

PLACER DEVELOPMENT LIMITED

GEOPHYSICAL ASSESSMENT REPORT

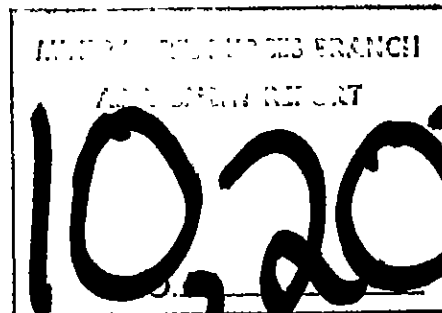
FOR THE

REX, JT AND PAR CLAIMS

REXSPAR PROPERTY

KAMLOOPS MINING DISTRICT

82M 12W



Latitude  $51^{\circ}33'$   
Longitude  $119^{\circ}50'$

March, 1982

J.M. Thornton

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## 1.0 Summary

Placer Development optioned the Rexspar property in late 1981 in order to explore for suspected deep source molybdenum, in view of the fluorite showing and molybdenum geochem response.

Placer Development Limited personnel conducted ground magnetometer and VLF-EM surveys over 34.6 km of cut line primarily over the PAR1, REX2 and JT4 claims for the Rexspar property during the month of October, 1981.

The surveyed area was covered with re-chained lines 180 m apart (600 ft.) with stations at 15 meters. Thirteen lines were surveyed from Foghorn Creek to approximately Lute Creek, a distance of 2.7 km. Long lines were run to obtain data from expected deep sources. VLF data was gathered to obtain structural details, particularly in the drift covered area East of the baseline.

Mag data revealed several N-S dykes, but no suggestion of a magnetic unit at depth. VLF provided a large number of anomalies probably due to lateral variations both within the overburden (clay layers, etc.) as well as in the heavily pyritized schist unit. Both mag and VLF data suggest that the observed structures are vertical with essentially no preferred dips.

The fault mapped along Clay Creek has no direct geophysical expression except at the south end of the surveyed area.

## 2.0 Introduction

### 2.1 Location and Access

The Rexspar property lies approximately 5 km south of the village of Birch Island, itself about 130 km North of Kamloops. The property is in the Kamloops Mining Division and is shown on NTS map sheet 82-M-12/W.

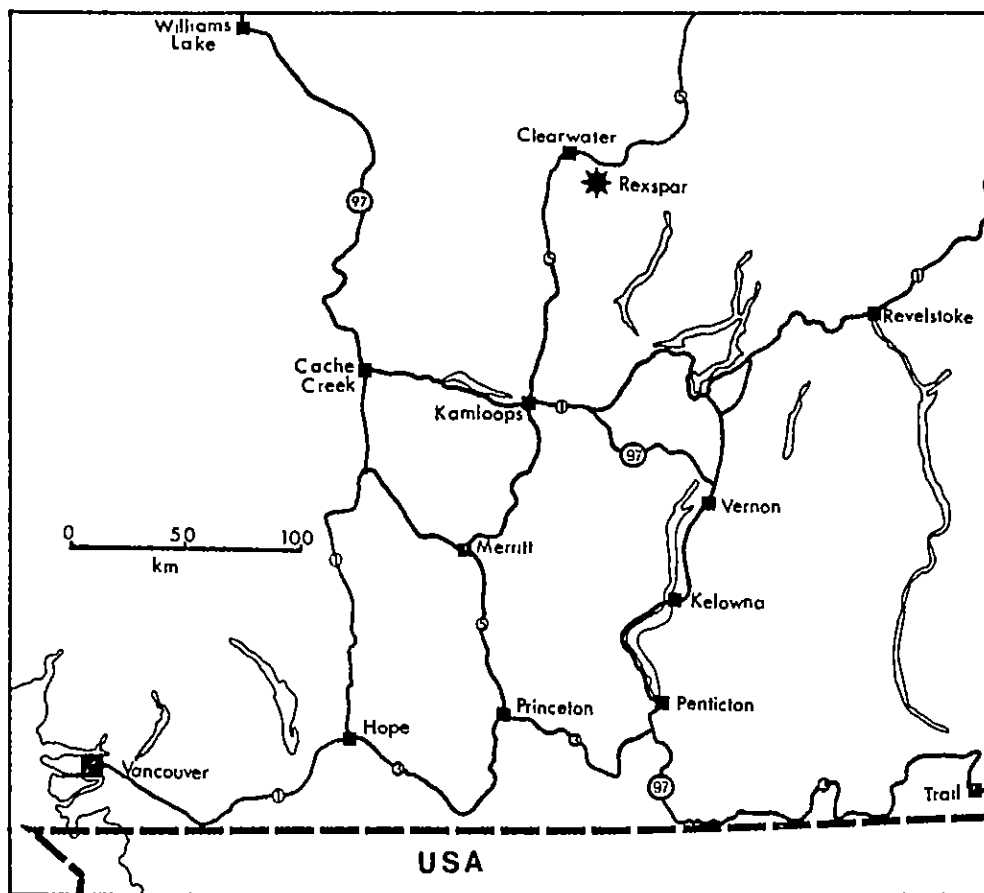


Figure 1. Location map.

(Preto, 1978)



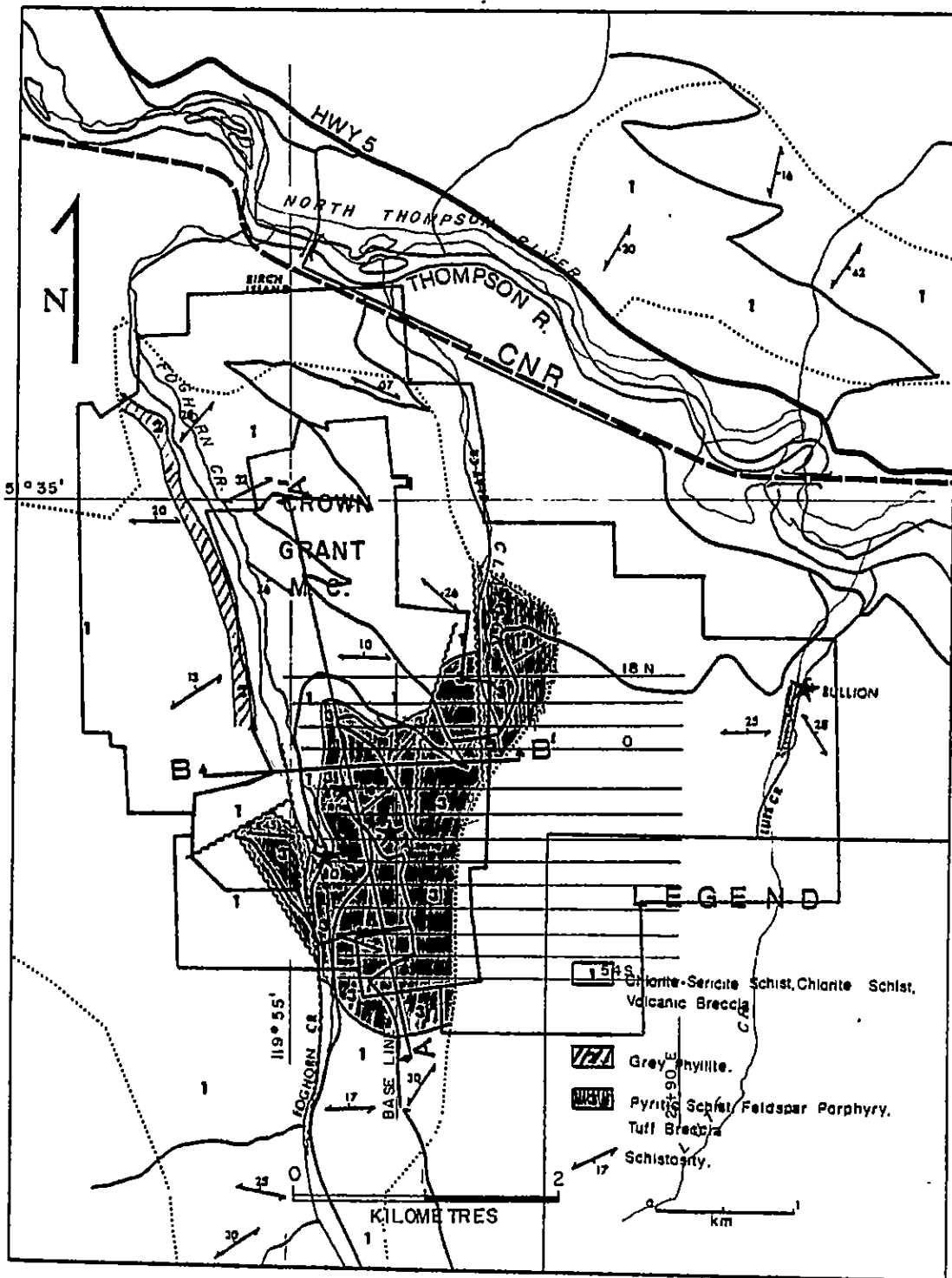


Figure 3. Generalized geology of the Rexspar property.

(Preto, 1978)

Claim Map showing survey area

Figure 2

The road to the property is a continuation of the road to the Birch Island community dump. Although the road is good, 4WD is recommended as the grade is locally very steep. Few places to turn around are available beyond line 12S.

## 2.2 Property History and Ownership

The property has been known since 1918. The fluorite occurrences were worked in the 1940's and the uranium mineralization was discovered in 1949. Underground work and diamond drilling outlined 3 zones of uranium mineralization. Consolidated Rexspar Minerals & Chemicals have proved up  $1.15 \times 10^6$  tons of uranium mineralization averaging 0.77 Kg  $U_3O_8$ /tonne.

Rexspar and Dennison (47% interest) abandoned and restaked the property (excluding the claims scheduled in the uranium moratorium and the crown granted MC).

Placer Development Limited signed an option agreement with Rexspar on October 1, 1981.

### V-188 REXSPAR

<u>Crown Grants</u>	<u># Units</u>	<u>Lot #</u>
Black Diamond 1 & 2	2	5387-5388
Smuggler	1	5389
Spar H2	2	5390-5391
Rex 25-27	3	5392-5394
Jane 2 Fr.	1	5395
Rex 12-20	9	5396-5404
Jane 4 Fr.	1	5405
Rex 30	1	5408
Jane 1 & 3 Fr.	2	5409-5410
Lil 39 Fr.	1	5411
Rex 22-24	3	5477-5479
Jane 7-9 Fr.	3	5480-5482
Jane 16 Fr.	1	5484
Spar	36	5485
Lil 18	1	5486
Gord 8	1	5487
Lil 5 & 7	2	5488&5489
Lil 13 & 20	2	5490 & 5491
Gord 6 Fr.	1	5493
Lil 15 & 24	2	5494 & 5492

V-188 REXSPAR

<u>Claim Name</u>	<u># Units</u>	<u>Record Number</u>	<u>Month</u>
Ella 3 Fr. - 7 Fr.	5	80315-80319	May 26th
Radio 19-26	8	69824-69831	July 15th
JT-1	9	3654	July 14th
JT-4	6	3657	July 14th
JT-5 Fr.	1	3658	July 14th
JT-12-14	3	3665-3667	July 14th
Par 1	9	3671	July 14th
Par 2	20	3622	July 14th
Par 4	6	3673	July 14th
Par 5-13	9	3674-3682	July 14th

CLAIM HELD BY DENISON

Rex 1	4	3313	March 9th
Rex 2	6	3314	March 9th
Rex 3	1	3668	July 14th
Rex 4 Fr.	1	3669	July 14th
Rex 5	1	3670	July 14th

Assessment Reports 1912, 2337, 2421, 2422, 2810, 4032, 4957, 5697, 6064, 6106 have been filed on the property up to December 1980. Only Reports 2337 and 2421 deal with geophysics; induced polarization and ground radiometric surveys respectively.

3.0 Work Performed

Preparatory to conducting a blanket magnetic survey, two road traverses were conducted with a proton magnetometer. These results indicated that a source at depth might not be masked by surface features.

Placer Development then contracted Amex Exploration Services to reopen the existing 14 yr. old cut lines and rechain to the metric standard at 30 meter intervals.



Placer Development personnel conducted ground magnetometer (total field) and VLF-EM surveys using a Scintrex MP-2 proton mag. and a Geonics EM-16 VLF receiver along 13 lines using a 15 meter sampling interval. A base station magnetometer was employed in order to provide reduced magnetic data accurate to  $\pm 10$  gammas.

### 3.1 Data Presentation

Diurnal corrected magnetic data was plotted as stacked profiles at a scale of 1:5000 using a vertical scale of 1 cm = 200 nT (gammas). The data was also filtered using a symmetrical 13 point Gaussian filter (0.190, 0.170, 0.121, .069, .031, .011, .003) in order to remove the random noise preparatory to contouring the data at a 10 gamma interval at the same horizontal scale.

Stacked profiles of the VLF data were plotted using a 1:5000 horizontal scale and a data scale of 1 cm = 10 percent for both in phase and quadrature. VLF "crossovers" were noted on the reference lines. Three lines did not receive VLF coverage as the unit was not available.

### 3.2 Magnetometer Survey Results

Analysis of the magnetic profile data reveals several unexpected features, North-south parallel linears trend across the survey area. The strongest of these structures (Zone A, Figure 4) appears to be caused by a multiple dyke consisting of 2 (sometimes 3) parallel zones separated from 60 to 200 meters. Vertical dykes 5-10 meters wide at a depth of 5 meters would produce anomalies such as these if they contained about 1% more magnetite than the surrounding rock. In this case, they could be lamprophyre dykes or more probably andesitic in nature (Lamprophyre dykes should contain considerably more iron).

Several other weak linear structures are evident, some not as continuous as above. They all appear to have the same depth to source (not well defined since the station spacing is 15 meters). Only the amount of magnetite or the width of the dyke need be changed to effect the observed anomalies. On the east side of the property and again between Zone A and the baseline, structures indicative of thin dykes having about 1/4 to 1/2 percent magnetite are apparent.

The west ends of lines 48S and 54S appear to be in a zone of highly variable magnetite concentrations; suggesting an entirely different geologic environment (Zone B, Figure 4). Both lines are on outcrop from the baseline west to Foghorn Creek. This rock unit does appear to terminate as a fault contact mapped about 450 meters east of the baseline on line 54S. This geologic unit is mainly confined to line 54S but is weakly evident as far north as line 42S.

The north-west sector of the surveyed area is characterized by large deeper sourced magnetic anomalies, the best of these is on line 12N at 15+00E (Zone C, Fig. 4). It is also weakly evident on line 6N. The negative peak on line 18N at 16+00E is probably related to this structure. The anomaly appears to be caused by a 150-200 meter rectangular wide body at a depth of ~40 meters dipping east. It may extend to about 16+00N if the negative lobe is associated with the anomaly. It appears to be thinner toward line 6+00N. The last anomaly on line 12+00N at about 7+00E is probably evident on both 6N and 18N but nothing is characteristic. It may be small lenses or blobs of magnetic material in the feldspar porphyry. During the course of the surveys rather more quartz veining was noticed in this area. A second deeper sourced anomaly is located on line 6S and 12S at about 6+00E. This anomaly may be a shallow weakly magnetized zone within the porphyritic material rather than a deep source.

A larger scale magnetic break trending ENE through the magnetic features at the west end of line 12+00N is evident in the contour map and shown on Figure 4. This feature (a sharp magnetic trough from line 0 at the baseline) is responsible for the "chopped-up" nature of the magnetics in this NW sector of the property.

### 3.3 VLF Survey Results

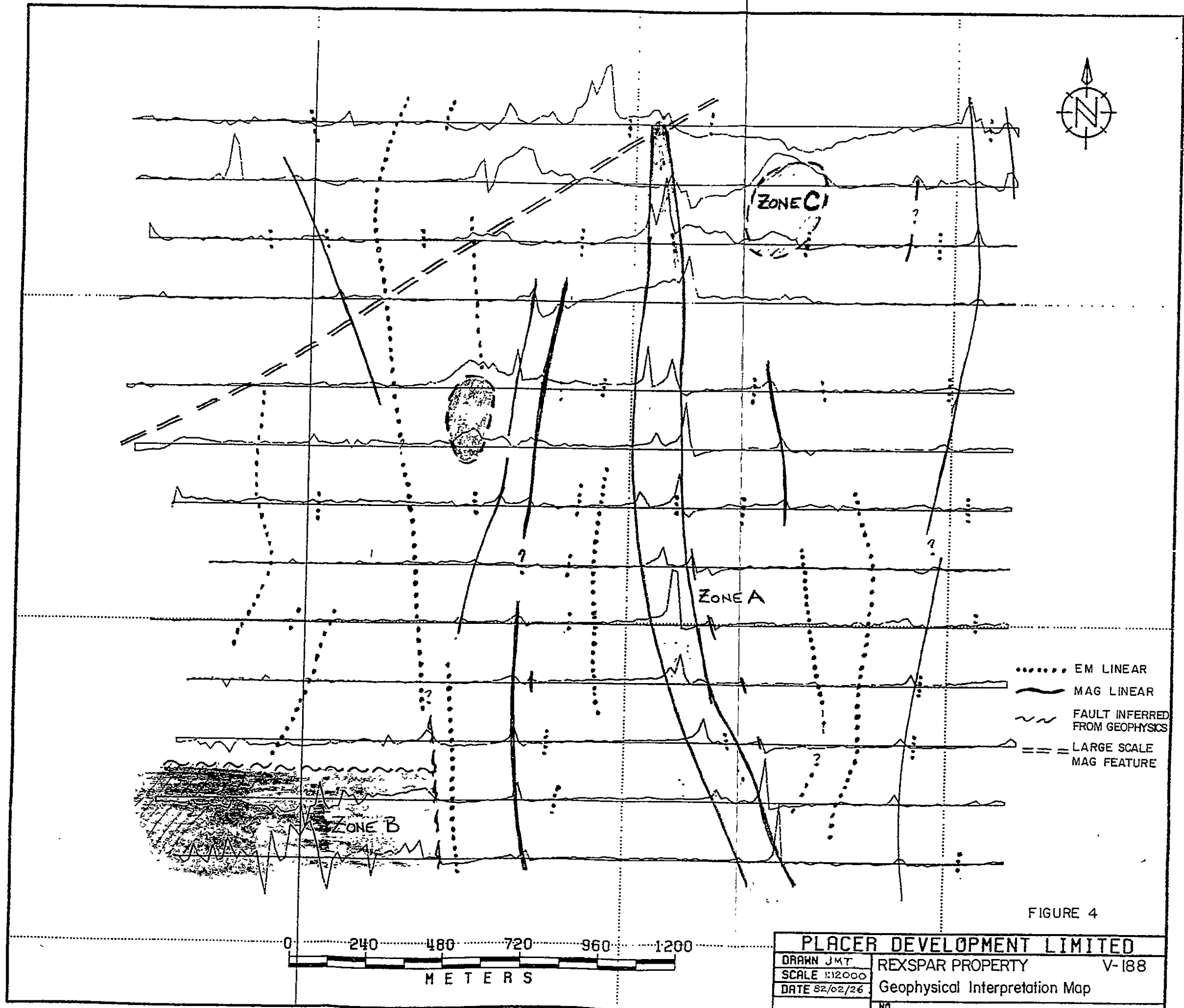
VLF data is very strongly affected by the topographic relief on the property. Many shallow source and several deep source anomalies were encountered. Shallow and deep mean 5-10 meters and 10+ meters depth to source respectively.

Due to the 15 meter sample interval it is not possible to estimate minimum depth to sources less than 8 meters. However, many of the sources appear to be deeper than 10-15 meters.

Interpretation of VLF data is commonly done by investigating the amplitude of the peak to trough and the horizontal distance between the positive and negative peak. The distance to the causative source (that is, the depth to the top of the conductor) is simply the horizontal distance divided by 2.5 to 3 (for a rough approximation). The amplitude of the anomaly is related to the conductance of the zone and the depth. Deep sources cause broad, lower amplitude anomalies compared to the shallow sources. Dip of VLF sources can sometimes be estimated; the smaller lobe of the anomaly is found on the down dip side.

As the data is gathered at 15 meter intervals and a minimum of 2 points are required to define the anomaly, it is impossible to interpret depths shallower than  $15/2.5 = 6$  meters.

Using the above, it can be said that most of the large amplitude anomalies (10% p-amplitudes or greater) have widths of 4-7 stations (60-106 meters) and would be caused by sources at depths 20-40 meters. In addition, some of the large amplitude anomalies appear to be caused by strong conductors that are vertical or dipping steeply to the east.



Most of the weak anomalies (3% to 8% p-p) are caused by very near surface features and/or variations in the overburden thickness, or conductivity. In the vicinity of the baseline, the weak anomalies are masked by topographic relief and strong features, but are recognized as inflection points in the data.

It is particularly difficult to make line to line correlations due to the number of anomalies in the data.

The data was filtered using the 4 point "Fraser" filter and plotted in the hopes that the shapes of the resultant profiles would offer some clue to interpretation. In fact, Figure shows that there are as many "filtered" anomalies as in the raw data.

Magnetic results and EM results are essentially mutually exclusive on the property. Magnetic features in general do not show any EM response except on the east side of the property at 20E. This weak magnetic feature appears to roughly coincide with a weak EM linear. The combination may be due to a dyke along a shear or fracture zone within the schists.

#### 4.0 Conclusions

Magnetic survey results did not indicate a magnetic source at depth but did indicate the presence of a number of weakly magnetized N-S dykes possibly originating in the granodiorite mapped 5 Km south of the surveyed area.

Magnetics was able to confirm the trachyte porphyry-sedimentary contact on the south end of the property at 5+00E on line 54+00S. The results in this area point out that the rocks West of the baseline are significantly different from the rocks 100 meters further north.

The north-east sector of the property hosts several more magnetic rock units within the trachyte porphyry.

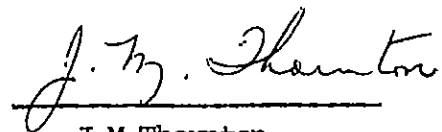
VLF-EM results are essentially unusable due to the number of anomalies. Closer line spacing would probably provide the data required to make line to line correlations.

The results are probably due to heavily pyritized zones in the schist and/or lateral inhomogeneties in the overburden.

#### 5.0 Recommendations

Mag & VLF surveys neither confirm or disprove the existance of a deeply buried intrusive. If one exists, it is probably very weakly magnetized (possibly acidic).

VLF data must be carefully compared to the induced polarization results to see if any further information can be obtained.



J.M. Thornton  
Geophysical Technician

V-188 Birch IslandCost StatementLine Cutting

Approximately 35 km of line cut  
Amex Exploration Services Ltd. Invoice 81-115 \$6,942.75

Labour Cost

J. Thornton (Geophysics)  
(October 6-8th & 19th-26th) Total day - 11 @\$205/day \$2,255.00

C. Rennie (Senior Project Engineer)  
(Sept. 28th-30th, Oct. 1-2nd, 5-9th & 13th)  
10 days @ \$335/day = \$3,335.00

E. Kimura (Senior Geologist)  
(October 19th-26th) 8 days @ \$320.00/day \$2,560.00

G. Chambers (Field Assistant)  
(Oct. 2nd-16th) 84 hrs. @ \$10.00/hr. = \$ 840.00 \$8,990.00

Camp Operation

Well Gray Hotel, meal & accommodation \$50.00/man day  
Total man day = 29 days @ \$50.00/day \$1,450.00

Vehicle Expense

1 4x4 Suburban @ \$50.00/day (gas included) for 11 days 550.00

Equipment Expense

Instrument Rental: Scintrex MP2 2 wks. @\$600/month  
Geonics EM16 2 wks. @\$600/month 600.00

Report Preparation: Drafting, Computer charges, etc. \$1,570.00

\$20,102.00

Statement of Qualifications:

I, J.M. Thornton of 3393 Fairmont Road, North Vancouver, B.C., do hereby certify that:

1. I am a graduate of B.C. Institute of Technology (Electronics Option).
2. I have been employed as a Geophysical Technician since graduation in 1967 by Placer Development Limited, 1055 W. Dunsmuir Street, and have personally carried out the geophysical work and interpretation on the claims referred to in this report.

Respectfully submitted,

  
J.M. Thornton

JMT/cs



APPENDIX A

"GEOLOGY OF THE REXSPAR DEPOSIT"

By V.A. PRETO, MAR. 1978

(Complete but for tables & photographs)



Province of British Columbia  
Ministry of Mines and Petroleum Resources

GEOLOGY OF THE REXSPAR DEPOSIT

By V. A. Preto

INTRODUCTION

The Rexspar deposit is located on Red Ridge, 450 kilometres northeast of Vancouver and 5 kilometres south of the village of Birch Island, on the south slope of the North Thompson Valley, between Lute and Foghorn Creeks (Figure 1).

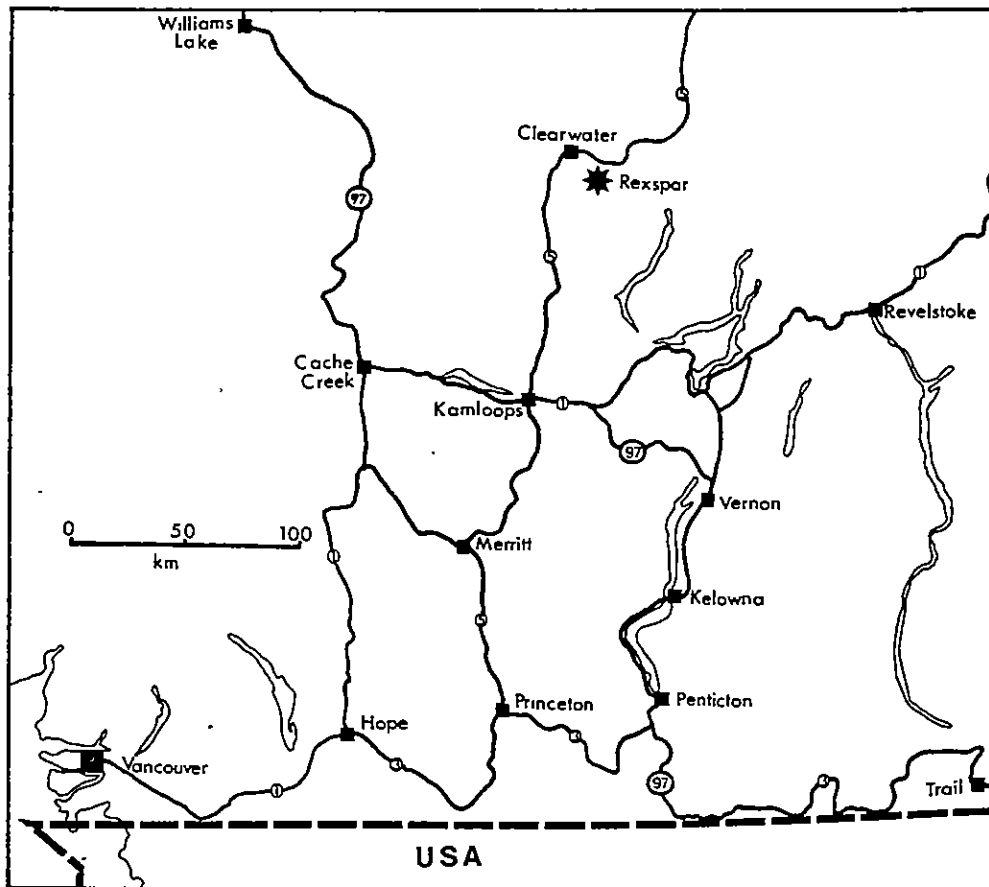


Figure 1. Location map.

LAT 51°33'  
LONG 119°50'  
NTS 82M12W

South of the Thompson River, and especially in the vicinity of the Rexspar deposits, the foliated rocks are mostly of volcanic origin. Green chlorite and chlorite-sericite schist and silver-grey sericite-quartz schist of map unit 1 are the most common rock type and contain several exposures of clearly recognizable dacitic and andesitic volcanic breccia which attest to the volcanic origin of a good part of these rocks (Plate 1). Interlayered metasedimentary members of grey phyllite and slate (unit 2), quartzite, and ribbon chert are distinctly less abundant than schists of metavolcanic origin. Uranium mineralization is found exclusively in orebodies, this rock consists of a rusty weathering, light grey, pyritic alkali feldspar porphyry which may be massive, brecciated (Plate 2A) or strongly schistose (Plate 2B) and lined. In thin section this rock is seen to consist of megacrysts of alkali feldspar and of well-twinning albite plagioclase set in a fine-grained, sugary groundmass of feldspar and sericite. The megacrysts range from nearly euhedral and undeformed to highly

batholith.

All foliated rocks within the area mapped (Figure 2) are part of the Eagle Bay Formation of pre-Late Triassic and probable Mississippian age (Campbell and Okulich, 1976). To the southwest, near Foghorn Mountain, these rocks are in probable fault contact with massive to weakly foliated basalt and pillow basalt of the Fennell Formation of Mississippian or later age. To the south, on Granite Mountain, schists of the Eagle Bay Formation are intruded by massive quartz monzonite and granodiorite of the Cretaceous Baldy

## GEOLOGY

Consolidated Rexspar Minerals & Chemicals Limited and Denison Mines Limited, a major shareholder holding about 47 per cent of the issued shares, are at present finalizing plans for production.

The Rexspar showings have received intermittent attention since 1918. Initially interest was for silver-lead and fluorite and, in the late 1920's, for manganese. Further work on the fluorite occurrences was done in the 1940's, and the presence of uranium mineralization was discovered in 1949. Extensive surface and underground work in the early and mid 1950's, mostly under the direction of F. R. Joubin, outlined three zones of commercial-grade uranium mineralization and one contiguous zone of fluorite mineralization. Geological studies and diamond drilling were resumed in 1969 and continued until 1976. This work has defined three zones of uranium mineralization, known as the A, B, and BD, with combined reserves of 1 114 158 tonnes of ore grading 0.773 kilogram of  $U_3O_8$  per tonne. Engineering studies done on behalf of Consolidated Rexspar Minerals & Chemicals Limited by Kilborn Engineering Ltd. indicate that these reserves are sufficient to support, for a period of four and one-half years, a 1 270-tonne-per-day, five days a week mining operation and a 910-tonne-per-day beneficiation plant that is to operate continuously. Fluorite mineralization, located adjacent to the uranium orebodies, if proven to be economic, could extend the life of the operation by an additional four years.

fractured and sheared. The groundmass varies from weakly fractured and massive to very strongly foliated, sheared, and flattened. Another common variety of unit 3, and particularly near the A zone and south of the BD zone, is a polymictic breccia which contains a predominance of feldspar porphyry fragments as well as fragments of other fine-grained, darker coloured rocks. Clast size in these breccias ranges from less than 1 centimetre to rarely more than 20 centimetres. The monomictic feldspar porphyry breccias, because of their setting, distribution, and appearance, can best be interpreted as intrusion or explosion breccias, whereas the polymictic varieties are considered to be lithic-crystal tuffs and tuff breccias. To the south and northeast of the mineral deposits, map unit 3 consists mostly of a well-foliated, yellowish grey to rusty weathering, pyritic, light-coloured, fine-grained schist which generally is composed of sericite and feldspar, but which occasionally includes some very siliceous members. Small lithic clasts, generally 1 centimetre or less in size, are widespread and common throughout this schist. In summary, therefore, map unit 3 consists of a deformed and metamorphosed pile of lithic tuff and breccia mostly of trachytic composition, but with some rhyolite members, which in the vicinity of the Rexspar deposits include coarser fragmental and probably intrusive phases. It follows therefore that the area of the mineral deposits, and particularly that between the B and BD zones, probably is a volcanic centre or vent from which part or all of map unit 3 was derived.

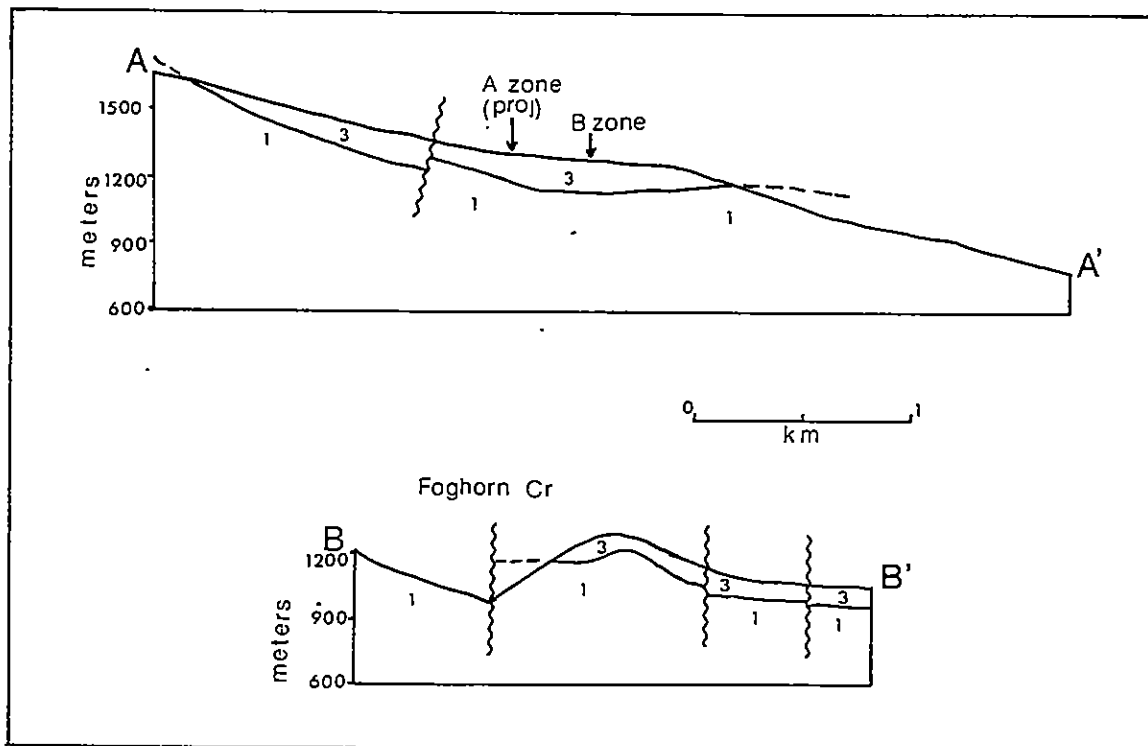


Figure 3. Cross-sections to accompany Figure 2.

(1) The principal uranium-thorium minerals at Rexspar are uraninite, thorian uraninite (Plate 4), torbernite, and metatorbernite, thorianite, and thorite. In addition, some uranium and thorium occur in monazite, and niobian ilmenorutile.

Uranium-thorium mineralization is found exclusively in map unit 3 and, as far as can be determined by surface mapping and from old drill records, occurs mainly in the upper part of the unit. Dark-coloured zones of the 'trachyte unit' which are extensively replaced by silver-grey fluoritopyrite and pyrite are by far the best host to mineralization. Drilling indicates that ore-grade material occurs in a series of discontinuous lenses generally less than 20 metres thick and conformable with the schistosity in the trachyte. Fluoritopyrite-pyrite replacements, commonly with lesser amounts of fluorite and minor calcite, range from a few centimetres to several metres in size, and generally occur as coarse-grained segregations which show both conformable and crosscutting relationships.

Previous work by officers of the Geological Survey of Canada (Lang *et al.*, 1962) and British Columbia Ministry of Mines and Petroleum Resources (McCammon, 1954), as well as further optical, chemical, X-ray, and electron microprobe work during the present investigation has yielded the following results:

## MINERALIZATION

Mesoscopic structures that are well displayed at a few key exposures along Highway 5, and on Mount McCleannan to the north of the area of Figure 2, indicate that the prominent schistosity is parallel to the compositional layering and to the axial planes of small, rootless folds (Plate 3A) that were probably formed during a first phase of deformation. The schistosity is in turn deformed by tight, recumbent, east-trending second phase folds. These structures are refolded by upright third phase structures which trend northerly to northeasterly. Late kinks and prominent tension fractures represent a fourth and last set of structures which trend northerly and are commonly followed by post-tectonic felsic and mafic dykes of Cretaceous or later age. High-angle, northerly trending faults, possibly related to this period of deformation, occur along Foghorn, Clay, and probably Lute Creeks, and sharply control the distribution of rock units and of unit 3 in particular.

## STRUCTURE

North of the Thompson River the predominant rock type is still greenschist of unit 1, but, outside the area of Figure 2, there is a greater abundance of quartzite, siliceous metasedimentary schist, and carbonate. The schistosity on the lower slopes dips moderately to the east and northeast, and on Mount McCleannan dips are gentle to the north.

- (2) Rare earths are found in bastnaesite and monazite (Plate 4).
- (3) Other minerals include pyrite, fluorphlogopite, apatite, fluorite, celestite, galena, sphalerite, chalcocopyrite, molybdenite, scheelite, siderite, dolomite, calcite, barite, quartz, albitic plagioclase, and alkali feldspar.
- (4) Uranium-thorium minerals occur as tiny, discrete grains inside fluorphlogopite flakes and surrounded by single or double pleochroic haloes (Plate 5A) or as discrete grains scattered in the pyrite-fluorphlogopite matrix (Plate 4, Plate 6).
- (5) Radiation damage has caused pleochroic haloes in fluorphlogopite and the purple coloration in fluorite.
- (6) Analyses indicate that thorium-uranium ratios range from nearly 1:1 to much greater than 1:1 (Table 1). Rare earths, and particularly cerium and lanthanum, are present in very substantial amounts (Table 2).
- (7) Oxidation of the ore has been negligible, probably because of the abundance of pyrite.
- (8) Fluorite is commonly found in the zones of uranium-thorium mineralization, but the fluorite zone which could be of commercial grade is separate from ore-grade uranium-thorium mineralization.
- (9) All phases of the 'trachyte unit,' including zones of fluorphlogopite-pyrite replacement and uranium-fluorite mineralization, display evidence of deformation and range from brecciated to markedly schistose and lineated. They appear to have been subjected to most or all of the deformation that affected the rest of the foliated rocks in the area, though their response was not uniform (Plate 7).

It appears therefore that the mineralized zones at Rexspar not only are located close to a part of the 'trachyte unit' which might represent a vent area, but also that, assuming the strata are upright, they are concentrated in the upper part of the unit. The close association with the pyrite-mica replacement and the occurrence of radioactive minerals within mica grains suggest that all these minerals formed at about the same time. The occurrence of fluorite in tension gashes produced by strain-slip cleavage in fluorphlogopite (Plate 5B) probably means that some of the fluorite was remobilized during deformation, since most fluorite seems to have been deformed together with the rest of the rock constituents (Plates 7A and 7B). The setting and aspect of the pyrite-mica zones suggest that these were formed by deuteric, volatile-rich

Campbell, R. B. and Okulitch, A. V. (1976): Valerount to Kamloops, The Omineca Crystalline Belts and the Eastern Edge of the Intermontane Zone, in *Guidebook for Field Trip C-11, Geol. Assoc. Canada*.  
 Joubin, F. R. and James, D. G. (1957): Rexspar Uranium Deposits, in *Structural Geology of Canadian Ore Deposits, CIM, Congress Vol., pp. 85-88.*

## REFERENCES

This Permo-Triassic age for the fluoritogopite and, by inference, for the mineralization, though somewhat young for the presumed Mississippian age of the Eagle Bay rocks, tends to confirm the interpretation that the mineralization at Rexspar is old, probably syngenetic with the host rocks, and not related to the Cretaceous Baldy batholith.

A K/Ar age of  $236 \pm 8$  Ma has been obtained by S. S. Gandhi of the Geological Survey of Canada (personal communication, March 9, 1978) for fluoritogopite from one of the mineralized zones. This must be considered a minimum age and used cautiously because of some analytical problems.

## AGE

fluids during a late stage in the formation of the 'trachyte unit.' It follows, therefore, that the zones of uranium-thorium mineralization, and probably also of fluorite, could be syngenetic with the formation of the 'trachyte unit' and thus be volcanogenic in origin.

Another alternative to this interpretation is that the pyrite-mica rock with the associated uranium-thorium mineralization and the zones of fluorite mineralization were formed during one or more hydrothermal events some time after the formation of the 'trachyte unit' but before deformation. Their spatial association with a probable vent area within the trachyte could be attributed to the pre-existence of suitable channels. If such were the case, one would expect evidence of renewed fracturing and possibly veining of the trachyte by hydrothermal minerals associated with this event. One would also expect that evidence of this hydrothermal replacement and mineralization also be found in the schist below the trachyte. This does not appear to be the case at Rexspar. Uranium mineralization is found only in the trachyte and is always associated with the pyrite-mica rock. The schists below the trachyte, though somewhat pyritic, are barren of uranium and do not have any of the distinctive pyrite-mica rock. Also the mode of occurrence of the pyrite-mica rock as ill-defined masses, very variable in size and commonly chocked with trachyte fragments, can best be explained by assuming that it was formed by late magmatic solutions which permeated the trachyte during or shortly after its formation and not at some later time.

Lang, A. H., Griffith, J. W., and Steacy, H. R. (1962): Rexspar Property *in* Canadian Deposits of Uranium and Thorium, *Geol. Surv., Canada*, Econ. Geol. Series No. 16, pp. 205-207.

McCammon, J. W. (1954): Rexspar Uranium and Metals Mining Co. Limited, *Minister of Mines, B.C.*, Ann. Rept., 1954, pp. 108-111.

Mineral Resources Branch,  
Geological Division,  
Victoria, British Columbia, Canada  
March 1978



APPENDIX B  
GROUND MAGNETOMETER  
AND  
VLF-EM SURVEY DATA

\*\*\*REXSPAR GROUND MAGNETOMETER SURVEY OCTOBER 1981

185 -570. 550. 2190. 550. LINE 18+00 N

8000 8008 8023 8033 8041 7975 7992 7980 8006 8028 8009 8004 7989 8001 8003  
 8002 7987 7968 7961 8015 7945 7977 8012 7980 7966 8048 8007 8001 8015 8004  
 8011 8016 8011 7982 7983 7967 7982 7979 7944 7935 7956 7960 7987 8011 8060  
 8141 7951 7965 7963 7983 7992 7970 7996 8001 7992 8001 8012 7989 8001 7970  
 7987 8019 8012 8005 8003 7991 7949 7919 7915 7898 7915 7946 7992 7958 7914  
 7969 8000 8089 8266 8175 8049 8023 8000 8041 8075 8110 8086 8162 8057 8005  
 8010 8037 8206 8225 8299 8557 8379 8529 8731 8777 8169 8085 8077 8100 8108  
 8087 8111 8116 8188 8194 8082 8163 8019 7952 7920 7898 7867 7855 7859 7880  
 7896 7899 7897 7890 7864 7858 7863 7852 7855 7855 7859 7840 7831 7836 7838  
 7792 7686 7737 7702 7680 7661 7667 7711 7685 7718 7722 7785 7806 7802 7835  
 7858 7845 7870 7896 7898 7904 7910 7939 7924 7959 7991 7994 7945 7968 7987  
 7999 8023 8033 8013 8028 8032 8057 8053 8227 8329 8068 8112 7927 7978 7923  
 7944 8048 8062 7993 7887

184 -555. 365. 2190. 365. LINE 12+00 N

7999 8039 8043 8022 8020 8013 7987 8026 8020 8018 8011 7997 8001 8007 8002  
 7998 8037 8086 8011 8181 8602 8465 8004 8001 8005 7999 8023 8011 8018 8022  
 8029 8050 8047 8063 8038 7994 8016 8035 8011 7988 7968 7956 7953 7964 8007  
 8026 8033 7984 8005 8000 8002 8009 7999 8003 7991 8004 8005 7996 7998 8002  
 7996 8011 8007 8022 8027 8026 8017 8037 8029 8051 8074 8220 8300 7868 7970  
 8216 8295 8330 8358 8409 8472 8446 8436 8238 8129 8135 8172 8135 8107 8126  
 8129 8061 8060 8088 8088 8068 8057 8050 8053 8020 8022 7984 7984 7976 7973  
 7970 7980 7972 7963 8003 7976 8135 8037 7908 7933 7707 7729 7832 7852 7869  
 7873 7870 7861 7913 7946 7942 7980 7999 8087 8155 8249 8348 8412 8425 8401  
 8395 8375 8347 8295 8266 8238 8173 8153 8139 8065 8012 7978 7986 7978 7982  
 7992 8012 8002 8020 8019 8032 8033 8039 8024 8012 8016 8037 8147 8087 7972  
 7983 7989 8085 8038 8048 8051 8073 8090 8031 8048 8075 8029 8014 8008 7952  
 7965 8178 8193 8058

181 -510. 183. 2190. 183. LINE 6+00 N

8191 8075 8013 7972 7967 7992 7999 8003 7987 8003 8007 7971 8010 8012 8022  
 8008 8016 7980 7987 7972 7997 8033 7995 8041 7986 7985 8007 7981 8002 7986  
 8016 7992 8043 8046 8036 8052 8053 8002 8007 8004 8035 7994 7981 7975 7975  
 7990 7997 8005 8014 8005 7999 8007 8003 8010 8007 8006 8000 8016 8018 8021  
 8015 8012 8008 8010 8037 8022 8038 8105 8073 8063 8093 8070 8067 8126 8096  
 8011 8006 7968 7968 7961 7968 7989 8021 7994 7984 8025 7987 7991 8001 8016  
 7997 7987 7981 7983 8008 8037 8050 8069 8073 8063 8089 8103 8151 8207 8511  
 8246 8494 8861 8354 8134 8180 8244 8245 8222 8225 8153 8141 8173 8151 8162  
 8092 8025 8008 8056 8070 8055 8062 8081 8134 8168 8151 8125 8107 8063 8068  
 7948 7947 7928 7946 7953 7963 7987 7983 8001 8010 7997 8000 7981 7985 7969  
 7976 7987 7981 7987 7994 7964 7981 8011 8028 7972 7998 7989 8002 7985 7994  
 7986 7986 7987 8001 8010 8019 8057 8230 8045 7988 7991 7984 8009 8010 8008  
 8002

187 -600. 0. 2190. 0. LINE 0+00

7953 7969 7968 7992 7998 8011 8012 8014 7998 8064 7986 7984 8000 7991 7991  
 7983 7992 7994 7985 7979 7985 7979 7996 7980 8008 7989 7995 7995 7999 7997  
 8001 7991 7982 7997 8007 7995 8000 7993 8002 7996 8002 7992 8026 8014 8021  
 8029 8120 8011 8031 8041 8027 8027 8022 8045 8038 7995 8016 7995 8004 7984  
 7988 7980 7985 7986 7982 7984 7992 7994 7998 8000 7999 7991 8001 8000 8000  
 7985 7987 7983 7996 8005 7992 7988 7986 8048 8054 8047 8164 7861 7788 7815  
 7851 7958 7968 7910 7950 7994 8027 8025 8026 8031 8035 8057 8079 8106 8125  
 8150 8152 8166 8190 8191 8196 8212 8261 8284 8264 8309 8260 8378 8609 8261  
 8073 8067 8075 8091 8085 8053 8066 8073 8078 8065 8082 8059 8055 8049 8049  
 8044 8060 8050 8111 8051 8077 8080 8086 8053 8004 8030 8005 8009 7996 7984  
 7994 7994 7991 8011 7995 7993 7996 8008 8011 8015 8001 8003 8000 7996 8003  
 7998 8006 7995 7991 8008 7998 7999 7990 8003 8010 8022 7996 8029 8072 8062  
 7990 7999 7999 8026 8008 8015 8013

185 -570. -274. 2190. -274. LINE 6+00 S

7975 7951 7998 8023 7989 7965 8002 7995 7995 8001 7995 7989 7996 7990 8008

8005 8008 8016 8001 8011 8002 8014 8022 8025 8021 8016 8017 8018 8030 8032  
8027 8026 8032 8041 8036 8030 8039 8026 8026 8038 8051 8067 8020 8030 8026  
8050 8035 8038 8049 8047 8065 8064 8055 8027 8015 8032 8029 8020 8023 8025  
8034 8042 8037 8071 8064 8080 8104 8147 8200 8253 8303 8359 8344 8299 8342  
8251 8321 8212 8199 8162 8190 8501 8104 8116 8123 8130 8183 8132 8113 8099  
8085 8076 8087 8117 8101 8084 8077 8052 8072 8085 8075 8069 8072 8089 8076  
8089 8099 8150 8571 8054 8074 8121 8177 8411 8140 7971 7940 7984 7992 7998  
8023 8017 8010 8015 8028 8032 8028 8024 8028 8038 8075 8040 8080 8138 8120  
7994 8015 8001 8024 8026 8008 8011 8007 8013 8014 8010 7999 8030 7985 8021  
8011 8016 8009 8023 8025 8005 8014 8004 8002 8033 8004 8034 8013 8049 8020  
8019 8035 8036 8034 8049 8052 8068 8052 8027 8029 8037 8039 8044 8047 8060  
8053 8036 8039 8058 8032

183 -540. -457. 2190. -457. LINE 12+00 S

7906 7901 7916 7922 7930 7926 7943 7973 8029 8063 8087 8076 8082 8078 8063  
8053 8042 8033 8016 8041 8045 8038 8041 8015 8031 8001 8033 8045 8017 8032  
8028 8019 8031 8037 8027 8036 8050 8147 8056 8054 8046 8031 8035 8044 8081  
7982 8082 8035 8015 8078 8076 8071 8054 8052 8042 8039 8038 8029 8036 8034  
8035 8029 8060 8079 8065 8046 8069 8130 8182 8190 8240 8210 8115 8100 8090  
8111 8141 8098 8016 8007 8077 8084 8125 8090 8096 8072 8037 8025 8030 8061  
8027 8041 8038 8050 8024 8033 8032 8031 8024 8033 8039 8040 8050 8040 8055  
8060 8066 8093 8219 8088 8047 8089 8107 8187 8611 8081 7918 7940 7966 7973  
7998 7988 8005 8005 8000 7996 8010 8019 8036 8028 8004 8015 8025 8040 8157  
8048 7991 7975 7990 7993 7937 7997 8002 8009 8007 8010 8004 8022 8004 8022  
8022 8028 8023 8013 8017 8022 8012 8020 8023 8015 8028 8028 8022 8024 8016  
8027 8035 8080 8089 8037 8012 8019 8026 8042 8038 8048 8041 8047 8034 8047  
8051 8052 8039

175 -420. -640. 2190. -640. LINE 18+00 S

7939 8199 8067 8058 8077 8052 8052 8060 8034 8030 8032 8018 8031 8018 8016  
8046 8057 8053 8080 8070 8041 8052 8043 8027 8031 8022 8029 8024 8029 8061  
8032 8028 8049 8055 8025 8029 8047 8046 8040 8072 8056 8049 8054 8057 8052  
8054 8028 8053 8047 8045 8036 8032 8027 8045 8029 8027 8044 8033 8057 7992  
8006 8021 8006 8011 7995 8034 8043 8070 8160 8042 8032 8035 8045 8073 8116  
7995 8012 8046 8026 8017 7972 7997 8006 8016 8013 8008 8015 8025 8025 8025  
8017 8024 8027 8026 8047 8056 8063 8202 8118 8003 8027 8029 8049 8080 8159  
8441 7937 7892 7961 7974 7986 8002 8002 8010 8023 8047 8051 8028 8027 8033  
8038 8064 8048 8047 8053 8056 8093 8131 8005 8020 8028 8037 8062 8049 8033  
8033 8056 8035 7977 8054 8033 8026 8012 8005 8008 8020 8025 8013 8024 8024  
8019 8032 8030 8046 8065 8062 8066 8037 8024 8038 8001 8014 8003 8032 8023  
8021 8035 8032 8018 8024 8029 8024 8026 8049 8041

167 -300. -823. 2190. -823. LINE 24+00 S

8004 8018 8006 8007 8015 8031 8015 8010 8021 8021 8006 8011 8011 8009 8024  
8022 8011 8069 8023 8012 8020 8031 8018 8022 8025 8017 8022 8040 8025 8033  
8026 8060 8031 8029 8028 8036 8034 8033 8029 8037 8039 8064 8046 8045 8037  
8039 8052 8028 8058 8054 8063 8063 8050 8045 8054 8082 8040 8029 8030 8033  
8045 8052 8044 8045 8002 7998 7993 8010 8039 7991 7992 7988 7996 8004 7999  
7998 7997 8002 8002 7996 7999 8005 8011 8007 7999 8021 8022 8007 8028 8018  
8031 8067 8102 8138 8274 8043 8042 8027 8041 8070 8184 7948 7972 8022 7918  
7956 7990 7997 8006 8002 7993 8011 8043 8013 8024 8008 8038 8032 8039 8041  
8022 8023 8041 8030 8027 8027 8028 8009 8010 8030 8034 8033 8040 8019 8017  
8023 8023 8008 8011 8013 8020 8033 8016 8008 8010 8009 8007 7977 7967 7998  
8053 8042 8024 7998 8015 8000 7994 8019 8006 8010 8006 8002 8016 8005 8035  
8024 8032

179 -480. -1005. 2190. -1005. LINE 30+00 S

8026 8003 8000 8003 8005 7991 7997 8004 7996 8009 8010 8002 8008 8003 8010  
7993 8005 8002 8018 8012 8015 8017 8018 8004 8007 8017 8014 8015 8022 8028  
8012 8011 8016 8005 8014 8034 8019 8020 8022 8035 8028 8018 8031 8030 8026  
8034 8019 8026 8039 8034 8030 8029 8039 8029 8026 8028 8036 8031 8019 8025  
8017 8013 8011 8008 8070 8053 8024 8024 8012 8015 8026 8027 8035 8012 8033  
8069 8123 8075 7971 8003 8019 8022 8012 8015 7999 8006 8020 8027 8016 8019  
8022 8021 8022 8022 8030 8018 8039 8052 8043 8040 8042 8073 8074 8071 8102

8101 8121 8190 8717 8696 7962 7951 7963 7990 8014 8029 8112 7947 8000 8015  
8027 8027 8032 8034 8037 8039 8046 8052 8041 8049 8001 8027 8021 8033 8039  
8038 8039 8033 8039 8044 8050 8014 8031 8018 8035 8015 8057 8065 8025 7994  
8045 8031 8065 8070 8092 8075 8108 8125 8033 8017 8043 7998 8003 8017 8015  
8030 8037 8024 8041 8038 8028 8036 8042 8057 8061 8032 8050 8072 8055  
171 -360, -1189, 2190, -1189, LINE 36+00 S  
7986 8011 8008 8022 8009 8023 8016 8018 7906 8012 8021 8024 8021 8015 8005  
8002 8071 8018 8020 8002 8003 8015 8001 7997 8016 8041 7988 8024 8000 8018  
7982 8006 8011 8018 8005 8018 8004 8005 8006 7991 8007 8006 8004 8007 8011  
7995 8000 7999 8017 7999 8005 8003 8001 7994 7998 7993 7995 7996 7987 8008  
8010 8009 8016 8011 8035 8038 8062 8091 8074 8007 7981 8069 8027 8010 8008  
8023 8032 8024 8022 8044 8028 8035 8033 8043 8045 8042 8036 8055 8057 8053  
8060 8055 8054 8063 8066 8065 8079 8067 8081 8118 8224 8145 8390 8112 8014  
8026 8070 8051 7997 8017 8028 8027 8033 8030 8035 8055 7996 8008 8006 8023  
8031 8000 8032 8033 8027 8034 8024 8029 8019 8040 8052 8007 8012 8002 8019  
8021 8013 8013 8034 8015 8012 8016 8026 8019 8023 8032 8024 8038 8033 8059  
8155 8027 8025 8015 8021 8027 8029 8021 8048 8035 8040 8042 8055 8063 8062  
8063 8089 8073 8078 8084 8080  
175 -390, -1372, 2220, -1372, LINE 42+00 S  
7950 7942 7972 7966 7985 7918 7943 7867 7950 7959 7904 7823 7946 8007 7982  
7926 7933 7933 7933 7938 7954 7917 7934 7970 7933 7930 7922 7924 7943 7945  
7946 7943 7976 7950 7984 7990 7967 7989 8016 8027 8018 7989 8008 7936 8078  
7982 7960 7987 8007 8013 8008 8059 8147 8097 8007 7961 7966 7940 7950 7951  
7944 7961 7947 7965 7961 7972 7979 7991 8009 8044 8178 7993 7942 7986 7973  
7986 7972 7985 7993 7996 7991 8006 8005 7997 7996 8022 8020 8006 8013 8021  
8008 8018 8020 8024 8031 8025 8025 8028 8032 8024 8030 8030 8041 8039 8039  
8057 8062 8087 8156 8317 8079 8006 8030 8002 7996 8013 7998 8004 8004 8021  
8027 8067 7889 7927 7958 7959 7970 7949 7963 7981 7982 7959 7966 7962 7962  
7977 7977 7991 8010 7973 7975 7984 7974 7986 7985 7987 7985 7979 7989 8024  
8091 8033 7978 7976 7979 7975 7977 7991 7982 7980 7978 7976 7986 7996 7993  
7990 8005 8007 8004 8004 7999 8028 8046 8103 8049  
177 -450, -1555, 2190, -1555, LINE 48+00 S  
7944 7949 7935 7953 7942 7932 7928 7915 7917 7905 7909 7918 7888 7900 7885  
7863 7999 7971 7944 7928 7899 7909 7905 7887 7825 7908 7835 7829 7844 7854  
7950 7634 7903 7922 8219 7952 7870 7912 7914 8120 8041 8062 7940 7983 8081  
8041 8083 8063 8066 8058 8086 8096 8098 8126 8135 8141 8160 8095 8027 8004  
7993 7976 7977 7967 7976 7980 7978 7985 7995 8003 7997 8010 8009 8025 8043  
8233 8002 7998 7980 7992 8002 8006 8014 8009 8016 8028 8016 8028 8031 8031  
8029 8035 8043 8037 8043 8041 8036 8035 8044 8048 8040 8043 8058 8043 8038  
8034 8036 8036 8038 8037 8031 8040 8040 8049 8057 8073 8166 8054 8070 8029  
7994 8028 8035 8005 8033 8140 8570 7920 7929 7948 7982 7959 7963 7964 7975  
7993 7969 7994 7996 7992 8006 8001 8030 8018 8002 7990 7991 8008 8003 7997  
7994 8003 8037 8128 8013 7987 7981 8000 7993 7987 7993 7995 8018 8004 8006  
8001 8008 8000 8014 8035 8057 8000 8016 8024 8051 8051 8040  
173 -390, -1738, 2190, -1738, LINE 54+00 S  
8021 8004 7917 7953 8162 8024 7962 7921 8151 7953 7977 8243 8103 7972 8089  
8015 8011 8080 7771 7526 8334 8093 7945 7994 8429 8363 8281 8408 8476 8295  
8050 7765 7594 7971 8075 7951 8026 8080 8072 8122 8189 7783 8067 8055 8083  
8110 8068 8105 8205 8084 8139 8244 8002 8029 8023 8016 7931 7937 7948 7944  
7946 7952 7965 7974 7996 8007 7993 8013 8023 8028 8055 8005 8041 8109 7978  
7992 7999 8008 8007 8016 8021 8023 8022 8025 8018 8020 8026 8027 8025 8041  
8039 8036 8024 8021 8023 8026 8027 8023 8027 8026 8023 8035 8025 8030 8026  
8014 8026 8012 8032 8017 8022 8016 8013 8020 8024 8020 8039 8055 8000 7997  
8004 8009 8022 8029 8104 8772 7952 7993 8001 7985 8012 7984 7977 7989 8009  
7994 7996 7971 7975 7996 7997 7991 7990 7994 7995 7981 7981 7988 7997 7999  
8064 8050 7984 7992 7979 7998 7970 7984 7984 7996 7990 7987 7988 7987 7992  
7993 7999 7997 8004 8021 8029 8019 8028

Rexspar										Ground VLF-EM Survey										October 1981	
185 -570.					550. 2190.					550. LINE 18+00 N											
23	22	19	17	13	11	9	6	3	2	3	4	8	5	-1							
0	0	0	1	3	2	2	-1	-2	-1	0	0	0	2	1							
0	1	0	-1	-4	-3	-3	-6	-11	-18	-17	-19	-16	-13	-11							
-9	-8	-6	-3	-1	0	3	2	-5	-9	-13	-15	-16	-11	-8							
-7	-7	-7	-6	-6	-10	-14	-13	-12	-11	-12	-18	-17	-12	-10							
-8	-8	-8	-6	-4	-3	-3	-1	0	0	3	4	5	8	9							
10	9	7	7	6	8	10	10	13	16	12	7	2	0	-3							
-4	-4	-6	-5	-3	-4	-6	-11	-11	-7	-4	1	6	9	8							
4	2	2	1	0	0	0	-1	-5	-9	-7	-8	-5	-3	-3							
-2	-1	0	1	1	3	2	0	0	-3	-4	-5	-8	-7	-9							
-12	-15	-17	-17	-15	-15	-12	-9	-8	-8	-8	-8	-10	-9	-8							
-9	-9	-10	-7	-7	-3	-2	-3	-2	-5	-5	-5	-9	-9	-12							
-15	-16	-14	-10	-6																	
181 -510.					183. 2190.					183. LINE 6+00 N											
52	58	66	82	108	108	60	23	5	4	2	0	-2	-2	0							
-1	-2	-3	-6	-7	-5	-5	-5	-4	-5	-8	-10	-13	-14	-17							
-17	-17	-14	-10	-6	-5	-3	-6	-8	-6	-5	-4	-2	-1	0							
-6	-14	-21	-24	-23	-20	-20	-16	-15	-14	-17	-19	-18	-15	-11							
-9	-3	4	8	9	8	1	-1	-3	-3	-4	-5	-5	-6	-2							
-3	-2	1	-1	-2	0	7	2	0	5	4	9	12	9	-8							
-17	-17	-14	-10	-5	-4	-2	-2	0	2	4	5	6	9	6							
5	3	1	-4	-6	-5	-2	-1	1	0	1	1	0	0	1							
-1	-5	-6	-5	-5	-8	-7	-8	-10	-12	-11	-12	-6	-5	-6							
-9	-13	-13	-10	-11	-9	-12	-13	-14	-15	-16	-18	-19	-19	-17							
-18	-16	-14	-12	-8	-4	-2	-3	-7	-7	-10	-11	-13	-17	-23							
-24	-25	-21	-19	-16	-12	-10	-8	-6	-6	-5	-2	-1	-2	0							
-1																					
185 -570.					-274. 2190.					-274. LINE 6+00 S											
38	36	50	49	65	68	78	76	69	62	48	51	54	54	46							
44	43	42	39	34	24	20	21	21	20	16	10	4	0	-4							
-8	-12	-12	-14	-14	-15	-13	-13	-10	-8	-8	-8	-8	-8	-7							
-6	-4	-1	4	6	5	3	-3	-11	-15	-20	-22	-19	-19	-20							
-15	-13	-9	3	0	1	3	3	4	9	8	3	-6	-12	-14							
-12	-11	-10	-7	-9	-7	-1	2	6	10	17	15	12	12	8							
2	0	9	12	6	3	0	-3	-4	-8	-7	-9	-12	-14	-13							
-13	-10	-7	-5	-3	-1	0	-1	-2	-3	-5	-4	-5	-4	-5							
-9	-8	-8	-6	-6	-7	-8	-8	-10	-11	-13	-13	-16	-18	-23							
-20	-16	-16	-14	-12	-11	-10	-9	-6	-6	-9	-12	-14	-13	-13							
-12	-11	-10	-7	-6	-4	-3	-2	1	2	3	4	-7	-5	-5							
-7	-9	-9	-10	-13	-17	-19	-15	-13	-10	-8	-8	-9	-9	-11							
-13	-13	-12	-13	-13																	
175 -420.					-640. 2190.					-640. LINE 18+00 S											
64	52	46	44	40	39	37	38	42	47	60	54	52	51	41							
31	28	25	20	15	11	9	6	4	2	1	1	2	1	0							
-4	-10	-12	-18	-21	-18	-8	-3	-1	4	9	8	6	5	7							
4	0	-8	-13	-16	-18	-19	-13	-12	-11	-8	-6	-1	0	-3							
-6	-7	-8	-8	-10	-10	-9	-8	-7	-6	-2	1	3	3	3							
4	2	2	-1	1	1	1	3	7	0	-2	0	-2	-3	-5							
-7	-7	-9	-8	-7	-10	-10	-10	-8	-9	-8	-9	-8	-13	-14							
-17	-19	-18	-15	-12	-11	-8	-6	-4	-2	-3	-3	-4	-7	-12							
-15	-15	-15	-15	-13	-11	-10	-12	-13	-12	-11	-14	-13	-15	-10							
-8	-6	-10	-8	-9	-13	-18	-20	-17	-17	-15	-15	-15	-16	-13							
-13	-13	-15	-16	-17	-19	-19	-20	-20	-20	-14	-12	-10	-14	-15							
-16	-15	-16	-18	-11	-7	-4	-1	-5	-4												
167 -300.					-823. 2190.					-823. LINE 24+00 S											
28	34	33	29	32	31	30	29	27	24	25	24	17	17	18							
18	11	5	3	3	2	-3	-1	2	6	8	9	8	8	10							
10	11	11	10	6	6	6	8	11	15	15	0	-7	-9	-9							
-10	-8	-7	-6	-6	-8	-10	-9	-10	10	11	-11	-9	-9	-7							

-4	-1	0	0	-1	-2	-4	-3	-5	-6	-4	-6	-2	3	-1
-2	-1	-3	-4	-7	-7	-8	-10	-9	-9	-7	-7	-7	-7	-4
-6	-6	-10	-13	-12	-13	-13	-13	-12	-11	-11	-10	-12	-13	-12
-12	-11	-12	-11	-14	-13	-14	-13	-13	-11	-9	-9	-10	-9	-12
-20	-23	-27	-29	-27	-27	-16	-16	-12	-10	-5	-6	-8	-10	-13
-15	-16	-18	-19	-19	-17	-18	-19	-20	-20	-25	-24	-28	-24	-21
-16	-15	-15	-14	-12	-10	-9	-7	-7	-7	-7	-6	-5	-7	-6
-9	-12													

179 -480, -1005, 2190, -1005, LINE 30+00 S

28	30	31	31	30	32	34	34	35	36	37	39	38	36	30
35	34	32	31	30	33	36	37	37	38	38	43	48	38	28
24	23	28	36	34	28	15	12	9	5	4	5	7	5	4
2	-2	-7	-8	-6	-6	-4	-3	-1	-3	-10	-11	-11	-12	-11
-13	-14	-15	-14	-14	-14	-13	-13	-11	-11	-9	-10	-7	-6	-4
-3	-1	0	2	2	-1	-2	-3	-4	-2	2	0	-1	-1	-1
-4	-8	-11	-9	-8	-9	-9	-8	-9	-7	-5	-5	-7	-9	-9
-8	-10	-11	-13	-11	-15	-15	-15	-13	-12	-12	-13	-11	-11	-14
-13	-14	-15	-14	-15	-15	-16	-16	-17	-20	-15	-10	-8	-11	-12
-14	-13	-16	-15	-15	-17	-19	-15	-14	-12	-13	-15	-16	-19	-20
-19	-19	-18	-20	-19	-16	-13	-10	-10	-9	-8	-7	-7	-6	-5
-5	-6	-6	-9	-12	-16	-15	-13	-13	-13	-13	-13	-13	-12	

171 -360, -1189, 2190, -1189, LINE 36+00 S

44	48	49	51	56	55	57	55	53	53	43	34	29	25	24
25	25	26	32	36	32	28	25	24	21	18	14	12	10	6
8	8	4	0	-4	-5	-5	-9	-9	-9	-10	-12	-12	-9	-7
-6	-4	-10	-16	-14	-11	-10	-11	-12	-17	-17	-15	-12	-10	-7
-6	-6	-5	-4	-1	2	3	0	-5	-10	-11	-11	-8	-7	-5
-1	-1	0	0	-1	-2	-6	-10	-13	-15	-16	-15	-14	-15	-15
-17	-16	-16	-15	-13	-13	-13	-15	-12	-11	-11	-11	-10	-10	-9
-9	-10	-11	-11	-10	-10	-11	-12	-14	-15	-16	-16	-16	-18	-15
-13	-13	-8	-6	-5	-5	-5	-4	-5	-11	-14	-18	-15	-12	-12
-12	-13	-18	-17	-14	-13	-16	-15	-14	-13	-11	-9	-9	-5	-6
-16	-16	-13	-10	-9	-10	-10	-12	-10	-11	-11	-10	-11	-12	-13
-12	-13	-13	-12	-13	-11	-								

175 -390, -1372, 2220, -1372, LINE 42+00 S

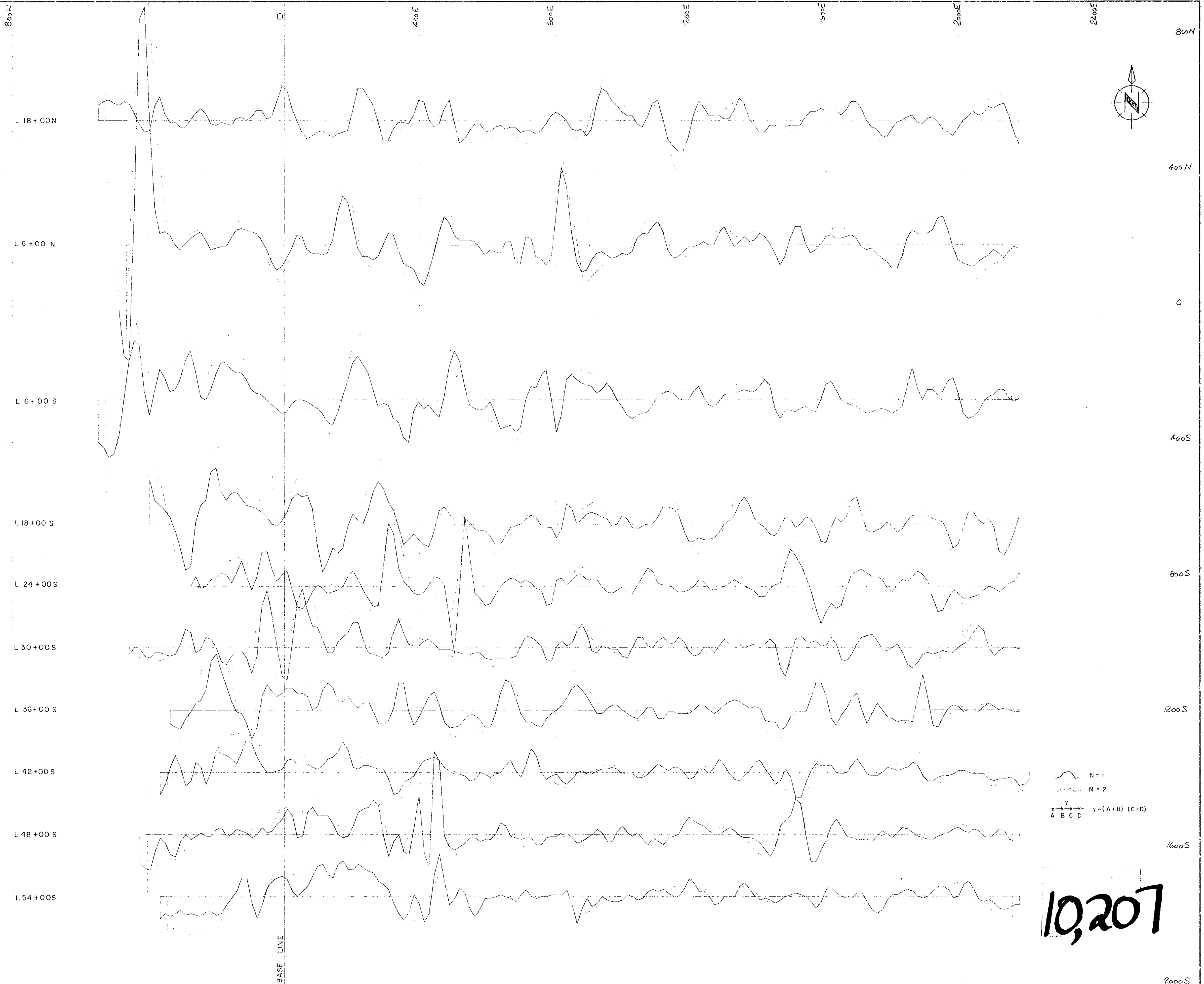
39	46	47	51	49	46	44	48	50	47	45	49	50	43	43
39	37	37	34	28	23	22	20	21	21	20	21	18	16	15
14	12	12	11	11	8	6	4	-2	-6	-5	-6	-7	-8	-9
-9	-10	-10	-5	-2	-1	0	1	0	-2	-4	-6	-9	-8	-10
-8	-9	-8	-7	-5	-6	-6	-4	-5	-4	-5	-8	-8	-6	-7
-12	-15	-14	-13	-12	-13	-11	-9	-8	-8	-9	-8	-8	-8	-9
-9	-10	-11	-10	-10	-10	-9	-8	-8	-8	-10	-11	-10	-12	-12
-13	-11	-10	-11	-12	-11	-11	-15	-15	-15	-14	-12	-12	-12	-13
-17	-15	-17	-13	-12	-13	-14	-8	-4	-3	-3	-5	-6	-6	-9
-7	-8	-7	-8	-11	-12	-11	-11	-10	-10	-11	-12	-11	-13	-12
-15	-16	-15	-14	-12	-12	-11	-11	-10	-11	-11	-11	-11	-10	-11
-9	-8	-7	-6	-5	-5	-2	0	0	2					

177 -450, -1555, 2190, -1555, LINE 48+00 S

9	14	18	22	30	31	31	32	35	40	40	39	41	41	40
41	41	41	38	40	40	38	39	37	39	39	37	37	38	34
35	28	26	26	30	23	20	17	15	11	10	10	11	11	11
6	3	-1	-6	-12	-12	-5	-6	-7	-4	1	0	-7	-15	19
-22	-23	-23	-21	-18	-17	-15	-15	-15	-13	-13	-12	-11	-14	-16
-14	-15	-13	-13	-13	-11	-9	-9	-9	-8	-9	-9	-9	-7	-6
-6	-5	-7	-7	-6	-4	-5	-7	-7	-6	-7	-7	-3	-5	-3
-1	-1	-1	0	-2	-5	-7	-8	-10	-10	-10	-10	-10	-12	-12
-12	-11	-11	-10	-9	-7	-3	0	-3	-5	-6	-13	-19	-18	-13
-8	-7	-5	-7	-10	-11	-10	-10	-9	-8	-8	-6	-6	-7	-7
-6	-6	-8	-8	-9	-8	-8	-7	-6	-6	-6	-6	-7	-8	-9
-8	-10	-10	-10	-9	-9	-10	-11	-10	-8	-9	-5			

173 -390. -1738. 2190. -1738. LINE 54+00 S

13	17	21	22	26	29	29	34	35	38	42	43	46	48	52
52	53	52	50	44	47	51	53	50	49	45	43	39	39	40
38	38	34	30	24	21	20	14	8	5	1	-4	-9	-11	-17
-17	-20	-21	-20	-17	-14	-9	-13	-11	-7	-2	-6	-16	-17	-14
-14	-16	-17	-15	-11	-9	-10	-9	-9	-10	-9	-10	-8	-8	-11
-9	-10	-9	-10	-9	-11	-9	-12	-12	-4	-4	-5	-2	-1	-2
-1	0	0	2	0	1	1	2	1	-1	0	-3	-2	-3	-2
-3	-6	-9	-8	-10	-10	-8	-7	-7	-8	-6	-9	-11	-12	-12
-11	-11	-11	-9	-9	-9	-9	-10	-10	-10	-10	-7	-6	-8	-9
-10	-9	-10	-8	-10	-10	-10	-7	-5	-2	-2	-3	-2	-4	-4
-6	-5	-5	-5	-5	-8	-8	-11	-9	-9	-11	-14	-15	-14	-13
-13	-12	-10	-8	-6	-5	-4	-2							



~~~~~ N=1  
 ~~~~~ N=2  
 $\frac{y}{A B C D} = (A+B)-(C+D)$

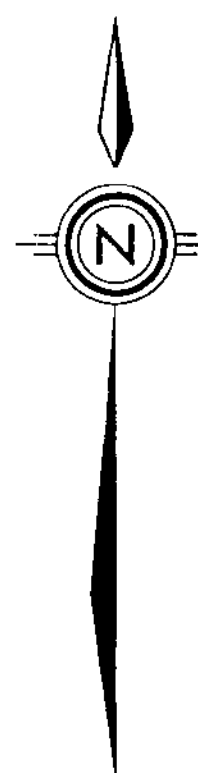
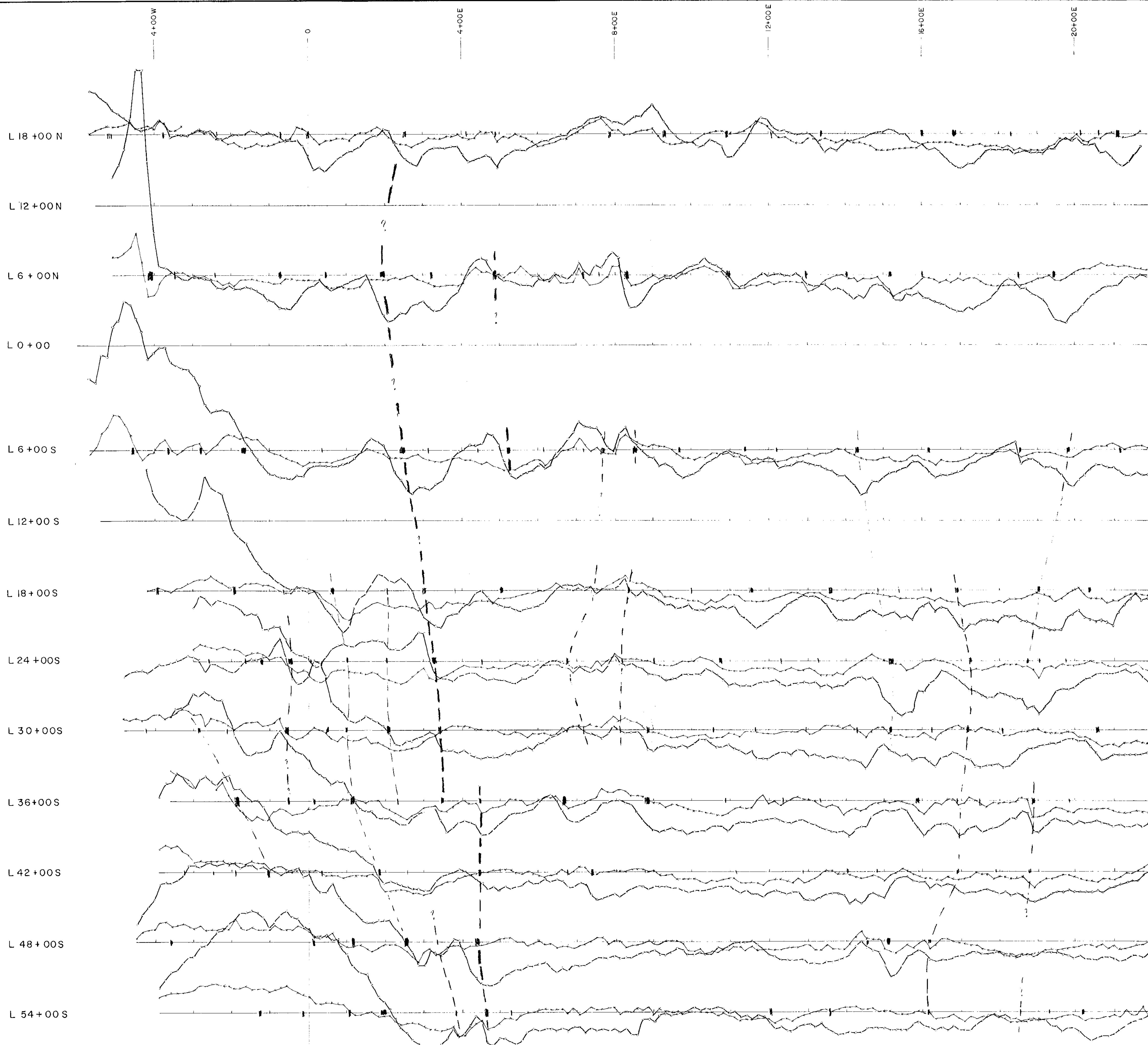
**10,207**



|                            |                            |       |
|----------------------------|----------------------------|-------|
| PLACER DEVELOPMENT LIMITED |                            |       |
| DRAWN J.M.T.               | REXSPAR                    | V-188 |
| SCALE 1:5000               | FRASER FILTERED EM RESULTS |       |
| DATE MAR 1982              | NO.                        |       |

FIGURE 8





+20%  
0%  
-10%

TILT ANGLES  
(% SLOPE)

— IN PHASE  
\* \* \* QUADRATURE

Direction to Station  
18.6 kHz

Direction of Reading

INSTRUMENT: GEONICS EM-16

loc. of source

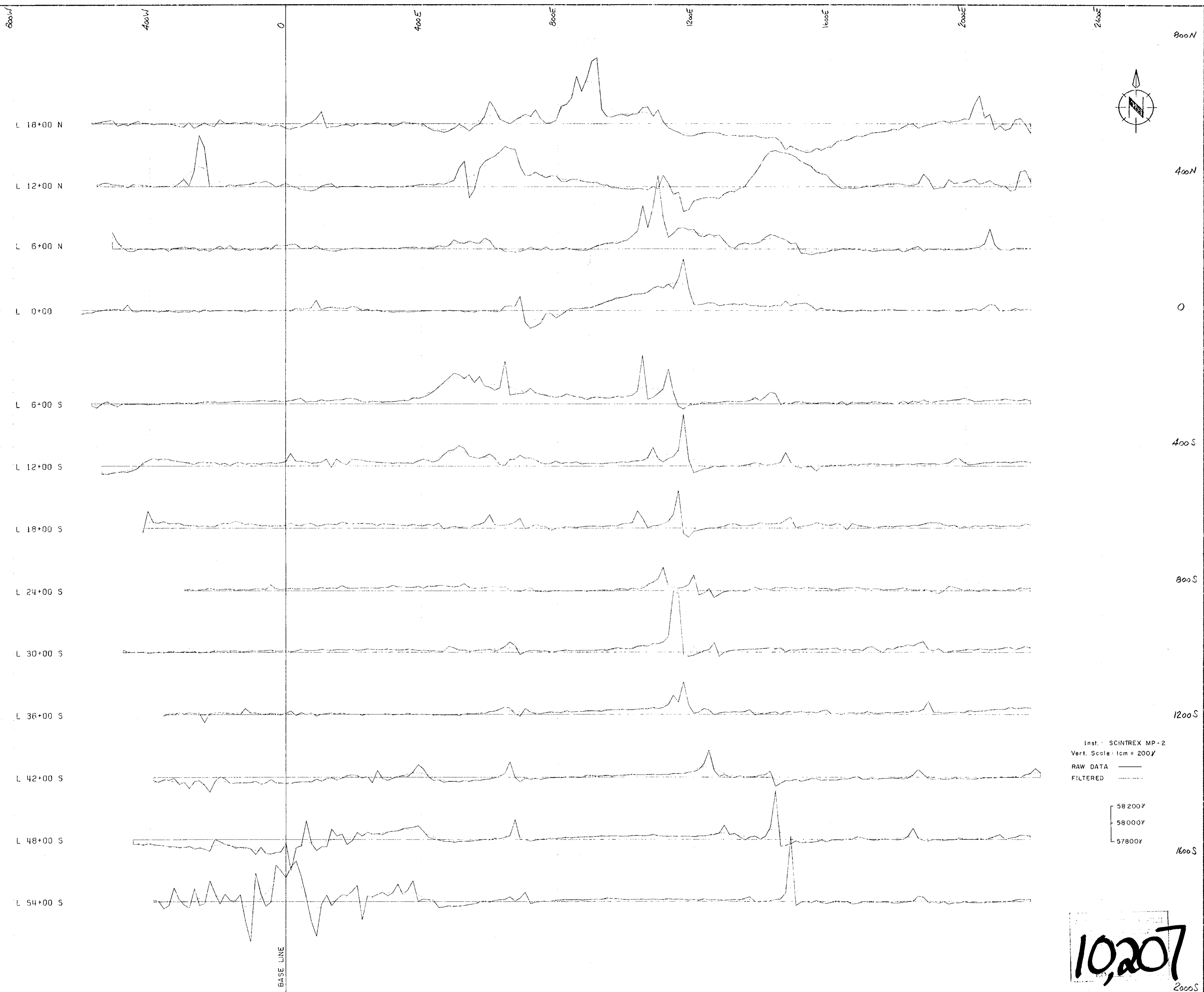
FLOTTING CONVENTION

**10,201**

FIGURE 6

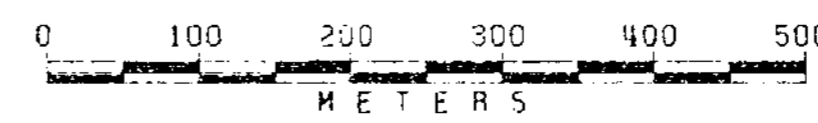


|                            |                 |
|----------------------------|-----------------|
| PLACER DEVELOPMENT LIMITED |                 |
| DRAWN: J.M.T.              | REXSPAR V-188   |
| DRAFTED: J.S.              | VLF-EM PROFILES |
| DATE: FEB, 1982.           | NO.             |



10,207

FIGURE 5



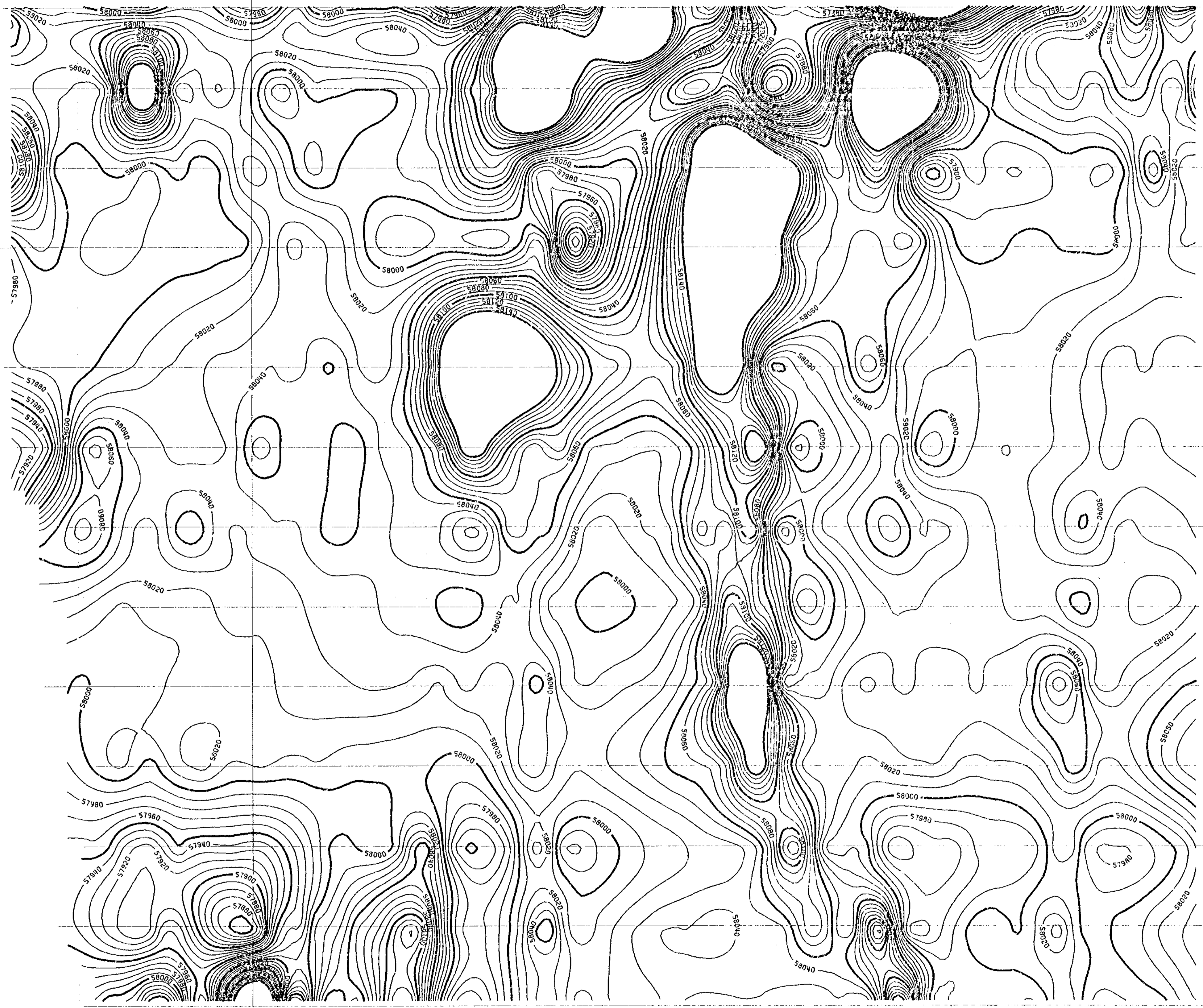
|                            |                              |       |
|----------------------------|------------------------------|-------|
| PLACER DEVELOPMENT LIMITED |                              |       |
| DRAWN J.M.T.               | REXSPAR                      | V-188 |
| SCALE 1:5000               | GROUND MAGNETOMETER PROFILES |       |
| DATE MAR 1982              | NO.                          |       |

800W 400W 0 400E 800E 1200E 1600E 2000E 2400E



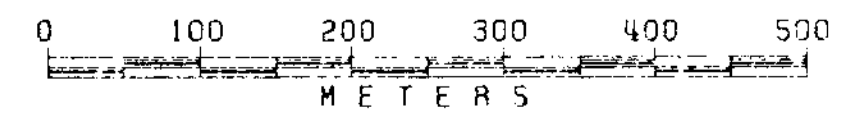
L 18+00 N  
L 12+00 N  
L 6+00 N  
L 0+00  
L 6+00 S  
L 12+00 S  
L 18+00 S  
L 24+00 S  
L 30+00 S  
L 36+00 S  
L 42+00 S  
L 48+00 S  
L 54+00 S

400 N  
0  
400 S  
800 S  
1200 S  
1600 S  
2000 S



BASE LINE  
SYMMETRIC FILTER APPLIED TO DATA ALONG LINES  
FILTER COEFFICIENTS (13 POINTS)  
(0.003, 0.11, .031, .069, .121, .17, 19, .17, .121, etc.)  
CONTOUR INTERVAL 10 γ  
CONTOURS ABOVE 58100 γ OMITTED  
-SMOOTHED DATA FROM PROFILE MAP  
-SMOOTHING FILTER APPLIED ALONG LINES

10,207



|                            |                                 |       |
|----------------------------|---------------------------------|-------|
| FIGURE 7                   |                                 |       |
| PLACER DEVELOPMENT LIMITED |                                 |       |
| DRAWN J.M.T.               | REXSPAR                         | V-188 |
| SCALE 1:5000               | GROUND MAGNETOMETER CONTOUR MAP |       |
| DATE MAR. 1982             | No.                             |       |