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ARCHEAN ENGINEERING LTD

GEOPHYSICAL REPORT ON THE
DECEPTION CREEK PROPERTY
CLINTON MINING DIVISION, B. C.
N.T.S. 92 P/15E

September 1983

A.G. Troup, P.Eng.

<u>Claim Name</u>	<u>Units</u>	<u>CLAIMS</u>	
		<u>Record No.</u>	<u>Anniversary Date</u>
W-1	20	1094	September 2
W-2	20	1095	September 2
W-3	20	1096.	September 2
W-4	20	1097	September 2

LOCATION: 51°55'W
OWNER: ARCHEAN ENGINEERING LTD.
OPERATOR: ARCHEAN ENGINEERING LTD.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,733

ARCHEAN ENGINEERING LTD.
GEOPHYSICAL REPORT ON THE
DECEPTION CREEK PROPERTY
CLINTON MINING DIVISION
BRITISH COLUMBIA
NTS 92P/15E

SUMMARY

The Deception Creek property is a copper prospect located 55 km northeast of 100 Mile House in central British Columbia. In 1983 follow-up work entailing a VLF-EM survey and hand trenching was carried out over the property.

Results of the VLF survey show several strong conductors in areas underlain by intermediate volcanic rocks. Lesser conductors, believed to be due to conductive clay minerals, occur over argillaceous rocks. An important conductor located immediately southeast of Christopher Lake is situated adjacent to a strong Cu-Zn soil anomaly discovered by previous surveys.

The soil anomaly was hand trenched in 1983 but bedrock was not encountered. Soil samples taken from the bottom of the trenches were lower in copper than surface samples suggesting that the high metal values have been mechanically transported by solifluction or glacial action. The adjacent VLF-EM conductor is believed to be the source of the high metal values.

Additional work entailing trenching and diamond drilling is recommended.

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GEOPHYSICAL REPORT ON THE
DECEPTION CREEK PROPERTY
CLINTON MINING DIVISION, B.C.

1.0 INTRODUCTION

The Deception Creek property is a copper prospect located near Canim Lake in central British Columbia. In 1983 a VLF-EM survey and hand trenching was carried out over the property.

The programme was completed in August of 1983 by a two man crew working from a tent camp on the property. The work was supervised by company geologist, A. Troup, P.Eng.

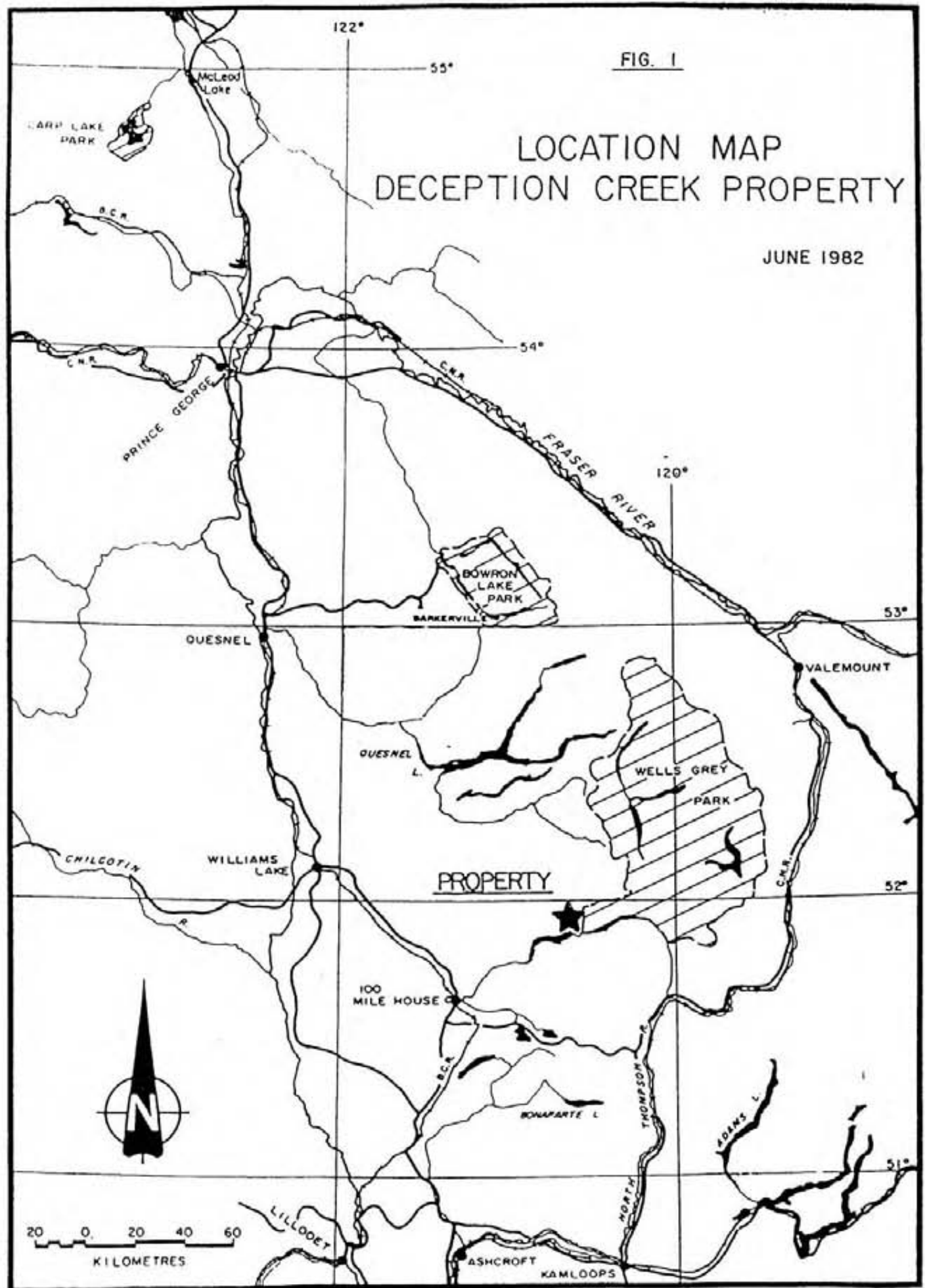
1.1 Location and Access

The Deception Creek property is located in central British Columbia approximately 55 km northeast of the community of 100 Mile House (Figure 1). The claims centre on latitude 51°55'N and Longitude 120°36'W and cover a 20 km² area situated between Deception Creek and the east end of Canim Lake.

The property is accessible by foot along a 2 km long trail that intersects the Canim Lake Ranch road near the east end of Canim Lake. The closest main road is the Canim Lake - Hendrix Lake road situated 7 km northwest of the property.

1.2 Physiography

The claims overlie a series of low rounded hills situated along the western flank of the Shuswap Highlands. Relief is 1300 feet (395 m) between Christopher Lake at 2900 feet (885 m) and the highest ridge at 4200 feet (1280 m). The south, west and central portions of the property are drained by the south-flowing Don Mackay Creek. The northeast corner of the claims is drained by Deception Creek which flows southeast into Mahood Lake.



Vegetation consists of dense, mature forest comprised of cedar, spruce, fir and pine. In low-lying areas and along streams, there is a thick undergrowth of alder and young evergreens.

1.3 Claim Information

The Deception Creek property is located in the Clinton Mining Division and consists of 80 units in four modified grid claims as shown in Figure 2. Claim information is given in Table 1.

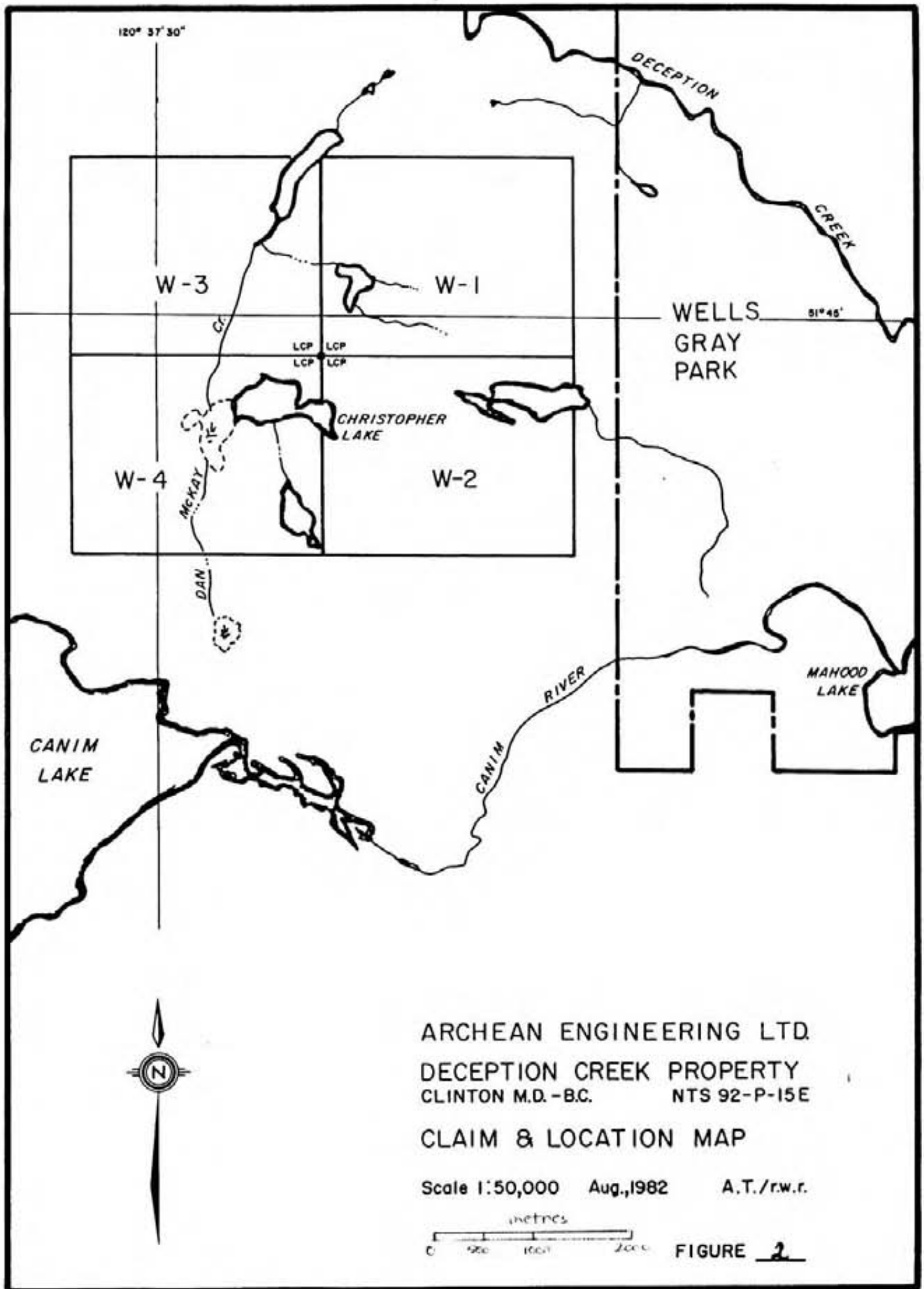
TABLE 1
CLAIM STATUS

<u>Claim Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
W-1	20	1094	Sept. 2, 1984
W-2	20	1095	Sept. 2, 1984
W-3	20	1096	Sept. 2, 1984
W-4	20	1097	Sept. 2, 1984

1.4 WORK BY ARCHEAN ENGINEERING LTD. IN 1983

Follow-up work was carried out from August 19 to August 31 by a two man crew working from a fly camp on the property. The following work was completed.

1. Detailed VLF-EM coverage was carried out over three small grids on the property.
2. Two hand trenches were put down over a strong Cu-Zn geochemical anomaly discovered in 1982.



2.0 GEOLOGY

2.1 General Geology

The geology of this area was mapped by R. B. Campbell and H. W. Tipper of the Geological Survey of Canada in 1964-65 and published as Map 1278A in Memoir 363. That work shows the eastern half of the property to be underlain by Jurassic age andesitic arenite and siltstone, overlain on the west by slightly younger porphyritic augite andesite.

Mapping carried out over the property in 1982 suggests that the geology is much more complex than indicated by the G.S.C. work. The recent mapping shows the property to be underlain by a sequence of andesite agglomerate, andesite tuff and minor andesite flow rocks interbedded with thin rhyolite tuff horizons. The volcanic rocks are overlain by a sequence of fine-grained mudstones and argillites. The rocks have been deformed by large to medium scale folding about fold axes striking approximately 090° and 175°.

3.0 GEOPHYSICS

3.1 Instrument and Survey Techniques

Three VLF-EM survey grids were completed over the property using a Geonics EM-16 instrument. Five line kilometres were surveyed with readings taken at 25 metre intervals along the lines.

North-south lines were run using the submarine transmitting station in Maine, U.S.A. (Station 'NAA', 17.8 kHz). In-phase and quadrature readings were taken in a northerly direction (355°) to ensure that south dips were indicated as negative readings by the instrument.

East-west lines were run using the submarine transmitting station in Seattle, U.S.A. (Station 'NLK', 24.8 kHz). In-phase and quadrature readings were taken in a northwesterly direction (293°) to ensure that east dips were indicated as negative readings by the instrument. The in-phase readings were later reduced and contoured by use of the Fraser Filtering Technique (Fraser, 1969).

3.2 Presentation and Discussion of Results

Results of the survey are shown on Figures 3, 4 and 5 at a scale of 1:2,500, and on Figure 5 at a scale of 1:5,000. In all cases the filtered in-phase readings have been contoured at 10% intervals.

The results show several VLF anomalies within the survey areas. Of particular interest is a strong, 900 m long, north-south-trending conductor located immediately southeast of Christopher Lake. This conductor, discovered in 1982, was extended for 400 m to the south by the present survey. It lies immediately west of a strong Cu-Zn soil anomaly discovered previously and is underlain by a sequence of andesite tuffs. The strike of the conductor is parallel to the local geology suggesting that it may be reflecting a stratigraphically controlled body.

A second strong VLF anomaly located approximately 1 km northeast of Christopher Lake was detected by the present survey. This conductor lies at the extreme margin of the survey area and more work is required to determine its nature and extent.

Two, weak, north-south trending conductors were found near the summit of a small hill situated 500 m south of Christopher Lake. These are possibly reflecting a bedded argillite unit that outcrops in this area.

4.0 TRENCHING

In an attempt to determine the cause of a strong copper soil anomaly discovered in 1982 a programme of hand trenching was undertaken over the property. Two test pits were excavated at stations 1+75E and 2+25E along line 2+50S. These were the sites at which the highest copper concentrations were discovered during the 1982 survey. At both locations pits were dug to a depth of five feet but bedrock was not encountered.

In the absence of bedrock, soil samples were taken from the bottom of each trench to determine if metal concentration showed any change with depth. The results of the samples are given in Table 1 which also gives the metal concentration of surface samples taken at the same location.

TABLE 2

SOIL SAMPLE RESULTS

<u>STATION</u>	<u>DEPTH</u>	<u>Cu ppm</u>	<u>Pb ppm</u>	<u>Zn ppm</u>	<u>Ni ppm</u>	<u>Ag ppm</u>
1+75E	surface	515	10	170	-	-
1+75E	5 ft.	75	-	110	130	0.1
2+25E	surface	700	9	125	-	-
2+25E	5 ft.	208	-	103	107	0.1



The results show a significant enrichment of copper in the surface soils. This is the reverse of what would be expected if metal concentrations were due to hydromorphic dispersion and suggests that the surface soils have been enriched in copper by mechanical means such as solifluction or glacial transport. The intensity and continuity of the surface geochemical anomaly suggests that the metal source is nearby, possibly associated with the adjacent VLF conductor.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the present geophysical survey have successfully extended the main VLF anomaly discovered in 1982 and show similar conductors to exist elsewhere on the property. Results of the trenching programme suggest that the strong soil anomaly is due to mechanical transport of copper rich material probably from a source associated with the main VLF-EM conductor.

It is recommended that the strong conductor located to the south-east of Christopher Lake be investigated by bulldozer trenching or diamond drilling.

Respectfully submitted,

 
A. G. Troup

6.0 REFERENCES

- Campbell, R.B., Tipper, H.W., 1971; Geology of Bonaparte Lake map-area (92-P). GSC Memoir 363.
- Fraser, D.C., 1969; Contouring of VLF-EM Data. Geophysics v.34, No. 6, pp.958-967.
- Troup, A.G., 1982; Geology, Geochemistry and Geophysics of the Deception Creek Property. Engineers report dated August 1982.

COST STATEMENT
 Deception Creek Claims
 19 - 31 August 1983
GEOPHYSICAL AND GEOCHEMICAL SURVEYS

SALARIES AND WAGES

2 Pers, 19 mandays @ \$77.25 \$1,467.75

BENEFITS @ 20% 293.55

FOOD AND ACCOMMODATION

2 Pers, 19 mandays @ \$21.15 401.85

RENTALS

Grunenberg 4wd Jeep PU, 21-28 Aug, 8 days @ \$35 \$280.00
 1520 km @ \$0.16 243.20
 Arechean Camp Equipment, 20 mandays @ \$6 120.00
 Dora EM-16, 10 days @ \$27 270.00 913.20

SUPPLIES 249.43

FUEL 127.77

CONSULTANT FEES 450.00

GEOCHEMICAL ANALYSES - Chemex Labs

2 Bulk Soils for CU,NI,PB,ZN @ \$6.60 13.20

FIELD PREPARATION 900.00

REPORT PREPARATION 1,862.70

TOTAL COST \$6,679.45

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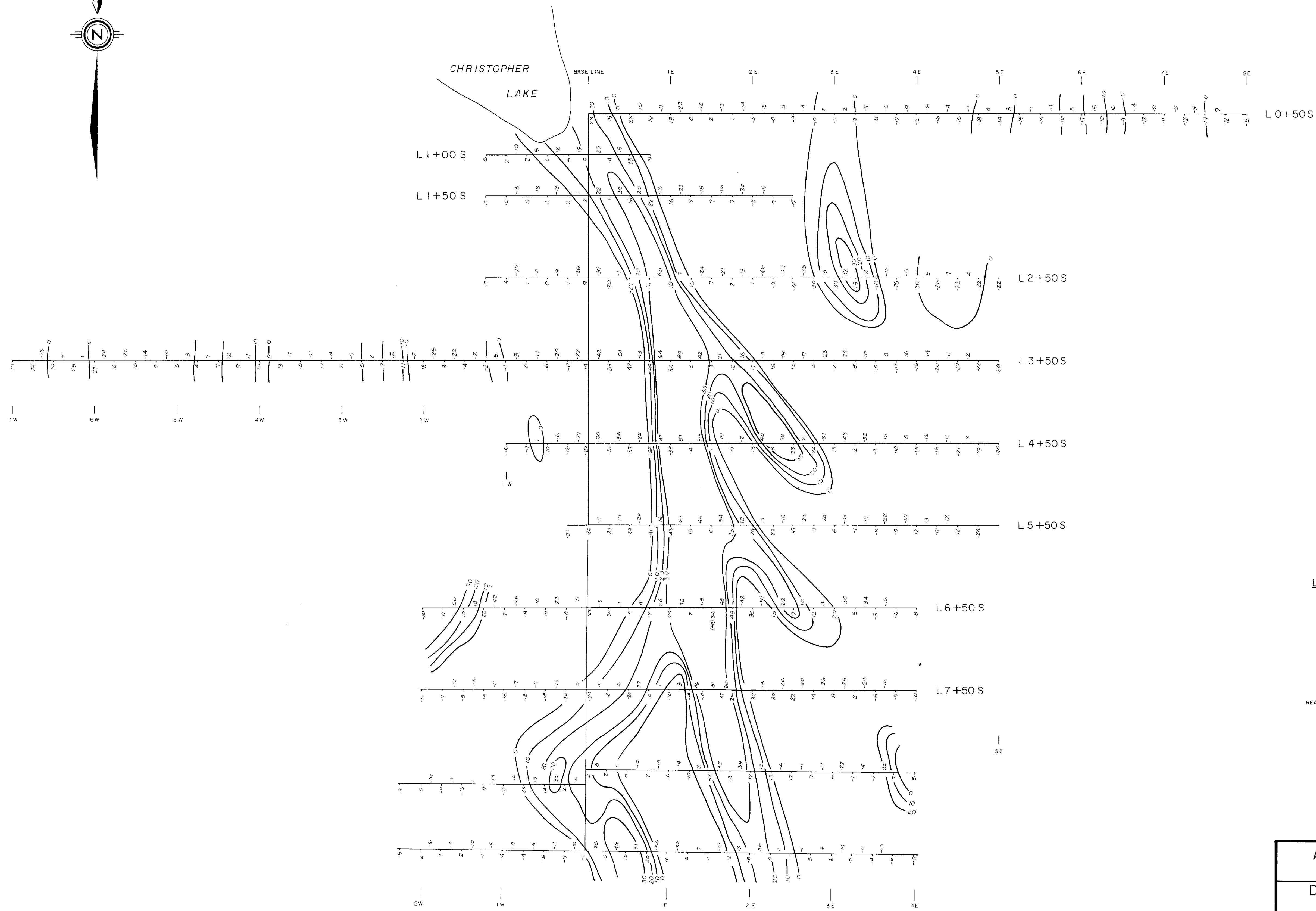
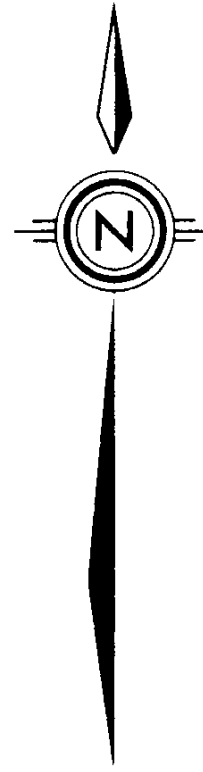
STATEMENT OF QUALIFICATIONS
A. TROUP, P.ENG.

ACADEMIC

1967	B.Sc. Geology	McMaster University, Ontario
1969	M.Sc. Geochemistry	McMaster University, Ontario

PRACTICAL

1981 -	3605 Creery Ave., W. Vancouver, B.C.	Consulting Geologist with Archean Engineering Ltd.
1977 - 1980	Geological Survey of Malaysia	Project Manager on a CIDA supported mineral explora- tion survey over peninsular Malaysia.
1969 - 1977	Rio Tinto Canadian Exploration Ltd. Vancouver, B.C.	Geologist involved in all aspects of mineral explora- tion in B.C., the Yukon and N.W.T.
1968	McMaster University Dept. of Geology Hamilton, Ontario	M.Sc. thesis work. Reconnaissance mapping and geochemical study, Lake Shubenicadia area, Nova Scotia.
1967 (summer)	Canex Aerial Exploration Ltd. Toronto, Ontario	Geologist in charge of detailed mapping and reconnaissance geochemical program in Gaspé, Quebec
1966 (summer)	McMaster University Dept. of Geology Hamilton, Ontario	Detailed and reconnaissance mapping in Northern Ontario.
1965 (summer)	International Nickel Co. of Canada Thompson, Manitoba	Detailed mapping in the Thompson area, Manitoba.
1964 (summer)	Geological Survey of Canada Ottawa, Ontario	Regional geochemical survey in the Keno Hill area, Yukon.



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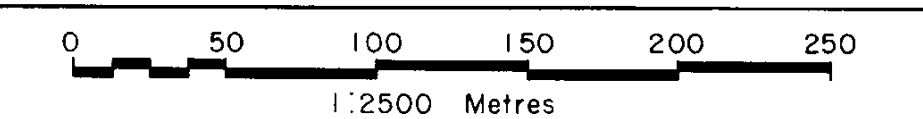
LEGEND:

- FRASER FILTER RESULTS (%)
- IN-PHASE RESULTS (%)
- CONTOUR INTERVAL = 0, 10, 20 & 30 %

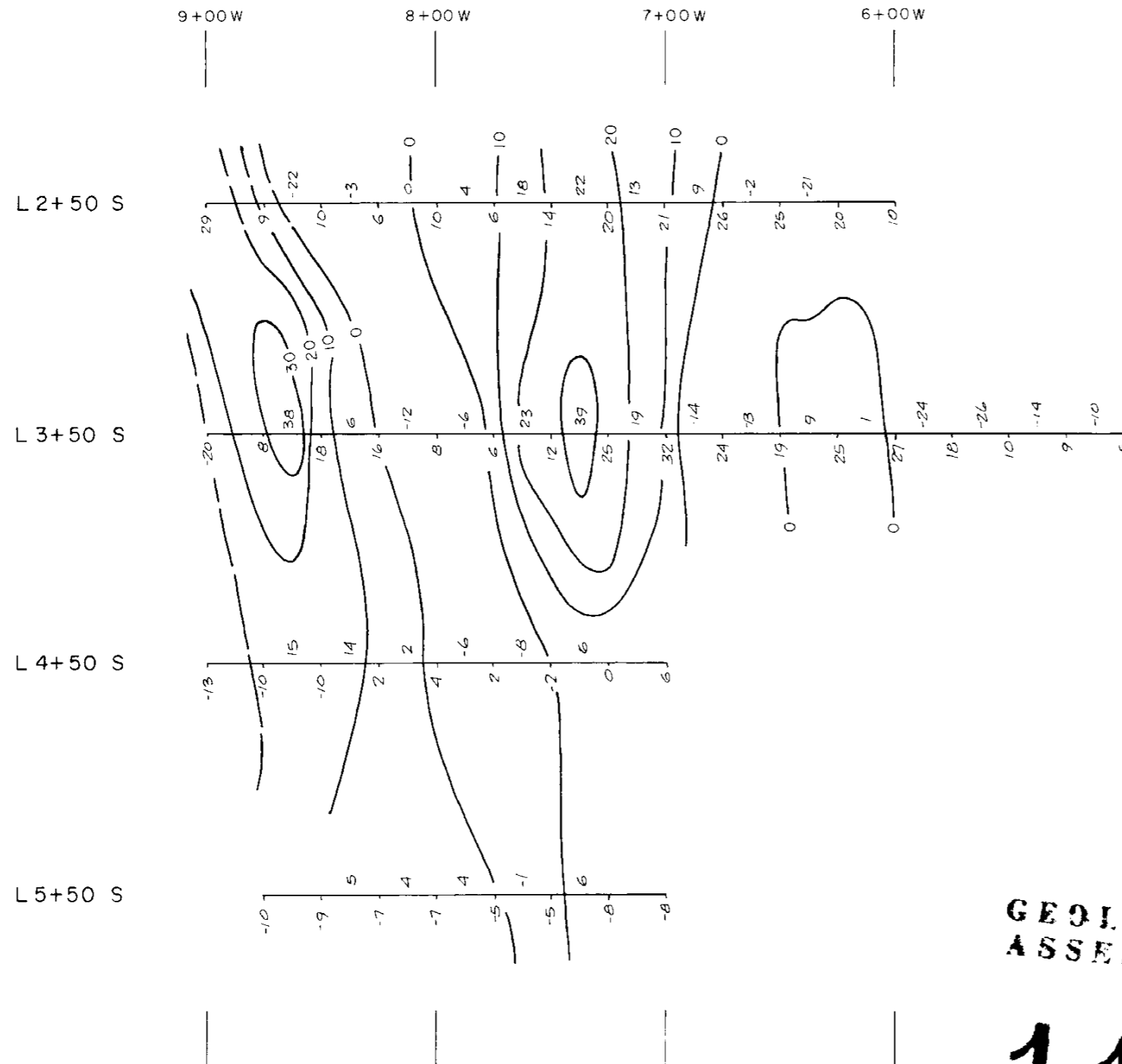
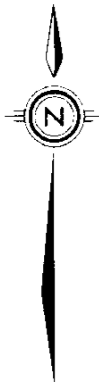
INSTRUMENT: GEONICS EM-16
STATION: NLK SEATTLE (24.8 kHz)

READING DIRECTION: 293°

ARCHEAN ENGINEERING LTD.
W 1-4 M.C. ; CLINTON MD.-B.C.
DECEPTION CREEK PROPERTY
EM-16 SURVEY
FRASER FILTER CONTOURS



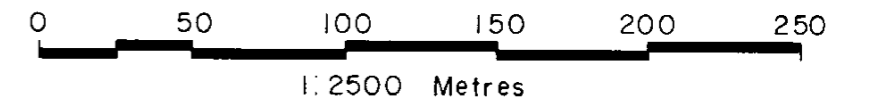
NTS 92-P-15 E REVISED SEPT 1985
DATE: Aug, 1982 A.T./rwr FIGURE 3



LEGEND:

FRASER FILTER RESULTS (%)
 INPHASE READINGS (%)

INSTRUMENT: GEONICS E.M.-16



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ARCHEAN ENGINEERING LTD.
W4 M.C. ; CLINTON M.D.-B.C.

DECEPTION CREEK PROPERTY

EM-16 SURVEY

FRASER FILTER CONTOURS

NTS 92-P-15E

BY: AGT. /r.w.r.

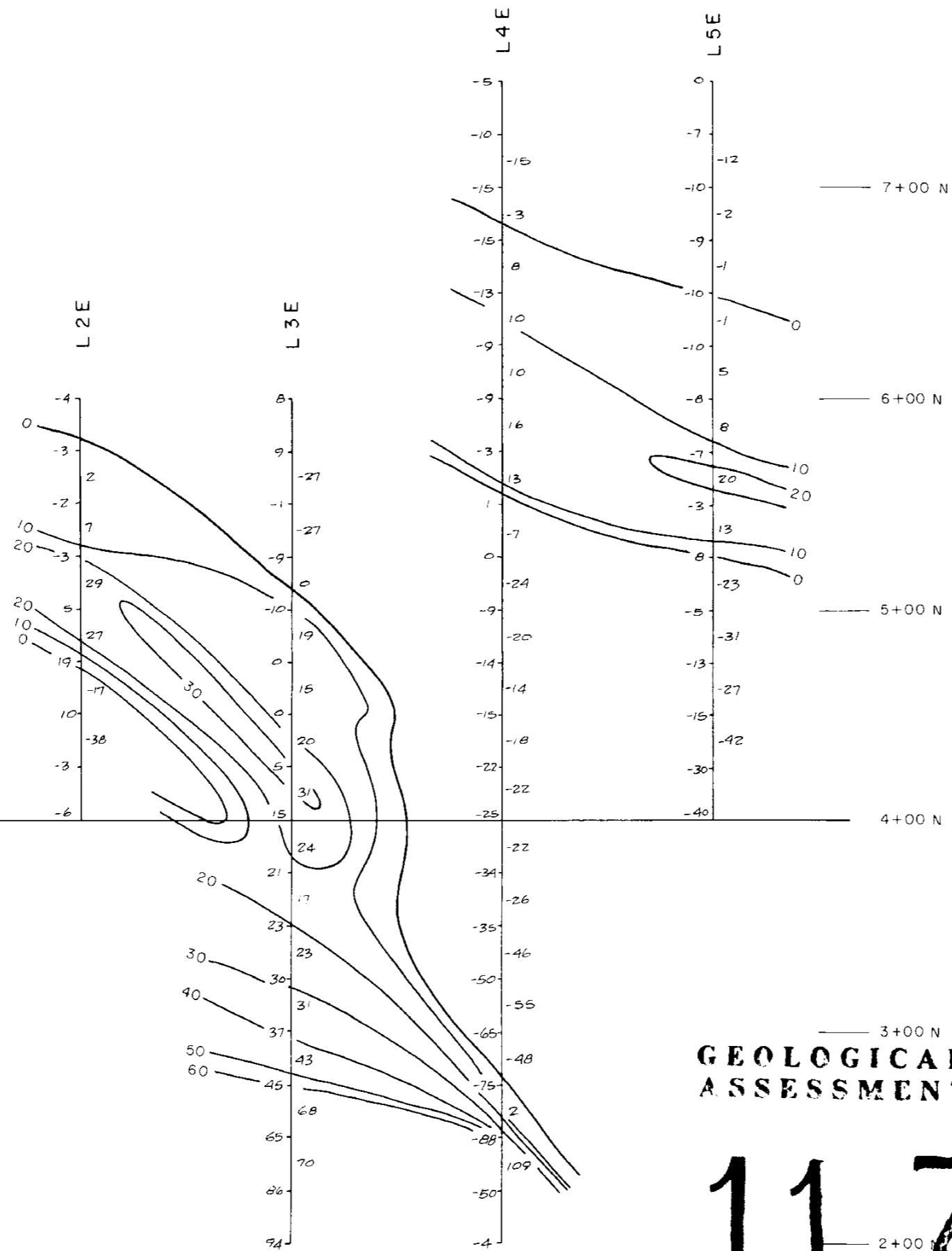
DATE: SEPT., 1983

FIGURE 4

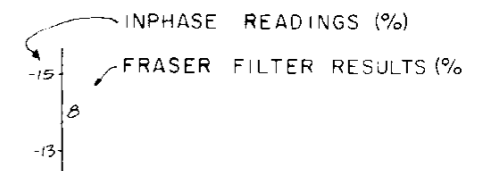


CHRISTOPHER LAKE 700M

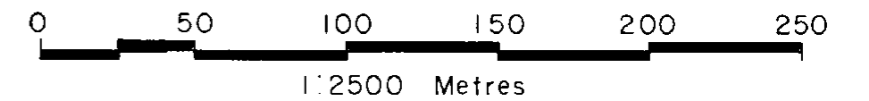
(L119N) BASELINE



LEGEND:



INSTRUMENT: GEONICS E.M.-16



**GEOLOGICAL BRANCH
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ARCHEAN ENGINEERING LTD.
W1&2 M.C.; CLINTON MD.-BC.

DECEPTION CREEK PROPERTY

EM-16 SURVEY

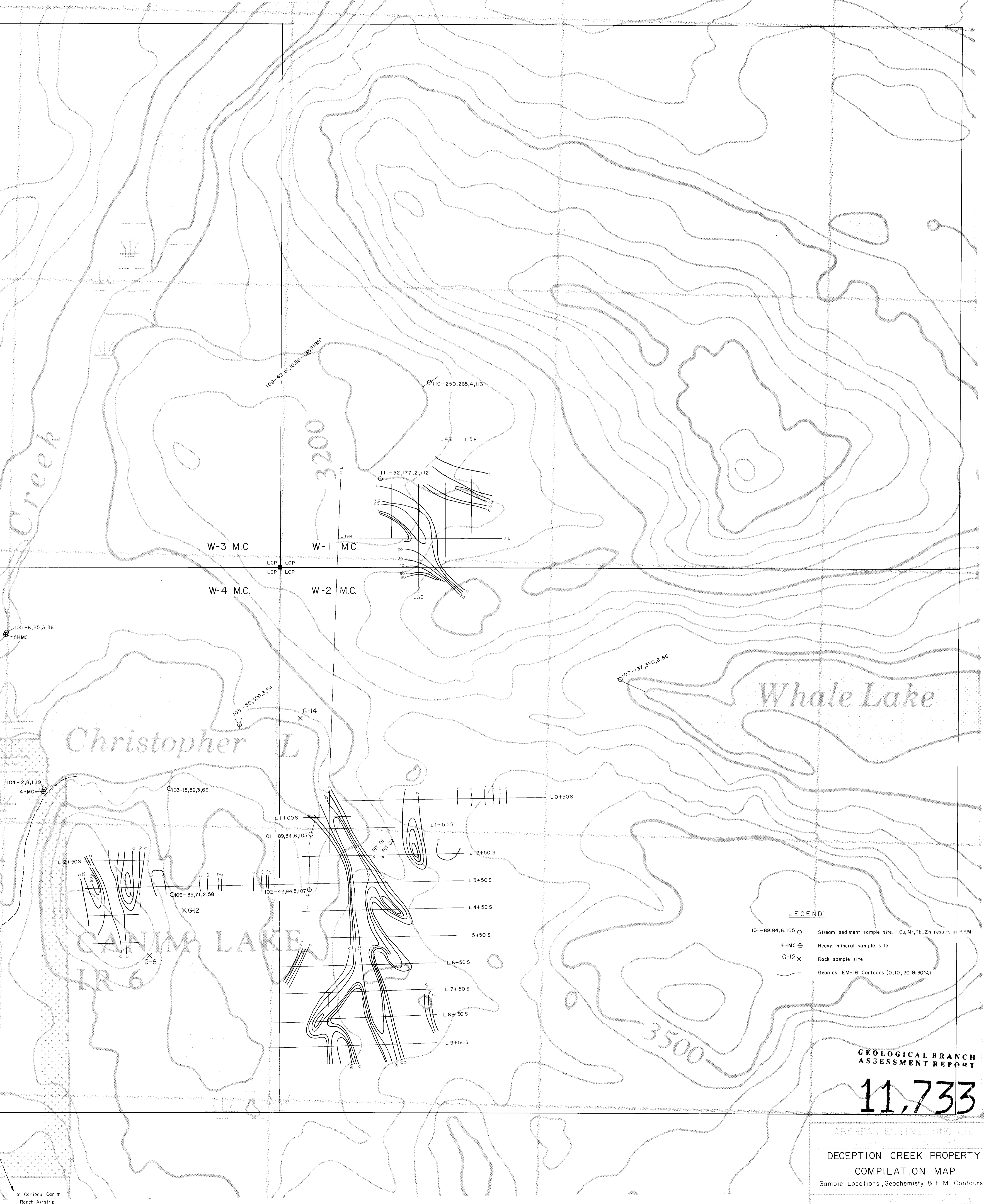
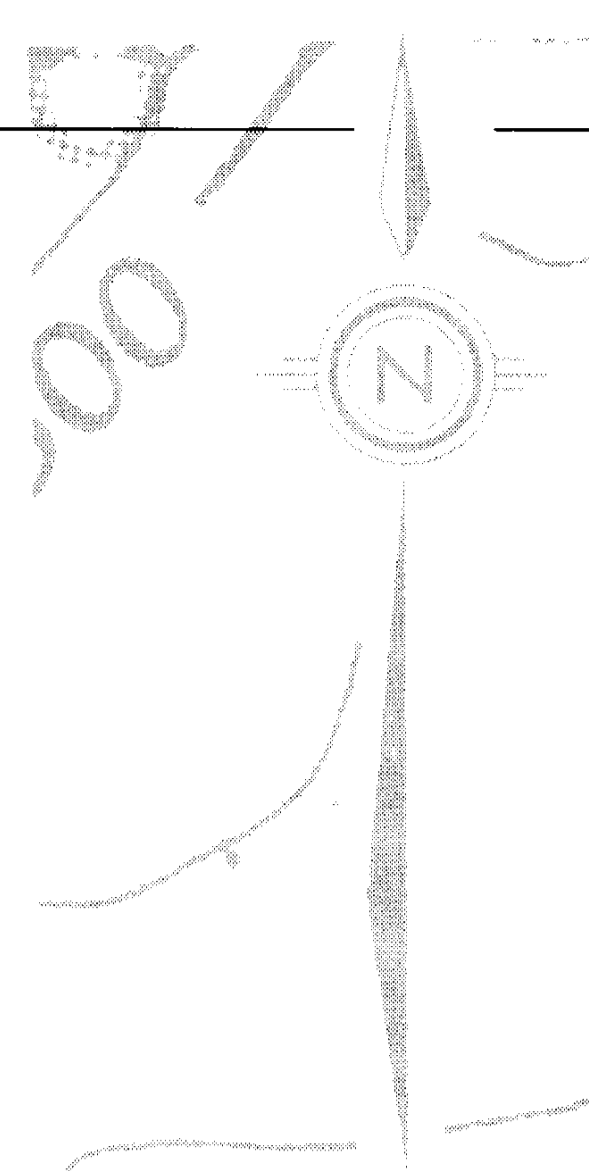
FRASER FILTER CONTOURS

NTS 92-P-15 E

BY: AGT. /r.w.r.

DATE: SEPT., 1983

FIGURE **5**



Whale Lake

Christopher L

GANIM LAKE

IR 6

Dan MackKay

- LEGEND**
- 101-89,84,6,105 Stream sediment sample site - Cu, Ni, Pb, Zn results in P.P.M.
 - ⊕ 4HMC Heavy mineral sample site
 - × G-12 Rock sample site
 - Geonics EM-16 Contours (0,10,20 & 30%)

**GEOLOGICAL BRANCH
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ARCHEAN ENGINEERING LTD
 DECEPTION CREEK PROPERTY
 COMPILATION MAP
 Sample Locations, Geochemistry & E.M. Contours

REVISED SEPT 19, 1983
 Aug., 1982

to Caribou Canim
Ranch Airstrip