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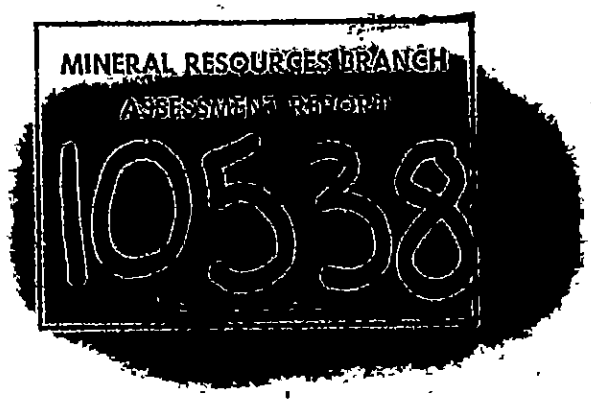
GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL

ASSESSMENT REPORT
QUADRA ISLAND PROPERTY (QUAD CLAIMS)
NANAIMO MINING DIVISION
NTS 92 K/3
Lat: 50°10' Long: 125°15'

OWNER: GREENWICH RESOURCES INC.

OPERATOR: GREENWICH RESOURCES, INC.

CONSULTANT CONTRACTOR: ROBERTSON RESEARCH CANADA LIMITED



BY

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1. SUMMARY

The Quadra Island property, a copper-silver-gold prospect, is located on Quadra Island about 15 kilometres north of the community of Campbell River. The area has had a previous history of small scale gold and copper recovery and mining during the late 1800's and early 1900's. Several attempts were made to explore the property during the 1960's and 1970's.

The regional geological setting is simple. The Quatsino Limestone and Karmutsen Volcanics are in contact with the Coast Range Intrusive and provide a classical environment for skarn type sulphide mineralization. Faults, fault systems and shearing have provided locii for vein-controlled mineralization, primarily gold-bearing.

During 1981 a program including prospecting, linecutting, geological mapping, soil sampling, stream sediment sampling, trench sampling, a VLF electromagnetic survey and a magnetic survey was carried out in selected areas. Encouraging geochemical and geophysical anomalies have been documented in several areas but additional detailed activities are necessary prior to diamond drilling.

It is concluded that the geological environment offers good potential for small structurally-controlled, high grade Cu and Au-bearing skarn or vein-type deposits. A phased exploration program is warranted.

The estimated 1982 expenditure is $232,000. Of this, approximately one-half is attributed to additional detailed and follow-up surface activities and one-half to diamond drilling. Drilling is contingent upon successful definition and resolution of geochemical and geophysical anomalies.

2. INTRODUCTION

2.1 Location and Access

The property is located on Quadra Island 15 kilometres due north of Campbell River, B.C. near the centre of the island. Access to the property is by good paved and gravel roads from Quathiaski Cove on the west coast of the island. Regular ferry services to the Cove are provided by B.C. Ferries from Campbell River on Vancouver Island (Figure 1).

2.2 Geomorphology

The Upper Triassic Quatsino Limestone occupies a low basin (<100 m) through the centre of the property with the Tertiary Basalt flows rising to 600 m above sea level to the west and the intrusives forming rounded hills on the eastern margin of the property.

The limestone belt is typically hummocky and a few surface karst features were noted.

The area is densely treed and most of the outcrop are moss-covered.

2.3 History and Previous Work

Gold mineralization occurring along a northwesterly trending limestone belt on Quadra Island was initially explored prior to the turn of the century. Numerous Crown granted mineral claims were acquired; many of which remain in good standing. On the Lucky Jim prospect, situated near the south end of Stromberg Lake and just north of the Quad-Gold property, a

shaft was sunk, two adits were driven, and some gold was shipped.

Little subsequent work was apparently done in the district until 1962. During the period 1962 to 1970 several prospects received geological, geochemical, and geophysical surveys, but presumably with little success.

In 1971, Prince Stewart Mines Ltd. acquired the Contact Group of claims, which covered the area that now is the Quad-Gold property. Prince Stewart Mines implemented various geological, geochemical, and geophysical surveys during the period 1971 to 1974. The preliminary work was followed by diamond drilling on at least two vein zones. The extent of drilling done on the property during this period is relatively unknown.

Previous work in the area is summarized in Table 1.

2.4 Property

The property comprises four mineral claims (total 62 units) staked under the modified grid system. Within the property boundaries are two claims staked under the two-post system.

Names, record numbers and assessment requirements of the lands may be found in Appendix 1.

TABLE 1

PREVIOUS WORK

Year of Work	Claim Name(s)	Operator/Author	Work	B.C. Assessment Report
1913	Quadra Island Lime Belt	G.S.C.; D.D. Cairnes	Excellent economic geology report	
1914-1961	L A C K	O F	D A T A	
1962	Allen	Menzies Bay Min. Syn.; Nicholls, E.B.	Ground EM	491
1963	Rub, Copper Road	Bennett, R.I., Schwartz, S.D.	Ground Mag.	478
1966	Nab, Big, H, Al	Big Lake Mines; Price, F.L.C.	Soil	852
1969	Chal, Norm, Allen, BB	Calmac Mines; Mitchell, J.A. and Mark, D.G.	Soil, Rock	2004
	Tanner	Summit Ex & Holding; Kerwin, G.L.	S.P.	2275
1970	Lucky Jim	Western Mines; Morris, J.R.	Linecutting	2362
1971	Quad	Prince Stewart Mines; Germundson, R.K.	Soil	3100
	Snoopy	Prince Stewart Mines; Sheppard, E.P.	Soil	3167
	PL	Datum Ex	Topo	3488
	Bob, S, K, G	Weston, S. and Singhai, G.C.	Geol., Prospecting, Soil, Rock	3522
1973	FS	Four Seasons Manufac.; Armstrong, C.M.	Ground Mag.	4179
	FS	Four Seasons Manufac.; Armstrong, C.M.	Soil, Ground EM	4823
	Bit, Beaverdam, Colleen	Prince Stewart Mines; Sheppard, E.P.	DDH	5076
1975	Jawbreaker, Gold	Great Bear Min.; Strasser, A.	Geol.	5680

2.5 Recent Work

A summary of work done is as follows:

Geochemical Survey

The following samples were collected and analysed:

1062 soils
75 silts
29 rock-chips

Geophysical Survey

27.3 line kilometres of magnetics

25.4 line kilometres of VLF electromagnetics

Prospecting and Geological Survey

Approximately 1000 hectares were mapped at a scale of 1:5000.

Linecutting

28 kilometres of line were cut.

A list of claims upon which the work was conducted in included in Appendix 1.

3. GEOLOGY

Quadra Island is part of the Insular geological belt and the property is underlain by rock units of the Vancouver Group. These are intruded by the Coastal granitic intrusives. The Karmutsen and Quatsino Formations and the Bonanza Subgroup comprise the Vancouver Group (Figures 1 and 2).

3.1 Quatsino Formation

The Upper Triassic Quatsino Formation generally consists of soft, dark coloured crystalline limestone. It appears banded and shows tight isoclinal flow-folding along contacts with the Karmutsen volcanics and Coastal intrusives. The banding in the limestone is caused by argillaceous layers a few centimetres thick.

3.2 Karmutsen Formation

The finely porphyritic andesites that form long northwesterly low ridges on the property are known as the Karmutsen Formation of Triassic age. Locally the volcanics are basaltic and may exhibit pillow and pyroclastic features. The Quatsino limestone and Karmutsen volcanics are intimately interbedded along the central zone of the property which is known historically as the Lime Belt.

3.3 Coastal Intrusives

A Jurassic to Cretaceous dioritic batholith intrudes the Quatsino and Karmutsen Formations. It ranges from quartz diorite to granodiorite in composition.

4. GEOCHEMISTRY

4.1 Silts

Seventy-five silt samples were collected on 25 m intervals from the drainage system on the Quadra Island property and analysed for copper, lead, zinc, nickel, cobalt, silver and molybdenum. Analytical procedures are outlined in Appendix 2. The data has been statistically treated, with descriptive statistics, histograms and cumulative frequency plots included in Appendices 3 to 5.

Thresholds for copper, lead and zinc were chosen using the 90th percentile and the anomalous results plotted on Figure 2.

4.2 Soils

One thousand and sixty-two soil samples were collected from the Quadra Island property grid and analysed for copper, lead, zinc, nickel, cobalt, silver and molybdenum. Procedures involved in the laboratory analysis are covered in Appendix 2 and statistical information on the data included in Appendices 3 to 5. Thresholds for copper, lead, zinc, nickel, and cobalt were chosen using the 90th percentile and all the results have been presented as a series of contour maps at 5000 scale (Figures 3a to 3f).

4.3 Trenches

Of the 56 trenches that were mapped on the Quadra Island property, 17 were sampled. The results are plotted on Figures 4a and 4b.

Sampling was primarily confined to grab samples of mineralization found in boulders along the sides of the trenches. Where applicable, chip sampling of the mineralized zone in the trenches was utilized; however, this was hampered by dense vegetation growth over many of the trenches.

Mineralization ranged from disseminated to massive pyrite, chalcopyrite, arsenopyrite. One trench also contained disseminated bornite. Predominant mineralization appears in the host rock as white quartz veins intruding into the volcanics. Disseminated pyrite appears intermittently in the volcanic unit as well.

Eleven trenches have intercalations of limestone and volcanic rocks. Three of these have mineralization consisting of disseminated pyrite, chalcopyrite and arsenopyrite near or at the contacts.

5. GEOPHYSICS

During late September and early October 1981, magnetic and electromagnetic surveys were carried out by Interpretex Resources Ltd. personnel and Robertson Research Canada Limited personnel over the Quadra property on Quadra Island, British Columbia.

There were five main objectives in this survey:

(1) to use a controlled magnetic survey to map areas of high magnetic activity,
(2) to use a VLF (electromagnetic) survey to map electromagnetic conductive zones,
(3) to integrate both surveys to indicate possible relationships between magnetic activity, electromagnetic conductive zones and geology,
(4) to suggest areas of possible sulphide mineralization, and
(5) to interpret possible structural directions and features.

Survey lines were compassed and flagged at 400 metre intervals as shown on the location reference map (Figure 1). Station spacing was 25 metres.

Total magnetic survey completed was 27.3 kilometres.

Total VLF survey completed was 25.4 kilometres.

A Geometric proton precession magnetometer was used for the survey. For greater accuracy, an eight foot aluminum sensor staff was used. Repeatability was of the order of ± 3 gammas using this method.

Both a Geonic VLF (EM-16) and a Phoenix VLF-2 were used to survey the property. They both used a transmitted frequency of 18.6 KHz from Station NLK, Seattle, Washington.

Each magnetic field reading was individually correlated with a base station reading for the same time and corrected to a datum determined at the beginning of the survey. This external correction was applied to the field data before posting.

The corrected magnetic data were computer contoured at 25 gamma intervals at a scale of 1:2,500 for interpretation and at 50 gamma intervals at a scale of 1:5,000 for correlation, by International Geosystems Corporation of Vancouver. Only the 1:5,000 data have been presented in this report (Figure 5c). The magnetic data were posted at a scale of 1:2,500 and are shown in Figures 5a-1 to 5a-5.

Raw VLF field data were plotted in profile form on grid maps at a scale of 1:5,000 and are shown in Figure 5b.

The geophysical interpretation was drafted onto a screened geology map at a scale of 1:5,000 (Figure 5d). The magnetic and electromagnetic interpretations (bold face) can be related directly to mapped geology (subdued face) by using this method of presentation.

The large magnetic high zone near the east end of lines 0+00 through 12+00N is adequately shown by the present line spacing. This feature probably reflects a magnetic core within the dioritic pluton which has intruded the area. It is suggested that this core may have acted as a source for mineralized fluids providing metasomatism as well as metamorphism in the volcanic host rocks. Some evidence of

conductivity (conductors I, J and K) within the magnetic region of the pluton tends to support this suggestion.

Short wavelength magnetic anomalies (dipoles or monopoles) seen on all survey lines indicate that the survey area is magnetically active and that the smooth contours between lines are misleading. These anomalies are believed to represent near surface magnetism within volcanic rocks. Although magnetite is probably the cause of most anomalies, pyrrhotite is believed to occur due to correlation of magnetic anomalies with conductivity.

The general decrease in total magnetic field towards the southwest may reflect a southwest dip of the plutonic-volcanic contact.

Conductors seen in this area are classified in one of three categories according to probable cause of conductivity. These categories are:

(a) Sulphide mineralization,
(b) Fault or shear zone, and
(c) Overburden conductivity.

Conductors or groups of conductors are discussed below within each category.

(a) Sulphide Mineralization

Direct magnetic association with conductivity suggests pyrrhotite as the cause of conductivity. Conductors such as A, D, I, N, O and Q (shown on Figure 5d) contain one or more electromagnetic anomalies which coincide with magnetic highs.

Although some of these relationships may be pure coincidence, magnetic conductors still offer a higher probability of sulphide mineralization. Obviously other EM anomalies which probably represent sulphides are those which fall on or near occurrences of pyrite as shown on Figure 5d. Systems with anomalies of this type are E, L and M. Trenches which are coincident with or are close to conductors may also provide information as to probable cause of conductivity. .

Other conductor systems contain anomalies which, although not directly coincident with magnetic highs, sulphide occurrences or trenches, show profile character diagnostic of genuine bedrock conductivity. The strong anomalies within the southern half of conductor A, system B, conductor group C and conductor E are examples.

(b) Fault or Shear Zone Conductivity

Profile character, coincidence with magnetic lows or inflection points (flanks) plus nearby or coincident faults described on Figure 5d, provided support for classification of conductors in this category.

Systems showing some signs of fault or shear zone conductivity are E, F, G, H, possibly J, M, N, O and Q. Systems which fit both categories (a) and (b) may be mineralized faults with variable conductivity and mineralogy along strike.

(c) Overburden Conductivity

Conductors have been placed in this category on the basis of anomaly correlation with swamp or bog as shown on Figure 5d, and on the basis of profile character. Systems which correlate with linear, low lying, wet or swampy areas may be true overburden conductors but might reflect a weathered fault or shear zone and this can add information about structural directions within the area. Examples of overburden conductivity are believed to be G, H, K and P. Systems which fit categories (b) and (c) may be faults which are conductive due to wet overburden or gouge.

The following table summarizes the labeled conductors seen on Figure 5d with respect to probable cause for at least some of the anomalies within the systems. Other smaller conductors not labeled on the map are weak anomalies probably due to surficial conductivity.

Conductor Categories

Probable Sulphide Conductors	Fault or Shear Zone Conductors	Overburden Conductors
A, B, C, D, E, E', I, L, M, N, O, Q	E, F, G, H, J, M, N, O, Q	G, H, K, P

Because no EM data exists on lines 0+00, a few possible conductor system continuations across line 0+00 may exist and should be mentioned. These are: conductors A to L, conductors F to O, and perhaps conductors G to Q. It should be

pointed out that the continuation of conductor Q through G, passes through the zone of Karsting as shown on Figure 5d. This may suggest Karsting due to percolation of water along a fault zone described by conductors Q and G.

6. ECONOMIC POTENTIAL

Pods of high grade, skarn-type sulphide mineralization exist in the Quatsino limestone.

Two types of metamorphism may give rise to these deposits: contact and/or metasomatic. Due to the close proximity of the Coastal intrusive most of the mineralization is the contact type, however, indications of the metasomatic type have been noted in veins and fractures in the Tertiary basalts to the west.

Known mineralization comprises pyrrhotite, magnetite, chalcopyrite, pyrite, arsenopyrite and molybdenite and forms sporadic irregular bodies associated with the intrusive or along faults and shear zones in the limestone. Separate from the skarn mineralization, but probably intimately related to it, sparsely mineralized veins of quartz carbonate occur. According to Cairnes some of these veins carry gold tellurides, chalcopyrite, pyrite and pyrrhotite.

When exposed, mineralization is highly oxidized. The fact that mineralized zones are in a porous limestone suggests secondary enrichment of metals may be enhanced in some of the bodies at or near the ground water interface.

7. CONCLUSIONS

1. The Quadra Island property exhibits a classical geological environment for skarn-type mineralization. The area covered by the Quatsino limestone is within the contact aureole of the Coast Range Granitic Intrusive Belt and has potential to host a number of separate and distinct mineral deposits.

2. Previous work has been inadequate and incomplete and is of little apparent use, although work performed by Prince Stewart Mines and Great Bear Mining (Table 1) may prove to be of some value in continuing evaluation programs.

3. Mineralization found to date on the property is either skarn-type or vein type. Vein type mineralization has been sampled and assays up to 0.73 oz/t gold. The potential for small tonnage deposits of high grade gold mineralization in the quartz veins forms an important additional potential to skarn occurrences.

4. The sulphide mineralization encountered on the property to date is erratically distributed in both grade and quantity. At the present time there is insufficient mineralization in any one occurrence to define commercial ore. Further assessment of the Quatsino Limestone and Karmutsen Volcanics series is necessary to determine the economic potential of the Quadra Island claim group.

5. The skarn-type mineralization may have undergone secondary enrichment in silver and copper at the permanent ground water level. Some mineralized and enriched pods may present commercial opportunities owing to secondary enrichment.

6. Soil sampling and multi-element analysis has proven effective in determining areas of interest. Stream sediment sampling has shown to be a less effective technique.

7. Magnetometer survey results have shown good use in delineating regional geological units and contacts; but, is of apparent less use in direct application to search for sulphide mieralization on the Quadra Island claim group.

8. RECOMMENDATIONS

1. Additional magnetic surveys are recommended in the more promising areas to better define geological and structural controls for gold and copper-bearing sulphides and allow for an improved interpretation of the localization of mineralization.

2. Areas of known or inferred geological potential, including known promising geochemical responses and magnetometer results should be examined and explored in greater detail; and, include vertical loop and/or induced polarization surveys to more precisely define or extend mineralized zones and occurrences.

3. Additional reconnaissance geology and soil sampling is recommended for newly acquired claims and previously surveyed areas where coverage is incomplete or lacking.

4. Old trenches should be re-blasted, cleaned out, mapped and properly sampled to better determine Cu, Au and Ag distribution and grades.

5. A limited program of diamond drilling of selected high priority targets is warranted. The basis of target selection should include well-defined positive and encouraging geochemical and geophysical responses in areas of known or inferred favourable geological environments.

9. PROPOSED EXPENDITURES - 1982

	$'000	
Physical Work:		
Linecutting - 20 km x $450	9.0	
Road Work - 2 days x $500	1.0	
Trenching - 10 days x $200	2.0	
Drilling - 500 m x $200	100.0	
Subtotal	112.0	112.0
Geology:		
Reconnaissance - 20 km x $150	3.0	
Detail - 10 km x $250	2.5	
Reporting - 10 days x $325	3.25	
Subtotal	8.75	8.75
Geophysics:		
VLEM - 30 km x $600	18.0	
Reporting - 10 days x $325	3.25	
Subtotal	21.25	21.25
Geochemistry:		
Analyses - 1000 x $20	20.0	
Reporting - 10 days x $325	3.25	
Subtotal	23.25	23.25
Travel and Transport:		
Truck - 30 days x $50	1.5	
Fuel	0.5	
Airfares	1.0	
Freight	0.5	
Subtotal	3.5	3.5
Camp:		
Field Office - 180 man-days x $20	3.6	
Food - 180 man-days x $25	4.5	
Equipment	0.5	
Communications	0.5	
Subtotal	9.1	9.1
TOTAL		177.85
Administration @ 10%		18.00
Contingencies @ 20%		35.60
GRAND TOTAL		231.45
	say	232.00

CERTIFICATE

I, John S. Hand, of Calgary, Alberta, hereby certify that:

1. I am a consulting geologist employed by Robertson Research Canada Limited, 3rd Floor, Lougheed Building, 604 - 1st Street S.W., Calgary, Alberta T2P 2M8.

2. I received an Honours Bachelor of Science degree in Geology from the University of Toronto in 1975 and a Master of Science (Applied) degree in Mineral Exploration from McGill University in Montreal in 1977.

3. I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

4. I have been practising my profession continuously since graduation.

5. This report is based on a review of reports, documents, maps and other technical data, and field work carried out by myself or under my direction, and on my experience and knowledge of the area.

6. I hold no interest, directly or indirectly, in the Quadra Island Property.

PROFESSIONAL GEOLOGIST ALBERTA
JOHN S. HAND, M.Sc.(A)

February 1/82
Date

J. S. Hand, M.Sc.(A), Geol.

SELECTED REFERENCES

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APPENDIX 1

SCHEDULE OF LANDS

APPENDIX 1
SCHEDULE OF LANDS
QUADRA ISLAND PROPERTY

Name	Record No.	Units	Assessment Required By
Gold	514	20	83 01 14
Quad 1	595	16	83 01 14
Quad 2	596	6	83 01 14
Quad 3	1003	20	82 09 28
Tracy 1	37698	1	82 07 31
Tracy 2	37699	1	82 07 31

APPENDIX 2

GEOCHEMICAL PROCEDURES

APPENDIX 2
GEOCHEMICAL PROCEDURES

Stream Sampling

Silt samples were collected in Kraft paper bags at 25 m intervals on the property drainage system. Pertinent geological, topographic and physiographic information was recorded on data sheets for later computer analysis.

Soil Sampling

Soil samples were collected in Kraft paper bags from the A horizon, at 25 m intervals on the property grid. Pertinent geological, topographic and physiographic information was recorded on data sheets for later computer analysis.

Trench Sampling

Where possible, rock-chip samples were taken in 50 cm channels across the rock face. Otherwise a representative grab sample was collected. Pertinent geological information was recorded for each trench sampled.

Analytical Method

All samples underwent the following procedures:

Stage	Silts & Soils	Rock-chips
Preparation	Drying	Crushing
Seiving	-80 Mesh	-200 Mesh
Dissolution	Perchloric/nitric	Perchloric/nitric
Analysis	Atomic Absorption	Atomic Absorption

Analysis was performed by TerraMin Research Labs Ltd. of Calgary.

APPENDIX 3

DESCRIPTIVE STATISTICS

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VARIABLE: 6D SILT COPPER SAMPLE SIZE (N) = 37

SAMPLE STATISTICS:

MEAN = 21.7568		RANGE	= 41
VARIANCE	= 52.4541	MINIMUM	= 14
STD. DEV.	= 7.24252	MAXIMUM	= 55

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 53.9112	STD. DEV.	= 7.34242

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.54432	KURTOSIS	= 9.43483

DESCRIPTIVE STATISTICS

VARIABLE: @D SILT LEAD SAMPLE SIZE (N) = 37

SAMPLE STATISTICS:

MEAN = 3		RANGE	= 9
VARIANCE	= 3.94595	MINIMUM	= 0
STD. DEV.	= 1.98644	MAXIMUM	= 9

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 4.05556	STD. DEV.	= 2.01384

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .848216	KURTOSIS	= .815257

DESCRIPTIVE STATISTICS

VARIABLE: QD SILT ZINC SAMPLE SIZE (N) = 37

SAMPLE STATISTICS:

MEAN = 45.7568		RANGE	= 90
VARIANCE	= 300.454	MINIMUM	= 32
STD. DEV.	= 17.3336	MAXIMUM	= 122

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 308.8	STD. DEV.	= 17.5727

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.88253	KURTOSIS	= 9.13585

DESCRIPTIVE STATISTICS

VARIABLE: @D SILT NICKEL SAMPLE SIZE (N) = 37

SAMPLE STATISTICS:

MEAN = 8.83784		RANGE	= 13
VARIANCE	= 7.86569	MINIMUM	= 6
STD. DEV.	= 2.80458	MAXIMUM	= 19

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 8.08418	STD. DEV.	= 2.84327

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.82762	KURTOSIS	= 3.92554

DESCRIPTIVE STATISTICS

VARIABLE: 0D SILT COBALT SAMPLE SIZE (N) = 37

SAMPLE STATISTICS:

MEAN = 7.54054		RANGE	= 13
VARIANCE	= 5.11321	MINIMUM	= 5
STD. DEV.	= 2.26124	MAXIMUM	= 18

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 5.25524	STD. DEV.	= 2.29243

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.63993	KURTOSIS	= 9.78047

DESCRIPTIVE STATISTICS

VARIABLE: @D SOIL CU SAMPLE SIZE (N) = 221

SAMPLE STATISTICS:

MEAN = 30.6154		RANGE	= 215
VARIANCE	= 701.612	MINIMUM	= 1
STD. DEV.	= 26.488	MAXIMUM	= 216

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 704.801	STD. DEV.	= 26.5481

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.55339	KURTOSIS	= 18.5673

DESCRIPTIVE STATISTICS

VARIABLE: 0D SOIL PB SAMPLE SIZE (N) = 221

SAMPLE STATISTICS:

MEAN = 13.7873		RANGE	= 157
VARIANCE	= 241.95	MINIMUM	= 0
STD. DEV.	= 15.5547	MAXIMUM	= 157

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 243.05	STD. DEV.	= 15.5901

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 4.67344	KURTOSIS	= 34.277

DESCRIPTIVE STATISTICS

VARIABLE: 0D SOIL ZN SAMPLE SIZE (N) = 221

SAMPLE STATISTICS:

MEAN = 130.683		RANGE	= 1640
VARIANCE	= 37205.4	MINIMUM	= 0
STD. DEV.	= 192.887	MAXIMUM	= 1640

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 37374.5	STD. DEV.	= 193.325

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 4.99274	KURTOSIS	= 30.1035

DESCRIPTIVE STATISTICS

VARIABLE: @D SOIL NI SAMPLE SIZE (N) = 221

SAMPLE STATISTICS:

MEAN = 26.1448		RANGE	= 320
VARIANCE	= 1884.24	MINIMUM	= 0
STD. DEV.	= 43.4078	MAXIMUM	= 320

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 1892.81	STD. DEV.	= 43.5064

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.55407	KURTOSIS	= 14.5692

DESCRIPTIVE STATISTICS

VARIABLE: QD SOIL CO SAMPLE SIZE (N) = 221

SAMPLE STATISTICS:

MEAN = 9.33484		RANGE	= 40
VARIANCE	= 42.7025	MINIMUM	= 0
STD. DEV.	= 6.53472	MAXIMUM	= 40

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 42.8966	STD. DEV.	= 6.54955

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.33679	KURTOSIS	= 2.62539

REGRESSION STATISTICS

COEFFICIENT OF DETERMINATION (R SQ)	=	.238877
COEFFICIENT OF MULTIPLE CORRELATION	=	.48875
STANDARD ERROR OF ESTIMATE	=	23.2672
REGRESSION SUM OF SQUARES	=	37039.4
RESIDUAL SUM OF SQUARES	=	118017
TOTAL SUM OF SQUARES	=	155056
F-RATIO (REGRESSION)	=	34.2094
DEGREES OF FREEDOM	=	2 & 218
PROBABILITY OF CHANCE	=	9.37427E-08
NUMBER OF CASES (SUBJECTS)	=	221
NUMBER OF INDEPENDENT VARIABLES	=	2

REGRESSION COEFFICIENTS

VAR.	NAME	MEAN	S.D.	COEFF.
C	CONSTANT			20.0184
IV1	SOIL LEAD	43.7873	15.5901	.14261
IV2	SOIL ZINC	130.683	193.325	.0660432
DV	SOIL COPPER	30.6154	26.5481	

REGRESSION STATISTICS

COEFFICIENT OF DETERMINATION (R SQ)	=	.383145
COEFFICIENT OF MULTIPLE CORRELATION	=	.618987
STANDARD ERROR OF ESTIMATE	=	20.9463
REGRESSION SUM OF SQUARES	=	59409.1
RESIDUAL SUM OF SQUARES	=	95647.2
TOTAL SUM OF SQUARES	=	155056
F-RATIO (REGRESSION)	=	67.7029
DEGREES OF FREEDOM	=	2 & 218
PROBABILITY OF CHANCE	=	1.53666E-09
NUMBER OF CASES (SUBJECTS)	=	221
NUMBER OF INDEPENDENT VARIABLES	=	2

REGRESSION COEFFICIENTS

VAR.	NAME	MEAN	S.D.	COEFF.
C	CONSTANT			9.10485
IV3	SOIL NICKEL	26.1448	43.5064	.18884
IV4	SOIL COBALT	9.33484	6.54955	1.77543
DV	SOIL COPPER	30.6154	26.5481	

REGRESSION STATISTICS

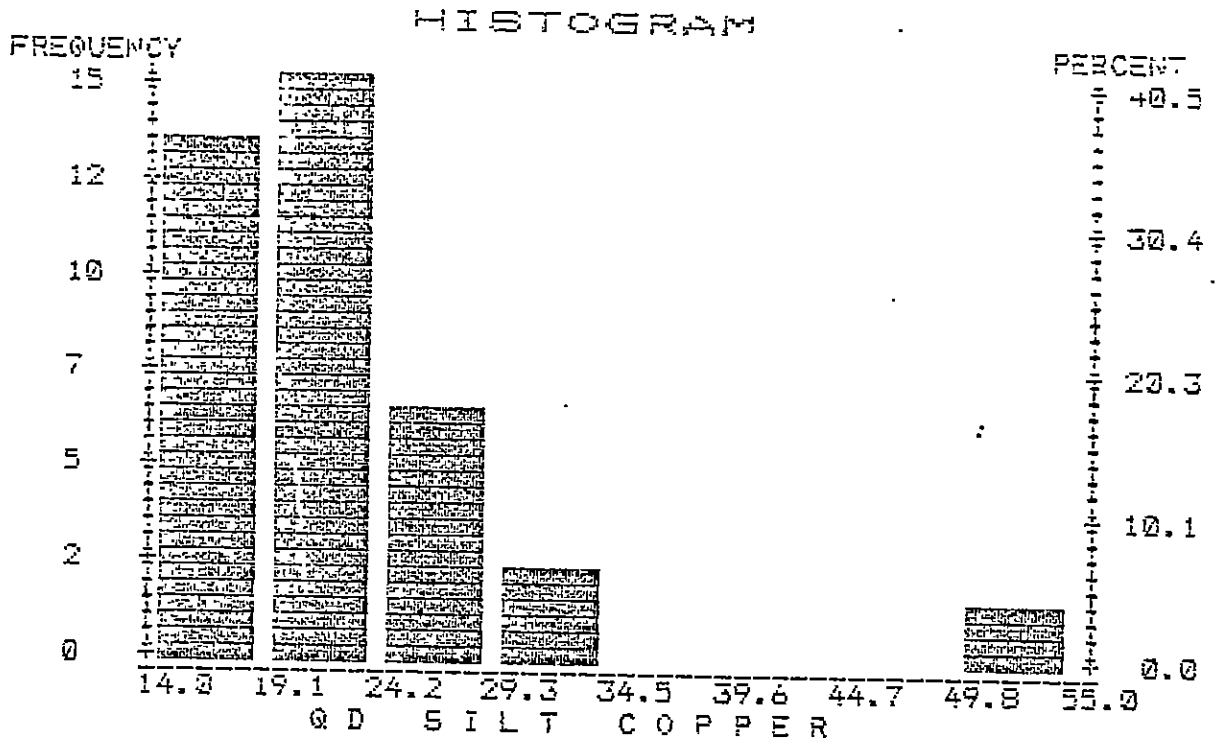
COEFFICIENT OF DETERMINATION (R SQ)	=	.406951
COEFFICIENT OF MULTIPLE CORRELATION	=	.637849
STANDARD ERROR OF ESTIMATE	=	20.6348
REGRESSION SUM OF SQUARES	=	63084.8
RESIDUAL SUM OF SQUARES	=	91971.5
TOTAL SUM OF SQUARES	=	155056
F-RATIO (REGRESSION)	=	37.0395
DEGREES OF FREEDOM	=	4 & 216
PROBABILITY OF CHANCE	=	8.93684E-20
NUMBER OF CASES (SUBJECTS)	=	221
NUMBER OF INDEPENDENT VARIABLES	=	4

REGRESSION COEFFICIENTS

VAR.	NAME	MEAN	S.D.	COEFF.
C	CONSTANT			7.34933
IV1	SOIL LEAD	13.7873	15.5901	.087143
IV2	SOIL ZINC	130.683	193.325	.032113
IV3	SOIL NICKEL	26.1448	43.5064	.0823344
IV4	SOIL COBALT	9.33484	6.54955	1.68351
DV	SOIL COPPER	30.6154	26.5481	

APPENDIX 4

HISTOGRAMS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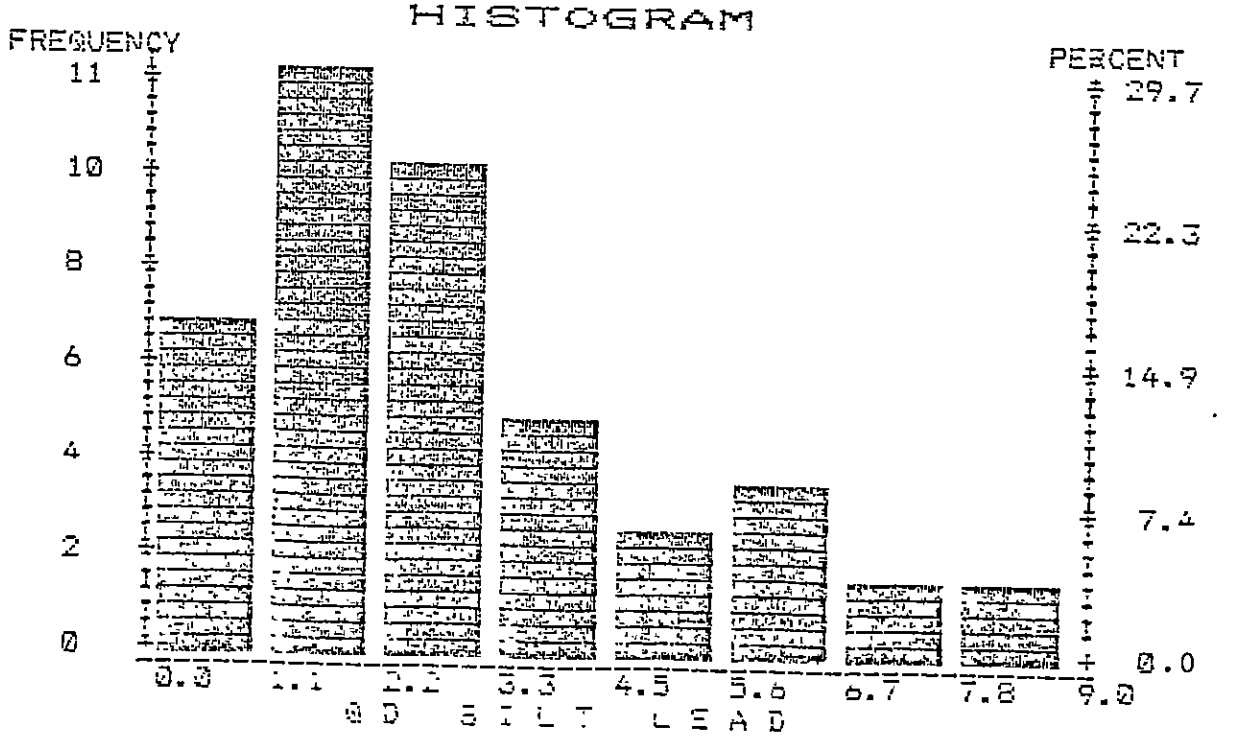
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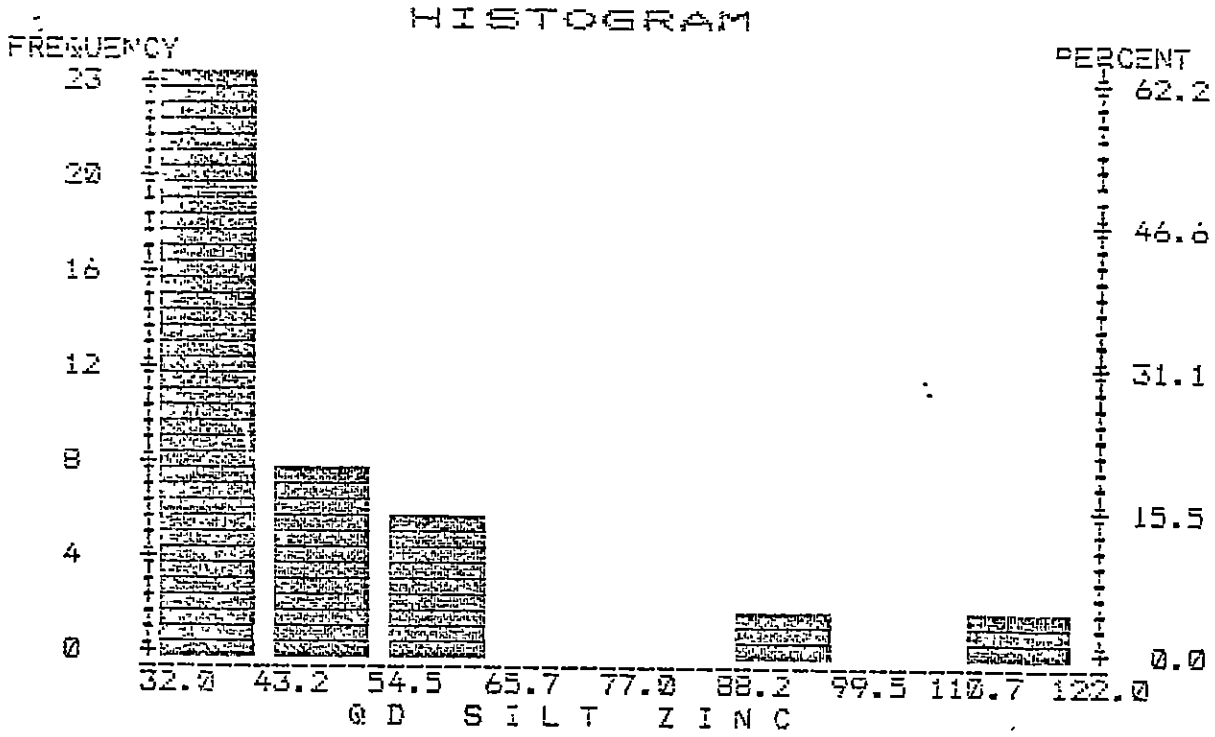
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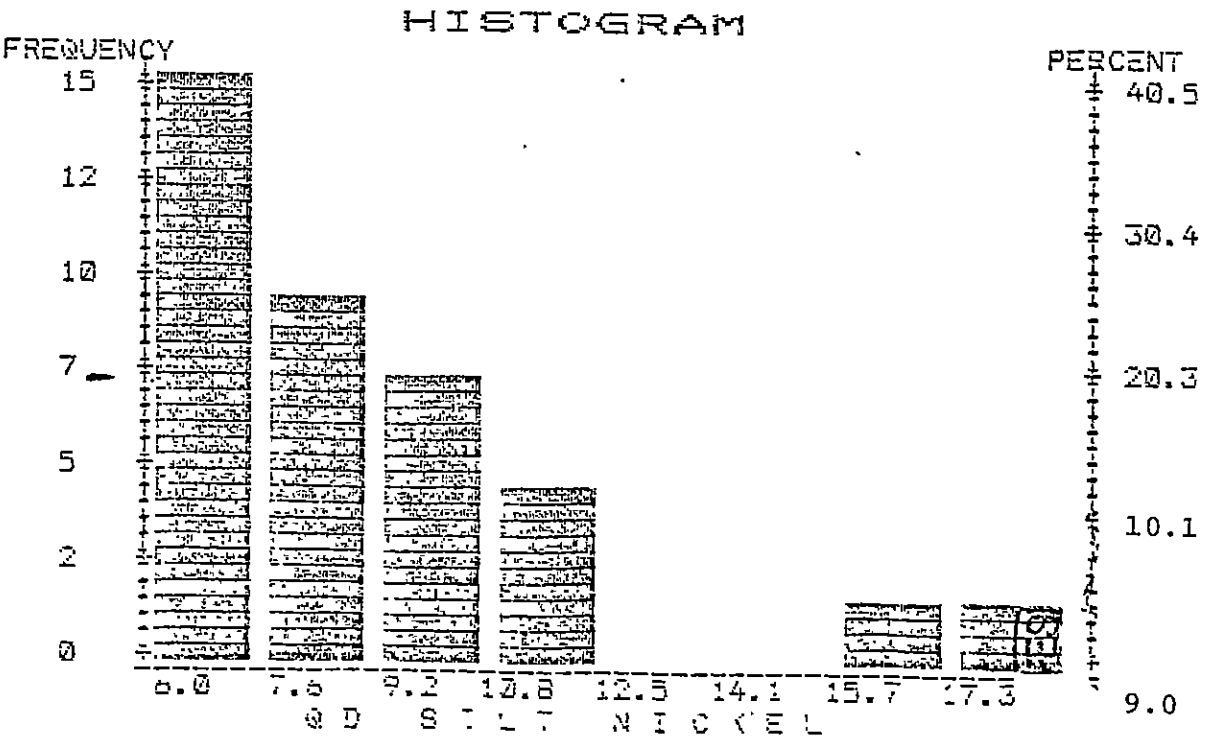
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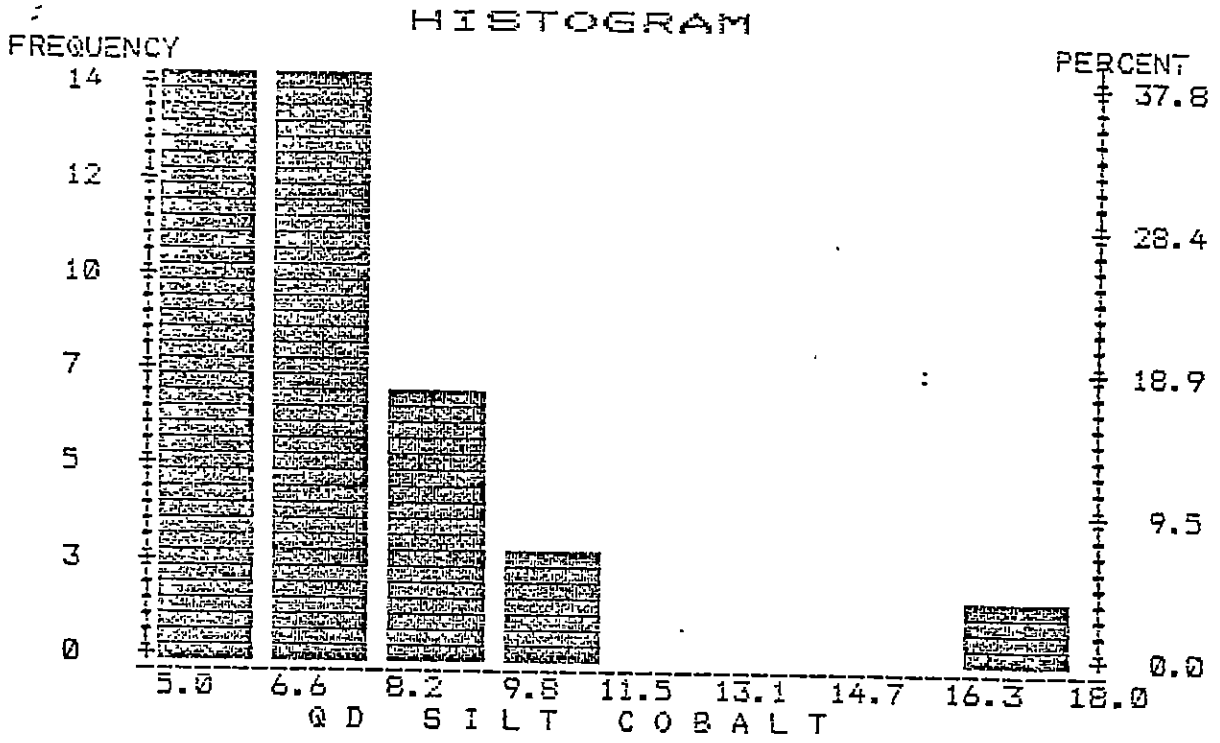
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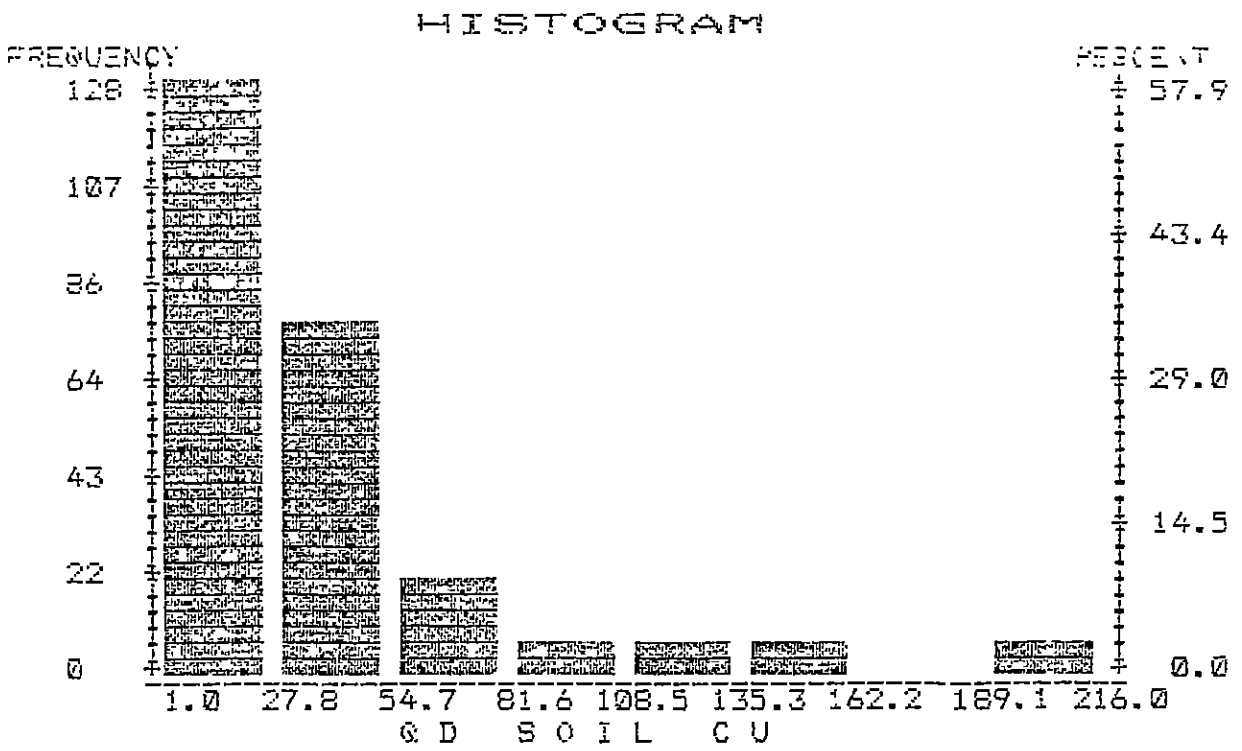
S I L T
C O B A L T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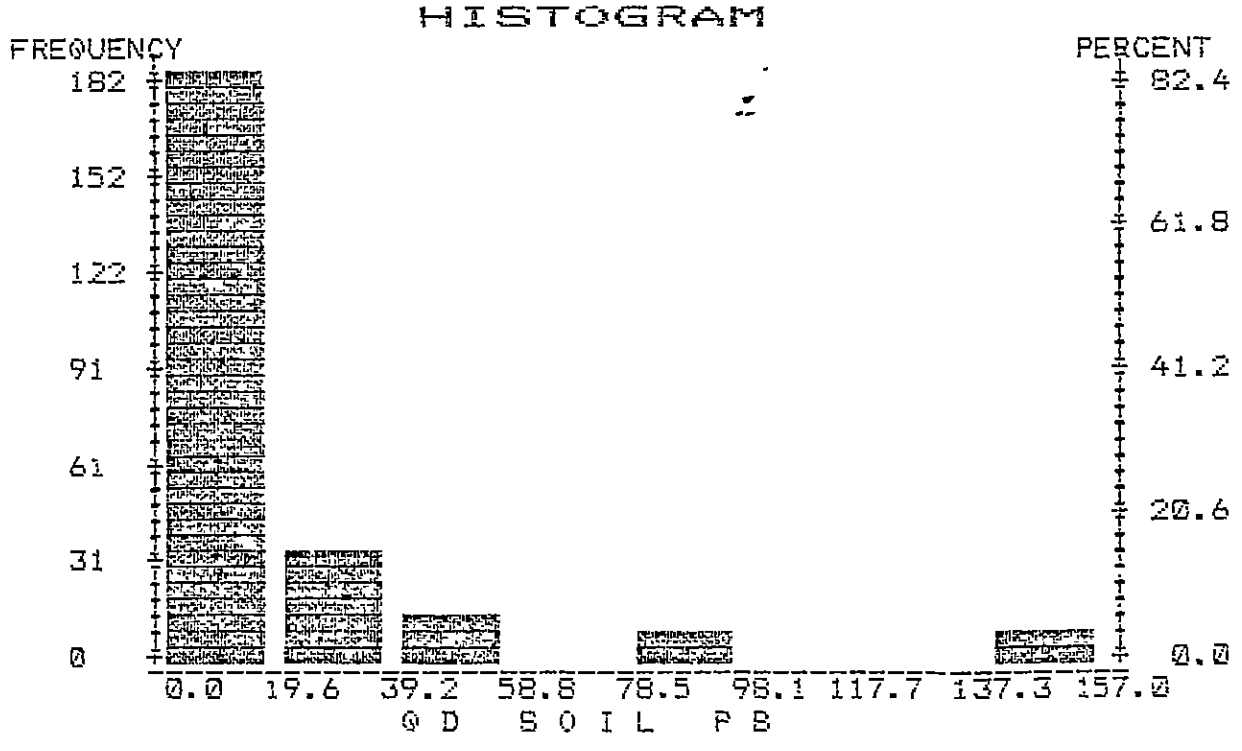
@D SOIL CU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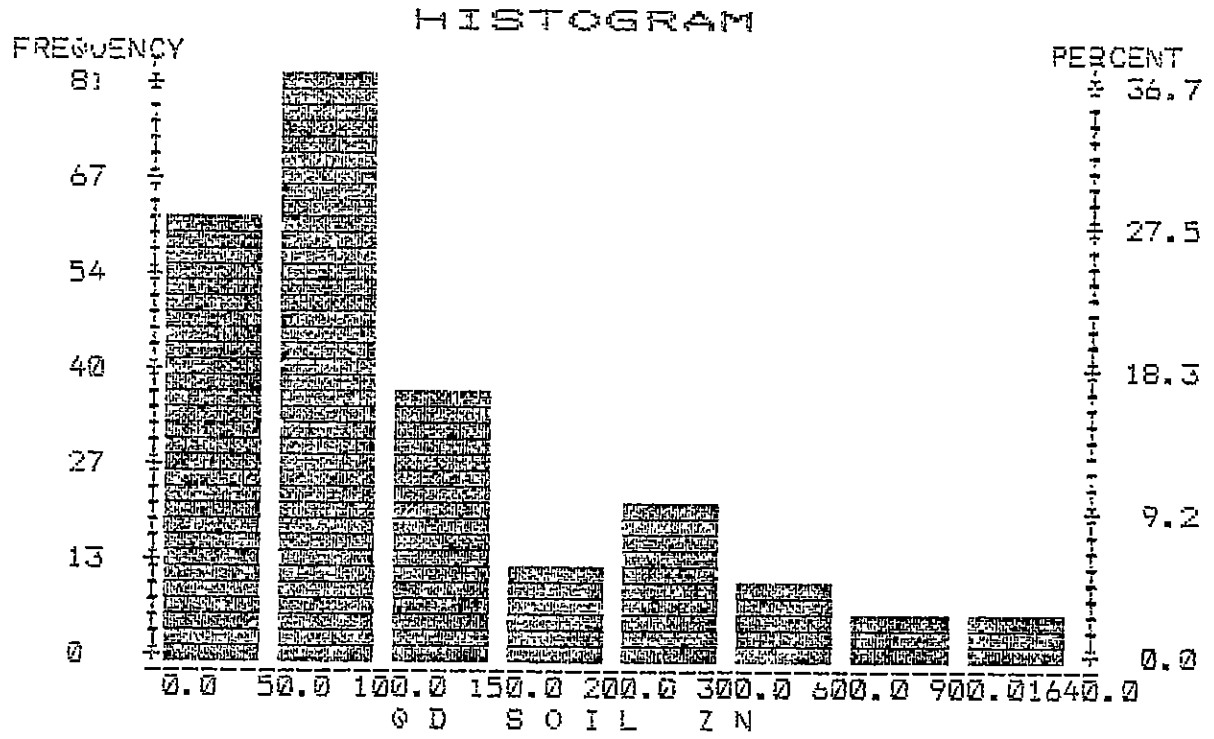
@D SOIL PB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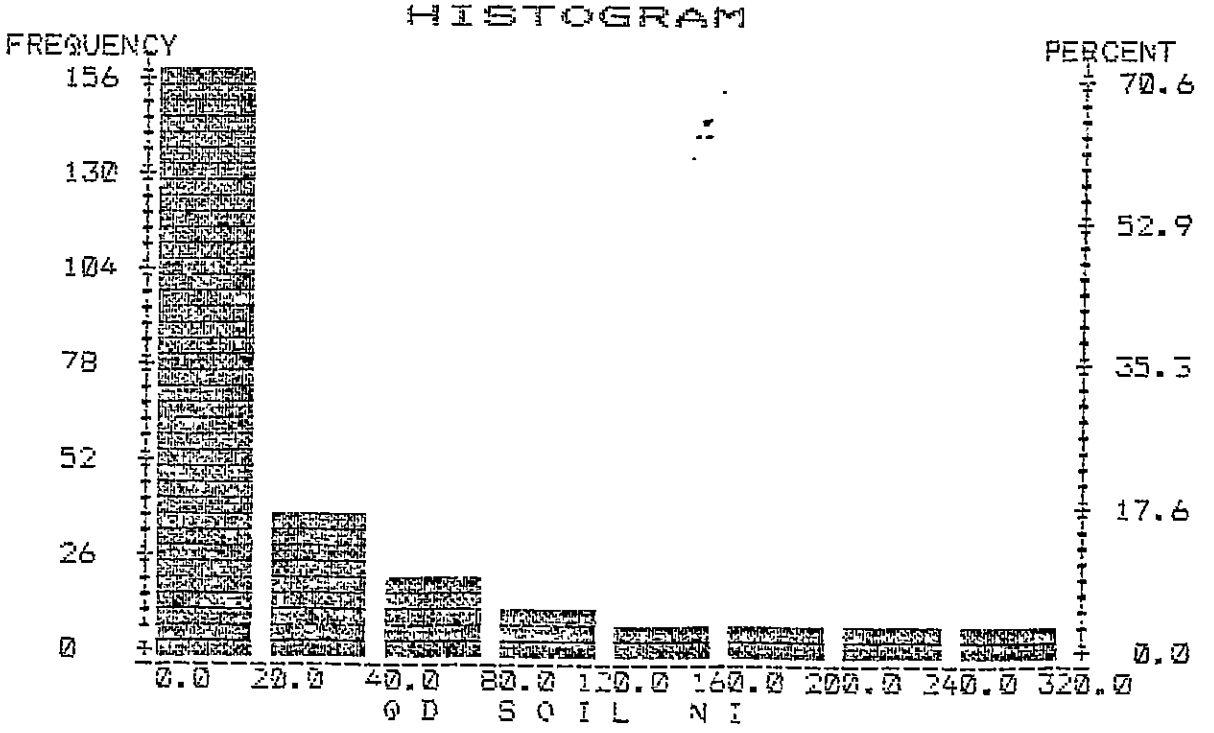
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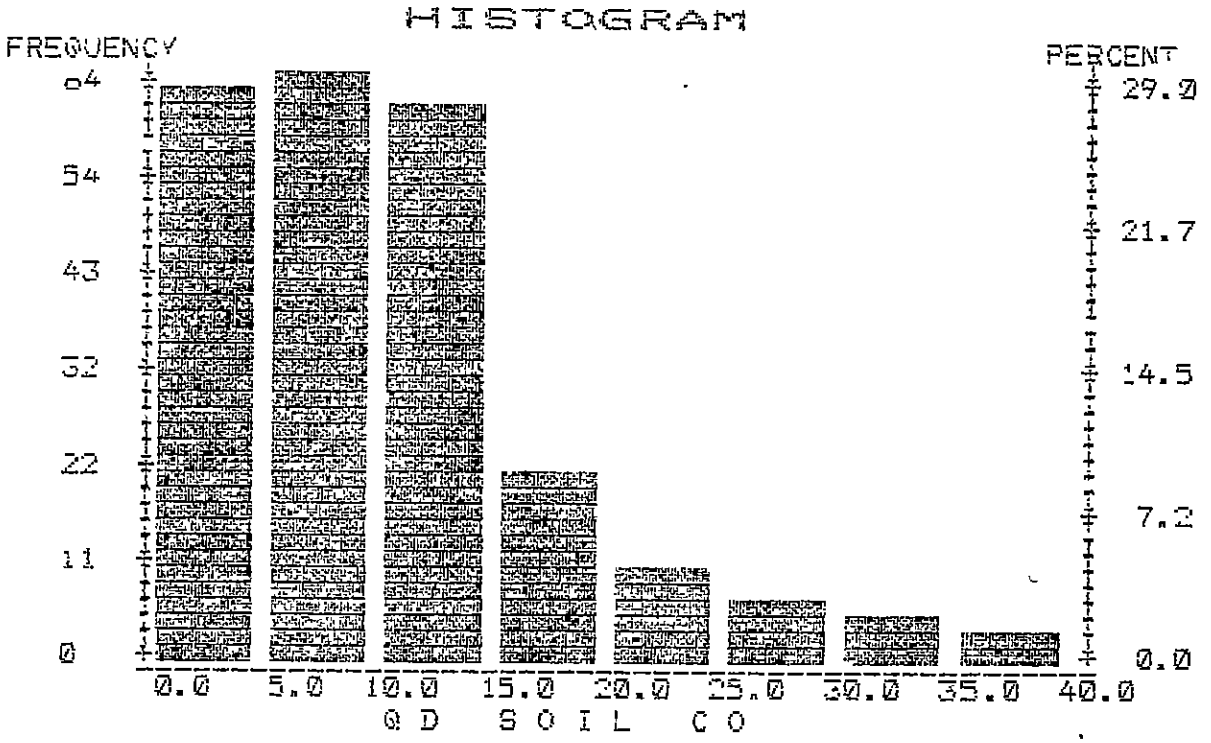
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0 D S O I L C O

APPENDIX 5

CUMULATIVE FREQUENCY PLOTS

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: QD SILT COPPER

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
14.000	TO	20.799	17	45.9	45.9
20.800	TO	27.599	17	45.9	91.9
27.600	TO	34.499	2	5.4	97.3
34.500	TO	41.299	0	0.0	97.3
41.300	TO	48.099	0	0.0	97.3
48.100	TO	55.000	1	2.7	100.0
T O T A L			37	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: @D SILT LEAD

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	0.999	4	10.8	10.8
1.000	TO	1.999	2	5.4	16.2
2.000	TO	2.999	11	29.7	45.9
3.000	TO	3.999	9	24.3	70.3
4.000	TO	4.999	4	10.8	81.1
5.000	TO	5.999	2	5.4	86.5
6.000	TO	6.999	3	8.1	94.6
7.000	TO	7.999	1	2.7	97.3
8.000	TO	9.000	1	2.7	100.0
T O T A L			37	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: QD SILT ZINC

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
32.000	TO	40.999	18	48.6	48.6
41.000	TO	49.999	11	29.7	78.4
50.000	TO	58.999	5	13.5	91.9
59.000	TO	67.999	1	2.7	94.6
68.000	TO	76.999	0	0.0	94.6
77.000	TO	85.999	0	0.0	94.6
86.000	TO	94.999	0	0.0	94.6
95.000	TO	103.999	1	2.7	97.3
104.000	TO	112.999	0	0.0	97.3
113.000	TO	122.000	1	2.7	100.0
T O T A L			37	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: @D SILT NICKEL

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
6.000	TO	7.299	15	40.5	40.5
7.300	TO	8.599	5	13.5	54.1
8.600	TO	9.899	4	10.8	64.9
9.900	TO	11.199	9	24.3	89.2
11.200	TO	12.499	2	5.4	94.6
12.500	TO	13.799	0	0.0	94.6
13.800	TO	15.099	0	0.0	94.6
15.100	TO	16.399	0	0.0	94.6
16.400	TO	17.699	1	2.7	97.3
17.700	TO	19.000	1	2.7	100.0
T O T A L			37	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: @D SILT COBALT

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
5.000	TO	6.299	14	37.8	37.8
6.300	TO	7.599	7	18.9	56.8
7.600	TO	8.899	7	18.9	75.7
8.900	TO	10.199	7	18.9	94.6
10.200	TO	11.499	1	2.7	97.3
11.500	TO	12.799	0	0.0	97.3
12.800	TO	14.099	0	0.0	97.3
14.100	TO	15.399	0	0.0	97.3
15.400	TO	16.699	0	0.0	97.3
16.700	TO	18.000	1	2.7	100.0
T O T A L			37	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: QD SOIL CU

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
1.000	TO	22.499	105	47.5	47.5
22.500	TO	43.999	78	35.3	82.8
44.000	TO	65.499	21	9.5	92.3
65.500	TO	86.999	11	5.0	97.3
87.000	TO	108.499	2	0.9	98.2
108.500	TO	129.999	1	0.5	98.6
130.000	TO	151.499	0	0.0	98.6
151.500	TO	172.999	1	0.5	99.1
173.000	TO	194.499	0	0.0	99.1
194.500	TO	216.000	2	0.9	100.0
T O T A L			221	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: QD SOIL PB

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	4.999	39	17.6	17.6
5.000	TO	9.999	65	29.4	47.1
10.000	TO	14.999	47	21.3	68.3
15.000	TO	19.999	31	14.0	82.4
20.000	TO	24.999	9	4.1	86.4
25.000	TO	29.999	6	2.7	89.1
30.000	TO	34.999	6	2.7	91.9
35.000	TO	49.999	12	5.4	97.3
50.000	TO	99.999	5	2.3	99.5
100.000	TO	157.000	1	0.5	100.0
T O T A L			221	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: 0D SOIL ZN

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	49.999	60	27.1	27.1
50.000	TO	149.999	117	52.9	80.1
150.000	TO	199.999	10	4.5	84.6
200.000	TO	249.999	10	4.5	89.1
250.000	TO	299.999	9	4.1	93.2
300.000	TO	399.999	5	2.3	95.5
400.000	TO	499.999	1	0.5	95.9
500.000	TO	749.999	5	2.3	98.2
750.000	TO	999.999	1	0.5	98.6
1000.000	TO	1640.000	3	1.4	100.0
T O T A L			221	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: QD SOIL NI

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	24.999	166	75.1	75.1
25.000	TO	49.999	28	12.7	87.8
50.000	TO	74.999	7	3.2	91.0
75.000	TO	99.999	7	3.2	94.1
100.000	TO	124.999	2	0.9	95.0
125.000	TO	149.999	2	0.9	95.9
150.000	TO	174.999	3	1.4	97.3
175.000	TO	199.999	2	0.9	98.2
200.000	TO	259.999	3	1.4	99.5
260.000	TO	320.000	1	0.5	100.0
T O T A L			221	100.0	

F R E Q U E N C Y D I S T R I B U T I O N

DISTRIBUTION OF VARIABLE: GD SOIL CO

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	3.999	36	16.3	16.3
4.000	TO	7.999	62	28.1	44.3
8.000	TO	11.999	56	25.3	69.7
12.000	TO	15.999	38	17.2	86.9
16.000	TO	19.999	13	5.9	92.8
20.000	TO	23.999	7	3.2	95.9
24.000	TO	27.999	6	2.7	98.6
28.000	TO	31.999	0	0.0	98.6
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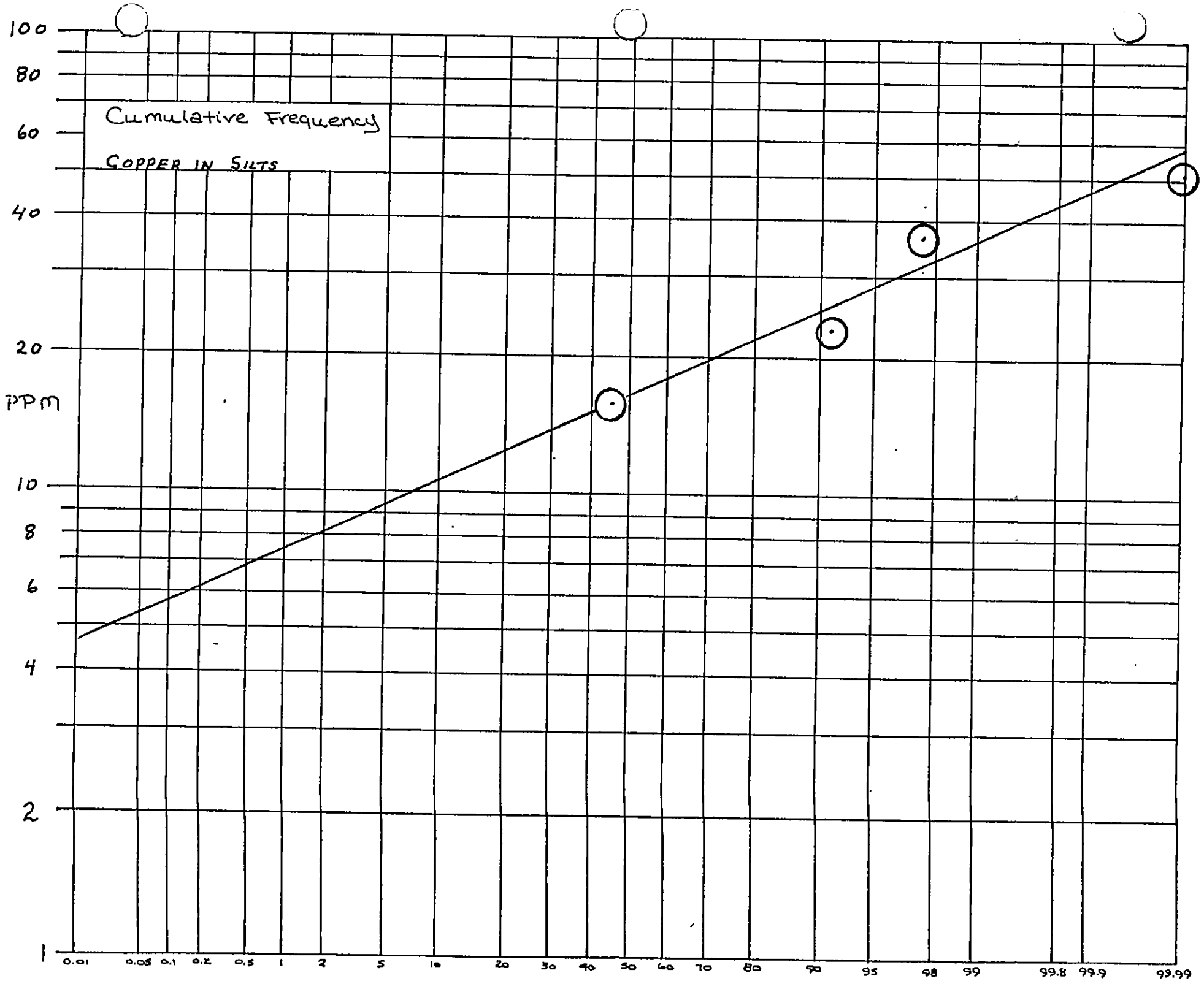
36.000	TO	40.000	1	0.5	100.0
T O T A L			221	100.0	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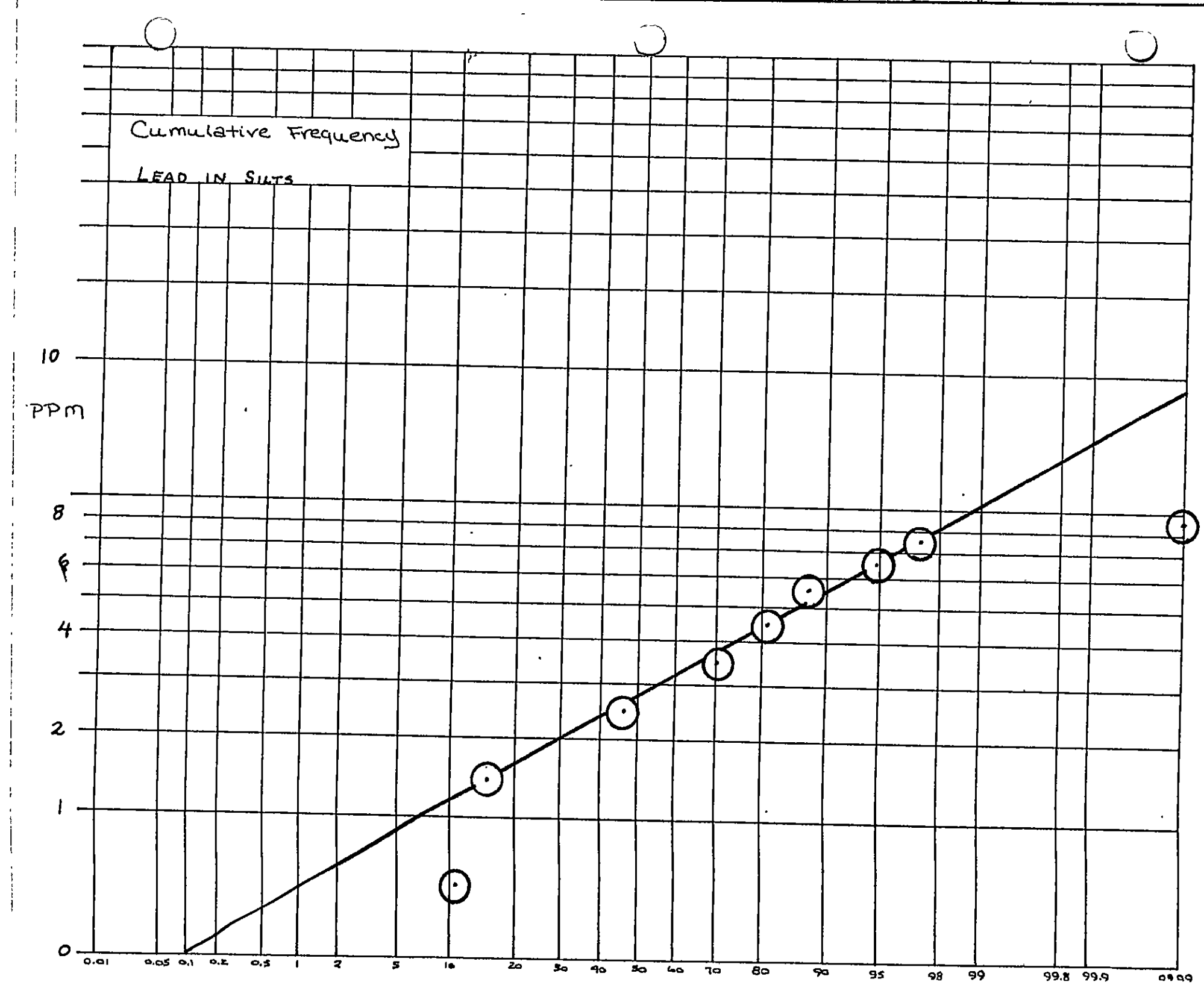
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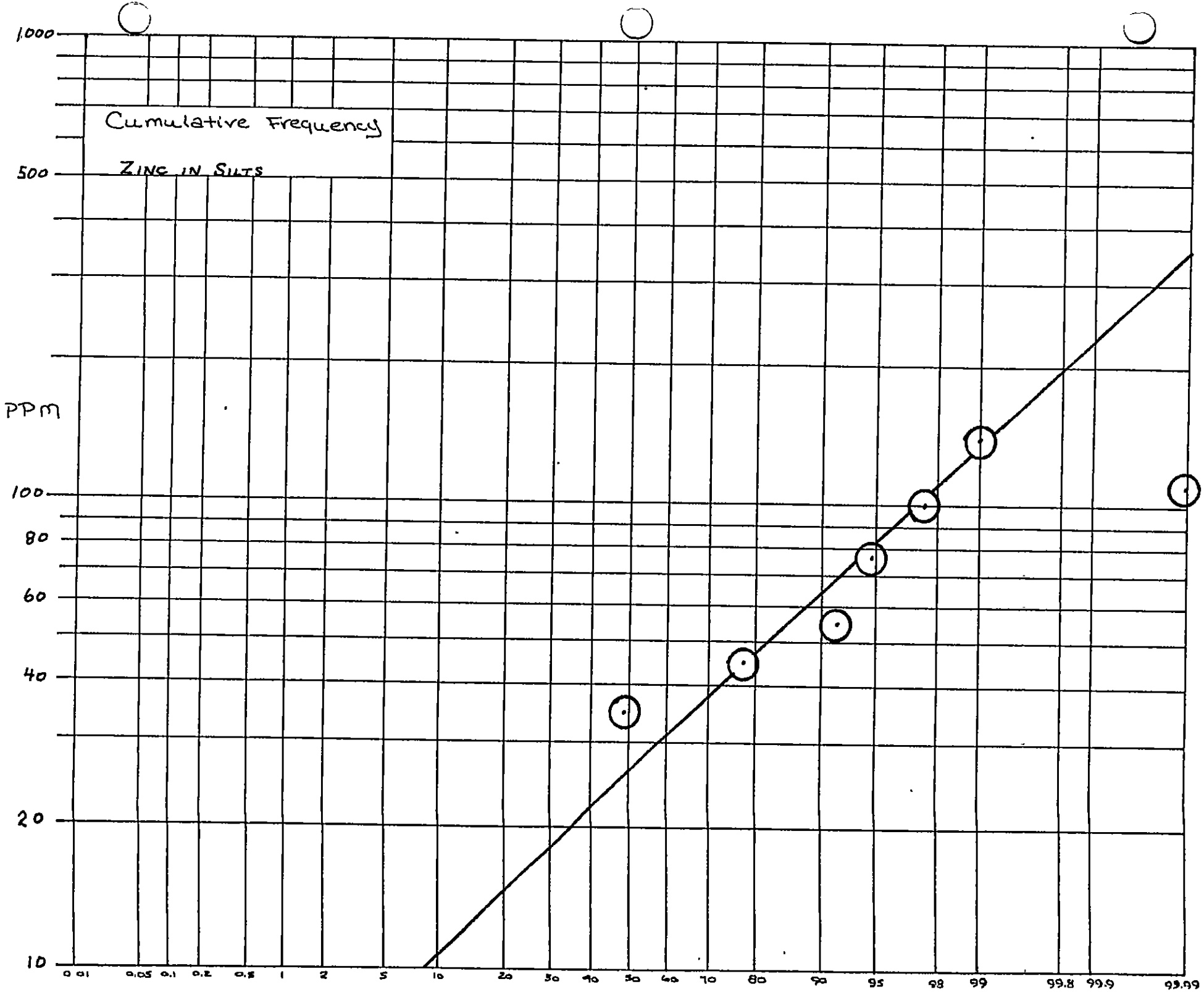
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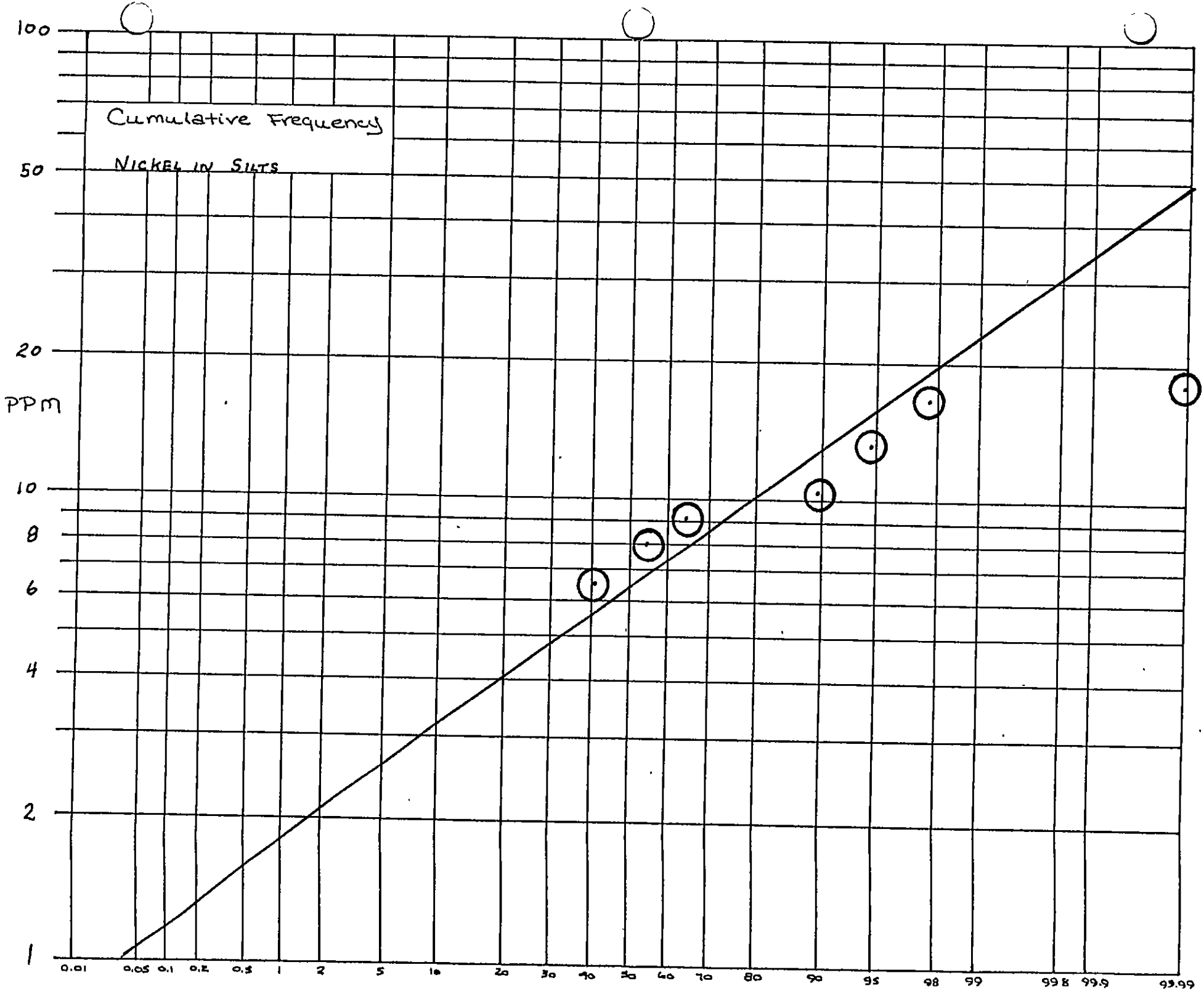
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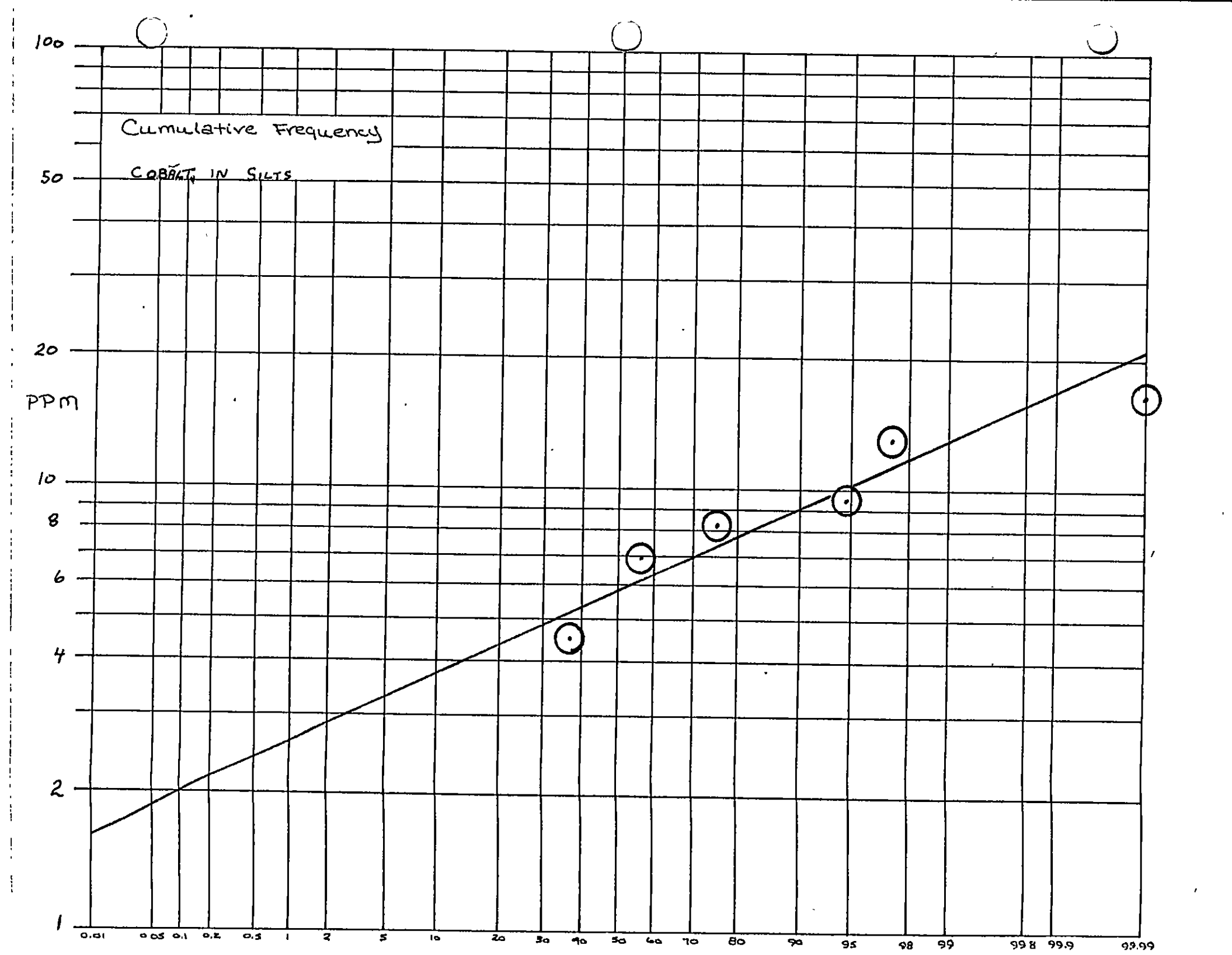
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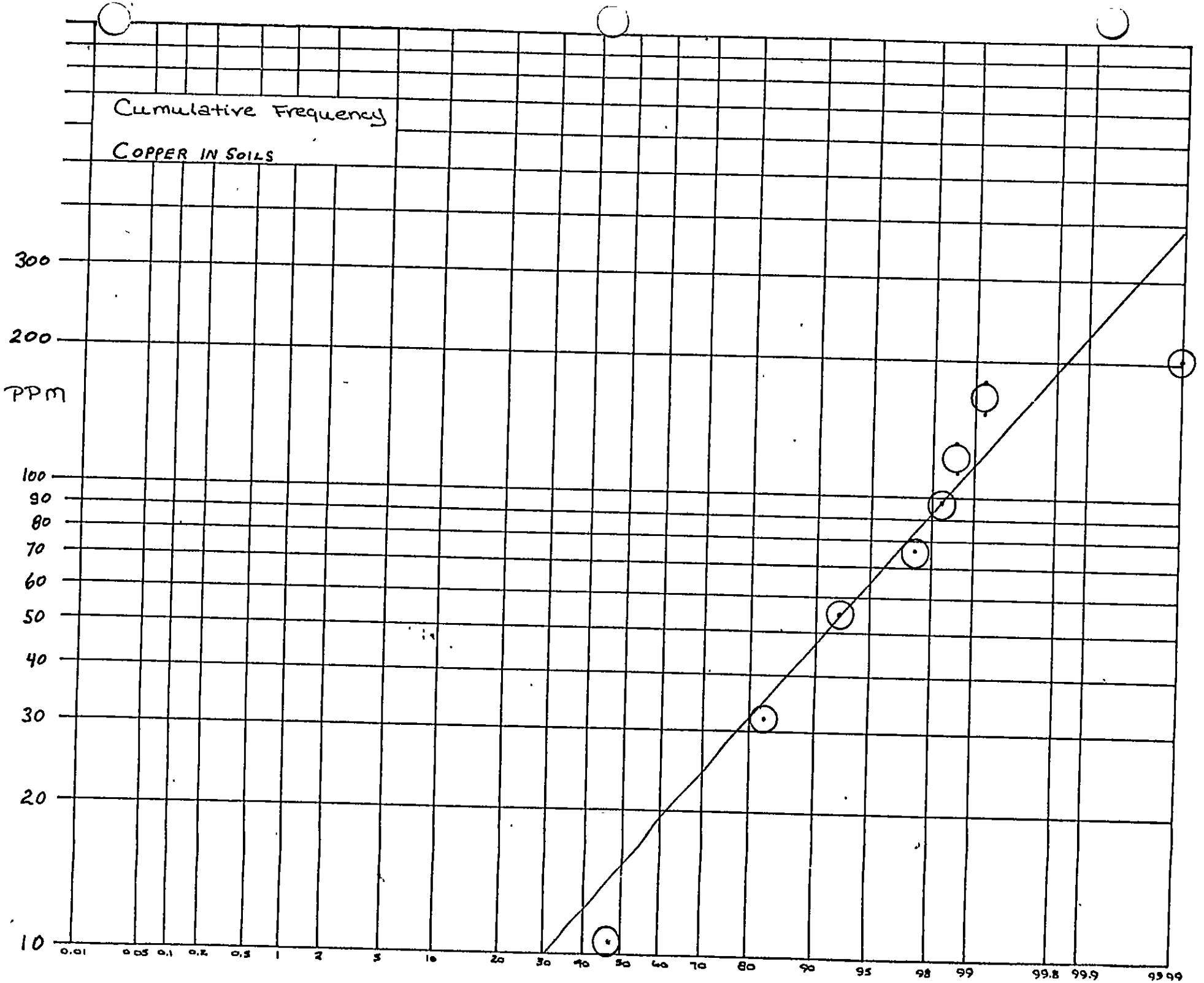
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0.2
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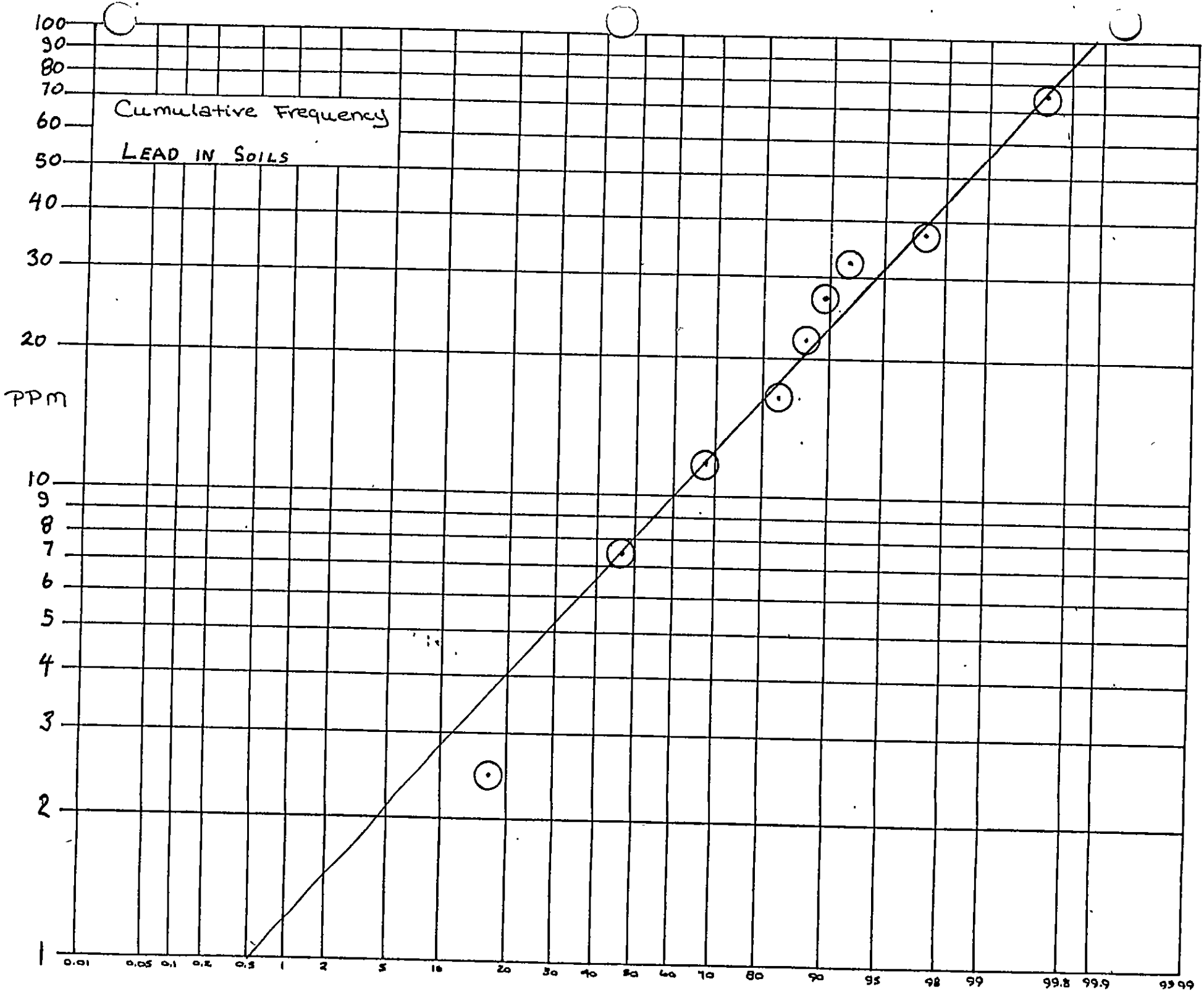
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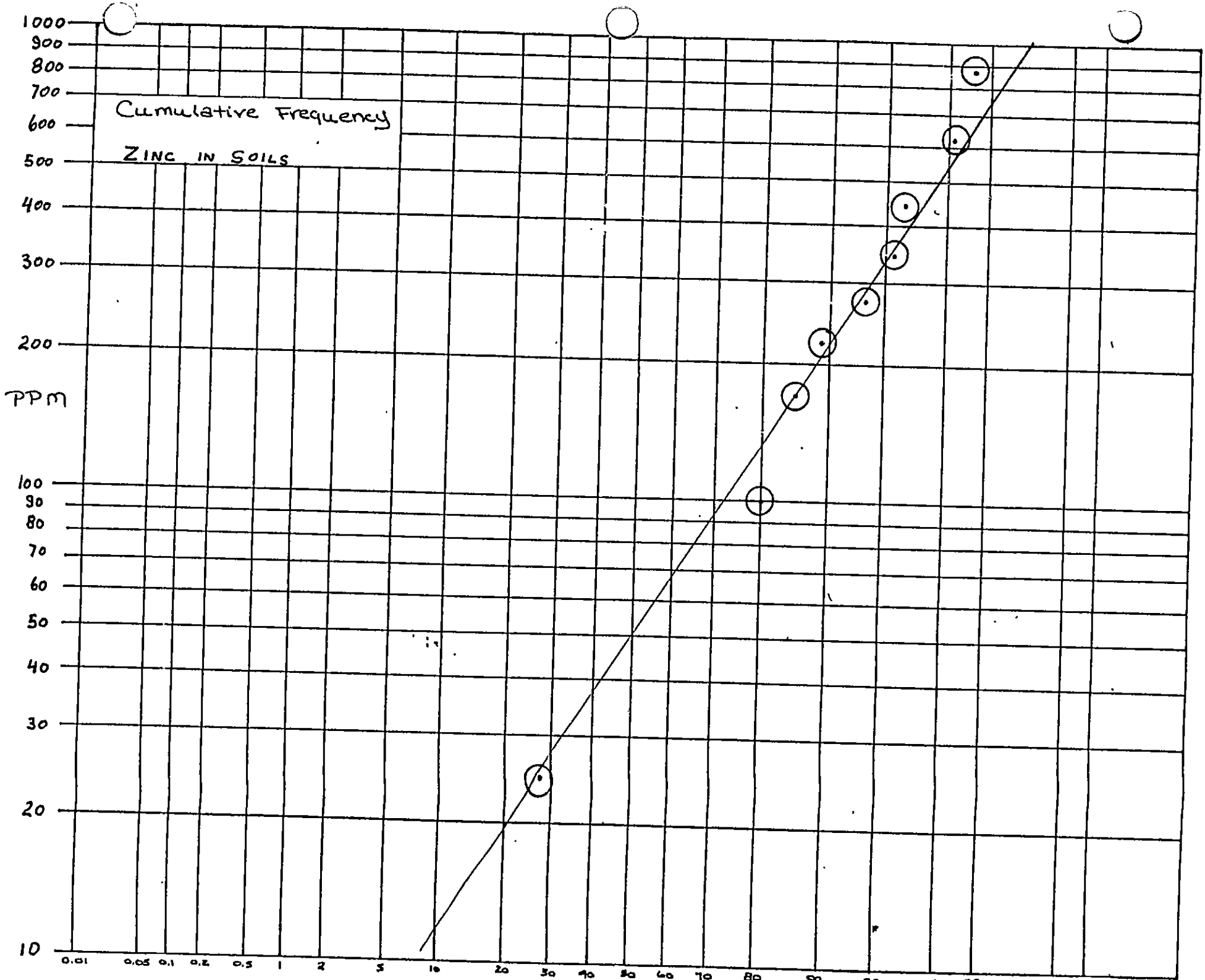
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0.5
1
2
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10
20
30
40
50
60
70
80
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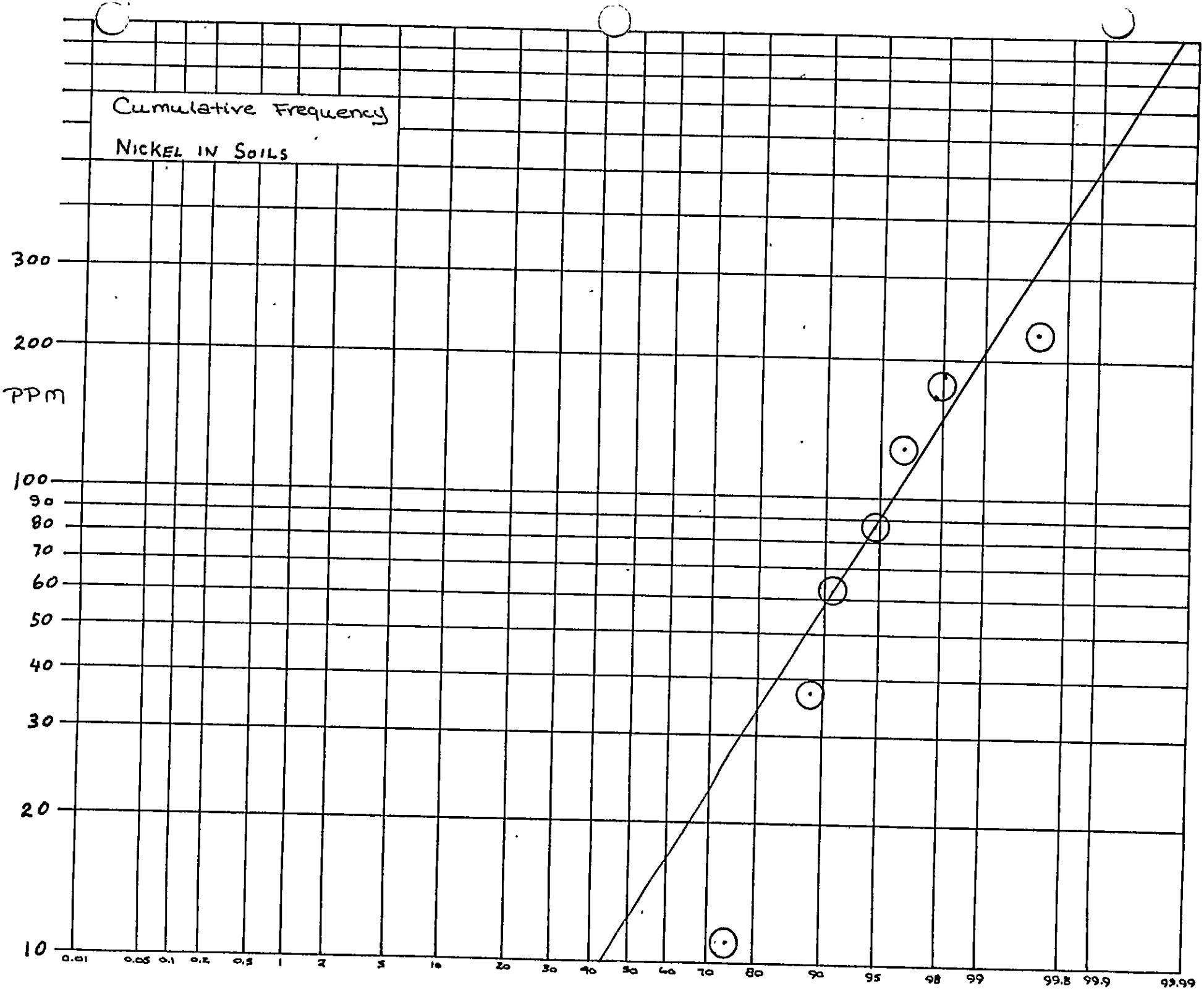
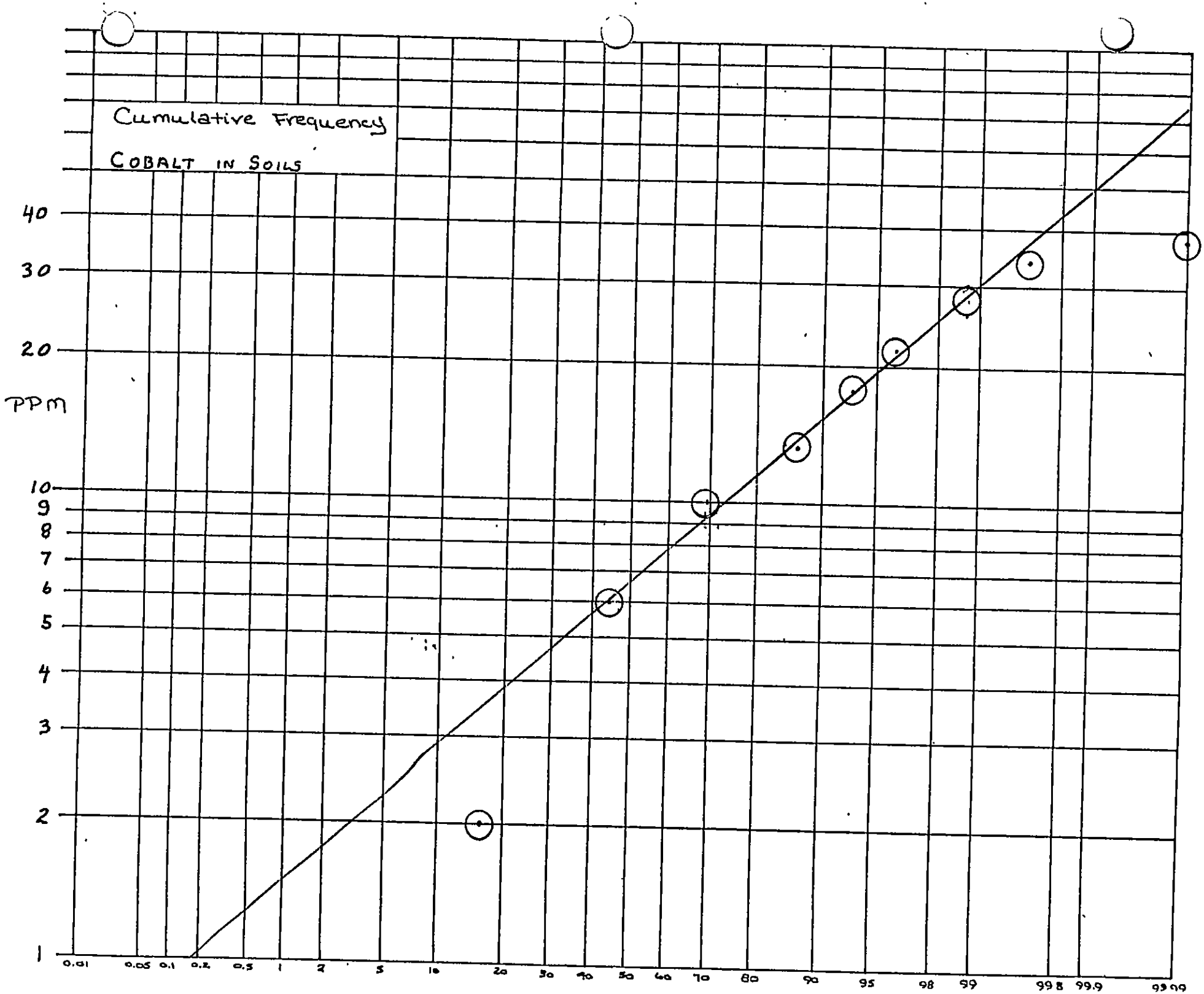
99.8
99.9
99.99


Cumulative Frequency
Nickel in Soils
PPM
300
200
100
90
80
70
60
50
40
30
20
10
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99


Cumulative Frequency
COBALT IN SOILS
PPM
40
30
20
10
9
8
7
6
5
4
3
2
1
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99

APPENDIX 6

1981 EXPENDITURES

STATEMENT OF 1981 EXPENDITURES
QUADRA ISLAND PROPERTY

NAME/ADDRESS	DAYS ON PROPERTY	WAGES			SUBSISTENCE		
		Days Worked	Daily Rate	Total Wage	Total Days	Rate Per Day	Amount
John S. Hand Senior Geologist #55, 5625 Silverdale Dr. N.W. Calgary, Alberta T3B 4N5	Aug. 15,17-22,24-25 Sept. 1-6,27-29	18	$330.00/day	$5,940.00	20	$20.00	$400.00
Gordon W. Sinden Senior Technologist #55, 5625 Silverdale Dr. N.W. Calgary, Alberta T3B 4N5	Aug. 15,17-22,24-31 Sept. 1-6,22-30 Oct. 1-2	32	$232.50/day	$7,440.00	36	$20.00	$720.00
David S. Evans Exploration Manager 5232 Viceroy Dr. N.W. Calgary, Alberta T3A 0V7	May 17 June 6 July 26 Aug. 9 Sept. 23	5	$450.00/day	$2,250.00	5	$20.00	$100.00
Tim Joveski Field Assistant R.R. #1 Nelson, B.C. V1L 5P4	Aug. 15,17-22,24-31 Sept. 1-5	20	$150.00/day	$3,000.00	22	$20.00	$440.00
Ken Konkin Field Assistant Box 52 Nelson, B.C. V1L 5P7	Aug. 15,17-22,24-31 Sept. 1-5	20	$150.00/day	$3,000.00	22	$20.00	$440.00
Peter Dorey Field Assistant Salmo, B.C.	Sept. 23-30 Oct. 1-2	10	$100.00/day	$1,000.00	12	$20.00	$240.00
Glen Dorey Field Assistant Salmo, B.C.	Sept. 23-30 Oct. 1-2	10	$100.00/day	$1,000.00	12	$20.00	$240.00
			TOTAL	$23,630.00		TOTAL	$2,580.00

ROBERTSON RESEARCH

STATEMENT OF 1981 EXPENDITURES
QUADRA ISLAND PROPERTY
(continued)

Other Expenditures

Field Office Rental (@ $10.00/day/man)	$560.00
Accommodation (Austrian Chalet Village)	1,904.28
Supplies and Equipment	169.84
Truck Rental (incl. gas, oil, maintenance)	1,686.02
4-wheel Drive Rental (mileage @ 20¢/km)	609.40
Ferry (to Quadra Island/Vancouver/Nanaimo)	149.20
Airfares	976.65
Freight	154.90
Communications - Telephone	170.33
Communications - Radio	150.00
Field Office Rentals (incl. computer rental)	180.60
	6,711.22

Geophysics

Sept. 23-Oct. 3 - Magnetic Survey	$4,419.52
Oct. 13,19-22, Nov. 25,26,30, Dec. 1,2 Magnetic Survey Interpretation 6.5 days @ $160.00/day	1,040.00
Dec. 11, Jan. 4-6 - Magnetic Survey Interpretation 2.5 days @ $300.00/day	750.00
	6,209.52

Geochemical Analyses

1068 soil samples - preparation @ $0.50/sample	$534.00
1068 soil samples - analyzed for Cu,Pb,Zn, Ni,Co,Ag,Mo @ $6.25/sample	6,675.00
29 rock samples - preparation @ $2.50/sample	72.50
29 rock samples - analyzed for Cu,Pb (incl. digestion) @ $2.50/sample	72.50
29 rock samples - analyzed for Zn,Ni,Co @ $2.25/sample	65.25
28 rock samples - analyzed for Mo @ $0.75/sample	21.00
29 rock samples - analyzed for Au,Ag (FA/AA) @ $6.25/sample	181.50
	7,621.75

STATEMENT OF 1981 EXPENDITURES
QUADRA ISLAND PROPERTY
(continued)

Data Reduction

Geophysical (computer analysis & plotting)	$1,732.00
Geochemical (computer analysis & plotting)	800.00
	2,532.00

Drafting

Geological:	
Oct. 8-9, Nov. 6-7 - 18.5 hours @ $20.00/hr.	370.00
Jan. 18 - 1 hour @ $43.72/hr.	43.72
Geophysical:	
Oct. 10, Nov. 3,4,6 - 18 hours @ $20.00/hr.	360.00
Jan. 7,8,9,10,11 - 23 hours @ $20.00/hr. plus expenses & 15% handling	679.86
	1,453.58

Summary

Total Wages	$23,630.00
Total Subsistence	2,580.00
Other Expenditures	6,711.22
Geophysics	6,209.52
Geochemical Analyses	7,621.75
Data Reduction	2,532.00
Drafting	1,453.58
Total Project Costs	$50,738.07
Plus 10% Report Preparation	5,073.81
TOTAL 1981 EXPENDITURES	$55,811.88

APPENDIX 7

GEOPHYSICAL INSTRUMENT SPECIFICATIONS

MODEL G-816

PORTABLE PROTON MAGNETOMETER

Sensitivity:	±1 gamma throughout range
Range:	20,000 to 90,000 gammas (worldwide)
Tuning:	Multi-position switch with signal amplitude indicator light on display
Gradient Tolerance:	Exceeds 800 gammas/ft
Sampling Rate:	Manual pushbutton, one reading each 6 seconds
Output:	5 digit numeric display with readout directly in gammas
Power Requirements:	Twelve self-contained 1.5 volt "D" cell universally available flashlight-type batteries. Charge state or replacemnt signified by flashing indicator light on display.
Temperature Range:	Console and sensor: -40° to +85°C Battery pack: 0° to +50°C (limited use to -15°C; lower temperature battery belt operation - optional)
Accuracy (Total Field):	±1 gamma through 0° to ±50°C temperature range
Sensor:	High signal, noise cancelling, interchangeably mounted on separate staff or attached to back back
Size:	Console: 3.5 x 7 x 11 inches (9 x 18 x 28 cm) Sensor: 3.5 x 5 inches (9 x 13 cm) Staff: 1 inch diameter x 8 ft. length (3 cm x 2.5 m)

Weight:

	Lbs.	Kgs.
Console (w/batteries)	5.5	2.8
Sensor and signal cable:	4	1.8
Aluminum staff:	2	.9
	11.5	5.2

RECORDING BASE STATION
PROTON MAGNETOMETER
MODEL G-826A

Sensitivity:	±1 gamma throughout tuning range
Tuning Range:	20,000 to 100,000 gammas
Sampling Rate:	Base Station Mode: Automatic every 4, 10, 30 sec. Portable Mode: Pushbutton reading every 5 sec.
Outputs:	Visual (Base station and portable): 5 digit readout directly in gammas Analog (Base Station): Potentiometric and Galvanometric Digital (Base Station): 5-BCD characters (1, 2, 4, 8 code)
Power Requirements:	Base Station Mode: 24 V DC or 115/220 V, 50/60 Hz AC Portable Mode: "D" cell batteries (12 each)
Temperature Range:	Consoles and sensors: -40°C to +85°C (-40°F to +185°F)
Accuracy:	±1 gamma through 0°C to +50°C (+32°F to +122°F)
Size:	Base Station Cabinet: 9-1/4" x 16-1/4" x 15-3/4" (23.5 x 41.3 x 40 cm) Portable Console: 3-1/2" x 7" x 11" (9 x 18 x 28 cm)
Weight:	54.5 lbs. (25.0 kg) complete system

EG&G Exploranium
Geometrics Services (Canada) Ltd.
436 Limestone Crescent
Downsview, Ontario
M3J 2S4

DIGITAL RECORDER

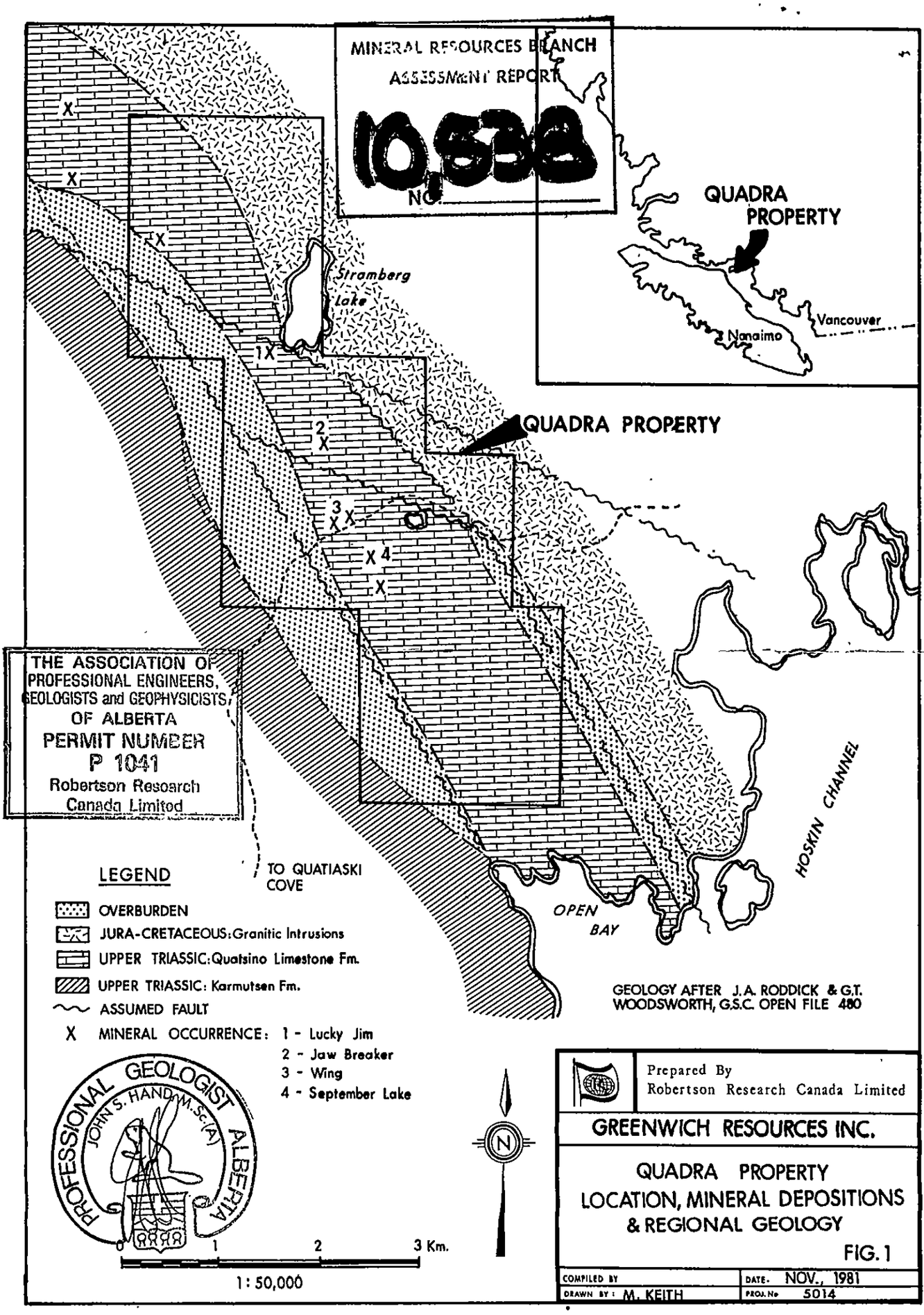
Model:	GT-1
Thermal Printer:	Digitec 6410
Printer Format:	up to 22 characters, ASC II code
Power Requirements:	110 volts A.C. or 12 volts D.C. (approx. 20 watts)
Temperature Range:	0^{o} to 50^{o} C
Dimensions:	7.5" x 2.875" x 5.375"
Weight:	3.5 lb
Name and Address of Manufacturer:	Can-Lake Explorations Ltd. #1, 4001 - 19th Street N.E. Calgary, Alberta T2E 6X8

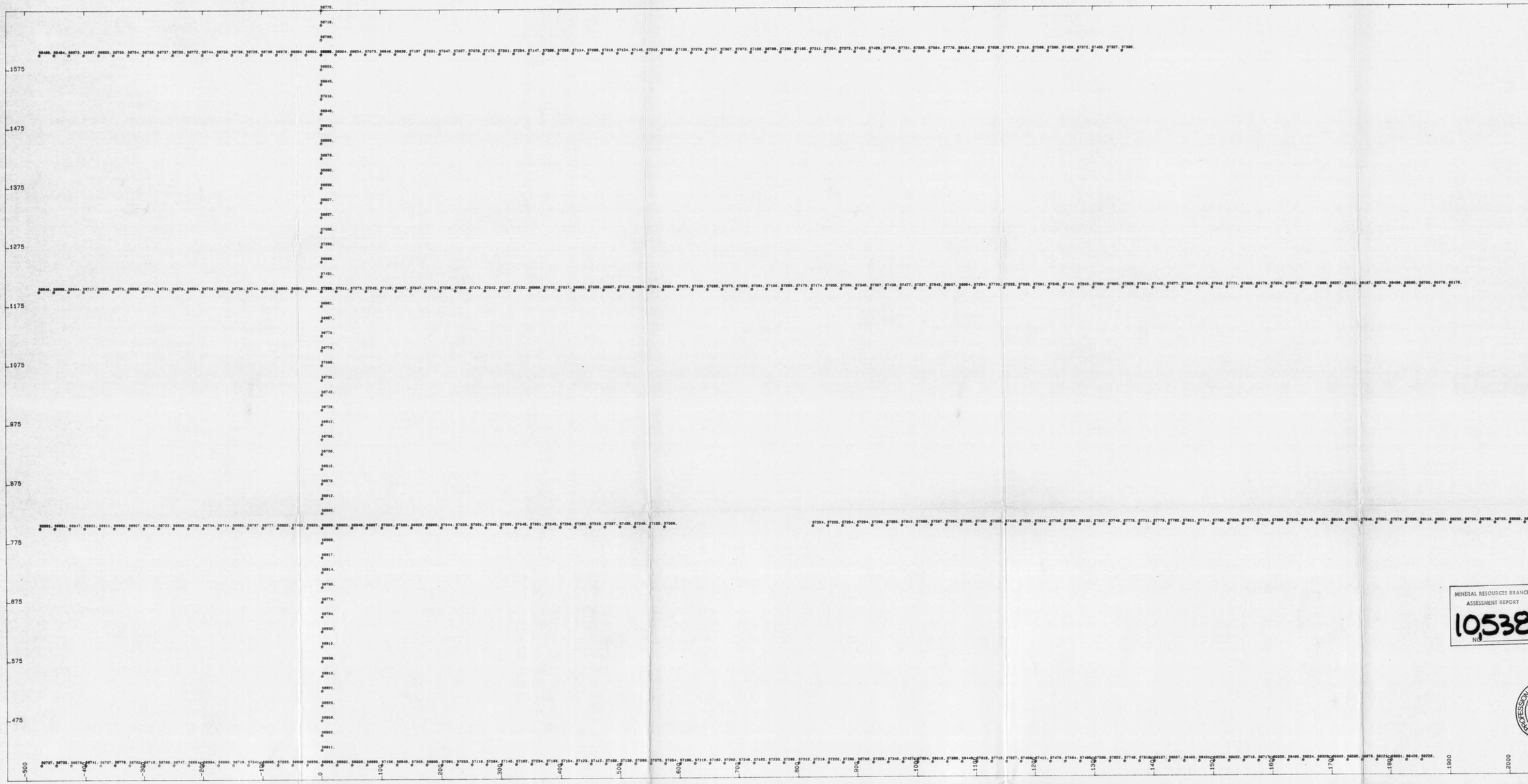
GEONICS LIMITED
VLF EM 16

Source of Primary Field:	VLF transmitting stations
Transmitting Stations Used:	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.
Operating Frequency Range:	About 15-25 Hz
Parameters Measured:	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).
Method of Reading:	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.
Scale Range:	In-phase ±150%; quadrature ±40%
Readability:	±1%
Reading Time:	10-40 seconds depending on signal strength
Operating Temperature Range:	-40 to 50° C.
Operating controls:	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial ±40%, inclinometer dial ±150%
Power Supply:	6 size AA (penlight) alkaline cells. Life about 200 hours
Dimensions:	42 x 14 x 9 cm (16 x 5.5 x 3.5 in)
Weight:	1.6 kg (3.5 lbs)
Instrument Supplied With:	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries
Shipping Weight:	4.5 kg (10 lbs.)
Name and Address of Manufacturer:	Geonics Limited 1745 Meyerside Drive/Unit 8 Mississauga, Ontario L5T 1C5

PHOENIX GEOPHYSICS LIMITED
VLF-2

Parameters Measured:	Orientation and magnitude of the major and minor axes of the ellipse of polarization.
Frequency Selection, Front Panel:	Dual channel, front panel selectable (F1 or F2) each with independant precision 10-turn dial gain control.
Frequency Selection, Internal:	F1 and F2 can be selected by internal switches within the range 14.0 to 29.9 kHz increments.
Detection and Filtering:	Superheterodyne detection and digital filtering provide a much narrower bandwidth and thus greater rejection of interfering stations and 60 cycle noise than conventional receivers.
Meter Display:	2 ranges: 0 to 300 or 0 to 1000. Background is typically set at 100. Meter is also used as a dip angle null indicator and battery test.
Audio:	Crystal speaker. 2500 Hz used as null indicator.
Clinometer:	$\pm 90^{\circ}$, $+0.5^{\circ}$ resolution. Normal locking, push button release.
Battery:	One standard 9v transistor radio battery. Average life expectancy - 1 to 3 months (battery drain is 3 mA).
Temperature Range:	-40° to 60° C.
Dimensions:	8 x 22 x 14 cm (3 x 9 x 6 inches).
Weight:	850 grams (1.9 pounds).
Name and Address of Manufacturer:	Phoenix Geophysics Limited 200 Yorkland Blvd. Willowdale, Ontario M2J-1R5


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,538
NO.
QUADRA PROPERTY
Vancouver
Nanaimo
Stromberg Lake
QUADRA PROPERTY
HOSKIN CHANNEL
OPEN BAY
TO QUATIASKI COVE
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1041
Robertson Research Canada Limited
LEGEND
OVERBURDEN
JURA-CRETACEOUS: Granitic Intrusions
UPPER TRIASSIC: Quatsino Limestone Fm.
UPPER TRIASSIC: Karmutsen Fm.
ASSUMED FAULT
X MINERAL OCCURRENCE: 1 - Lucky Jim
2 - Jaw Breaker
3 - Wing
4 - September Lake
GEOLOGY AFTER J.A. RODDICK & G.T. WOODSWORTH, G.S.C. OPEN FILE 480
PROFESSIONAL GEOLOGIST
JOHN S. HAND M.Sc.(A)
ALBERTA
0 1 2 3 Km.
1:50,000
N
Prepared By
Robertson Research Canada Limited
GREENWICH RESOURCES INC.
QUADRA PROPERTY
LOCATION, MINERAL DEPOSITIONS
& REGIONAL GEOLOGY
FIG. 1
COMPILED BY
DRAWN BY: M. KEITH
DATE: NOV., 1981
PROJ. No 5014



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10538
NO

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1041
Robertson Research Canada Limited

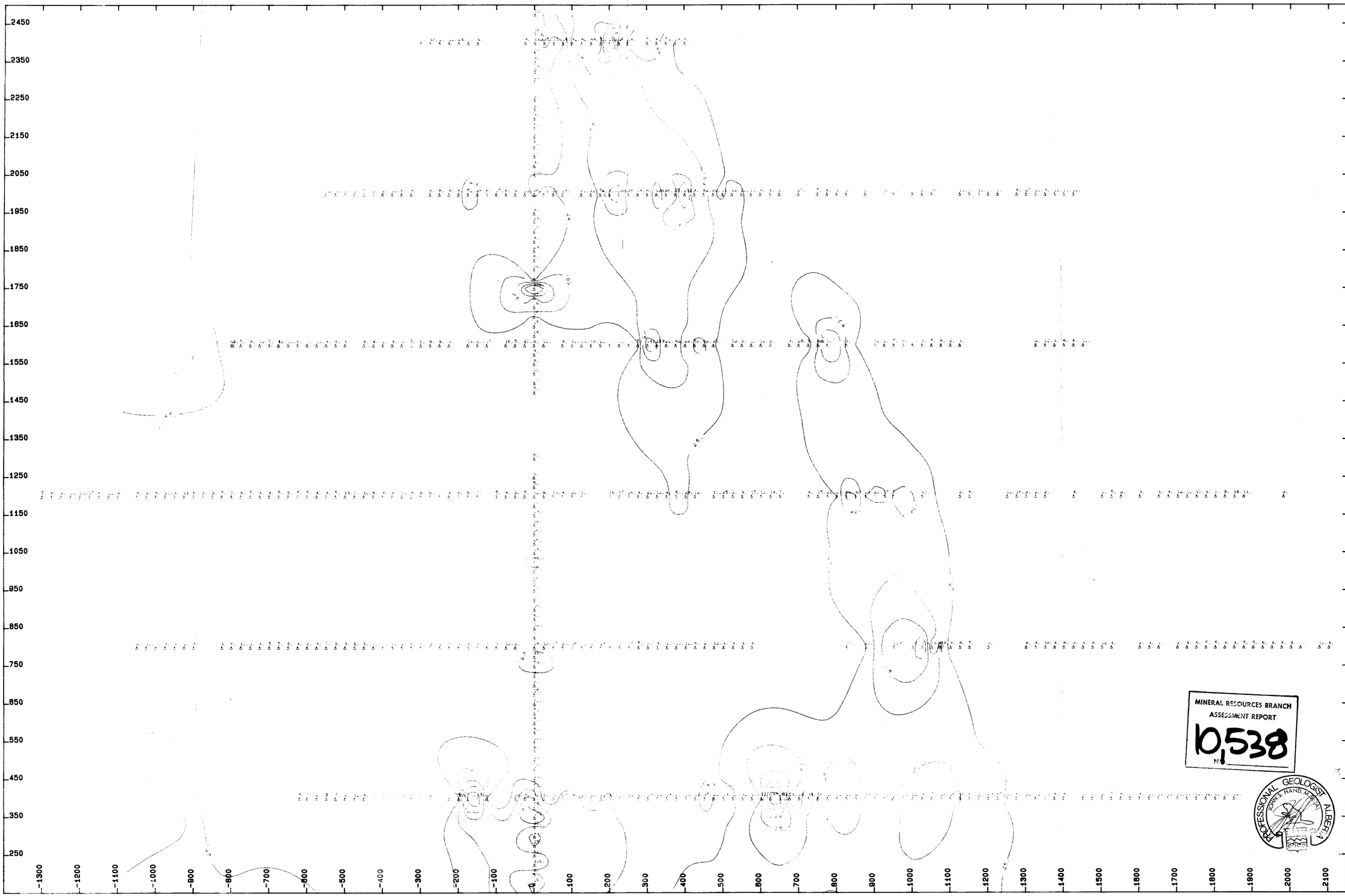
PROFESSIONAL GEOLOGIST
PROVINCE OF ALBERTA

FIGURE 5a-3

Greenwich Resources, INC.

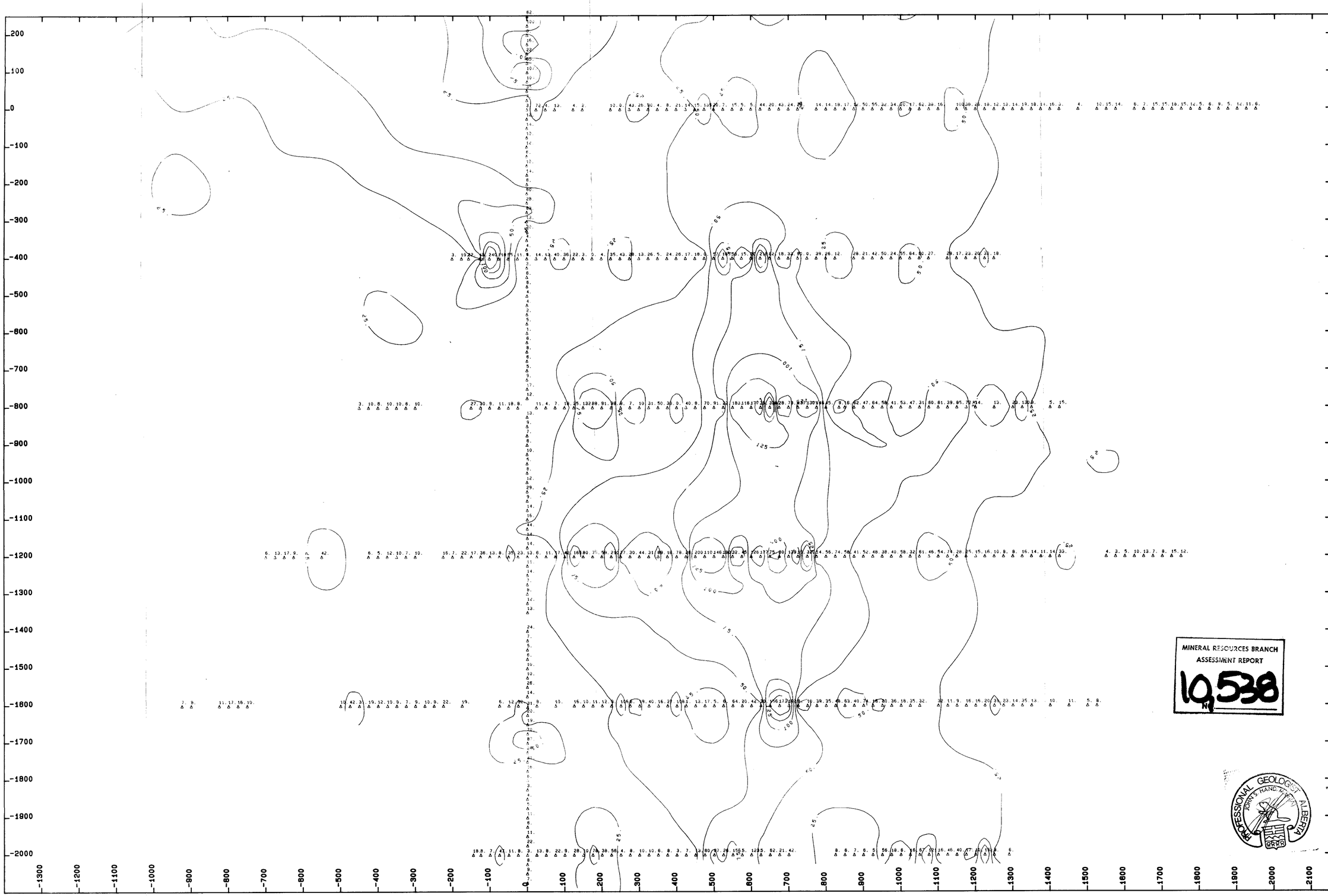
Quadra Property
Magnetic Survey

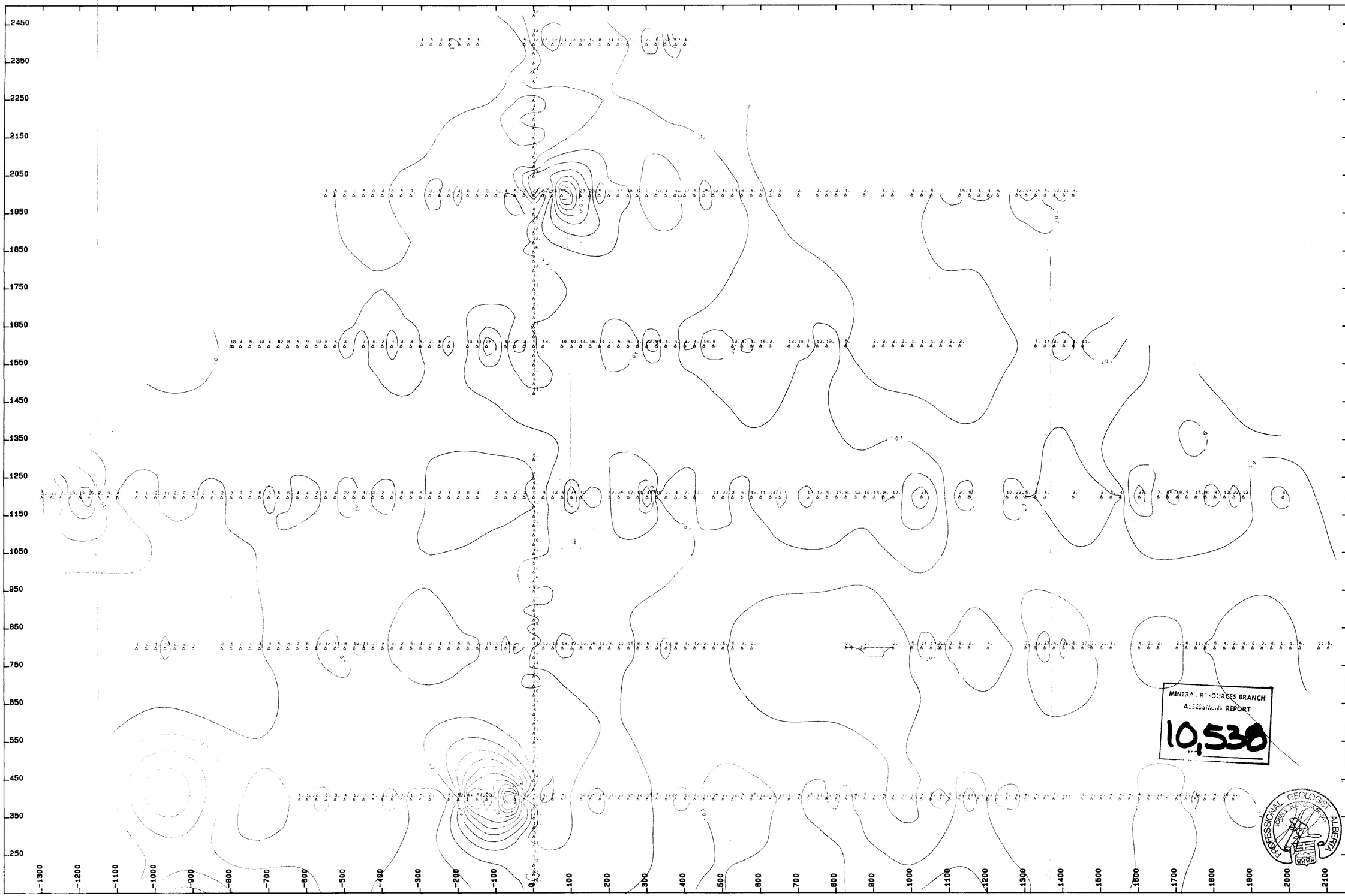
Date: Sept 85 Scale: 1:2500 Ref.No 5014
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



1:5000
300
200
100
0
50
100

Greenwich Resources, INC.
Fig. 3d-1
Quadra Property
Nickel in soils
Date: Jan 82 Scale: 1:5000 Ref.No 5014
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,538
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1044
Robertson Research Canada Limited
PROFESSIONAL GEOLOGIST ALBERTA
Greenwich Resources, INC.
Fig. 3d-2
Quadra Property
Nickel in soils
Date: Jan 82 Scale: 1:5000 Ref.No 5014
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.



1:5000

Greenwich Resources, INC.

Fig. 3e-1

Quadra Property

Cobalt in soils

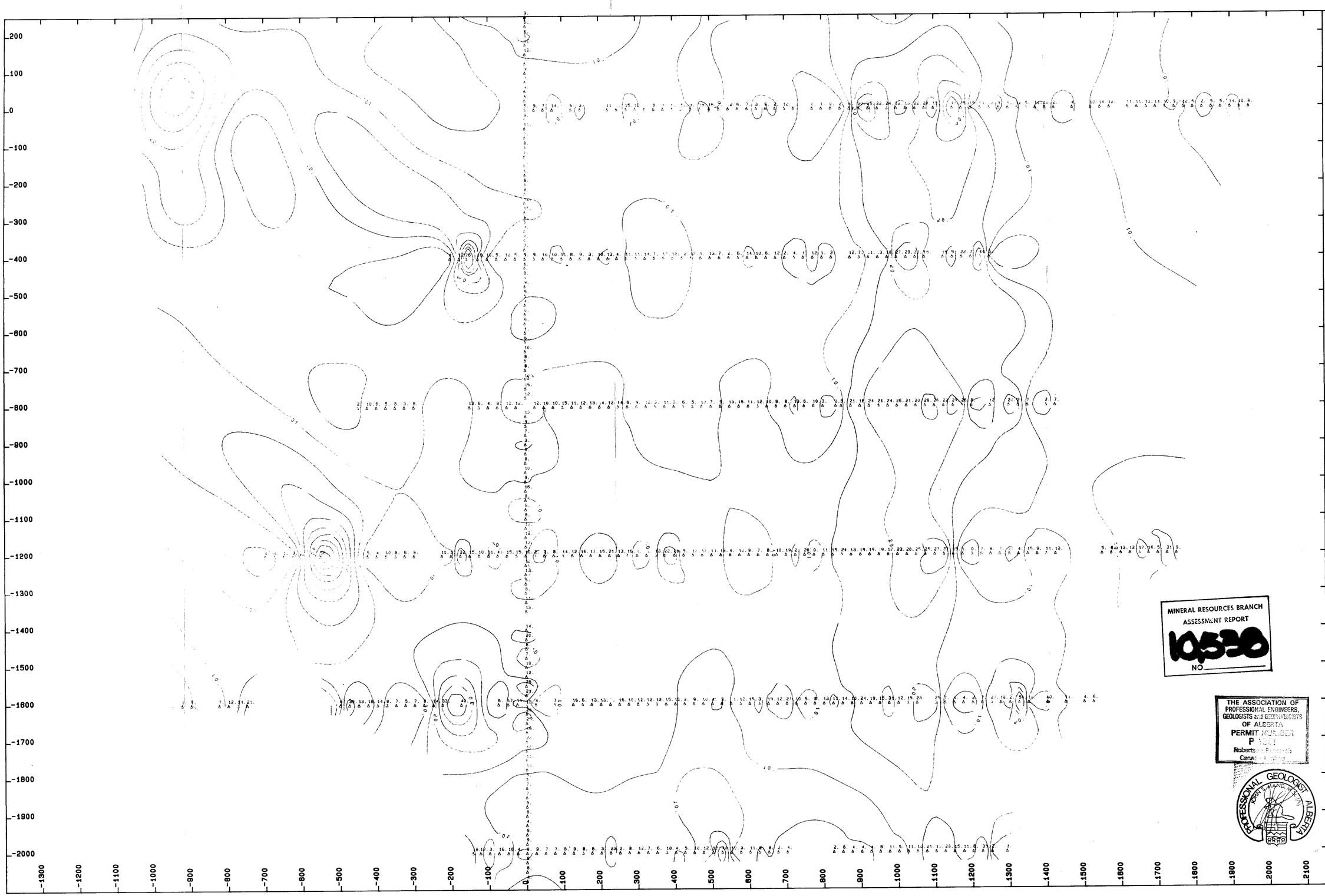
Date: Jan 82 Scale: 1:5000 Ref.No.8614

Prepared for

Robertson Research Canada Limited

by

International Geosystems Corp.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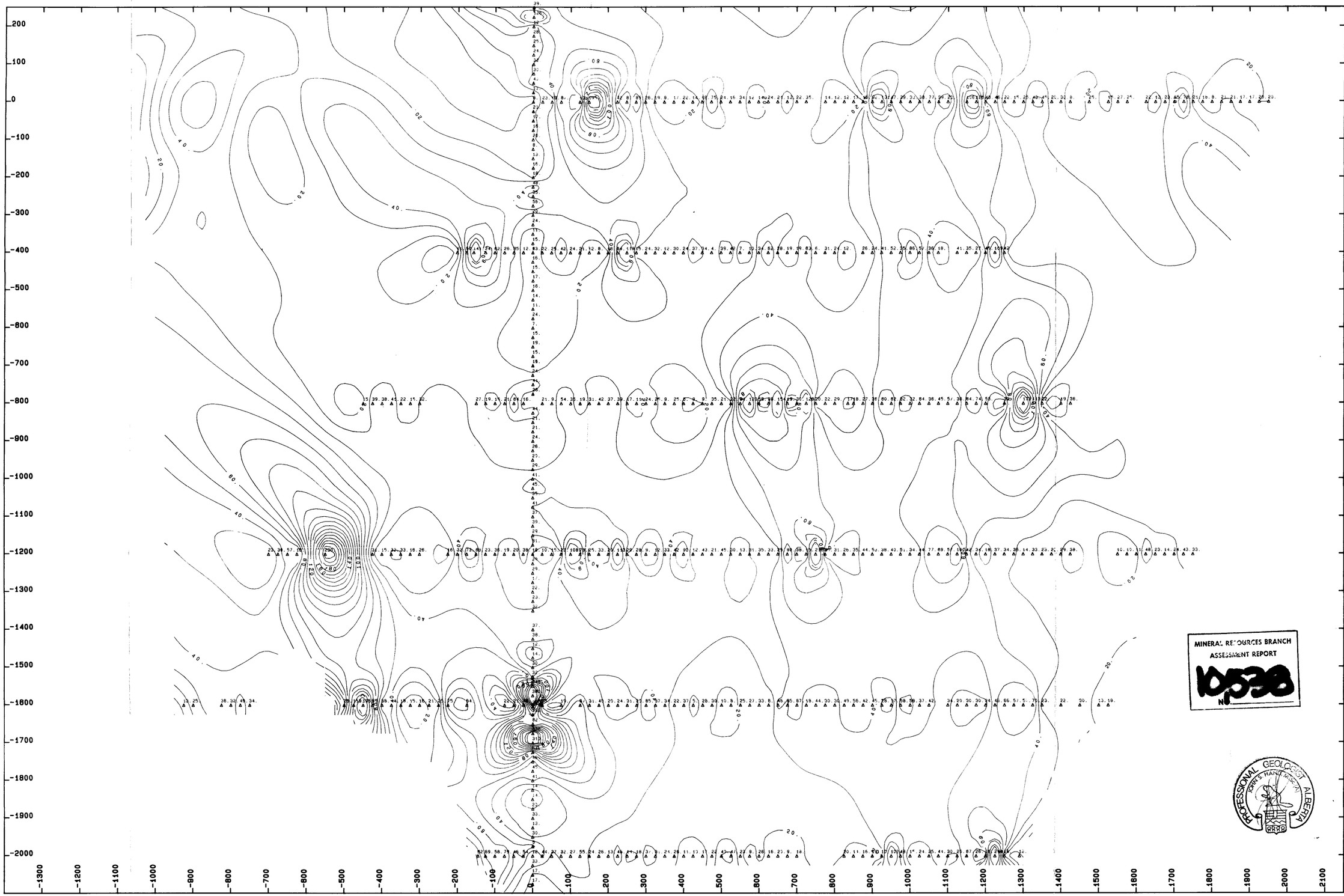
ASSESSMENT REPORT
10,530
NO.
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1041
PROFESSIONAL GEOLOGIST
ALBERTA
Greenwich Resources, INC.
Fig. 3e-2
Quadra Property
Cobalt in soils
Date: Jan 82 Scale: 1:5000 Ref.No.5014
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.
1:5000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ASSESSMENT REPORT
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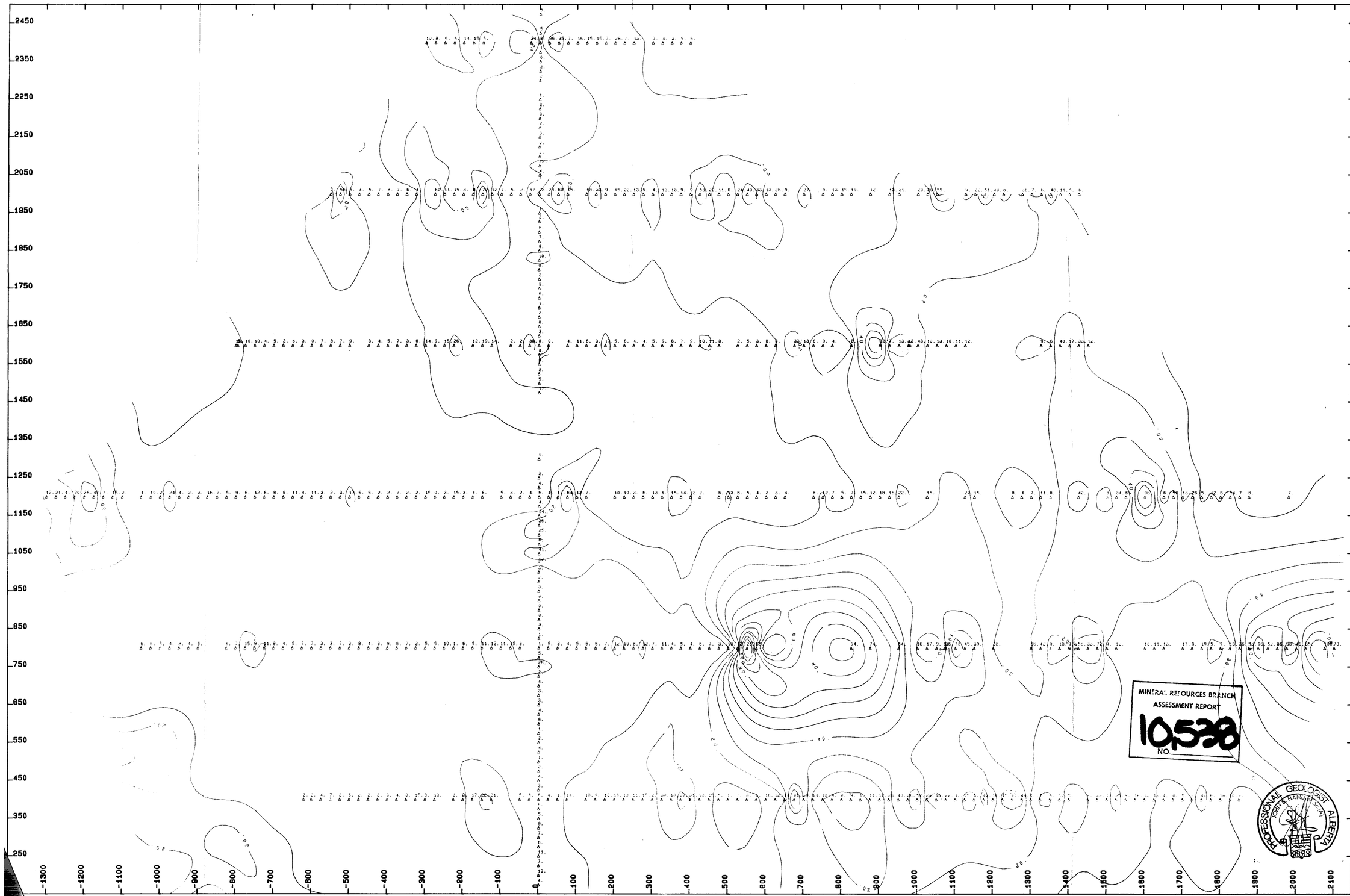
PERMIT NO. P 1571
Robertson Research Canada Limited
PROFESSIONAL GEOLOGIST ALBERTA
NORM S. MANTYKA
1:5000
Greenwich Resources, INC.
Fig.3a-2
Quadra Property
Copper in soils
Date: Jan 82 Scale: 1:5000 Ref.No 5014
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



1:5000 100 0 50 100 200 300

Greenwich Resources, INC.

Fig. 3b-1

Quadra Property

Lead in soils

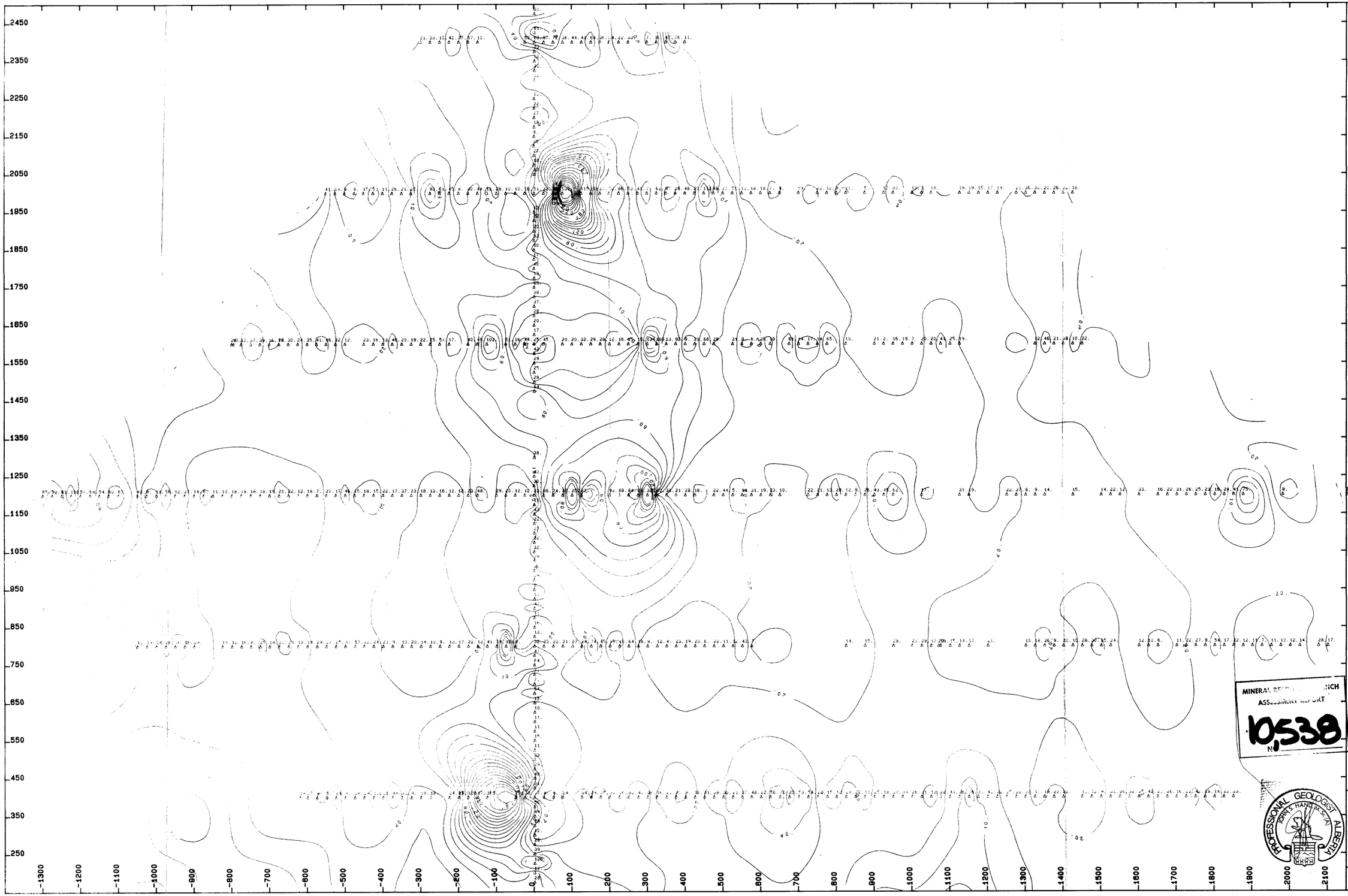
Date: Jan 82 Scale: 1:5000 Ref.No 5014

Prepared for

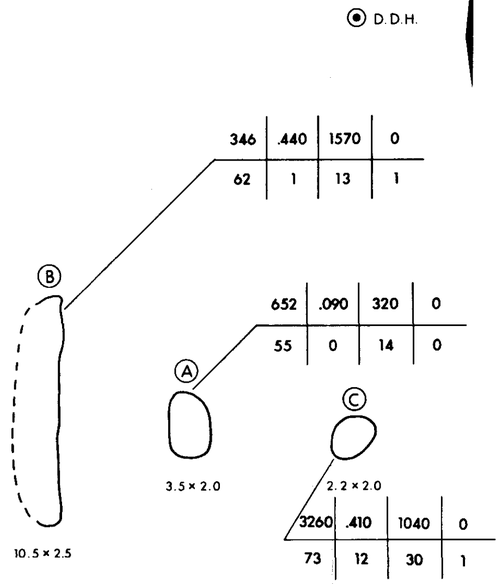
Robertson Research Canada Limited

by

International Geosystems Corp


2450
2350
2250
2150
2050
1950
1850
1750
1650
1550
1450
1350
1250
1150
1050
950
850
750
650
550
450
350
250
-1300
-1200
-1100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10538
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1041
Robertson Research Canada Limited
PROFESSIONAL GEOLOGIST
JOHN S. HANNAH
ALBERTA
1:5000
300
200
100
0
50
100
Greenwich Resources, INC.
Fig.3a-1
Quadra Property
Copper in soils
Date: Jan 82 Scale: 1:5000 Ref.No 5014
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp

TRENCH-T14-01

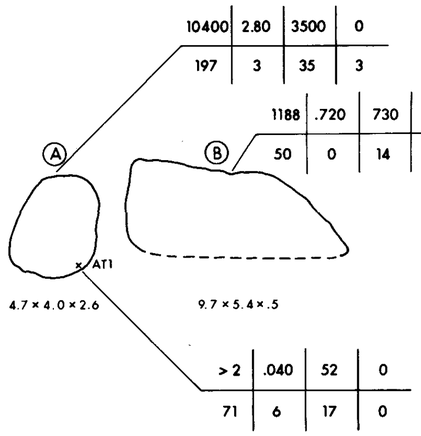


Vx
Py, Cy
G.S.

Vx
Py
G.S.

Vx & Qy
Py

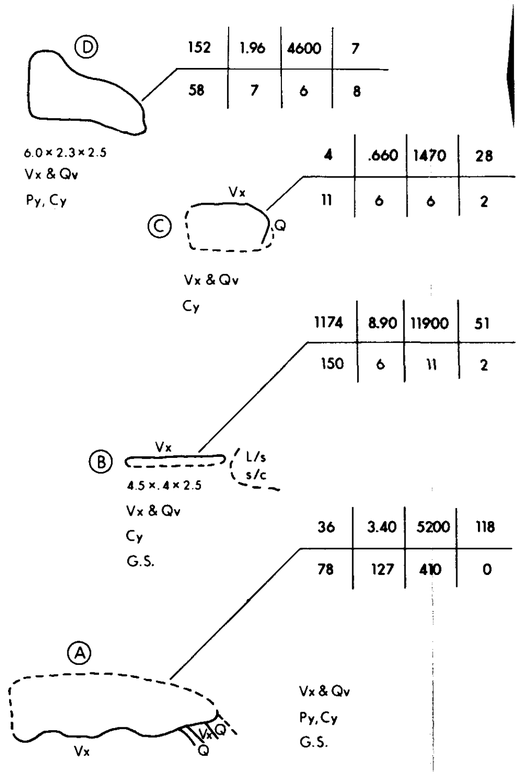
TRENCH-T14-02



Vx
Py
G.S & T.S.

Vx
Py

TRENCH-T14-03



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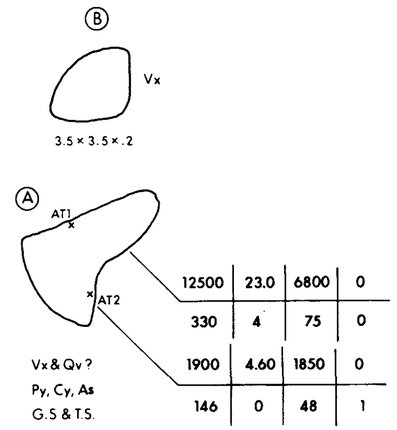
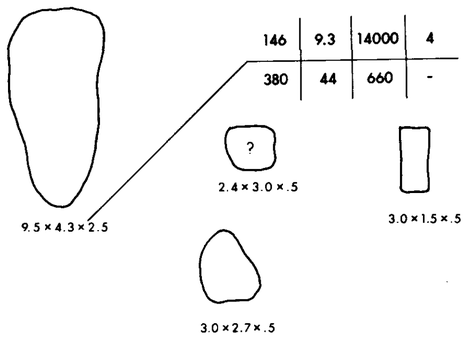


Vx & Qv ?
Py, Cy, As
G.S & T.S.

TRENCH-QD3-01



Vx & Qv
Py, Cy, As, Bn

LEGEND

G.S. - Grab Sample
T.S. - Trench (Chip) Sample
Vx - Volcanics
Ls - Limestone
Py - Pyrite
Cy - Chalcopyrite
As - Arsenopyrite
Bn - Bornite
Qv - Quartz Vein

Au Pbb

All others PPM

Au	Ag	Cu	Pb
Zn	Ni	Co	Mo

SCALE 1cm = 2m

2 0 2 4 6 8 10 12 14

PROFESSIONAL GEOLOGIST JOHN S. HAND, M.SC. ALBERTA

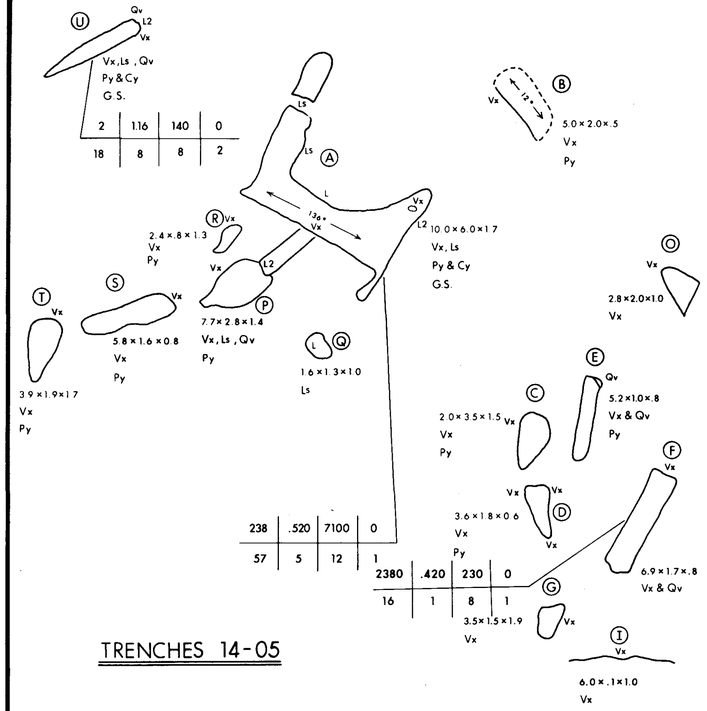
Prepared By
Robertson Research Canada Limited

GREENWICH RESOURCES INC.

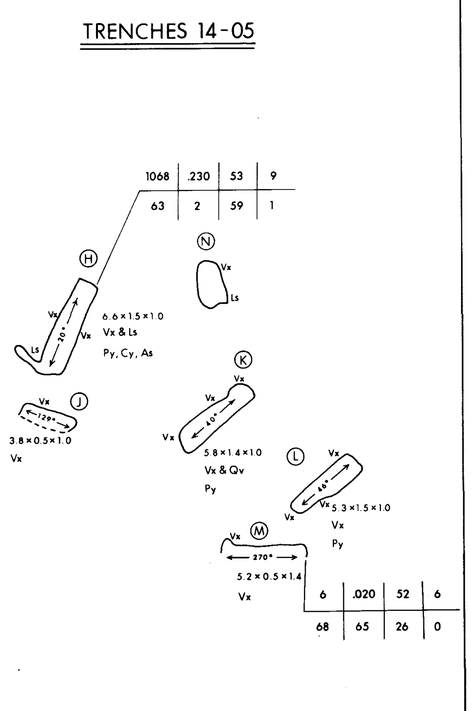
QUADRA PROPERTY

TRENCHES Fig 4a

COMPILED BY: G SINDEN	DATE: NOV, 1981
DRAWN BY: J COONEY	PROJ. No: 5014



TRENCHES 14-05



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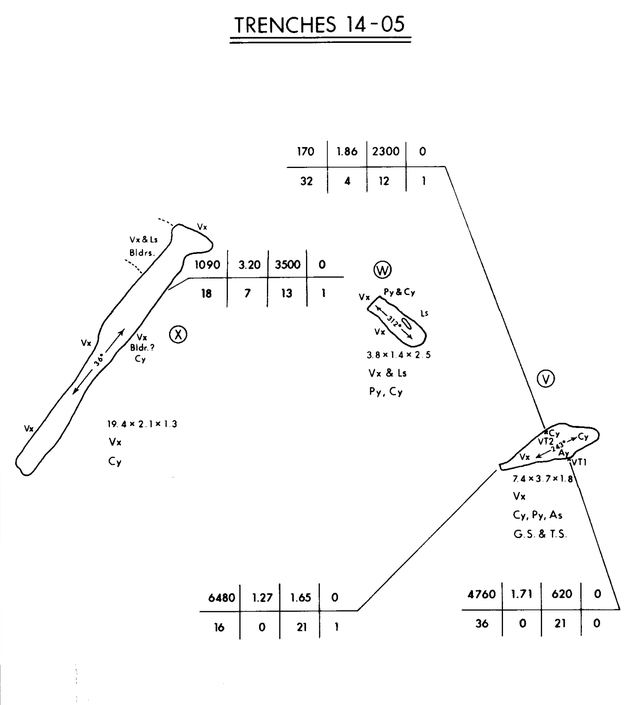
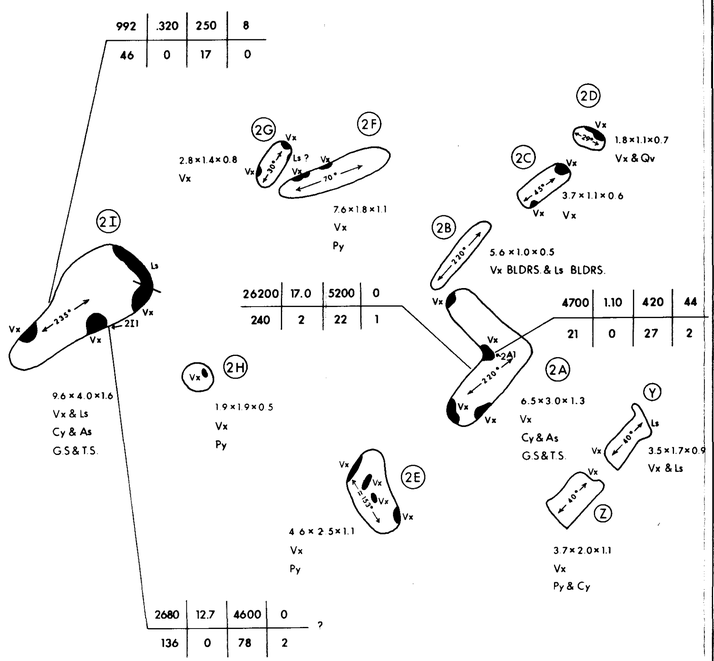
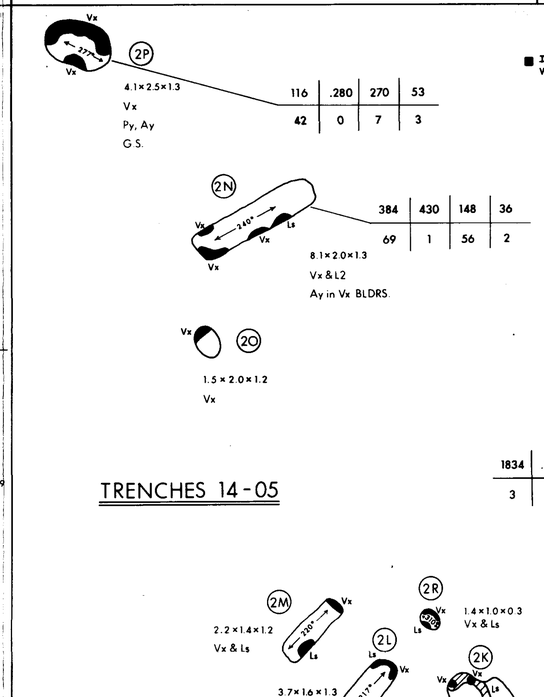


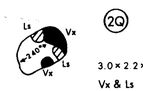
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1041
Robertson Research Canada Limited



TRENCHES 14-05



TRENCH 14-05



I.P.
SEPT#1

I.P.
WFP 7

LEGEND

G.S. - Grab Sample
T.S. - Trench (Chip) Sample
Vs - Volcanics
Ls - Limestone
Py - Pyrite
Cy - Chalcopyrite
As - Arsenopyrite
Bn - Bornite
Qv - Quartz Vein

Au PPb
All others PPM

Au	Ag	Cu	Pb
Zn	Ni	Co	Mo

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 19,536

SCALE 1cm = 2m

2 0 2 4 6 8 10 12 14

Prepared By
Robertson Research Canada Limited

GREENWICH RESOURCES INC.

QUADRA PROPERTY

TRENCHES Fig 4 b

COMPILED BY: G.SINDEN	DATE: NOV., 1981
DRAWN BY: J. COONEY	PROJ. No: 5014

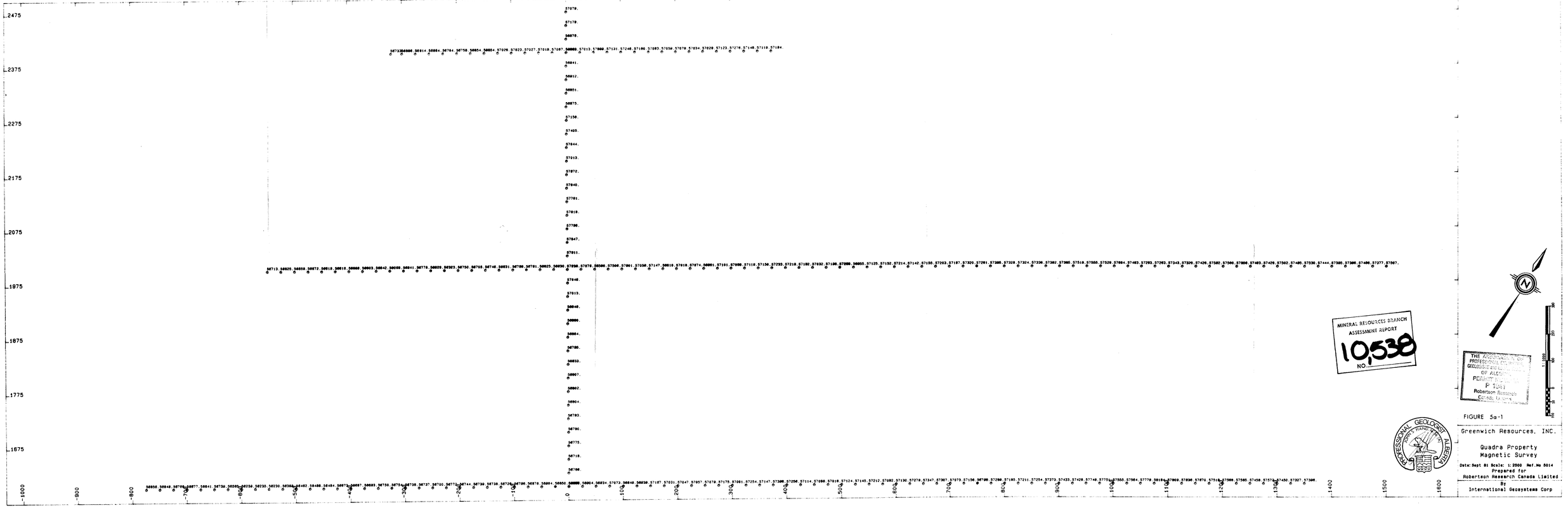
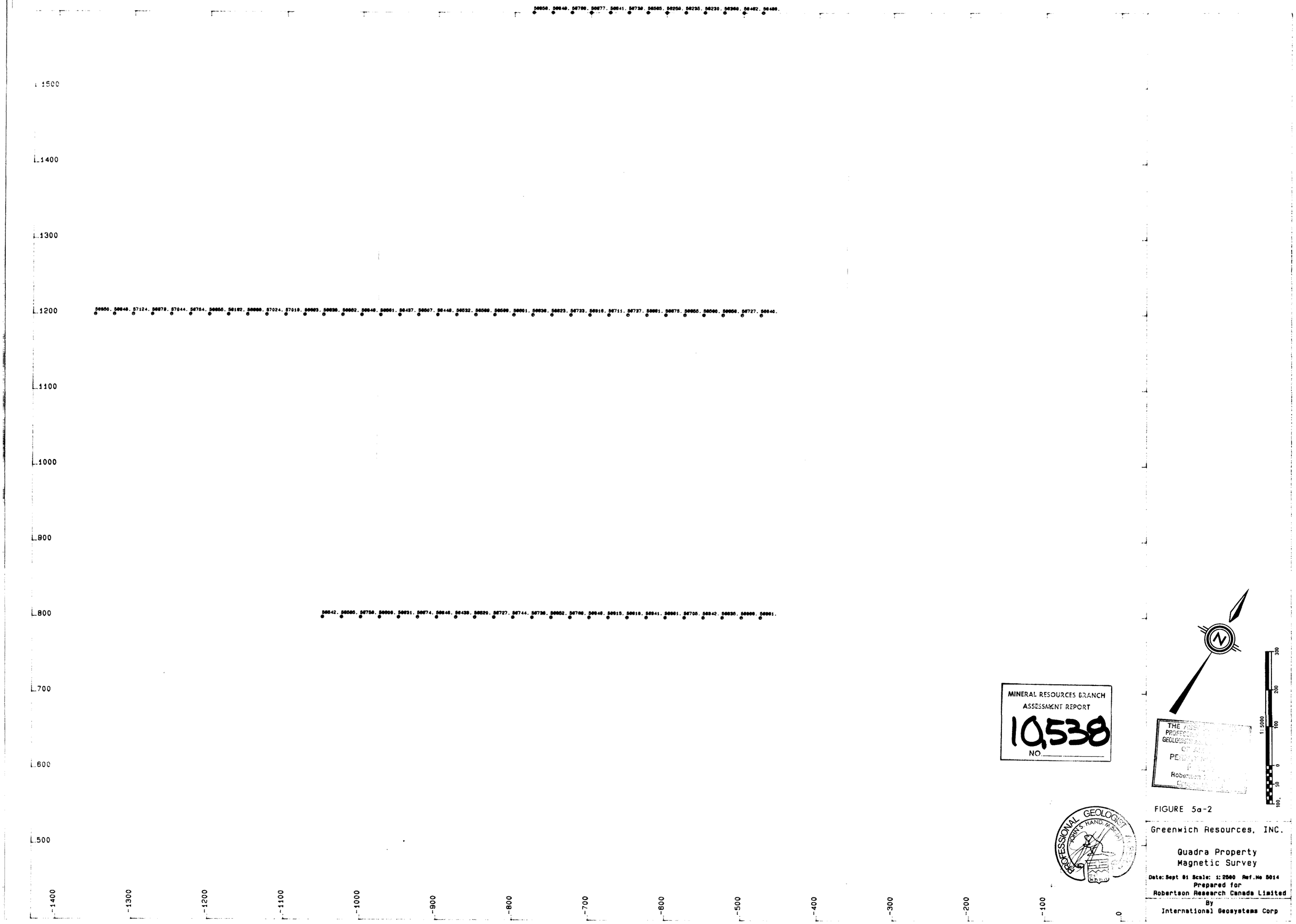


FIGURE 5a-1

Greenwich Resources, INC.

Quadra Property
Magnetic Survey

Date: Sept 81 Scale: 1:2500 Ref.No 8014
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,538
NO.

FIGURE 5a-2

Greenwich Resources, INC.

Quadra Property
Magnetic Survey

Date: Sept 81 Scale: 1:2500 Ref.No 5014
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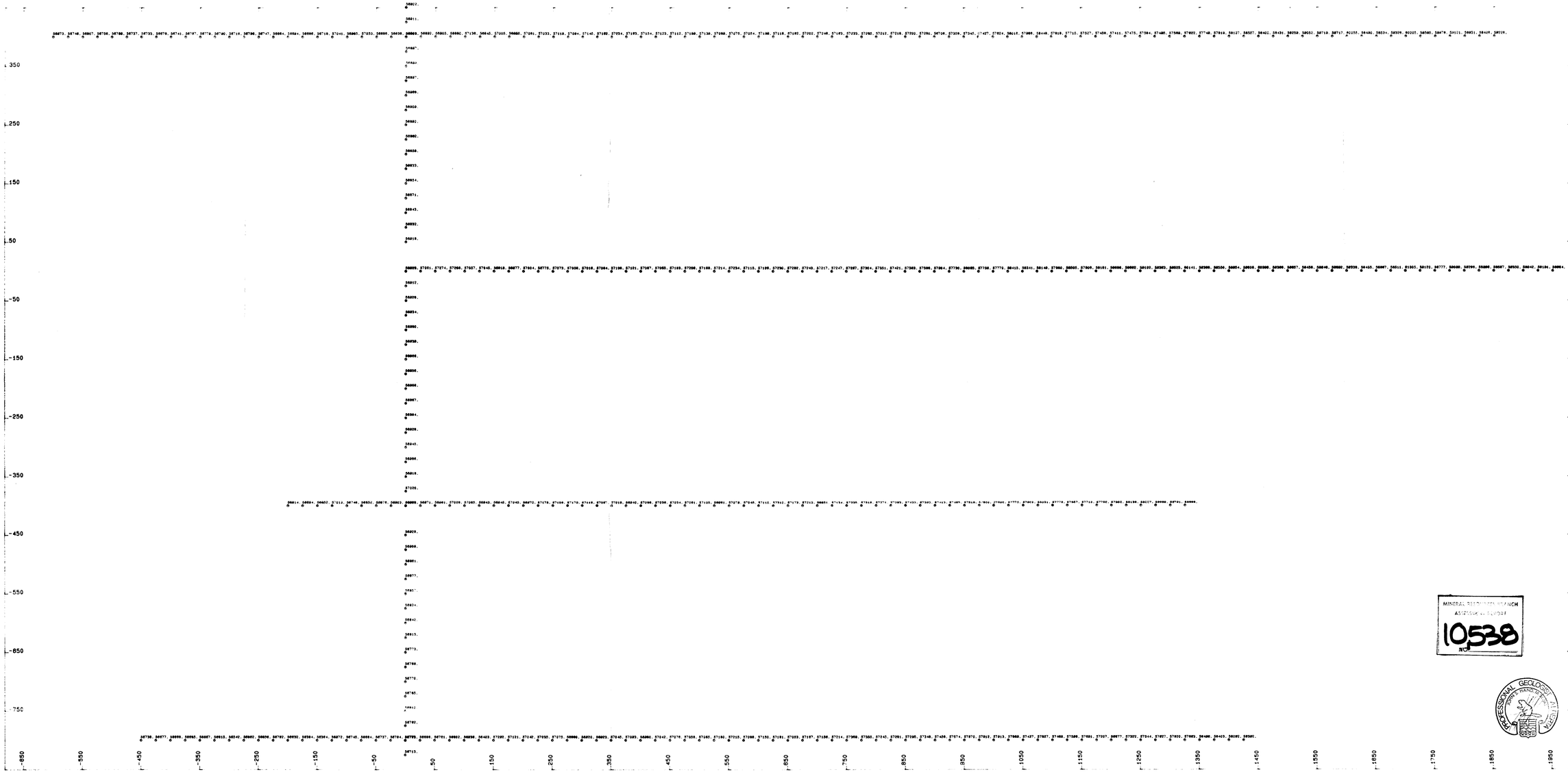

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10538
MAP

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER P 1061
Robertson Research (Canada) Limited

FIGURE 5a-4

Greenwich Resources, INC.

Quadra Property
Magnetic Survey

Date: Sept 81 Scale: 1:2500 Ref.No 5614
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By
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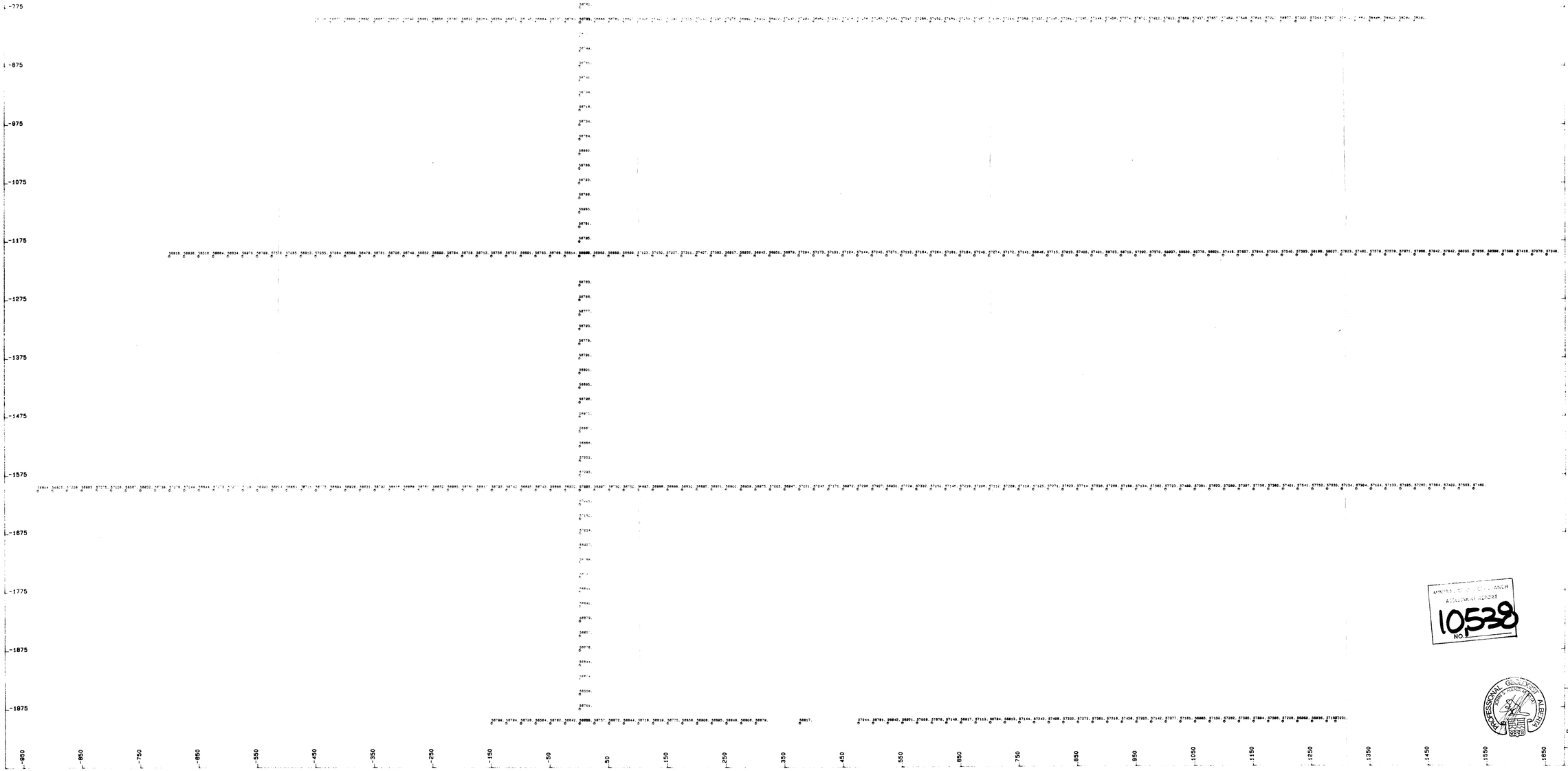
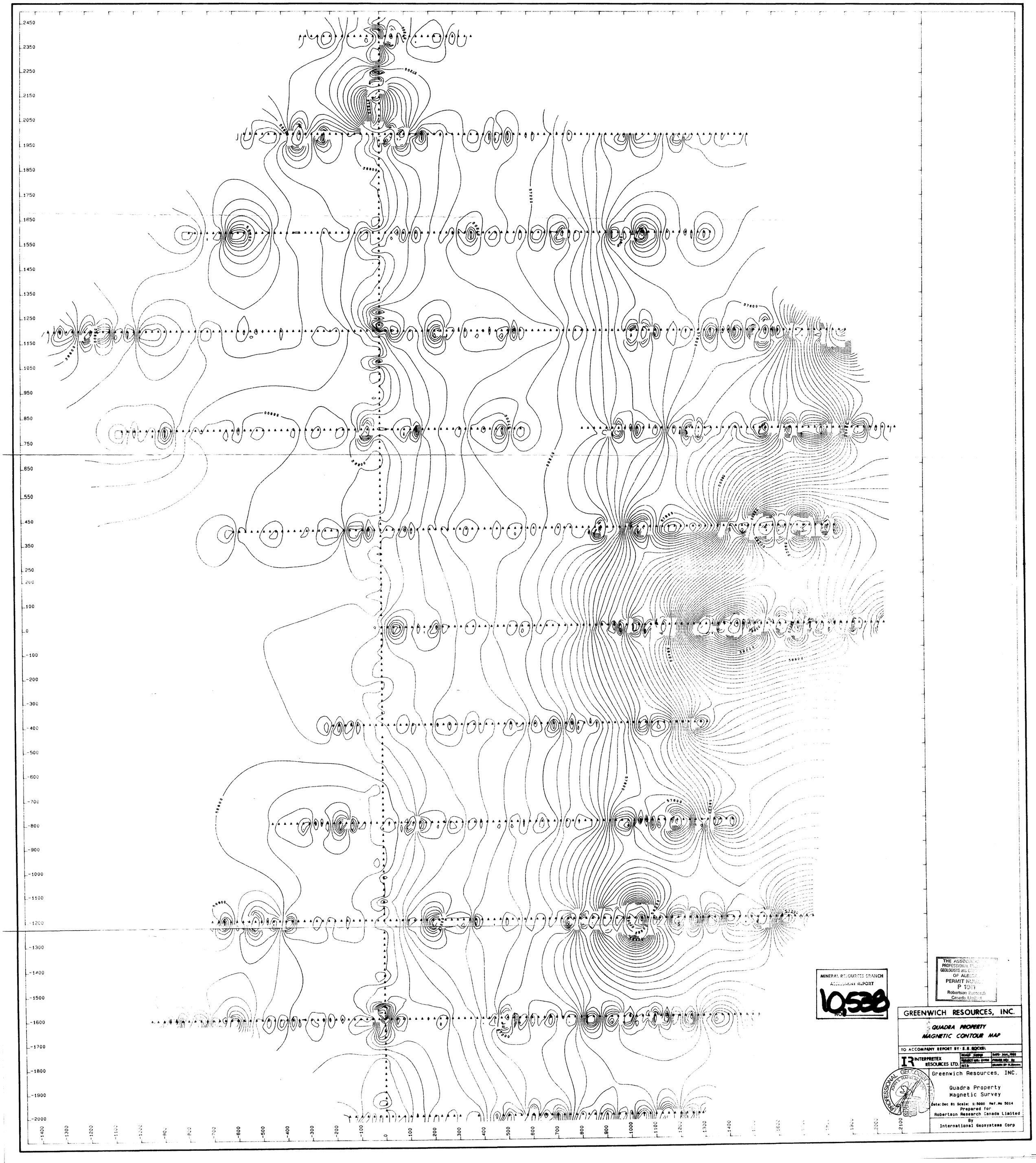


FIGURE 5a-5

Greenwich Resources, INC.

Quadra Property
Magnetic Survey

Date: Sept 91 Scale: 1:2500 Ref.no 5014
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



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GREENWICH RESOURCES, INC.

QUADRA PROPERTY
MAGNETIC CONTOUR MAP

TO ACCOMPANY REPORT BY: S.S. ROCKEL

IR INTERPRETEX RESOURCES LTD.

SCALE: 1:5000 | DATE: JAN., 1982
PROJECT NO.: 81704 | FIGURE NO.: 8c
FILE: | DRAWN BY: M.Stevens

Greenwich Resources, INC.

Quadra Property
Magnetic Survey

Date: Dec 81 Scale: 1:5000 Ref.No 5014
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp

PROFESSIONAL GEOPHYSICIST
JOHN S. HANDLEY
ALBERTA

MINERAL RESOURCES BRANCH
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Robertson Research Canada Limited

PROFESSIONAL GEOLOGIST
JOHN S. HAND M.Sc. F.A.I.
ALBERTA

Greenwich Resources, INC.

Fig. 3b-2

Quadra Property
Lead in soils

Date: Jan 82 Scale: 1:2000 Ref.No 3014

Prepared for
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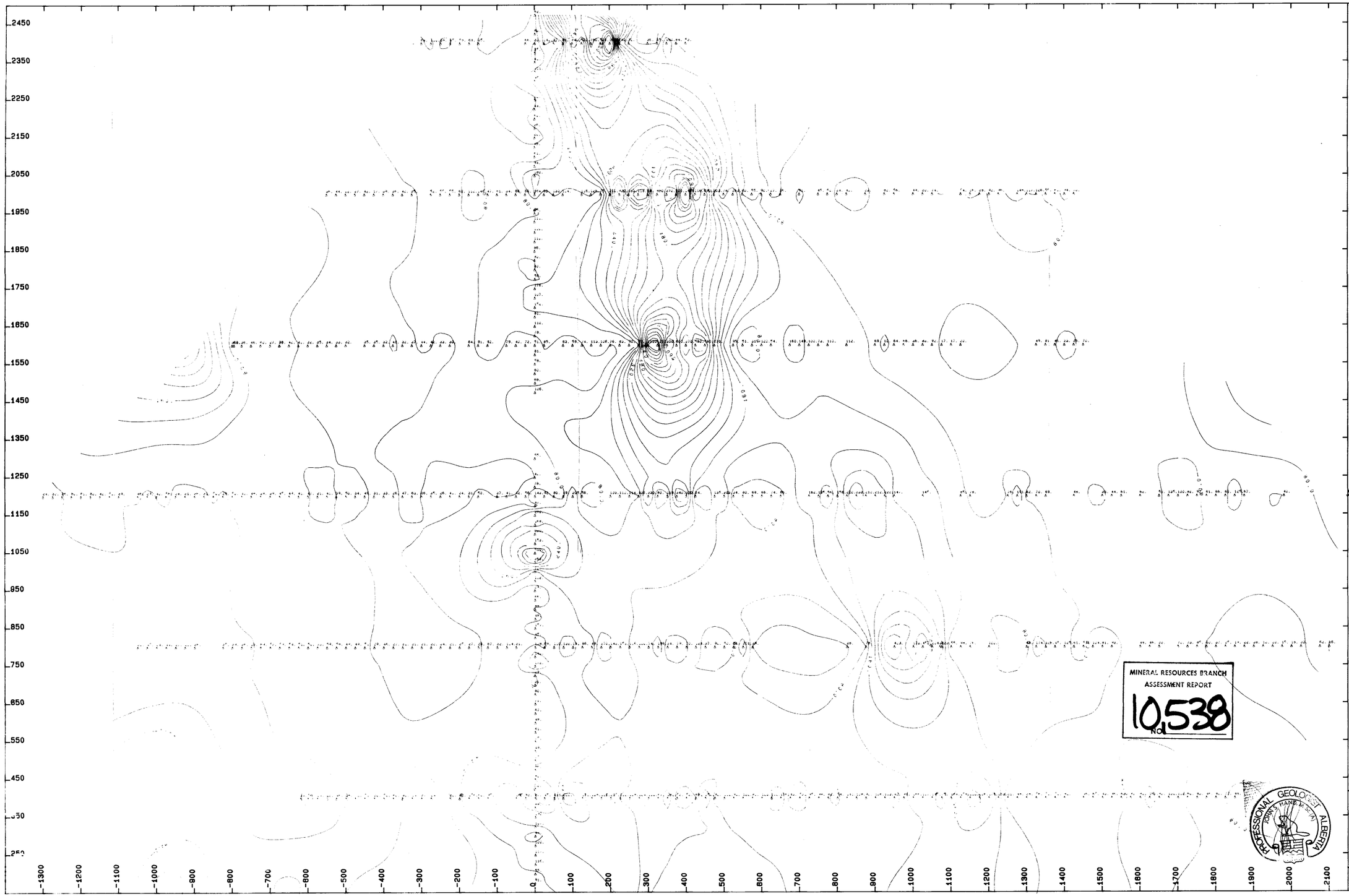
2450
2350
2250
2150
2050
1950
1850
1750
1650
1550
1450
1350
1250
1150
1050
950
850
750
650
550
450
-1300
-1200
-1100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
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P 1078
Robertson Research Canada Limited
1:5000
300
200
100
0
50
100
Greenwich Resources, INC.
Fig. 3c-1
Quadra Property
Zinc in soils
Date: Jan 82 Scale: 1:5000 Ref.No 5014
Prepared for
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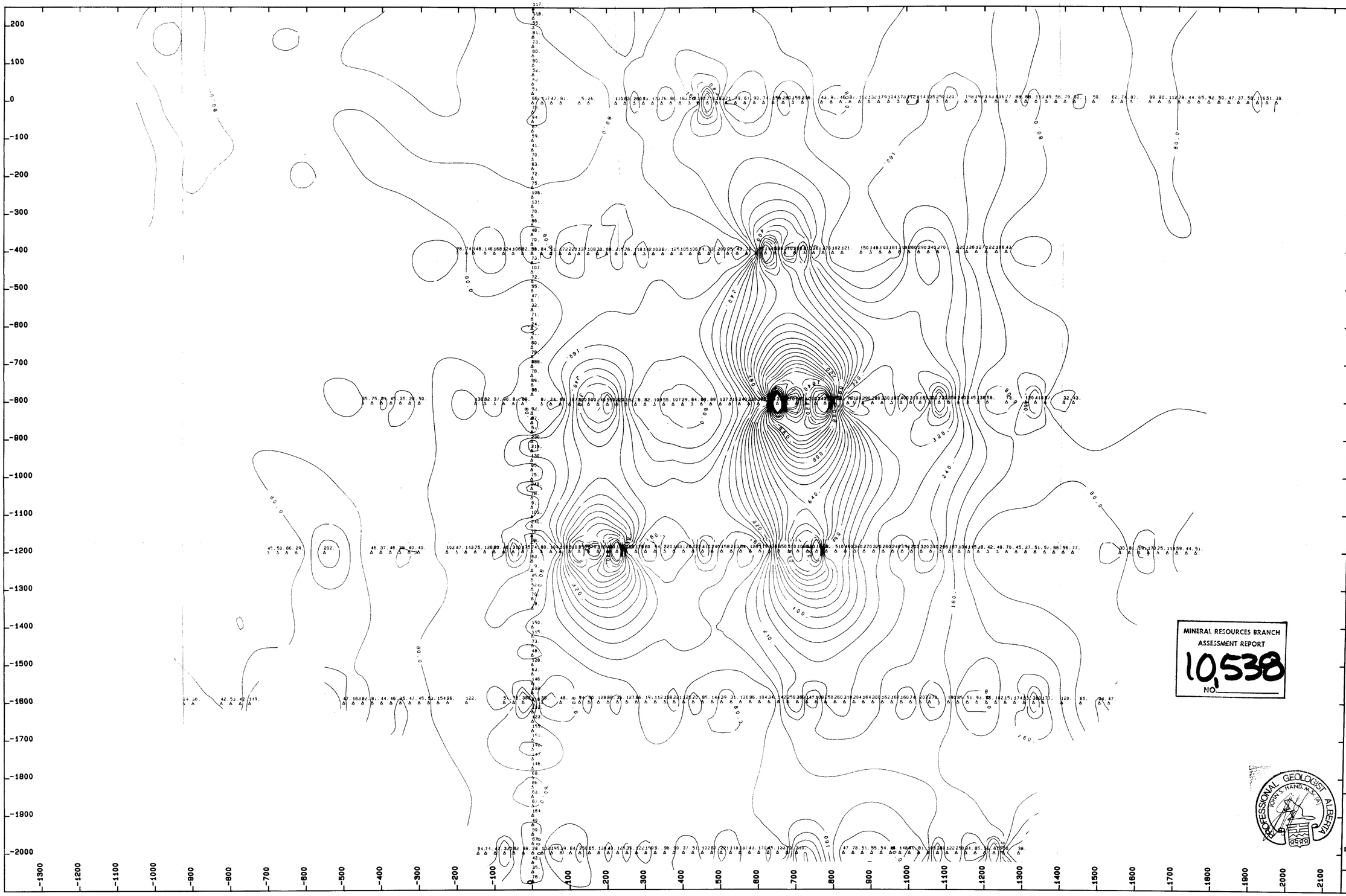
International Geosystems Corp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Greenwich Resources, INC.
Fig. 3c-2
Quadra Property
Zinc in soils
Date: Jan 82 Scale: 1:5000 Ref.No 5014
Prepared for
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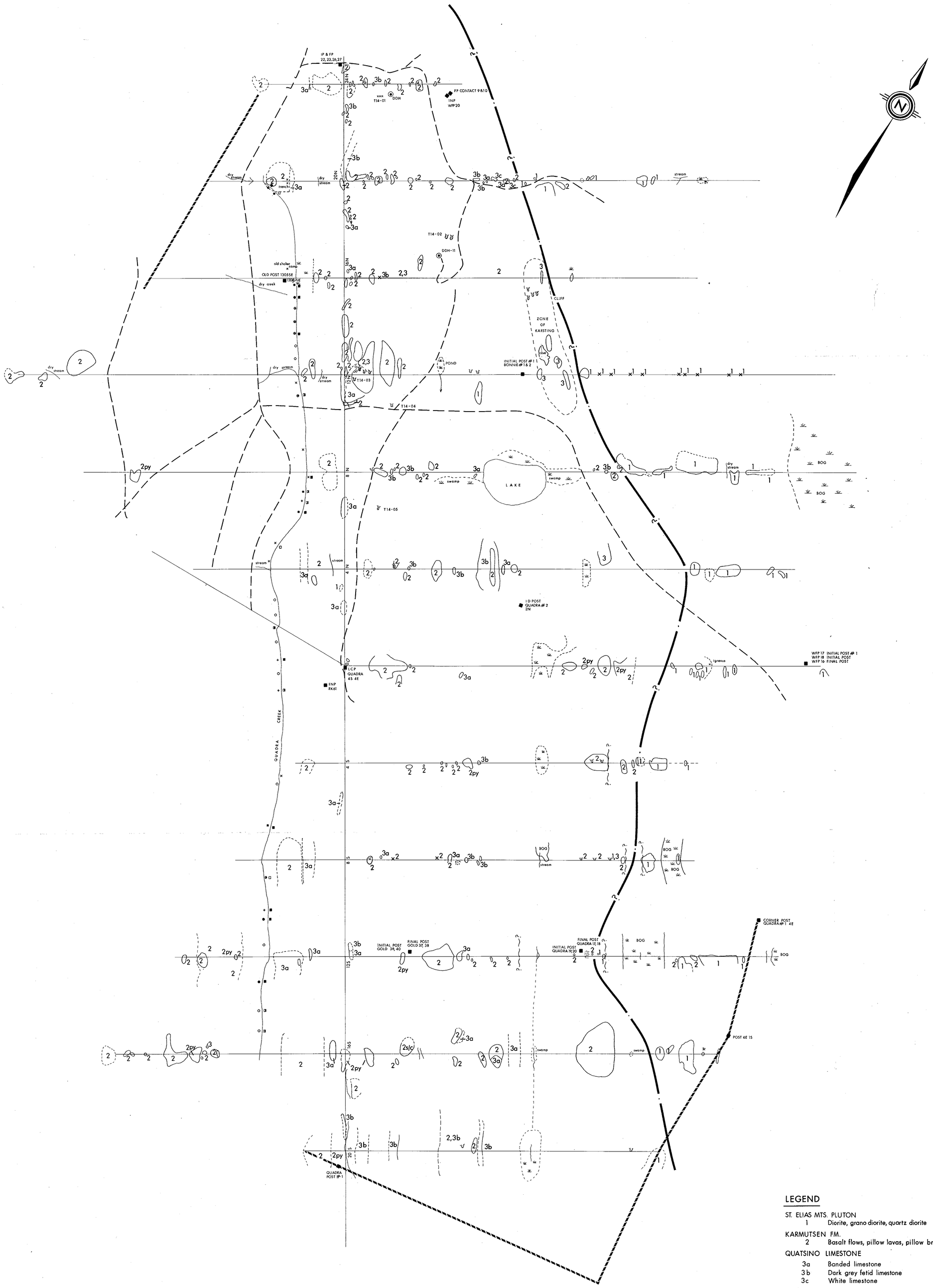

LEGEND

ST. ELIAS MTS. PLUTON
- 1 — Diorite, grano diorite, quartz diorite

KARMUTSEN FM.
- 2 — Basalt flows, pillow lavas, pillow breccia

QUATSINO LIMESTONE
- 3a — Banded limestone
- 3b — Dark grey fetid limestone
- 3c — White limestone
- Bog or swamp
- Trenches
- Boulders
- Possible fault
- Claim posts
- D.D.H.
- Geological contact

SCALE 1cm = 50 m

Prepared By
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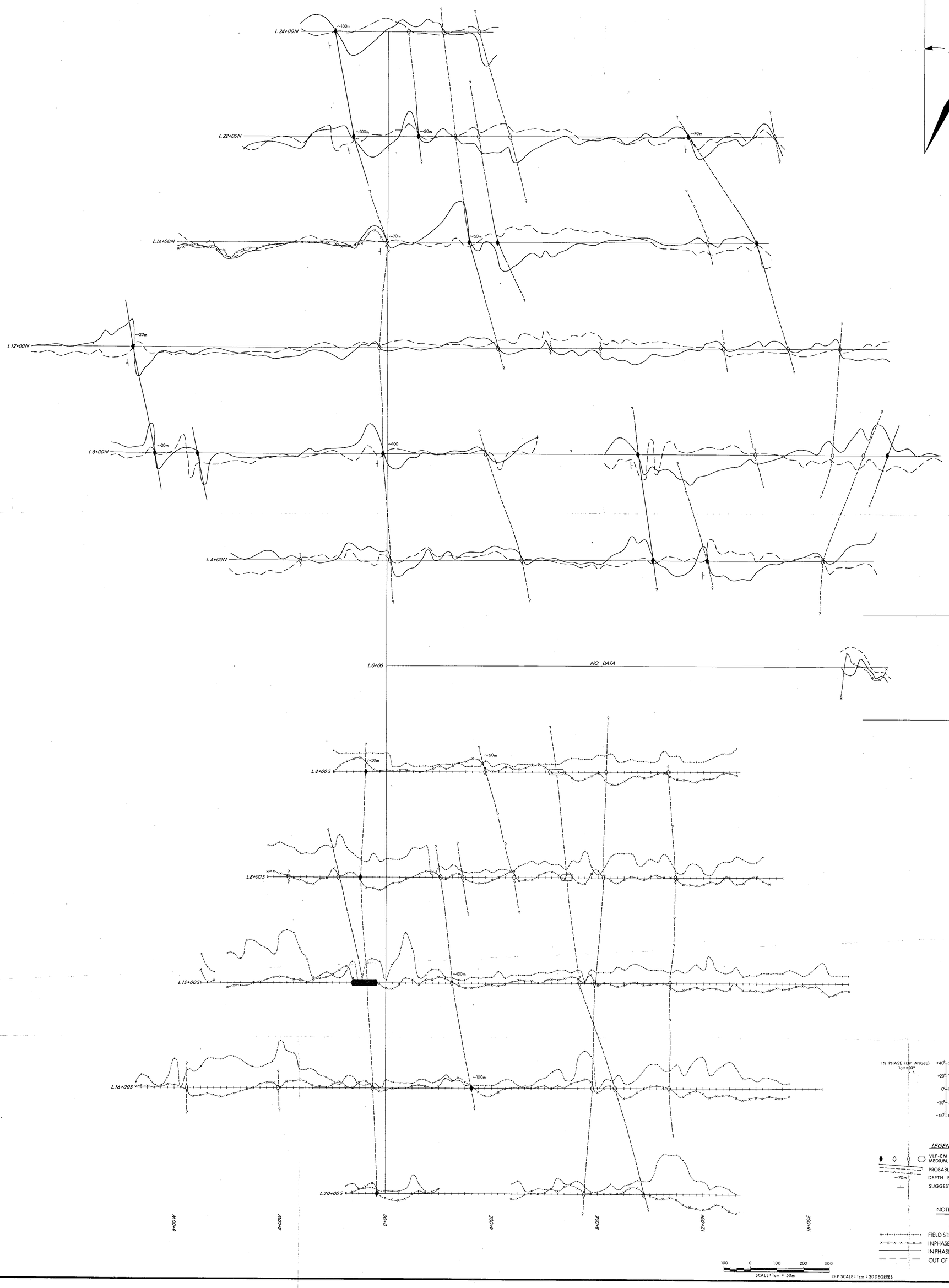
GREENWICH RESOURCES INC.

QUADRA PROPERTY

GEOLOGY

FIG. 2

COMPILED BY: G.SINDEN	DATE: NOV., 1981
DRAWN BY: J. COONEY	PROJ. No: 5014



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PERMIT NUMBER P 1541

PROFESSIONAL GEOLOGIST ALBERTA

GREENWICH RESOURCES, INC.

QUADRA ISLAND
VLF-EM ELECTROMAGNETIC PROFILES
EM-16 & PHOENIX VLF-2

TO ACCOMPANY REPORT BY: E. R. ROCKEL

INTERPRETEX RESOURCES LTD.

SCALE: 1:5000	DATE: JAN., 1982
PROJECT NO.: 81905	FIGURE NO.: 5b
N.T.S.	DRAWN BY: H.Meyers

Prepared By
Robertson Research Canada Limited

GREENWICH RESOURCES INC.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT NO. 10,538

QUADRA PROPERTY
VLF SURVEY
FIG. 6b

COMPILED BY: G. SINDEN	DATE: NOV. 1981
DRAWN BY: J. COONEY	PROJ. No.: 5014