039 | 3   | 10  | 1.20 | 77  | .45 | 6   | 2.30 | .01 | .02 | 1   |
| S 719038 | 1   | 61  | 7   | 65  | .7  | 9   | 20  | 741  | 6.86 | 2   | 5   | ND  | 1   | 37  | 1   | 2   | 2   | 166 | .78  | .030 | 2   | 5   | 1.96 | 35  | .31 | 5   | 3.86 | .01 | .03 | 1   |
| STD C    | 19  | 61  | 44  | 131 | 7.5 | 71  | 28  | 1019 | 3.96 | 39  | 19  | 8   | 40  | 52  | 18  | 15  | 18  | 59  | .48  | .086 | 40  | 61  | .88  | 179 | .09 | 39  | 1.87 | .06 | .15 | 12  |

AFFIDAVIT OF EXPENSES

This is to certify that geophysical surveying and geochemical sampling was carried out on July 17 to 22, 1987 on the Grace Claims, Toodoggone River Area, Omineca Mining Division, British Columbia, to the value of the following:

Mobilization

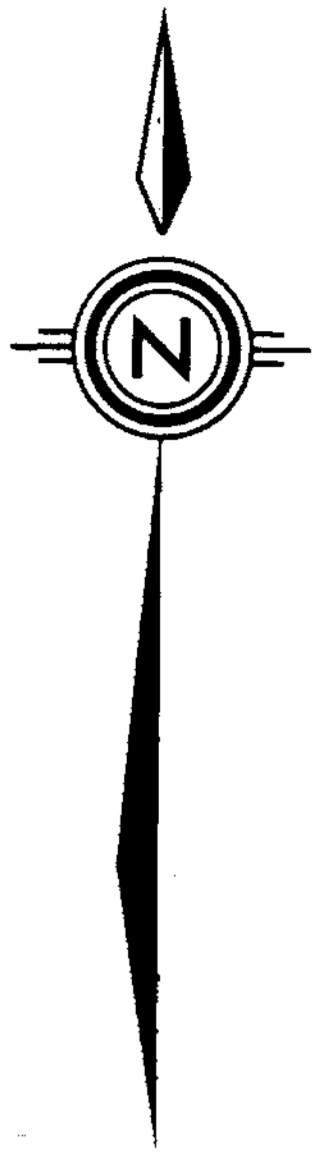
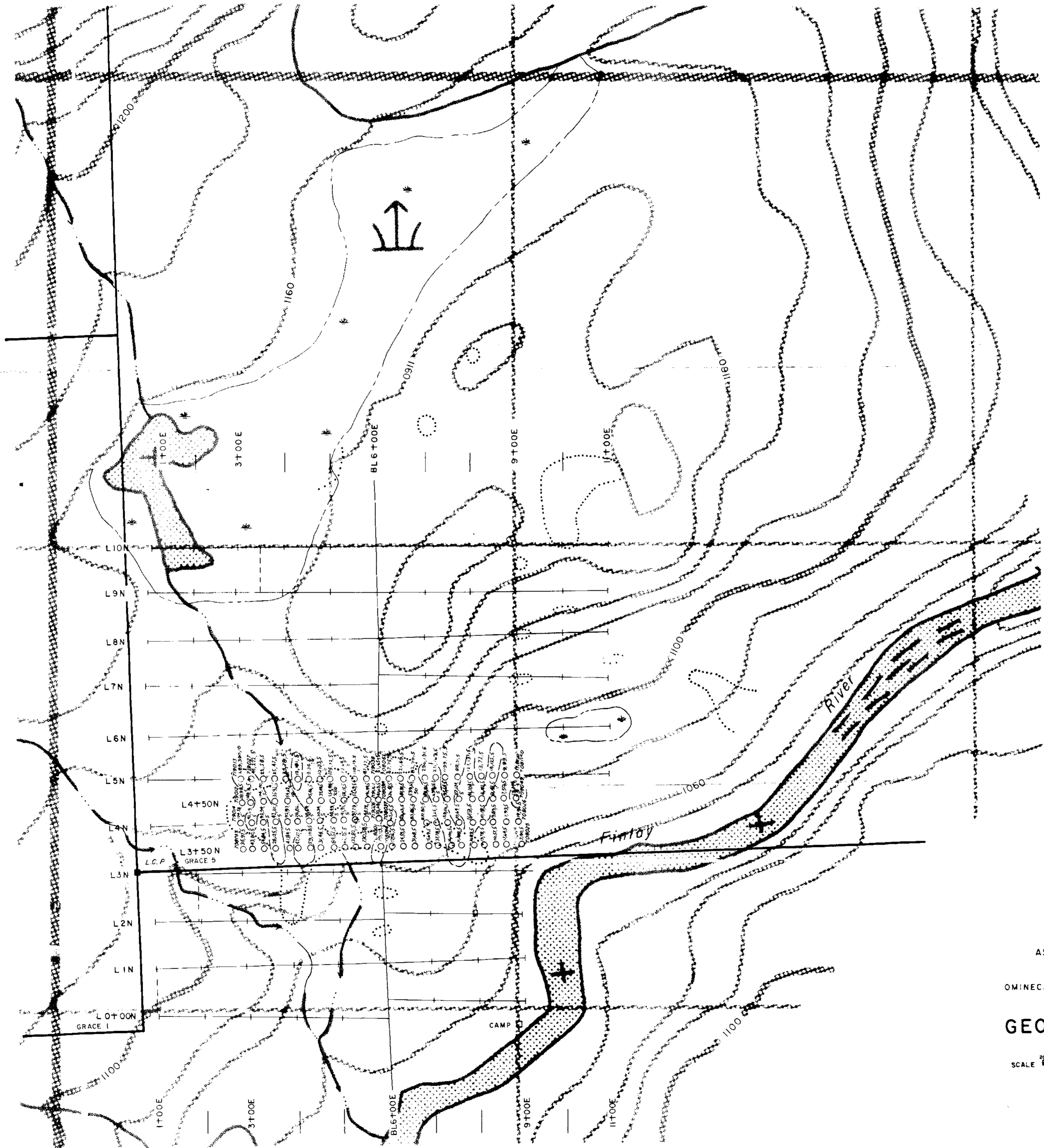
Salaries

|                          |                    |            |
|--------------------------|--------------------|------------|
| D. Sorensen - Technician | 6 days @ \$250/day | \$1,500.00 |
| R. Walker - Assistant    | 6 days @ \$150/day | 900.00     |

Mob/Demob

|                                     |                          |               |
|-------------------------------------|--------------------------|---------------|
| Aircraft, helicopter                |                          | 4200.00       |
| Analyses                            | 99 samples x \$12/sample | 1,188.00      |
| Au geochemistry                     |                          |               |
| 30 element ICP                      |                          |               |
| Living costs                        | 2 men, 6 days x \$50/day | 800.00        |
| Reporting, compilation,<br>drafting |                          | 800.00        |
| Sabre VLF, Scintrex MP-2 rental     |                          | 600.00        |
| Portable VHF radio, rental          |                          | 200.00        |
| Field supplies                      |                          | <u>250.00</u> |

**TOTAL**                   **\$10,438.00**



**LEGEND**

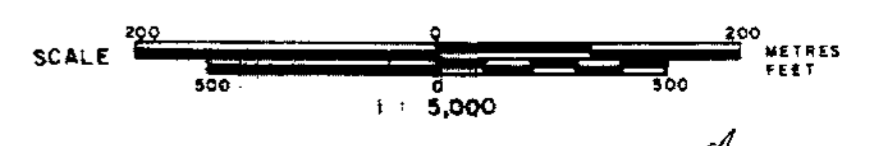
- 1986 Geochemical anomaly, ppm Zn  $\geq$  100
  - 1987 Geochemical anomaly, ppm Zn  $\geq$  100
  - Soil
  - Rock
  - Sill
  - Creek, Swamp
  - Topographic contours (contour interval = 20 metres).
  - Claim boundary, legal corner post.
- } Sample number, ppm Cu, ppm Zn, ppb Au.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**16,307**  
PPM ZN.

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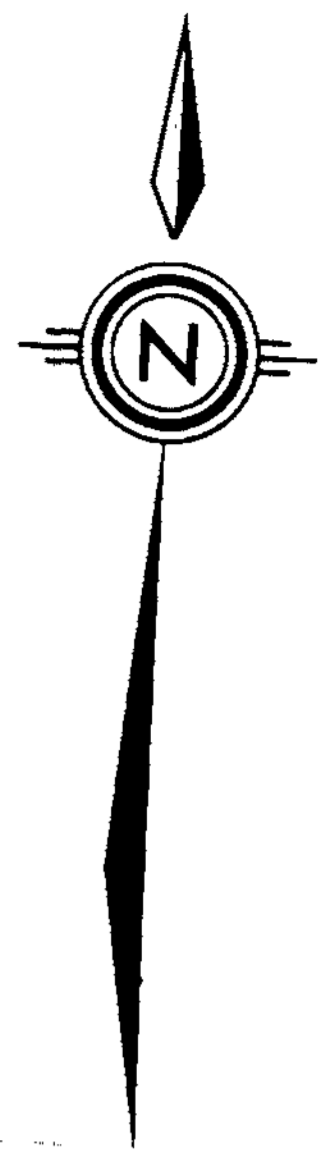
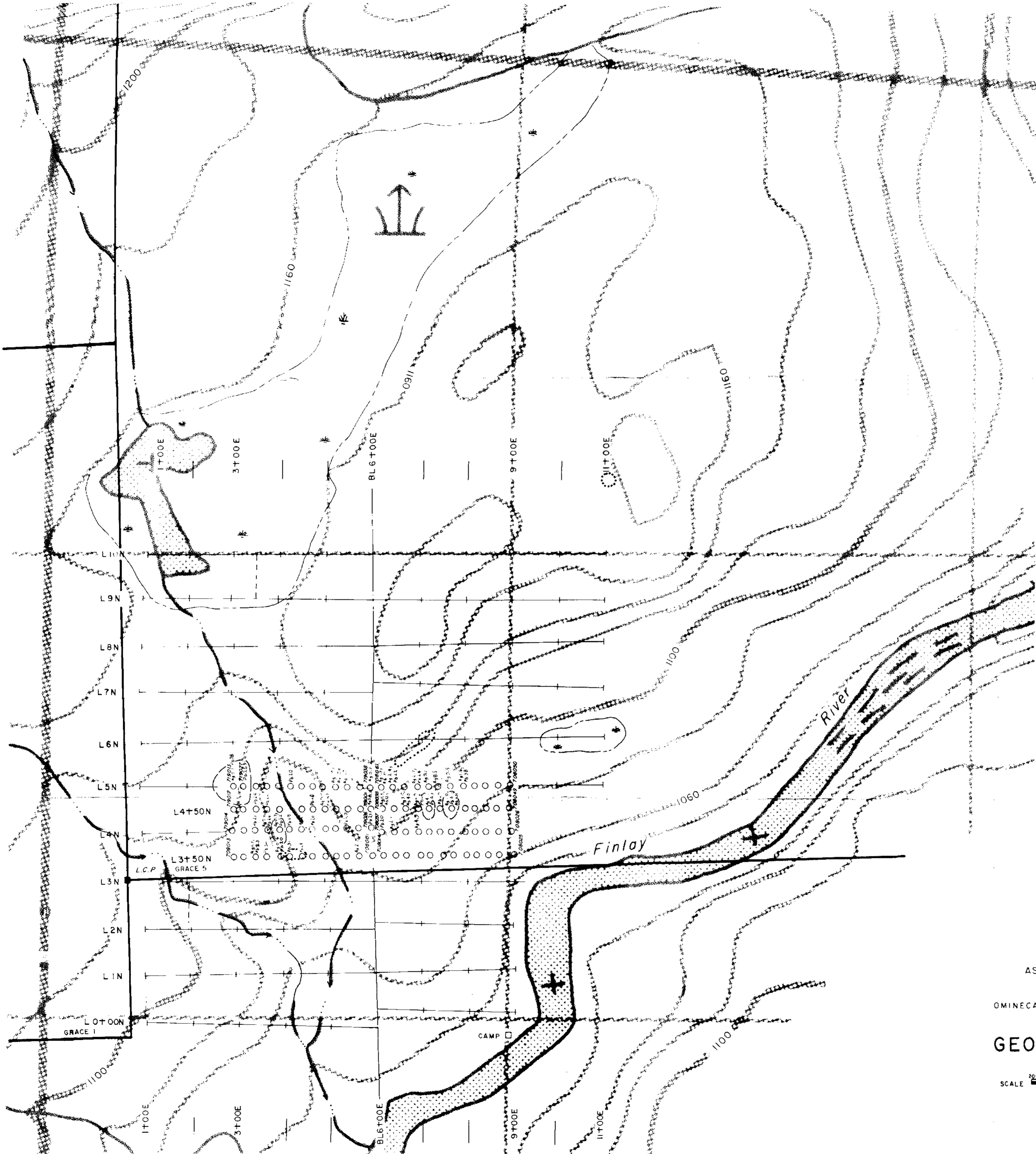
**GEOCHEMICAL MAP**



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**LEGEND**

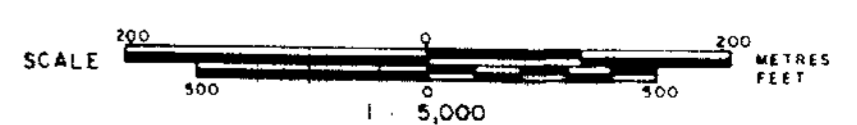
- ⋯ 1986 Geochemical anomaly, ppm Pb±40
- ⊞ 1987 Geochemical anomaly, ppm Pb±40
- Soil
- ⊙ Rock
- Silt
- Creek, Swamp
- Topographic contours (contour interval = 20 metres).
- └ Claim boundary, legal corner post.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

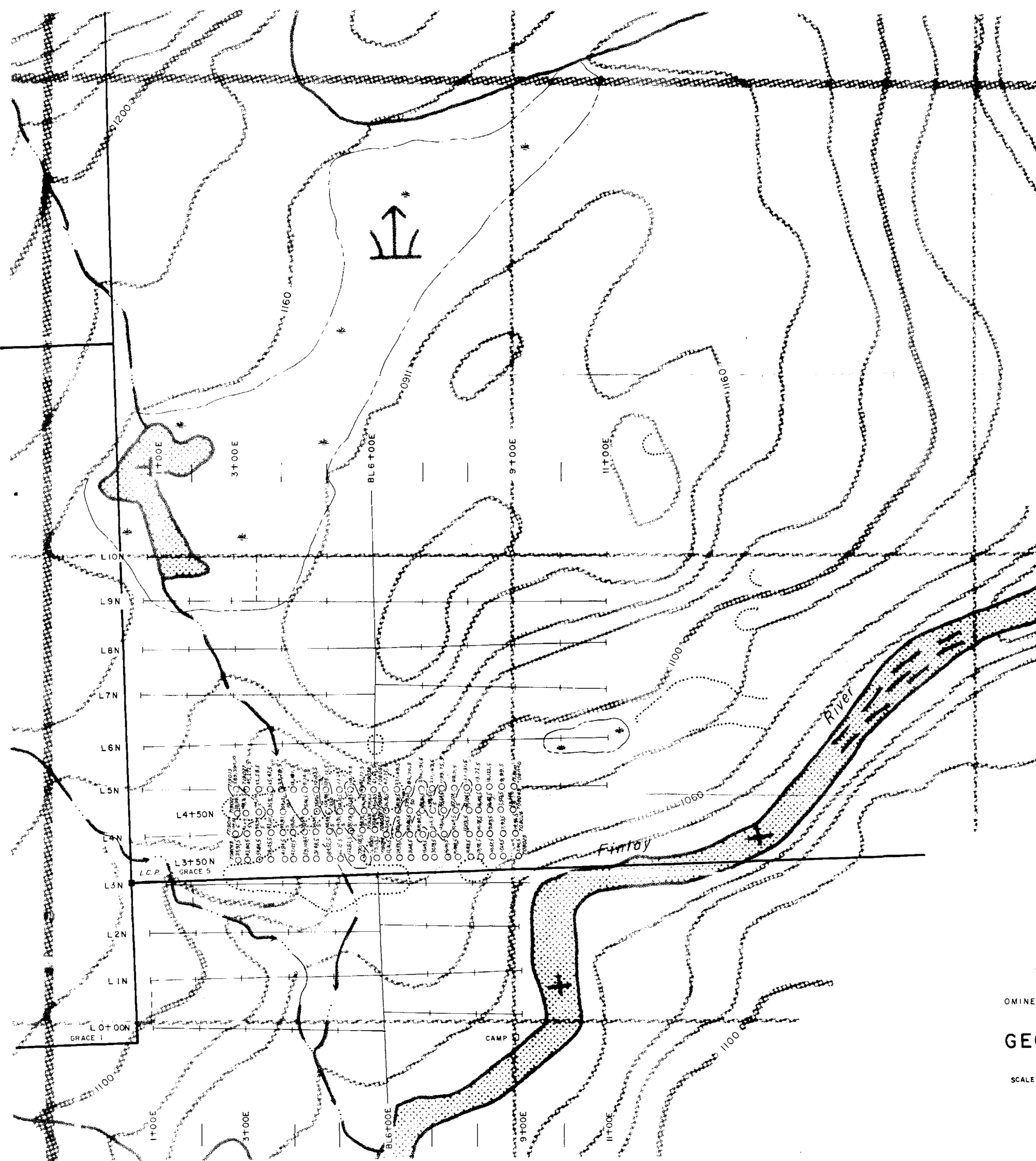
**16,307**  
PPM Pb.

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**GEOCHEMICAL MAP**



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AM exploration Ltd



**LEGEND**

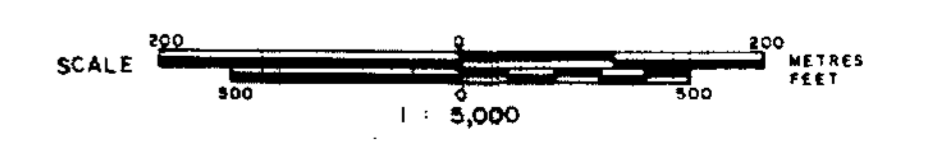
- ..... 1986 Geochemical anomaly, ppm Cu  $\neq$  100
  - - - - - 1987 Geochemical anomaly, ppm Cu  $\neq$  100
  - Soil
  - Rock
  - Silt
  - Creek, Swamp
  - Topographic contours (contour interval = 20 metres).
  - Claim boundary, legal corner post.
- } Sample number, ppm Cu, ppm Zn, ppb Au.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**16,307**  
 PPM CU

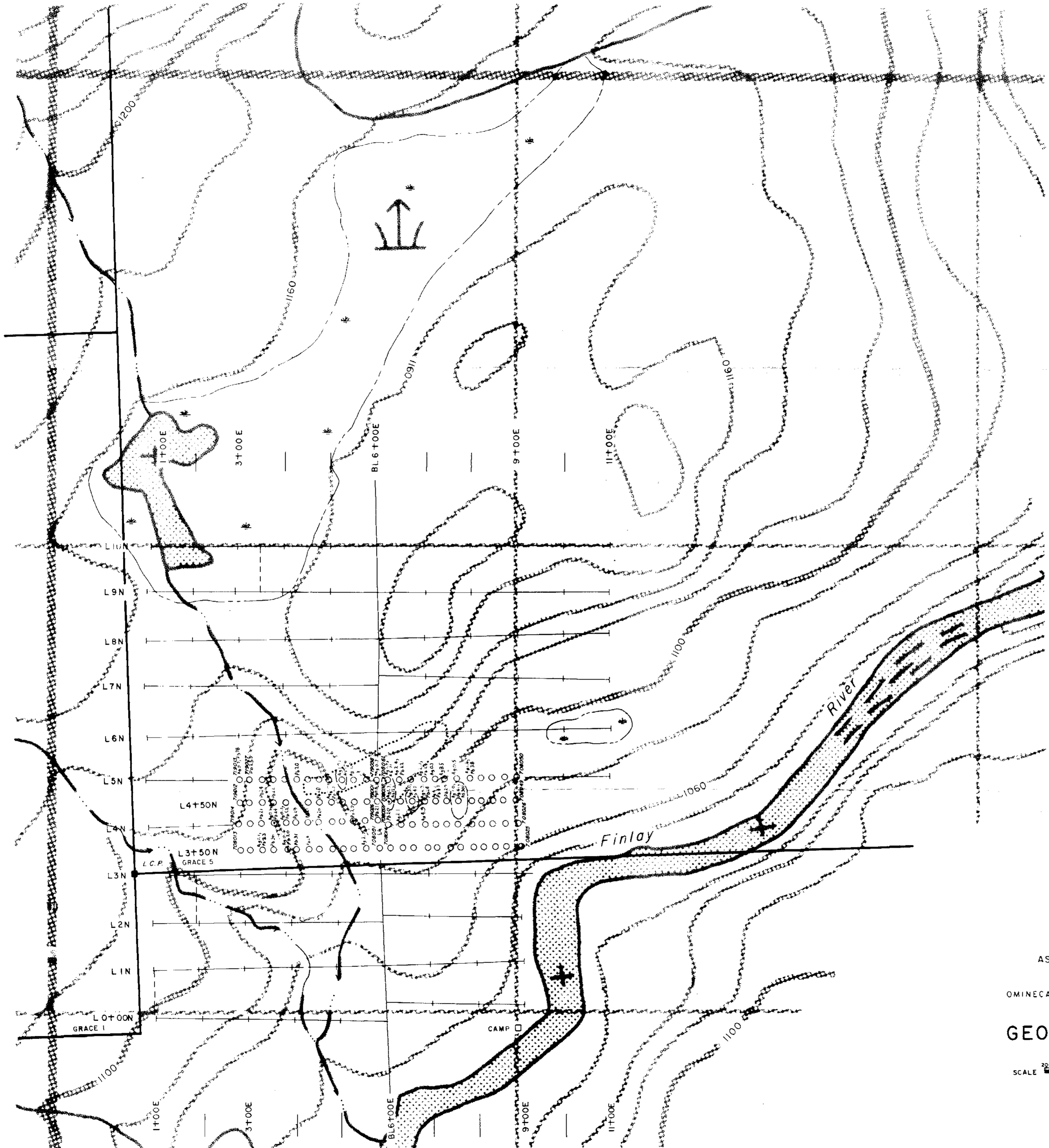
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 OMINECA MINING DIVISION - BRITISH COLUMBIA

**GEOCHEMICAL MAP**



*Dr. M. A. ...*  
 exploration ltd

FIGURE 8d



**LEGEND**

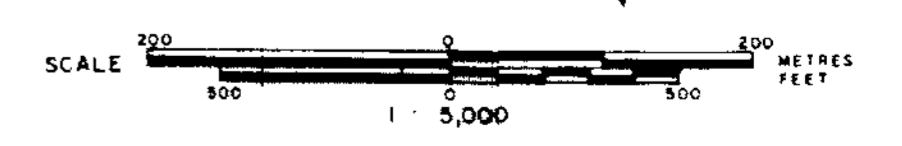
- 1986 Geochemical anomaly, ppm As ± 40
  - 1987 Geochemical anomaly, ppm As ± 40
  - Soil
  - Rock
  - Sill
  - Creek, Swamp
  - Topographic contours (contour interval = 20 metres).
  - Claim boundary, legal corner post.
- } Sample number, ppm Ag, ppm Pb, ppm As.

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**GEOCHEMICAL MAP**

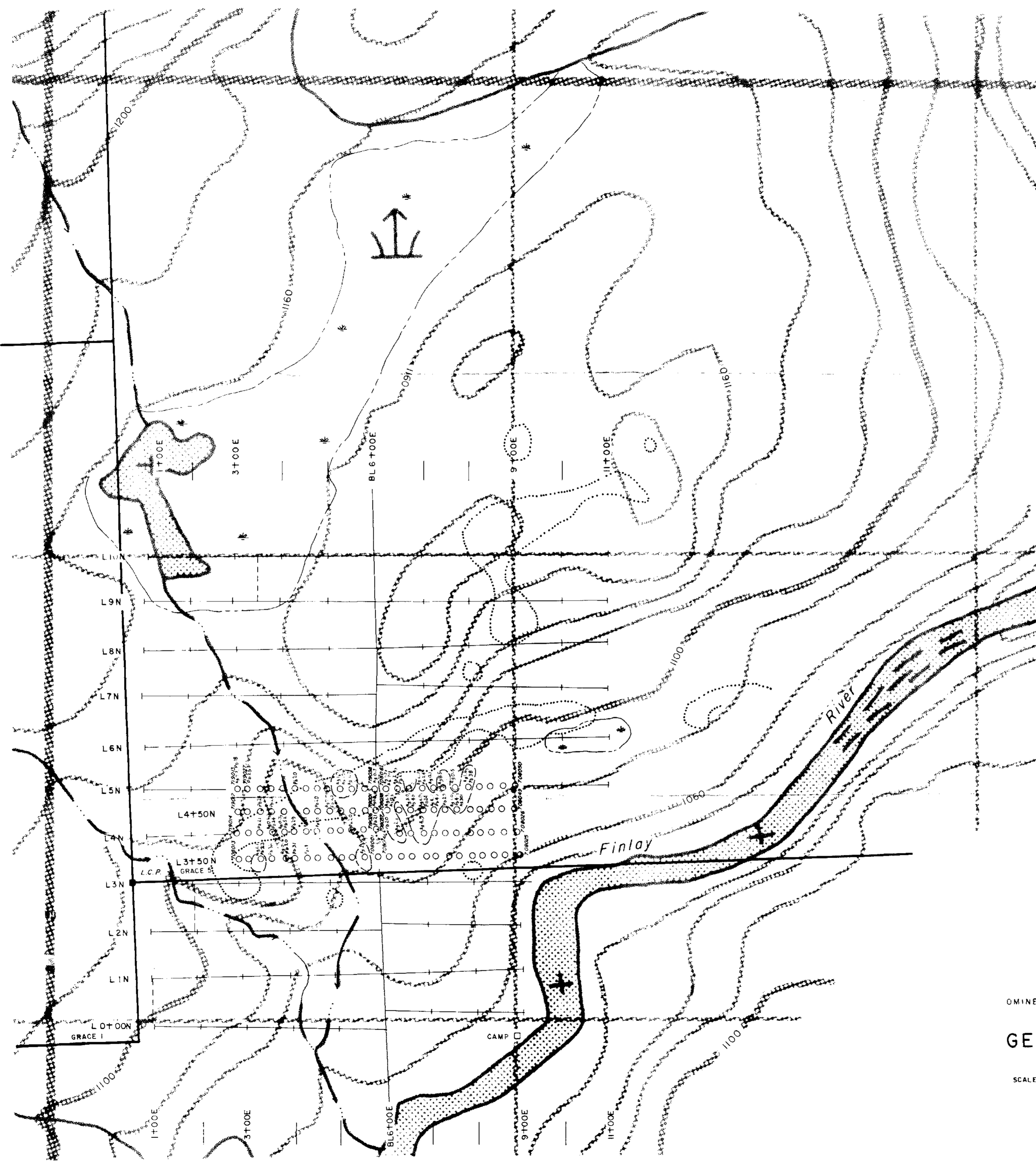


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FIGURE 8c



**LEGEND**

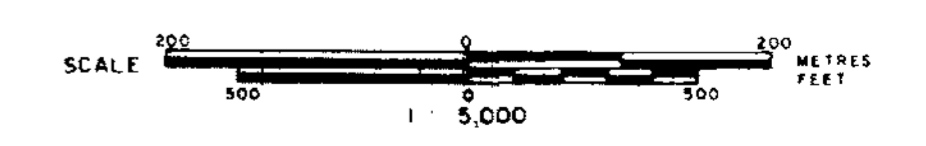
- 1986 Geochemical anomaly, ppm Ag  $\neq$  1.0
- 1987 Geochemical anomaly, ppm Ag  $\neq$  1.0
- Soil
- Rock
- Sill
- Creek, Swamp
- Topographic contours (contour interval = 20 metres).
- Claim boundary, legal corner post.

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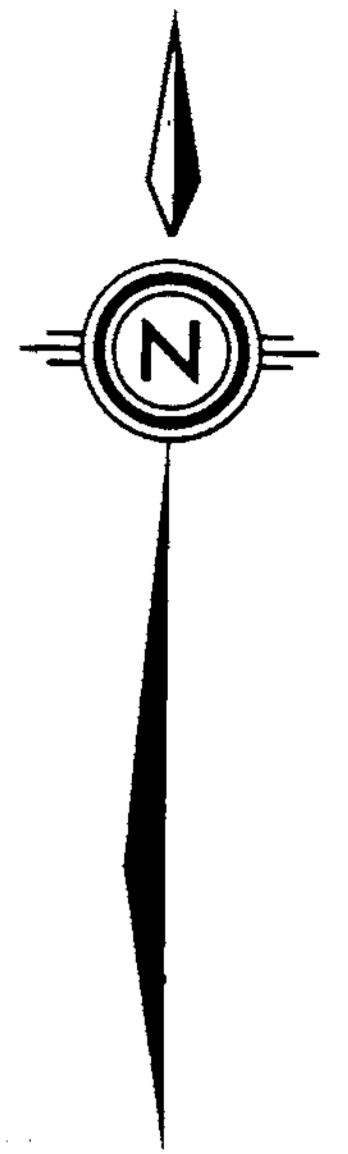
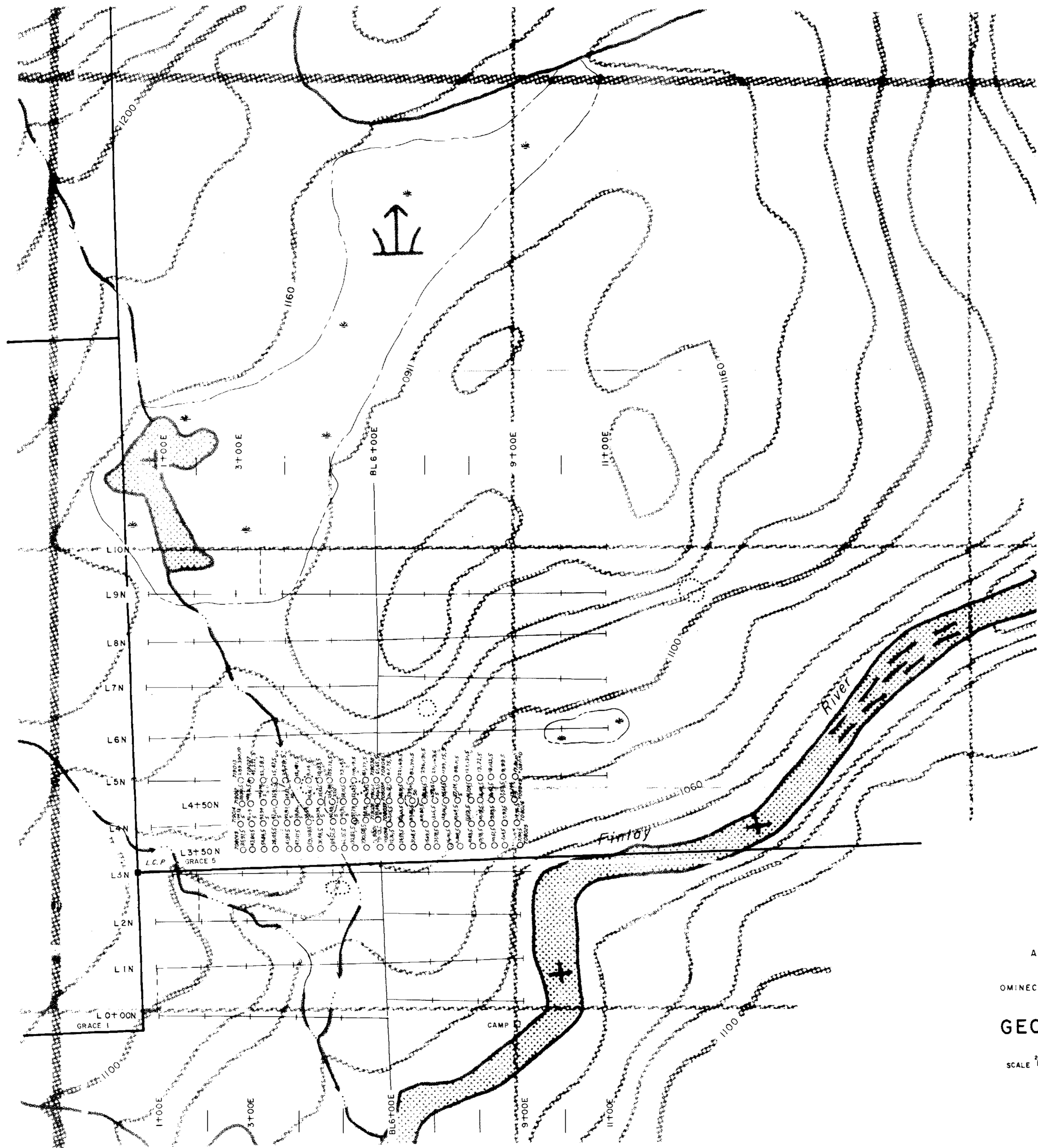
**GEOCHEMICAL MAP**



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FIGURE 8b





**LEGEND**

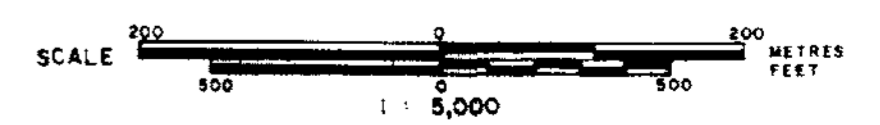
- 1986 Geochemical anomaly, ppb Au  $\geq 20$
  - 1987 Geochemical anomaly, ppb Au  $\geq 20$
  - Soil
  - Rock
  - Silt
  - Creek, Swamp
  - Topographic contours (contour interval = 20 metres).
  - Claim boundary, legal corner post.
- } Sample number, ppm Cu, ppm Zn, ppb Au.

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**16,307**  
PPB Au

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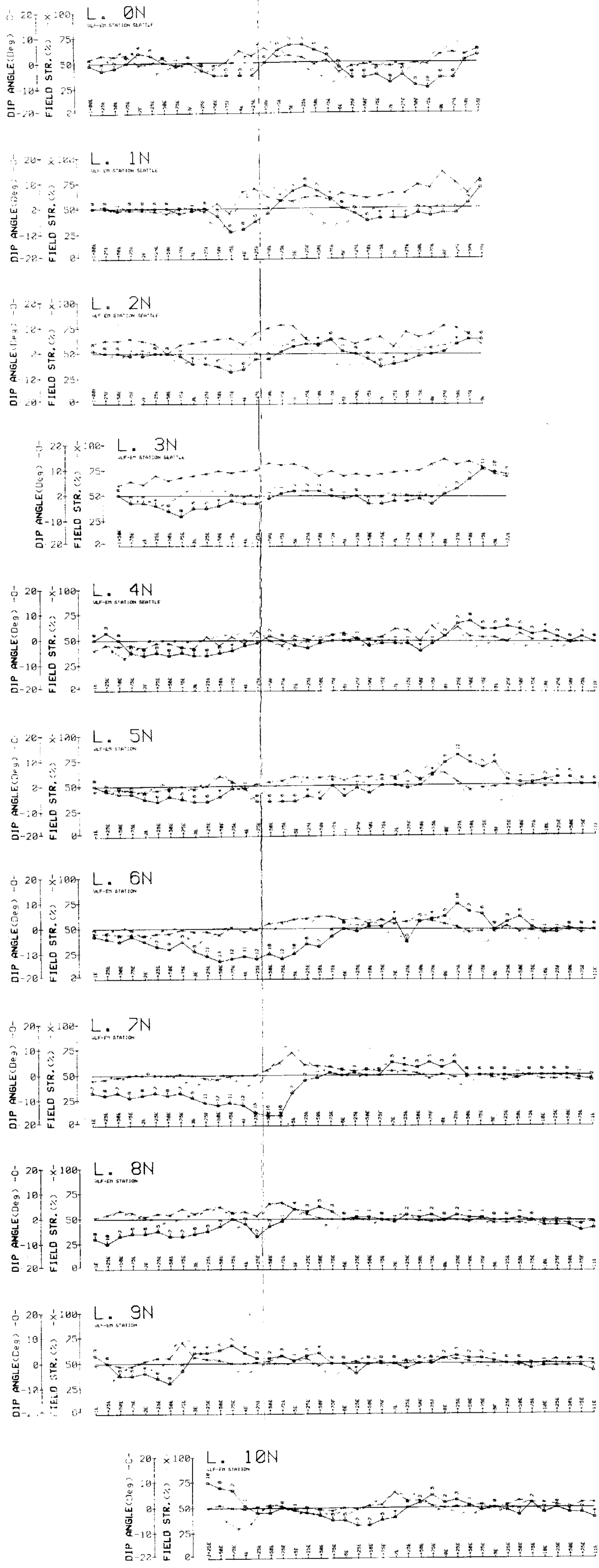
**GEOCHEMICAL MAP**



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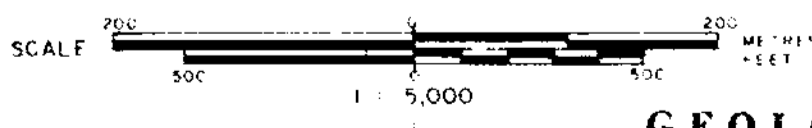
| LINE 0N | LINE 1N  | LINE 2N | LINE 3N  |     |          |     |          |     |          |     |          |     |          |     |          |
|---------|----------|---------|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|
| STN     | DIP(Deq) | FSK     | F.FILTER | STN | DIP(Deq) | FSK | F.FILTER | STN | DIP(Deq) | FSK | F.FILTER | STN | DIP(Deq) | FSK | F.FILTER |
| 15      | 0        | 8       | 0        | 15  | 0        | 8   | 0        | 15  | 0        | 8   | 0        | 15  | 0        | 8   | 0        |
| 20      | 0        | 8       | 0        | 20  | 0        | 8   | 0        | 20  | 0        | 8   | 0        | 20  | 0        | 8   | 0        |
| 25      | 0        | 8       | 0        | 25  | 0        | 8   | 0        | 25  | 0        | 8   | 0        | 25  | 0        | 8   | 0        |
| 30      | 0        | 8       | 0        | 30  | 0        | 8   | 0        | 30  | 0        | 8   | 0        | 30  | 0        | 8   | 0        |
| 35      | 0        | 8       | 0        | 35  | 0        | 8   | 0        | 35  | 0        | 8   | 0        | 35  | 0        | 8   | 0        |
| 40      | 0        | 8       | 0        | 40  | 0        | 8   | 0        | 40  | 0        | 8   | 0        | 40  | 0        | 8   | 0        |
| 45      | 0        | 8       | 0        | 45  | 0        | 8   | 0        | 45  | 0        | 8   | 0        | 45  | 0        | 8   | 0        |
| 50      | 0        | 8       | 0        | 50  | 0        | 8   | 0        | 50  | 0        | 8   | 0        | 50  | 0        | 8   | 0        |
| 55      | 0        | 8       | 0        | 55  | 0        | 8   | 0        | 55  | 0        | 8   | 0        | 55  | 0        | 8   | 0        |
| 60      | 0        | 8       | 0        | 60  | 0        | 8   | 0        | 60  | 0        | 8   | 0        | 60  | 0        | 8   | 0        |
| 65      | 0        | 8       | 0        | 65  | 0        | 8   | 0        | 65  | 0        | 8   | 0        | 65  | 0        | 8   | 0        |
| 70      | 0        | 8       | 0        | 70  | 0        | 8   | 0        | 70  | 0        | 8   | 0        | 70  | 0        | 8   | 0        |
| 75      | 0        | 8       | 0        | 75  | 0        | 8   | 0        | 75  | 0        | 8   | 0        | 75  | 0        | 8   | 0        |
| 80      | 0        | 8       | 0        | 80  | 0        | 8   | 0        | 80  | 0        | 8   | 0        | 80  | 0        | 8   | 0        |
| 85      | 0        | 8       | 0        | 85  | 0        | 8   | 0        | 85  | 0        | 8   | 0        | 85  | 0        | 8   | 0        |
| 90      | 0        | 8       | 0        | 90  | 0        | 8   | 0        | 90  | 0        | 8   | 0        | 90  | 0        | 8   | 0        |
| 95      | 0        | 8       | 0        | 95  | 0        | 8   | 0        | 95  | 0        | 8   | 0        | 95  | 0        | 8   | 0        |
| 100     | 0        | 8       | 0        | 100 | 0        | 8   | 0        | 100 | 0        | 8   | 0        | 100 | 0        | 8   | 0        |
| 105     | 0        | 8       | 0        | 105 | 0        | 8   | 0        | 105 | 0        | 8   | 0        | 105 | 0        | 8   | 0        |
| 110     | 0        | 8       | 0        | 110 | 0        | 8   | 0        | 110 | 0        | 8   | 0        | 110 | 0        | 8   | 0        |
| 115     | 0        | 8       | 0        | 115 | 0        | 8   | 0        | 115 | 0        | 8   | 0        | 115 | 0        | 8   | 0        |

Instrument: Sabre Model 27 VLF-EM Receiver.  
 Survey date: July 17 to July 22, 1987.  
 Transmitter station: Seattle, Wash.  
 F.FILTER = 1.0 X F.FILTER IN TABLE

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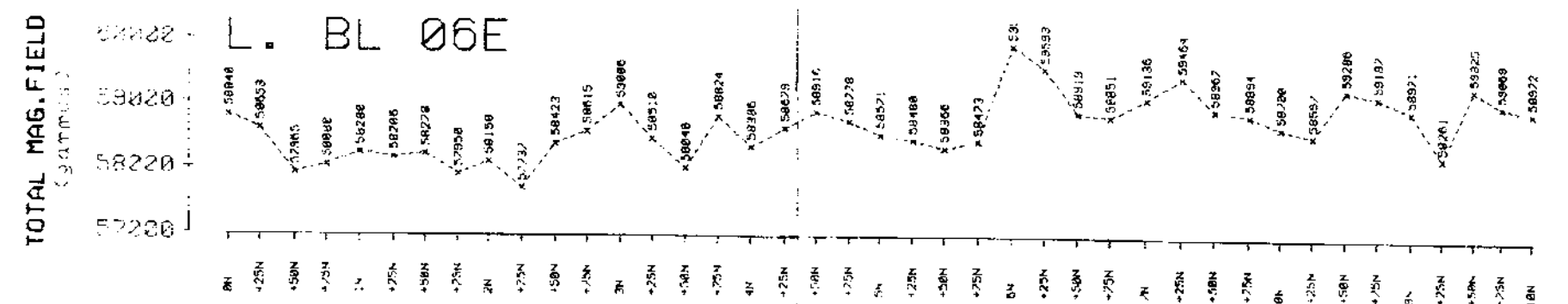
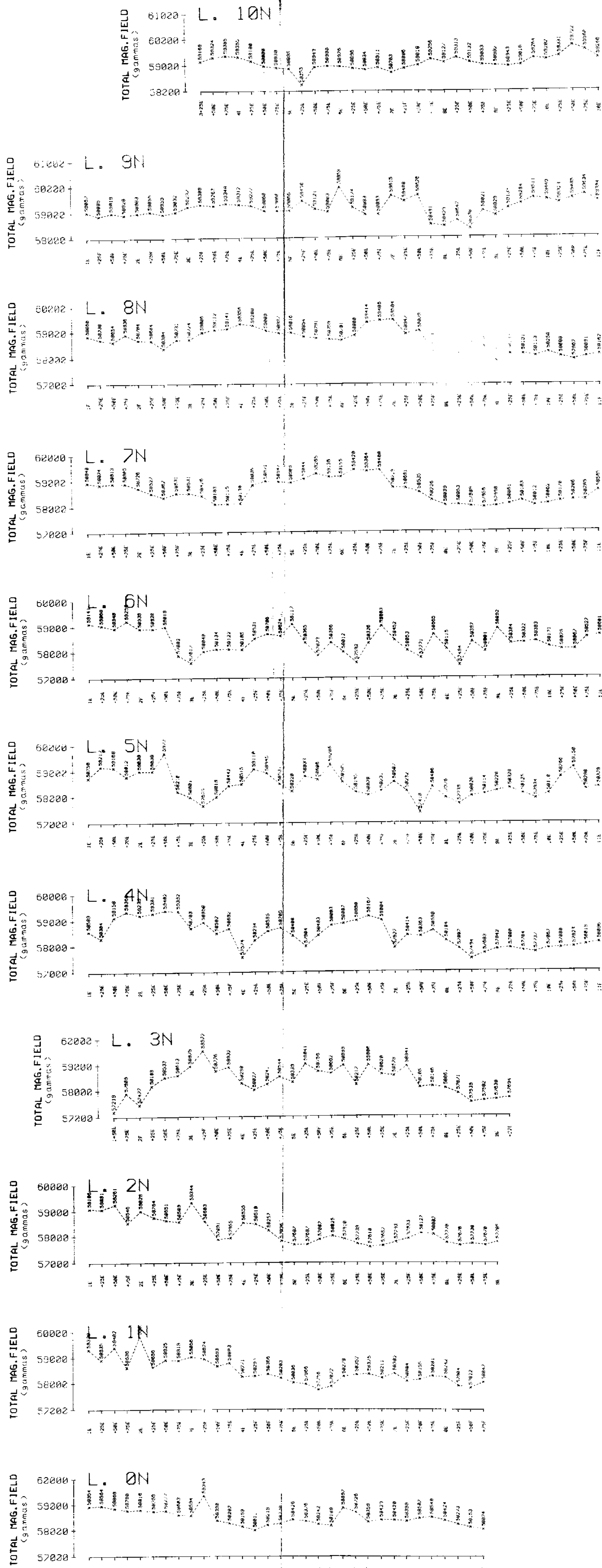
## VLF - EM PROFILES

— LINE 0+00N to 10+00N —



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 ASSESSMENT REPORT

# 16,307



| LINE # BL 06E | LINE # 10N       | LINE # 9N | LINE # 8N        |     |                  |     |                  |
|---------------|------------------|-----------|------------------|-----|------------------|-----|------------------|
| STN           | TOTAL MAG. FIELD | STN       | TOTAL MAG. FIELD | STN | TOTAL MAG. FIELD | STN | TOTAL MAG. FIELD |
| 10            | 58818            | 10        | 58159            | 10  | 58837            | 10  | 58898            |
| 20            | 58824            | 20        | 58204            | 20  | 58853            | 20  | 58928            |
| 30            | 58830            | 30        | 58250            | 30  | 58869            | 30  | 58954            |
| 40            | 58836            | 40        | 58296            | 40  | 58885            | 40  | 58980            |
| 50            | 58842            | 50        | 58342            | 50  | 58901            | 50  | 59006            |
| 60            | 58848            | 60        | 58388            | 60  | 58917            | 60  | 59032            |
| 70            | 58854            | 70        | 58434            | 70  | 58933            | 70  | 59058            |
| 80            | 58860            | 80        | 58480            | 80  | 58949            | 80  | 59084            |
| 90            | 58866            | 90        | 58526            | 90  | 58965            | 90  | 59110            |
| 100           | 58872            | 100       | 58572            | 100 | 58981            | 100 | 59136            |

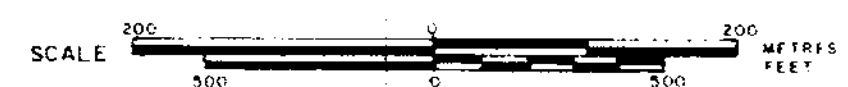
| LINE # 7N | LINE # 6N        | LINE # 5N | LINE # 4N        |     |                  |     |                  |
|-----------|------------------|-----------|------------------|-----|------------------|-----|------------------|
| STN       | TOTAL MAG. FIELD | STN       | TOTAL MAG. FIELD | STN | TOTAL MAG. FIELD | STN | TOTAL MAG. FIELD |
| 10        | 58948            | 10        | 58141            | 10  | 58758            | 10  | 58930            |
| 20        | 58954            | 20        | 58187            | 20  | 58804            | 20  | 58956            |
| 30        | 58960            | 30        | 58233            | 30  | 58850            | 30  | 58982            |
| 40        | 58966            | 40        | 58279            | 40  | 58896            | 40  | 59008            |
| 50        | 58972            | 50        | 58325            | 50  | 58942            | 50  | 59034            |
| 60        | 58978            | 60        | 58371            | 60  | 58988            | 60  | 59060            |
| 70        | 58984            | 70        | 58417            | 70  | 59034            | 70  | 59086            |
| 80        | 58990            | 80        | 58463            | 80  | 59080            | 80  | 59112            |
| 90        | 58996            | 90        | 58509            | 90  | 59126            | 90  | 59138            |
| 100       | 59002            | 100       | 58555            | 100 | 59172            | 100 | 59164            |

| LINE # 3N | LINE # 2N        | LINE # 1N | LINE # 0N        |     |                  |     |                  |
|-----------|------------------|-----------|------------------|-----|------------------|-----|------------------|
| STN       | TOTAL MAG. FIELD | STN       | TOTAL MAG. FIELD | STN | TOTAL MAG. FIELD | STN | TOTAL MAG. FIELD |
| 10        | 58219            | 10        | 58180            | 10  | 58338            | 10  | 58854            |
| 20        | 58225            | 20        | 58226            | 20  | 58384            | 20  | 58880            |
| 30        | 58231            | 30        | 58272            | 30  | 58430            | 30  | 58906            |
| 40        | 58237            | 40        | 58318            | 40  | 58476            | 40  | 58932            |
| 50        | 58243            | 50        | 58364            | 50  | 58522            | 50  | 58958            |
| 60        | 58249            | 60        | 58410            | 60  | 58568            | 60  | 58984            |
| 70        | 58255            | 70        | 58456            | 70  | 58614            | 70  | 59010            |
| 80        | 58261            | 80        | 58502            | 80  | 58660            | 80  | 59036            |
| 90        | 58267            | 90        | 58548            | 90  | 58706            | 90  | 59062            |
| 100       | 58273            | 100       | 58594            | 100 | 58752            | 100 | 59088            |

Instrument : Scintrex MP-2 Magnetometer.  
Survey date : July 17 to July 22, 1987.

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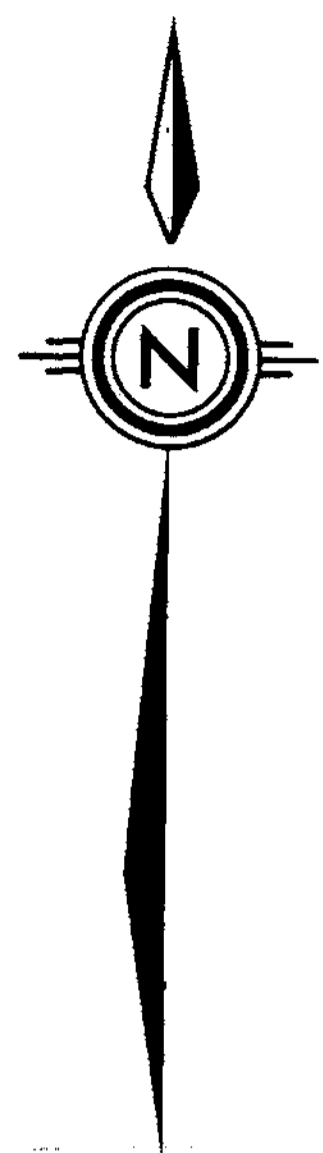
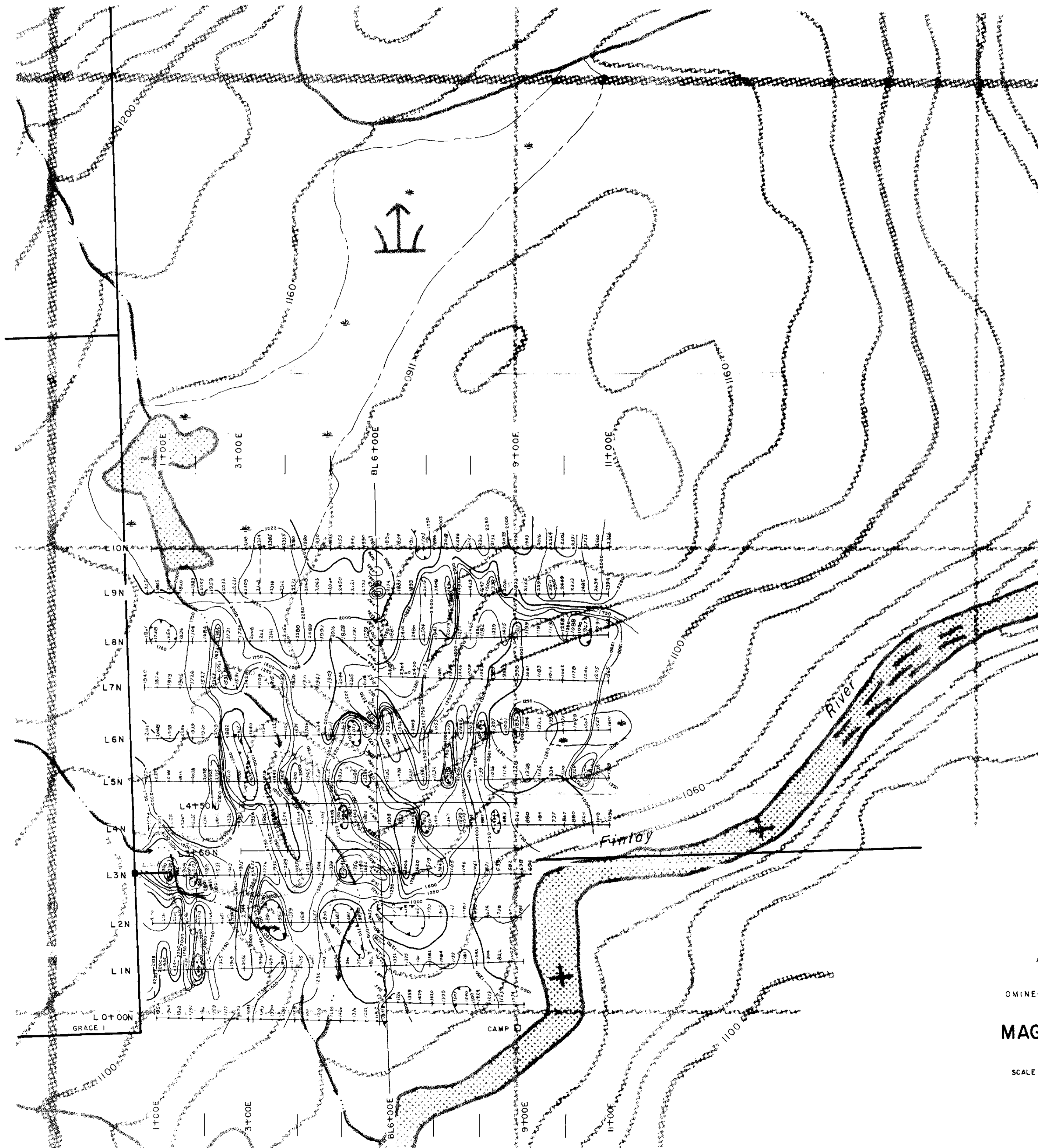
MAGNETOMETER PROFILES  
— LINE 0+00N TO 10+00N —



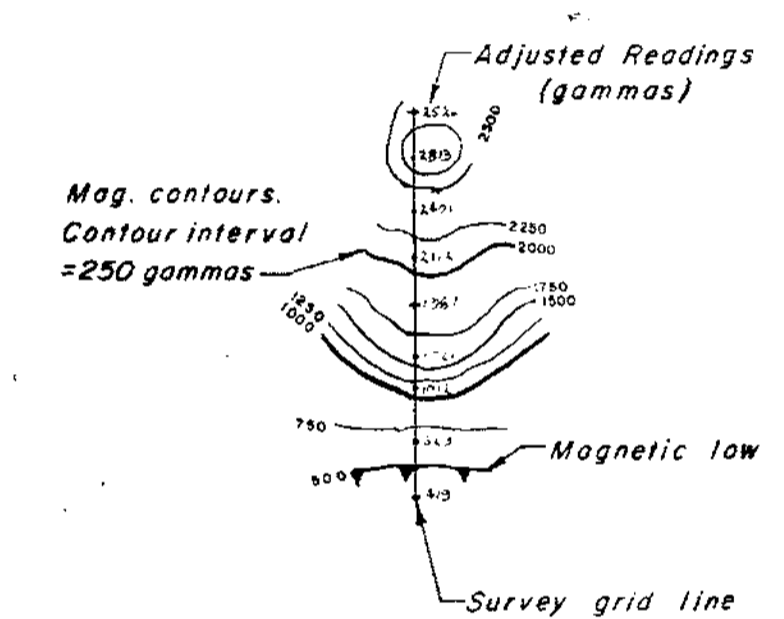
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

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**LEGEND**



Base reading = 57,000

Instrument: Scintrex MP-2  
Total Field Magnetometer.

-  Creek, Swamp
-  Topographic contours (contour interval = 20 metres).
-  Claim boundary, legal corner post.

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**MAGNETOMETER SURVEY**

