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GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL

ASSESSMENT REPORT
MAMMOTH PROPERTY (MARIPOSITE CLAIMS)
NELSON MINING DIVISION
NTS 82 F/6
Lat: 49°20' Long: 117°15'

OWNER: GREENWICH RESOURCES INC.

OPERATOR: GREENWICH RESOURCES, INC.

CONSULTANT CONTRACTOR: ROBERTSON RESEARCH CANADA LIMITED

BY

JOHN S. HAND, M.Sc.(A), P. Geol.
ROBERTSON RESEARCH CANADA LIMITED

FEBRUARY 1982

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
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ROBERTSON RESEARCH

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1. SUMMARY

This report describes and summarizes field and technical activities and results carried out during 1981 on the Mammoth property located some 15 kilometres south of Nelson in southeastern British Columbia.

The property has had a long history of exploration and development. Early activities attempted to develop gold and silver production from veins but emphasis shifted to exploration for disseminated copper-molybdenum mineralization in the late 1960's. Erratic, but widespread disseminated copper and molybdenum sulphides are found in a volcano-sedimentary assemblage of Jurassic age intruded by Cretaceous granitic rocks of the Nelson Batholith. Old drill core assays have been recorded up to 0.687% Mo and 0.627% Cu (limited widths) and new trench assays up to 0.066% Mo and 1.66% Cu. The geological setting and environment is indicative and reminiscent of economic porphyry systems found elsewhere in British Columbia and the western United States.

Extensive reconnaissance and follow-up programs and activities including soil sampling, a magnetometer survey, lithogeochemistry and geological mapping has confirmed the area of interest and, identified other promising anomalies and new areas of interest.

Continued exploration is recommended. A TURAM electromagnetic survey or Pulse EM survey is proposed to probe for deeply emplaced disseminated copper-molybdenum mineralization. The application may take the form of either direct identification of semi-massive/disseminated sulphides or, use of indirect information related to structures or

geological units localizing or controlling mineralization. Diamond drilling should be guided not only by geophysical parameters but also, geological and geochemical data.

Continued reconnaissance and follow-up activities are recommended over newly acquired mineral dispositions. Total costs for 1982 activities are estimated to be $624,550.00.

2. INTRODUCTION

2.1 Location and Access

The Mammoth Property (formerly called the "Monarch") in the Nelson Mining Division of Southeastern British Columbia is located at an elevation of 1640 m near the headwaters of Keno Creek, approximately 15 km south-southwest of the city of Nelson (Figure 1).

The Mammoth Property is accessible by a forestry road to Provincial Highway 6 between Nelson and Salmo, B.C.

2.2 Physiography and Climate

Topography is rugged throughout the Nelson area but many logging roads have enhanced local accessibility. Outcrop is abundant at higher elevations, while valleys tend to be heavily vegetated and poorly exposed. The Mammoth Property is well-exposed at higher elevations and poorly exposed at lower elevations.

The climate of the West Kootenay Region is characterized by warm summers, normally extending from May to September, a cool and damp fall and spring and relatively mild winters. Snowfall usually exceeds 2 m and restricts normal winter exploration activities.

2.3 History and Previous Work

Nelson was founded in the late 1800's to serve early mining interests and developments in the East and West Kootenay Regions. The community grew quickly as a resource centre to prospecting and mining activities in mining camps at Ainsworth, Sandon and Ymir.

The decline of mining during the 1920's and 1930's resulted in Nelson becoming a transportation, government and forestry centre. Recent exploration interest and activities have sparked a revival in mining in the Nelson area and local enterprises and businesses have responded favourably to this activity.

Recorded exploration and mining activities on the Mammoth Property extend back as far as 1917 when early developers pursued sulphide mineralization in small open cuts, a tunnel and a shaft. Interest was directed primarily at gold and a sample taken along the bottom of an open cut near the shaft assayed: trace Au, 1.6 oz/ton Ag, and 0.6% Cu (B.C. Ministry of Mines Report, 1917, page 171).

Further work during the 1920's was also directed at Au-Cu-Ag. Most of the work consisted of trenching, the most promising of which exposed 8 m of Cu-Au mineralization averaging 1.5% Cu and (approximately) $70.00 in Au (1980 prices). A 30 m tunnel intersected the subsurface extension of this mineralization at a depth of 15 m (B.C. Ministry of Mines Report, 1920, page 143).

The Mammoth Property received only limited attention until the late 1960's when Welland Mining Ltd., Vancouver, B.C. began exploring the property for porphyry Cu-Mo potential. This activity may have been prompted by Mulligan's 1952 description reported in Little (1959) of sparsely disseminated scheelite associated with chalcopyrite in porphyritic diorite.

Welland's activity continued over the period 1967 to 1972 and eventually included Pechiney Development Ltd. as a joint venture partner. Exploration work included geochemical sampling (a soil survey), geophysical surveying (a magnetometer survey), trenching (re-opening of old trenches and new excavations), and diamond drilling (18 shallow holes). The results are documented and summarized in a 1971 report (Croteau, 1971).

Significant mineralization was recorded in five drillholes, but according to Croteau "the property needs a full and proper exploration program. The drilling and other work done to date served a purpose, but leaves much to be desired..."

Welland Mining Ltd. allowed the claims to lapse and the property was taken up shortly after under a prospector partnership between Eric Denny, Jack Denny and Harry Sanders. E. Denny completed additional soil geochemistry on a closely spaced grid in the main Area of Interest in 1979. The results were largely inconclusive.

In 1980, Robertson Research Canada Limited investigated the Mammoth Property on behalf of Celcan Minerals Limited and recommended an option agreement.

2.4 Ownership and Terms of Acquisition

Eric Denny, Jack Denny and Harry J. Sanders of Nelson, B.C. acquired eight Reverted Crown Grants that constituted the Mammoth group in 1978. Under the direction of Celcan Minerals Ltd. they increased the holdings by 26 units (Mariposite #1 and #2) in September 1980. In August 1981 the Actinolite claims totalling 66 units were staked. Names, lot numbers, record numbers and assessment requirements of the lands included in the agreement may be found in Appendix 1.

2.5 Recent Work

A summary of work done is as follows:

Geochemical Survey
The following samples were collected and analysed:
1103 soils
117 silts
320 rock-chips

Geophysical Survey
26.1 line kilometres of magnetics

Prospecting and Geological Survey
Approximately 800 hectares were mapped at a scale of 1:5000, and approximately 50 hectares at a scale of 1:1000.

Linecutting
21.25 kilometres of line were cut.

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

3. GEOLOGY

3.1 Regional Geology

The Mammoth Property lies within the Bonnington Map-Area and has been geologically mapped and described by Mulligan, 1952 and Little, 1960 (Figure 1).

The Nelson-Salmo area is underlain by a north-south trending Mesozoic volcano-sedimentary package wedged in Nelson Plutonic Rocks flanking to the east and west.

Small and large intrusive outliers infer a variable thickness for cover of pre-Nelson rocks. This feature is accentuated by the rugged topography.

A table of formations (after Mulligan, 1952) is shown in Table 1.

No major faults or tectonic traces are known to traverse the area while the major structure appears to be a syncline, the trough of which is primarily occupied by Hall Formation rocks.

3.2 Local Geology

Only three of the formations listed and identified in Table 1 are of concern in the area on and surrounding the Mammoth Property (Figure 2).

TABLE 1

TABLE OF FORMATIONS[1], SALMO-NELSON AREA

Period	Formation	Lithology
Cretaceous or Tertiary	Post-Nelson dykes and sills	Feldspar-quartz-augite porphyry, aplite, lamprophyre, diabase, pegmatites
		Relation unknown
Cretaceous (?)	Nelson intrusions	Granodiorite, granite, diorite; quartz-diorite and diorite satellite facies
	Intrusive contact	
	Silver King Porphyry	Quartz diorite
Intrusive contact		
Jurassic or Cretaceous	Beaver Mountain Formation (Rossland Formation)	Augite andesite and basalt porphyry flows, breccia, agglomerate; minor tuff, conglomerate, argillite, limestone(?)
Conformable contact		
Jurassic and(?) Cretaceous	Hall Formation	Siltstone, greywacke, conglomerate, argillite; quartzite, quartz-biotite and amphibole schist and gneiss; limestone. Minor flows, agglomerate, tuffs
Essentially conformable, local erosional unconformity.		
Triassic and(?) Jurassic	Elise Formation	
Conformable contact		
Triassic	Ymir Formation	
(?)	Bonnington Complex	

[1]After Mulligan, 1952

3.2.1 Hall Formation

The Hall Formation consists of conglomerate, greywacke-sandstone, quartzite, banded siltstones and cherty quartzitic siltstones, and argillites, with minor intercalated flows, tuffs and agglomerates.

The metasediments are mostly siltstone/argillite, with minor lenses of sandstone, greywacke and conglomerate. A note here on the conglomerates. There are two types recognized on the property--a polymictic matrix supported intraformational conglomerate that is hard to correlate because of its poor exposure, and a monomictic, clast supported, schistose, basal conglomerate. The former has only been mapped in two outcrops and seems to give the impression of tight isoclinal folding. So what appears to be simple structure is actually quite complex. The sandstone and greywacke lenses are actually very limited in outcrop extent and are not worth mentioning further.

The siltstone is for the most part black, siliceous, and contains varying amounts of pyrite. Traversing to the east one encounters banded siltstone containing thin (<1 mm) lenses of coarser sediment. The banded siltstone is generally less pyritiferous than the massive siliceous variety that outcrops near the mineralization. This siltstone is very rusty and severely fractured in contact with the intrusives.

3.2.2 Beaver Mountain Formation

The Beaver Mountain Formation (Mulligan, 1952) has been tentatively correlated with the Rossland Formation (Little, 1960). This unit conformably overlies the Hall Formation and consists primarily of dark green augite and augite-feldspar porphyry flows, breccias and agglomerates. The breccias and agglomerates reflect a variety of source rocks and are highly altered. In the area of the granitic contact, rocks have been metamorphosed to lower greenschist facies. Skarn is present at the Mammoth Property and reflects on presence of limestones and/or limey horizons in the Rossland and/or Hall Formations.

The volcanic flows on the property vary laterally and vertically within the sequences exposed. By far the most prolific of the flows is the augite porphyry that is a very distinctive dark green porphyritic rock. Within this flow are minor lenses of agglomerate, some of which can be correlated for a few hundred metres; andesite and basaltic flows both massive and porphyritic varieties. The mineralized zone appears to be hosted in a fractured and altered augite porphyry flow.

3.2.3 Nelson Intrusive Rocks

The Nelson Intrusives include massive granite, granodiorite, quartz-diorite and dyke facies. Intrusives on the Mammoth Property comprise three main types. The Nelson granodiorite outcrops over a large part of the western boundary. It is a white granite that contains porphyritic phases as well as granitic (pink) phases (very minor). On the extreme east of the property the Nelson Pluton exposes itself again but this time it has a porphyritic nature and can be distinguished from its western equivalent. The other main intrusive on the property is a feldspar porphyry that is later than the Nelson Plutonic rocks. It intrudes all the lithologies on the property. The intrusions are small; generally less than 500 metres. Host rocks in the vicinity of these intrusions are usually fairly oxidized and heavily fractured. The other intrusives on the property are late stage diabase, lamprophyre, and aplite dykes that cut all rocks.

The Nelson intrusions show sharp contacts to other rock units and local faults appear to have been instrumental in emplacement of the main batholith and satellites.

3.3 Detailed Geology

Detailed geological mapping at 1:1000 scale was completed over the mineralized zone on the northwestern section of the Mammoth grid (Figure 3).

Mapping revealed volcanic flows in contact with siltstones and intruded by Nelson plutons. Centrally, an augite porphyry flow is in contact with an andesitic flow where skarn alteration is prevalent. The principal intrusion in this area is a feldspar porphyry. Widespread hydrothermal/thermal alteration of the lithologies is evident throughout the area mapped. Generally, the old workings are restricted to extrusive contacts with the volcanics.

3.3.1 Beaver Mountain Volcanics

(a) Augite Porphyry:
Randomly oriented euhedral augite crystals ranging from 2 mm to 2 cm in size are the most distinctive feature of this unit. The fine-grained matrix forms a medium to light green very hard rock.

(b) Augite Porphyry Agglomerate:
This is essentially an augite porphyry flow that has been broken and disrupted during extrusion. It is characterized by darker augite porphyry fragments cemented in a light green fine-grained matrix. The fragments themselves are irregularly shaped and range from 10 cm to 40 cm in size.

(c) Porphyry Flow:
This was initially mapped as a separate unit but thin sections have revealed that it is a potassium feldspar hornblende intrusion.

(d) Agglomerate:
Recessive unit comprised of subrounded cobbles in a fine-grained dark green sandy matrix. The clasts, which are essentially all volcanic, range in size from a few mm to 5 cm.

3.3.2 Nelson Intrusives

(a) Feldspar Porphyry:
This unit, which is often bleached grey white near its contacts, contains subhedral to euhedral plagioclase crystals ranging in size from 0.5 mm to 2 mm set in an aphanitic dark greenish grey groundmass.

(b) Western Granites:
This unit is essentially typical of the Nelson plutonic rocks of the area and is adequately described in Section 3.2.

(c) Potassium Feldspar, Hornblende Intrusion:
This unit has a granodioritic composition and texture but contains a significantly higher abundance of randomly oriented elongated hornblende crystals.

3.3.3 Hall Formation Metasediments

(a) Siltstone:
This massive to banded, grey-black lithology contains disseminated euhedral pyrite crystals throughout. The amount of pyrite increases towards intrusive contacts and occasionally weak crenulations are distinguishable.

3.3.4 Alteration, Fracturing and Oxidation

The introduction of potassium feldspar is the most prevalent alteration type to affect all lithologies over the area mapped in detail.

The Beaver Mountain volcanics typically display the alteration minerals of potassium feldspar and epidote. An intense "skarnification" of the volcanics occurs centrally completely obliterating any resemblances of the original rock unit. The volcanics as a whole seem to be the most altered of the units on the property, but it is exceedingly difficult to distinguish whether the alterations are thermal or hydrothermal.

The feldspar porphyry displays bleaching, K-spar enrichment and a slight increase in ferruginous minerals near its contacts, but on the whole is not altered to any great extent. Apart from an increase in pyrite near unit contacts the siltstone is not affected by any alteration.

In general, it would appear that areas displaying variable degrees of potassium alteration and epidotization accompanied by an increase in pyrite may be indicative of mineralization typical to that of the main shaft.

A relationship between fracturing and mineralization could not be established with varying degrees of fracturing being a result of the nature of the competency of the lithology.

Surface oxidation is usually indicative of pyrite. Its presence combined with the appropriate alteration suite may lead one to potentially mineralized areas for further exploration.

4. GEOCHEMISTRY

4.1 Silts

One hundred and seventeen silt samples were collected on 25 m intervals from the drainage system on the Mammoth 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.

The upper reaches of Mammoth Creek are anomalous in lead which may be a reflection of the underlying siltstones.

4.2 Soils

Over 1100 soil samples were collected from the Mammoth 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 14 contour maps at 5000 and 2000 scales (Figures 4a to 4g and 5a to 5g).

The number of anomalous sites for the elements have been summarized below:

Element	Threshold (ppm)	Number of Anomalous Sites > T	>2x T	>3x T	>4x T	>5x T	>6x T
Copper	80	87	6	3	0	0	0
Lead	57	99	13	2	1	1	0
Zinc	245	259	53	12	2	1	1
Nickel	44	130	6	0	0	0	0
Cobalt	23	91	4	0	0	0	0

The mineralized zone is well highlighted with the copper, lead and nickel results whereas the zinc and molybdenum values flank the zone on the east and west. An area to the southwest (L 125 N) has produced a coincident lead, zinc, molybdenum and nickel anomaly. This will be investigated further as it may be indicative of mineralization. Also of note is a rather peculiar looking silver anomaly over the south-central part of the grid that is unexplainable at this time.

4.3 Trenches

One hundred and seventy rock-chip samples were channel sampled over 50 cm from 15 trenches on the Mammoth property (Figure 3), and analysed for copper, lead, zinc, nickel, cobalt, silver and molybdenum. Analytical procedures are outlined in Appendix 2 and the results have been presented in a series of maps (Figures 6a to 6i). Descriptive statistical data on some of the trenches is included in Appendix 3. Some of the values range to 1.66% copper, 0.08% lead, 0.143% zinc, 0.126% nickel, 0.052% cobalt, 0.066% molybdenum and 0.48 oz. of silver.

4.4 Lithogeochemistry

One hundred and forty eight rocks were collected from the northwestern section of the Mammoth grid for whole rock analysis in order to establish the existence of a primary dispersion halo associated with the Mo-Cu mineralization. The trace element data is presented as a set of bar charts in Appendix 6.

At the time of writing, only the trace element data was available for interpretation. Preliminary observations suggest a crude correlation between high copper, zinc and nickel values and the augite porphyries and high zinc and molybdenum content associated with the Hall Formation siltstones.

5. GEOPHYSICS

During September and October 1981, a magnetic survey was carried out by Interpretex Resources Ltd. over the Mammoth grid.

There were four main objectives in this survey:

(1) to use a controlled magnetic survey to map areas of high magnetic activity,
(2) to indicate possible relationships between magnetic activity and geology,
(3) to suggest areas of probable sulphide mineralization and,
(4) to interpret possible structural directions and features.

Survey lines were cut at 400 metre, 200 metre and 100 metre intervals as shown on Location Reference Map (Figure 1). Station spacing was 25 metres in all cases.

Total magnetic survey completed was 26.1 kilometres.

An eight foot aluminum sensor staff was used for greater reading accuracy. Repeatability was of the order ±3 gammas using this method.

Corrected magnetic data were computer contoured at 25 gamma intervals at a scale of 1:2,500 by International Geosystems Corp. of Vancouver, B.C. and are presented in Figure 7a.

Magnetic data are posted at a scale of 1:2,500 and are shown in Figure 7b.

Magnetic contours were interpreted at a scale of 1:2,500. The resulting interpretation map was reduced to 1:5,000 and the information transferred to a screened geology map at the same scale. The resulting Magnetic Interpretation Map (Figure 7c) relates the magnetic interpretation (bold face) to mapped geology (subdued face).

The most intense magnetic activity within this area can be seen in the northwest portion of the survey area. This intense magnetism is irregularly shaped, discontinuous and crosses mapped geologic boundaries.

Zones of magnetic activity have been outlined on Figure 7c. Continuation of some strong magnetic zones between widely spaced survey lines has been suggested because of similar magnetic character and alignment of similar anomalies.

Where grid lines are spaced at 400 metre intervals, the lack of data between lines prevented reliable correlation of medium and weak amplitude magnetic features. These features have therefore not been outlined or considered in this report. It is sufficient to note that magnetic activity appears subdued within rocks mapped as Eastern Granites and appears more active west of the granite - Hall Formation greywacke contact.

Various questionable interpreted fault zones have been located on Figure 7c on the basis of magnetic lineations, terminations and offsets.

Magnetism within Zones 'A' and 'B' is believed to be related to mineralization associated with the intrusion of feldspar porphyry material into the Beaver Mountain Volcanics and the Hall Formation Sediments.

Zone 'C' shows a predominant north-south direction and is probably continuous as suggested. This feature resembles a basic dyke which is near surface and has varying limited depth extent along strike.

Magnetic Zones 'D' through 'F' are smaller, less intense features and are considered less important on the basis of present data. Zone 'D' and especially 'F' may be genetically related to 'A', however more data is necessary to confirm this.

Zone 'E' correlates well with rocks mapped as Western Granites thus indicating that the Western Granites contain more magnetic minerals (magnetite) than the magnetically inactive Eastern Granites.

6. ECONOMIC POTENTIAL

Near and on the crest of the ridge along the northern boundary of the Mammoth Property a prominent "gossan" is developed over an extensive area. Croteau (op. cit.) describes this area as a metamorphic complex, but may be more aptly called "metasomatized zone". Sulphide mineralization is in ample evidence within the capping area and pockets of contact metamorphic skarn and silicification are also in evidence.

The outcrops observed by the writers are all at maximum elevation on the property where exposure is better than 80%. Most of the observed sulphide mineralization is pyrite with occasional blebs and clots of chalcopyrite. Molybdenite is observable only in skarn samples from the shaft and wast area. Massive pyrrhotite was observed in waste material from a tunnel on the Keno Creek drainage flank.

Tungsten (scheelite) mineralization was originally reported by Little, 1959 as sparsely-disseminated fluorescent crystals in waste rock. Attempts to confirm the presence of tungsten in breccia samples taken by the writers from the waste dumps were not fully successful.

Samples collected did exhibit fluorescence as described by Little, but assay results were negative. However, tungsten was confirmed, at the geochemical level, in skarn samples. Tungsten occurrences are common throughout the Nelson-Salmo area. The Emerald Mines, south of Salmo, produced tungsten concentrates for a decade during the late 1940's and 1950's from contact-type deposits.

TABLE 2
DRILLHOLE ASSAY RESULTS[1]

Sample	Mo (%)	Cu (%)
Hole No. 1		
4.5' to 27.5' (23')	0.185	
4.5' to 49.0' (44.5')		0.39
Hole No. 2		
12.0' to 34.0' (22.0')	0.687	
12.0' to 79.0' (67.0')		0.518
Hole No. 5 (100' north of shaft)		
259.0' to 279.0' (20.0')	<0.01	0.412
Hole No. A (400' north of shaft)		
43.0' to 55.6' (12.6')	0.25	0.18
Hole No. 11 (75' northeast of shaft)		
0 to 11.6' (11.6')	0.88	
0 to 72.0' (72.0')		0.627

[1] After Croteau, 1971

A total of 18 holes were drilled by Welland Mining on the property during the late 1960's and early 1970's. According to Croteau (op. cit.) "the holes were for the most part, flat angled holes and thus gave shallow penetration". From this, Croteau concluded a possible east-west trending zone of mineralization. In Table 2, significant drillhole assay results are summarized.

To date, no attempts have been made to define or simulate an anticipated deposit, or prove metal (Cu, Mo, W, Au, Ag) reserves on the Mammoth Property. "Possible Ore" or "Inferred Ore" can be reasonably attempted by comparing the geological environment with known porphyry copper/molybdenum deposits elsewhere in the Canadian Cordillera.

According to Field et al. (1973) "Porphyry-type deposits occur throughout the Pacific Northwest Region but size and grade are variable. Metallization is genetically and spatially related to late quartz-feldspar porphyries that are within, marginal, or satellitic to composite batholithic intrusions. Radiometric ages of the plutons range from Miocene to Triassic-Jurassic (22-217 m.y.). Country rocks are typically eugeosynclinal metasedimentary and meta-volcanic assemblages of Permian to Jurassic age. Deposition of chalcopyrite-bornite-molybdenum ores may be controlled by contacts, breccias, and fault/fracture zones. Isotopic data suggest a deep source for ore, gangue and plutonic host rocks".

In summary, the geological environment at Mammoth is reminiscent of tectonic settings elsewhere in British Columbia that have produced viable Cu-Mo-Au mining operations. In addition, it should be noted that the former Mo-producing

Red Mountain Mines near Rossland, British Columbia is located in a geological environment comparable with the Mammoth Property. Also, it is known that significant deposits of molybdenum have been identified near Trout Lake, north of Kootenay Lake and that major resource companies are actively exploring in the West Kootenay Region for Cu-Mo-W deposits, including Shell Resources Canada, Amax Canada Ltd., Amoco Canada, Cominco, Union Oil Canada and DeKalb Mining Corporation.

7. CONCLUSIONS

1. The Mammoth Property includes a conformable sequence of volcanic and sedimentary rocks that has been intruded by at least three phases of the Nelson Batholith.

2. Erratic, but widespread copper and molybdenum sulphide mineralization with accompanying lead, zinc, and silver enrichments are present on the Mammoth Property. Previous work identified the presence of significant gold values.

3. Observed hydrothermal alteration includes the presence of introduced potassium feldspar and epidote. Disseminated pyrite is prevalent. No pattern or sequence of alteration events has been recognized or identified. Weathering and oxidation of pyrite has produced an area of prominent iron staining.

4. The geological setting, metallogeny, and alteration are indicative and reminiscent of a porphyry copper-molybdenum environment. Major controlling faults and structures have yet to be fully confirmed or identified.

5. Soil sampling and multi-element analyses has identified and outlined the known mineralized areas. Several new anomalous areas were also identified but underlying mineralization has yet to be confirmed.

6. Attempts to carry out a VLF-EM survey were not successful. The north-south orientation of the grid prevented application across known and implied structures and contacts.

7. The interpretation of magnetometer survey results identified several areas of major faulting, outlined feldspar porphyry dykes and/or plugs striking subparallel to volcanic and sedimentary stratigraphy and, a proposed basic dyke near the eastern contact with the Nelson granite.

8. RECOMMENDATIONS

1. Exploration activity should be primarily directed at exploring for a deeply emplaced porphyry Cu-Mo deposit. A phased program is recommended to accomplish this objective. Phase 1 would consist of surface program expenditures up to $225,000 and Phase 2 work, primarily diamond drilling, could be justified up to $400,000.

2. A TURAM electromagnetic survey or a Pulse EM survey should be carried out over the existing grid map area to assist in the identification of deep-seated mineralization and/or controlling or localizing geological units or structures.

3. The initial phase of exploration activity should also include a program of linecutting, reconnaissance geological mapping, geochemical sampling and analyses, and geophysical surveys to include extension of the magnetometer coverage over the newly acquired Actinolite claims.

4. Upon completion of Phase 1, diamond drilling targets may be selected (Phase 2). The drill program should be designed to test genetic models not only associated with "porphyry-type" mineralization, but also include consideration for extensions of metamorphic (skarn) mineralization, deposits associated with "roof pendent" emplacement/enrichment and precious and/or base metals occurring in shear zone (vein) environments.

9. PROPOSED EXPENDITURES - 1982

	$'000	
Physical Work:		
Linecutting - 26.4 km x $450	11.8	
Road Work - 4 days x $500	2.0	
Trenching - 5 days x $200	1.0	
Drilling - 2000 m x $200	400.0*	
Subtotal	414.8	414.8
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:		
Turam - 20 km x $1200	24.0	
Reporting - 10 days x $325	3.25	
Subtotal	27.25	27.25
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	0.5	
Freight	1.0	
Subtotal	3.5	3.5
Camp:		
Field Office - 50 days x $10	0.5	
Food - 30 days x $50	1.5	
Equipment	0.5	
Communications	0.5	
Subtotal	3.0	3.0
TOTAL		480.55
Administration @ 10%		48.00
Contingencies @ 20%		96.00
GRAND TOTAL		624.55

* Phase 2 expenditures.

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 Mammoth Property.

February 1/82
Date

PROFESSIONAL GEOLOGIST
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J. S. Hand, M.Sc.(A), P.Geol.

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APPENDIX 1

SCHEDULE OF LANDS

APPENDIX 1
SCHEDULE OF LANDS
MAMMOTH PROPERTY

Name	Record No.	Units	Assessment Required By
L14692	471	1	82 07 01
L14693	472	1	82 07 01
L14695	473	1	82 07 01
L14880	474	1	82 07 01
L15034	475	1	82 07 01
L15035	476	1	82 07 01
L15036	477	1	82 07 01
L14694	583	1	83 03 01
Mariposite #1	1978	20	82 10 24
Mariposite #2	1979	6	84 10 24

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

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH STREAM COPPERSAMPLE SIZE (N) = 30

SAMPLE STATISTICS:

MEAN	= 35.2	RANGE	= 40
VARIANCE	= 157.161	MINIMUM	= 17
STD. DEV.	= 12.5364	MAXIMUM	= 57

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 162.58	STD. DEV.	= 12.7507

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .173938	KURTOSIS	= -1.49666

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-COPPER SAMPLE SIZE (N) = 22

SAMPLE STATISTICS:

MEAN	= 248.409	RANGE	= 718
VARIANCE	= 30527.7	MINIMUM	= 52
STD. DEV.	= 174.722	MAXIMUM	= 770

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 31981.3	STD. DEV.	= 178.833

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.46321	KURTOSIS	= 1.82057

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH STREAM LEAD SAMPLE SIZE (N) = 30

SAMPLE STATISTICS:

MEAN	= 34.4667	RANGE	= 120
VARIANCE	= 539.516	MINIMUM	= 13
STD. DEV.	= 23.2275	MAXIMUM	= 133

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 558.12	STD. DEV.	= 23.6246

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.62509	KURTOSIS	= 8.23622

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH STREAM ZINC SAMPLE SIZE (N) = 30

SAMPLE STATISTICS:

MEAN	= 95	RANGE	= 175
VARIANCE	= 1863.47	MINIMUM	= 55
STD. DEV.	= 43.1679	MAXIMUM	= 230

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 1927.73	STD. DEV.	= 43.9059

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.46604	KURTOSIS	= 1.46759

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH STREAM NICKELSAMPLE SIZE (N) = 30

SAMPLE STATISTICS:

MEAN	= 22.2	RANGE	= 24
VARIANCE	= 57.9601	MINIMUM	= 13
STD. DEV.	= 7.61316	MAXIMUM	= 37

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 59.9588	STD. DEV.	= 7.74331

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .548466	KURTOSIS	= -1.10141

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH STREAM COBALTSAMPLE SIZE (N) = 30

SAMPLE STATISTICS:

MEAN	= 12	RANGE	= 10
VARIANCE	= 6.80023	MINIMUM	= 8
STD. DEV.	= 2.60773	MAXIMUM	= 18

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 7.03472	STD. DEV.	= 2.65231

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .360906	KURTOSIS	= -.55207

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH SOIL COPPER SAMPLE SIZE (N) = 85

SAMPLE STATISTICS:

MEAN	= 55.2941	RANGE	= 288
VARIANCE	= 1452.42	MINIMUM	= 12
STD. DEV.	= 38.1106	MAXIMUM	= 300

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 1469.71	STD. DEV.	= 38.3368

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.54498	KURTOSIS	= 18.4687

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH SOIL LEAD   SAMPLE SIZE (N) = 85

SAMPLE STATISTICS:

MEAN	= 32.2235	RANGE	= 140
VARIANCE	= 776.221	MINIMUM	= 3
STD. DEV.	= 27.8608	MAXIMUM	= 143

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 785.462	STD. DEV.	= 28.0261

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.24136	KURTOSIS	= 5.36442

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH SOIL ZINC   SAMPLE SIZE (N) = 85

SAMPLE STATISTICS:

MEAN	= 163.929	RANGE	= 697
VARIANCE	= 12797.7	MINIMUM	= 43
STD. DEV.	= 113.127	MAXIMUM	= 740

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 12950	STD. DEV.	= 113.798

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.25772	KURTOSIS	= 7.14394

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH SOIL NICKEL SAMPLE SIZE (N) = 85

SAMPLE STATISTICS:

MEAN	= 29.6471	RANGE	= 81
VARIANCE	= 190.935	MINIMUM	= 4
STD. DEV.	= 13.8179	MAXIMUM	= 85

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 193.208	STD. DEV.	= 13.8999

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.12316	KURTOSIS	= 2.33321

DESCRIPTIVE STATISTICS

VARIABLE: MAMMOTH SOIL COBALT SAMPLE SIZE (N) = 85

SAMPLE STATISTICS:

MEAN	= 15.7529	RANGE	= 34
VARIANCE	= 41.9744	MINIMUM	= 0
STD. DEV.	= 6.47877	MAXIMUM	= 34

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 42.4741	STD. DEV.	= 6.51722

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .331067	KURTOSIS	= .40159

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-CU SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	= 2931.38	RANGE	= 8720
VARIANCE	= 5.48183E+06	MINIMUM	= 480
STD. DEV.	= 2341.33	MAXIMUM	= 9200

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 5.67761E+06	STD. DEV.	= 2382.78

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.03949	KURTOSIS	= -.0485085

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-PB SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	= 19.3103	RANGE	= 290
VARIANCE	= 3343.11	MINIMUM	= 0
STD. DEV.	= 57.8197	MAXIMUM	= 290

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 3462.51	STD. DEV.	= 58.8431

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.82073	KURTOSIS	= 14.1918

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-ZN SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	= 152.793	RANGE	= 462
VARIANCE	= 9649	MINIMUM	= 58
STD. DEV.	= 98.2293	MAXIMUM	= 520

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 9993.61	STD. DEV.	= 99.968

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.93215	KURTOSIS	= 4.35205

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-NI   SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	= 32.4828	RANGE	= 82
VARIANCE	= 321.009	MINIMUM	= 6
STD. DEV.	= 17.9167	MAXIMUM	= 88

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 332.473	STD. DEV.	= 18.2339

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.4632	KURTOSIS	= 2.38228

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-CO SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	= 17.7931	RANGE	= 48
VARIANCE	= 122.578	MINIMUM	= 4
STD. DEV.	= 11.0715	MAXIMUM	= 52

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 126.956	STD. DEV.	= 11.2675

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.37113	KURTOSIS	= 1.59557

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-AG   SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	= 4.74828	RANGE	= 12.7
VARIANCE	= 15.8853	MINIMUM	= .4
STD. DEV.	= 3.98563	MAXIMUM	= 13.1

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 16.4526	STD. DEV.	= 4.05618

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .855645	KURTOSIS	= -.597587

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-9-MO SAMPLE SIZE (N) = 29

SAMPLE STATISTICS:

MEAN	=	112.759	RANGE	=	660
VARIANCE	=	21426.7	MINIMUM	=	0
STD. DEV.	=	146.379	MAXIMUM	=	660

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	=	22192	STD. DEV.	=	148.97

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	=	2.08614	KURTOSIS	=	4.61171

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-COPPER SAMPLE SIZE (N) = 50

SAMPLE STATISTICS:

MEAN	=	1838.78	RANGE	=	16564
VARIANCE	=	6.31582E+06	MINIMUM	=	36
STD. DEV.	=	2513.13	MAXIMUM	=	16600

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	=	6.44471E+06	STD. DEV.	=	2538.64

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	=	4.22565	KURTOSIS	=	21.1962

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-LEAD   SAMPLE SIZE (N) = 50

SAMPLE STATISTICS:

MEAN	= 19.84	RANGE	= 800
VARIANCE	= 12553.8	MINIMUM	= 0
STD. DEV.	= 112.044	MAXIMUM	= 800

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 12810	STD. DEV.	= 113.181

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 6.749	KURTOSIS	= 44.0141

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-ZINC SAMPLE SIZE (N) = 49

SAMPLE STATISTICS:

MEAN	= 57.8571	RANGE	= 467
VARIANCE	= 9367.35	MINIMUM	= 13
STD. DEV.	= 96.7851	MAXIMUM	= 480

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 9562.5	STD. DEV.	= 97.7881

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.55619	KURTOSIS	= 11.2288

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-NICKEL SAMPLE SIZE (N) = 50

SAMPLE STATISTICS:

MEAN	= 278.68	RANGE	= 1236
VARIANCE	= 85032.9	MINIMUM	= 34
STD. DEV.	= 291.604	MAXIMUM	= 1270

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 86768.3	STD. DEV.	= 294.565

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.94253	KURTOSIS	= 3.42438

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-COBALT SAMPLE SIZE (N) = 50

SAMPLE STATISTICS:

MEAN	= 97.02	RANGE	=. 920
VARIANCE	= 22421.5	MINIMUM	= 10
STD. DEV.	= 149.738	MAXIMUM	= 930

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 22879	STD. DEV.	= 151.258

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 4.0029	KURTOSIS	= 17.7529

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-SILVER   SAMPLE SIZE (N) = 50

SAMPLE STATISTICS:

MEAN	= 1.204	RANGE	= 9.3
VARIANCE	= 2.50118	MINIMUM	= 0
STD. DEV.	= 1.58151	MAXIMUM	= 9.3

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 2.55223	STD. DEV.	= 1.59757

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.0799	KURTOSIS	= 11.6659

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-13-MOLYBDENUM SAMPLE SIZE (N) = 50

SAMPLE STATISTICS:

MEAN	= 28.46	RANGE	= 93
VARIANCE	= 542.369	MINIMUM	= 2
STD. DEV.	= 23.2888	MAXIMUM	= 95

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 553.437	STD. DEV.	= 23.5252

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.34887	KURTOSIS	= 1.29168

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-LEAD SAMPLE SIZE (N) = 21

SAMPLE STATISTICS:

MEAN	=	7.42857	RANGE	=	60
VARIANCE	=	251.197	MINIMUM	=	0
STD. DEV.	=	15.8492	MAXIMUM	=	60

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	=	263.757	STD. DEV.	=	16.2406

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	=	2.48002	KURTOSIS	=	4.84449

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-ZINC SAMPLE SIZE (N) = 22

SAMPLE STATISTICS:

MEAN	= 91.5455	RANGE	= 1421
VARIANCE	= 85473.2	MINIMUM	= 9
STD. DEV.	= 292.358	MAXIMUM	= 1430

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 89543.4	STD. DEV.	= 299.238

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 4.35048	KURTOSIS	= 16.9706

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-NICKEL SAMPLE SIZE (N) = 22

SAMPLE STATISTICS:

MEAN	= 8.86364	RANGE	= 20
VARIANCE	= 30.845	MINIMUM	= 3
STD. DEV.	= 5.55383	MAXIMUM	= 23

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 32.3138	STD. DEV.	= 5.68453

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.21118	KURTOSIS	= .761338

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-COBALT SAMPLE SIZE (N) = 22

SAMPLE STATISTICS:

MEAN	= 8.22727	RANGE	= 24
VARIANCE	= 28.812	MINIMUM	= 2
STD. DEV.	= 5.36768	MAXIMUM	= 26

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 30.184	STD. DEV.	= 5.494

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.59199	KURTOSIS	= 2.89404

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-SILVER SAMPLE SIZE (N) = 22

SAMPLE STATISTICS:

MEAN	= .686364	RANGE	= 1.6
VARIANCE	= .107541	MINIMUM	= .2
STD. DEV.	= .327935	MAXIMUM	= 1.8

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= .112662	STD. DEV.	= .335652

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.63668	KURTOSIS	= 3.73155

DESCRIPTIVE STATISTICS

VARIABLE: MA-TR-14-MOLYBDENUM SAMPLE SIZE (N) = 22

SAMPLE STATISTICS:

MEAN	= 8.77273	RANGE	= 23
VARIANCE	= 53.7211	MINIMUM	= 1
STD. DEV.	= 7.32947	MAXIMUM	= 24

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 56.2792	STD. DEV.	= 7.50194

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .986684	KURTOSIS	= -.415839

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK CU SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN	= 187.688	RANGE	= 3299
VARIANCE	= 326656	MINIMUM	= 1
STD. DEV.	= 571.539	MAXIMUM	= 3300

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 337194	STD. DEV.	= 580.684

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 5.04555	KURTOSIS	= 24.4946

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK LEAD SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN	= 4.8125	RANGE	= 31
VARIANCE	= 33.7149	MINIMUM	= 0
STD. DEV.	= 5.80645	MAXIMUM	= 31

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 34.8025	STD. DEV.	= 5.89936

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 3.15225	KURTOSIS	= 10.734

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK ZINC SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN = 63.7813		RANGE	= 251
VARIANCE	= 2945.6	MINIMUM	= 9
STD. DEV.	= 54.2734	MAXIMUM	= 260

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 3040.62	STD. DEV.	= 55.1418

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.84501	KURTOSIS	= 3.43912

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK NICKEL   SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN	= 30.8438	RANGE	= 110
VARIANCE	= 732.944	MINIMUM	= 1
STD. DEV.	= 27.0729	MAXIMUM	= 111

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 756.587	STD. DEV.	= 27.5061

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .870399	KURTOSIS	= .41899

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK COBALT SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN	= 16.8438	RANGE	= 101
VARIANCE	= 357.945	MINIMUM	= 0
STD. DEV.	= 18.9194	MAXIMUM	= 101

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 369.491	STD. DEV.	= 19.2222

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.74629	KURTOSIS	= 9.49097

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK SILVER   SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN	= .38125	RANGE	= 1.3
VARIANCE	= .0858984	MINIMUM	= 0
STD. DEV.	= .293084	MAXIMUM	= 1.3

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= .0886693	STD. DEV.	= .297774

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.14549	KURTOSIS	= 1.70033

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK MOLYBDENUM   SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN = 1.125		RANGE	= 10
VARIANCE	= 6.29688	MINIMUM	= 0
STD. DEV.	= 2.50936	MAXIMUM	= 10

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 6.5	STD. DEV.	= 2.54951

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 2.82491	KURTOSIS	= 6.98479

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK CADMIUM SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN =	.234375	RANGE =	3.6
VARIANCE =	.444131	MINIMUM =	0
STD. DEV. =	.666432	MAXIMUM =	3.6

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE =	.458458	STD. DEV. =	.677095

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS =	4.18247	KURTOSIS =	17.6467

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK CHROMIUM   SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN = 56.3438		RANGE	= 208
VARIANCE	= 3049.91	MINIMUM	= 9
STD. DEV.	= 55.226	MAXIMUM	= 217

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 3148.3	STD. DEV.	= 56.1097

DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= 1.62136	KURTOSIS	= 1.73564

DESCRIPTIVE STATISTICS

VARIABLE: MA ROCK VANADIUM SAMPLE SIZE (N) = 32

SAMPLE STATISTICS:

MEAN =	106.875	RANGE	= 240
VARIANCE	= 4465.24	MINIMUM	= 20
STD. DEV.	= 66.8224	MAXIMUM	= 260

UNBIASED ESTIMATES OF POPULATION PARAMETERS:

VARIANCE	= 4609.28	STD. DEV.	= 67.8917

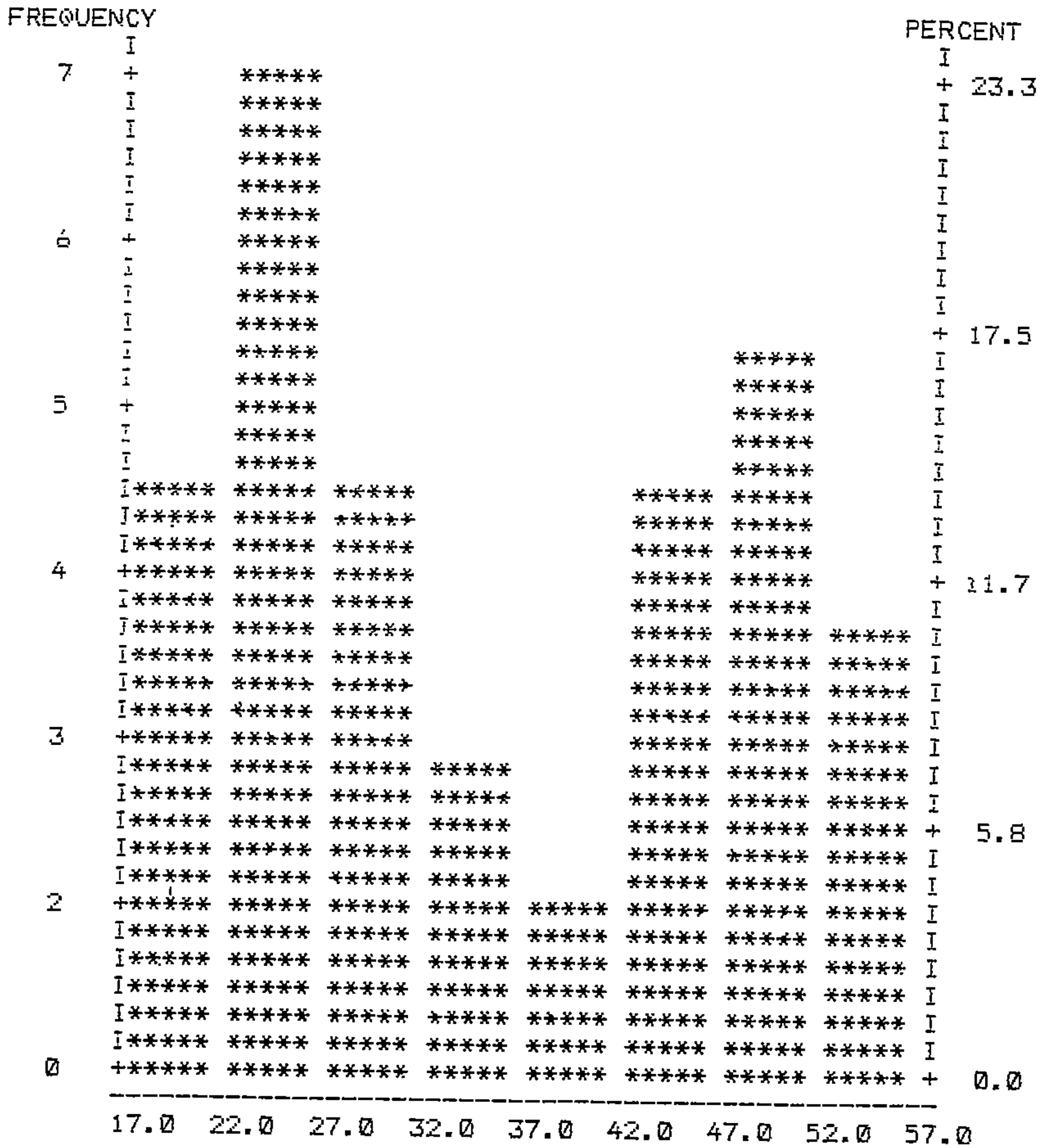
DATA DISTRIBUTION COEFFICIENTS:

SKEWNESS	= .641442	KURTOSIS	= -.724137

APPENDIX 4

HISTOGRAMS

HISTOGRAM



M A M M O T H   S T R E A M   C O P P E R

HISTOGRAM

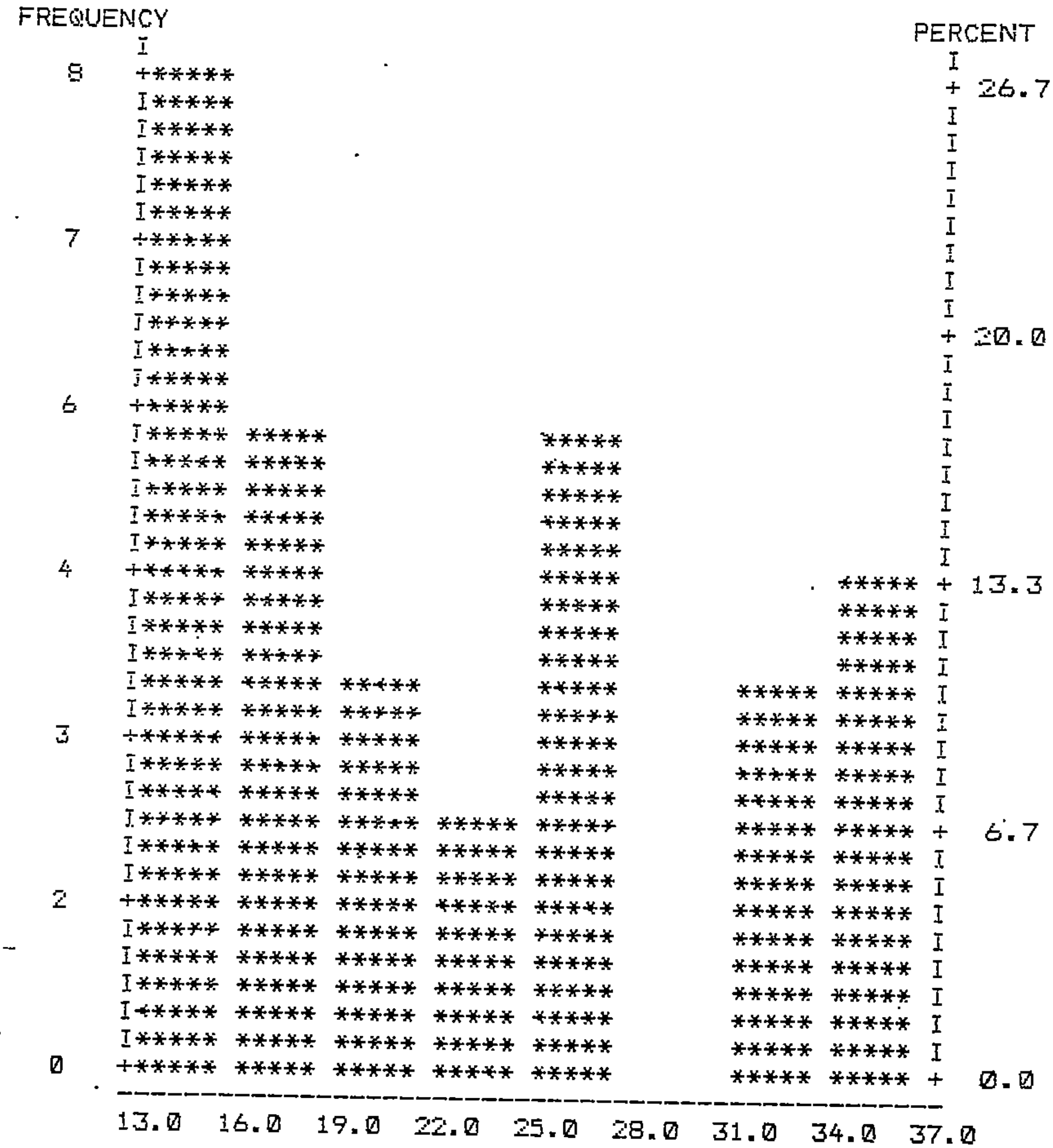
```
FREQUENCY                                         PERCENT
        I                                                I
    15  +*****                                           + 50.0
        I*****                                           I
        I*****                                           I
        I*****                                           I
        I*****                                           I
        I*****                                           I
    12  +*****                                           I
        I*****                                           I
        I*****                                           I
        I*****                                           + 37.5
        I*****                                           I
        I*****                                           I
    10  +*****                                           I
        I*****                                           I
        I*****                                           I
        I*****                                           I
        I***** *****                                     I
        I***** *****                                     I
     7  +***** *****                                     + 25.0
        I***** *****                                     I
        I***** *****                                     I
        I***** *****                                     I
        I***** *****                                     I
        I***** *****                                     I
     5  +***** *****                                     I
        I***** *****                                     I
        I***** ***** *****                               I
        I***** ***** *****                               + 12.5
        I***** ***** *****                               I
        I***** ***** *****                               I
     2  +***** ***** *****                               I
        I***** ***** ***** *****                         I
        I***** ***** ***** *****                         I
        I***** ***** ***** *****                   ***** I
        I***** ***** ***** *****                   ***** I
        I***** ***** ***** *****                   ***** I
     0  +***** ***** ***** *****                   ***** +  0.0
        --------------------------------------------------
        13.0  28.0  43.0  58.0  73.0  88.0 103.0 118.0 133.0
```

M A M M O T H   S T R E A M   L E A D

HISTOGRAM

```
FREQUENCY                                           PERCENT
      I                                                I
  15  +*****                                           + 50.0
      I*****                                           I
      I*****                                           I
      I*****                                           I
      I*****                                           I
      I*****                                           I
  12  +*****                                           I
      I*****                                           I
      I*****                                           I
      I*****                                           + 37.5
      I*****                                           I
      I*****                                           I
  10  +*****                                           I
      I*****                                           I
      I*****                                           I
      I*****                                           I
      I*****                                           I
      I*****                                           I
   7  +*****                                           + 25.0
      I*****                                           I
      I*****                                           I
      I***** *****                                     I
      I***** *****                                     I
      I***** *****                                     I
   5  +***** *****                                     I
      I***** *****                                     I
      I***** *****                                     I
      I***** *****                                     + 12.5
      I***** *****       *****                         I
      I***** *****       *****                         I
   2  +***** *****       *****                         I
      I***** ***** ***** ***** *****                   I
      I***** ***** ***** ***** *****                   I
      I***** ***** ***** ***** *****       ***** ***** I
      I***** ***** ***** ***** *****       ***** ***** I
      I***** ***** ***** ***** *****       ***** ***** I
   0  +***** ***** ***** ***** *****       ***** ***** +  0.0
      -------------------------------------------------
      55.0  76.8  98.7 120.6 142.5 164.3 186.2 208.1 230.0

        M A M M O T H   S T R E A M   Z I N C
```

HISTOGRAM



M A M M O T H S T R E A M N I C K E L

HISTOGRAM

```
FREQUENCY                                             PERCENT
     I                                                I
   8 +*****                   *****                   + 26.7
     I*****                   *****                   I
     I*****                   *****                   I
     I*****                   *****                   I
     I*****                   *****                   I
     I*****                   *****                   I
   7 +*****                   *****                   I
     I*****                   *****                   I
     I*****                   *****                   I
     I*****       *****       *****                   + 20.0
     I*****       *****       *****                   I
     I*****       *****       *****                   I
   6 +*****       *****       *****                   I
     I*****       *****       *****                   I
     I*****       *****       *****                   I
     I*****       *****       *****                   I
     I*****       *****       *****                   I
     I*****       *****       *****                   I
   4 +*****       *****       *****                   + 13.3
     I*****       *****       *****                   I
     I*****       *****       *****                   I
     I*****       *****       *****                   I
     I*****       ***** ***** *****                   I
     I*****       ***** ***** *****                   I
   3 +*****       ***** ***** *****                   I
     I*****       ***** ***** *****                   I
     I*****       ***** ***** *****                   I
     I*****       ***** ***** ***** *****       ***** +  6.7
     I*****       ***** ***** ***** *****       ***** I
     I*****       ***** ***** ***** *****       ***** I
   2 +*****       ***** ***** ***** *****       ***** I
     I*****       ***** ***** ***** ***** ***** ***** I
     I*****       ***** ***** ***** ***** ***** ***** I
     I*****       ***** ***** ***** ***** ***** ***** I
     I*****       ***** ***** ***** ***** ***** ***** I
     I*****       ***** ***** ***** ***** ***** ***** I
   0 +*****       ***** ***** ***** ***** ***** ***** +  0.0
     -------------------------------------------------
      8.0   9.2  10.5  11.7  13.0  14.2  15.5  16.7  18.0

       M A M M O T H   S T R E A M   C O B A L T
```

HISTOGRAM

```
FREQUENCY                                                          PERCENT
        I                                                             I
   41   +*****                                                        + 48.2
        I*****                                                        I
        I*****                                                        I
        I*****                                                        I
        I*****                                                        I
        I*****                                                        I
   35   +***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  + 36.2
        I***** *****                                                  I
        I***** *****                                                  I
   28   +***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
   21   +***** *****                                                  + 24.1
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
   14   +***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  I
        I***** *****                                                  + 12.1
        I***** *****                                                  I
        I***** ***** *****                                            I
    7   +***** ***** *****                                            I
        I***** ***** *****                                            I
        I***** ***** *****                                            I
        I***** ***** *****                                            I
        I***** ***** *****                                            I
        I***** ***** ***** ***** *****                          ***** I
    0   +***** ***** ***** ***** *****                          ***** +  0.0
        -------------------------------------------------------------
        12.0  48.0  84.0 120.0 156.0 192.0 228.0 264.0 300.0

             M A M M O T H   S O I L   C O P P E R
```

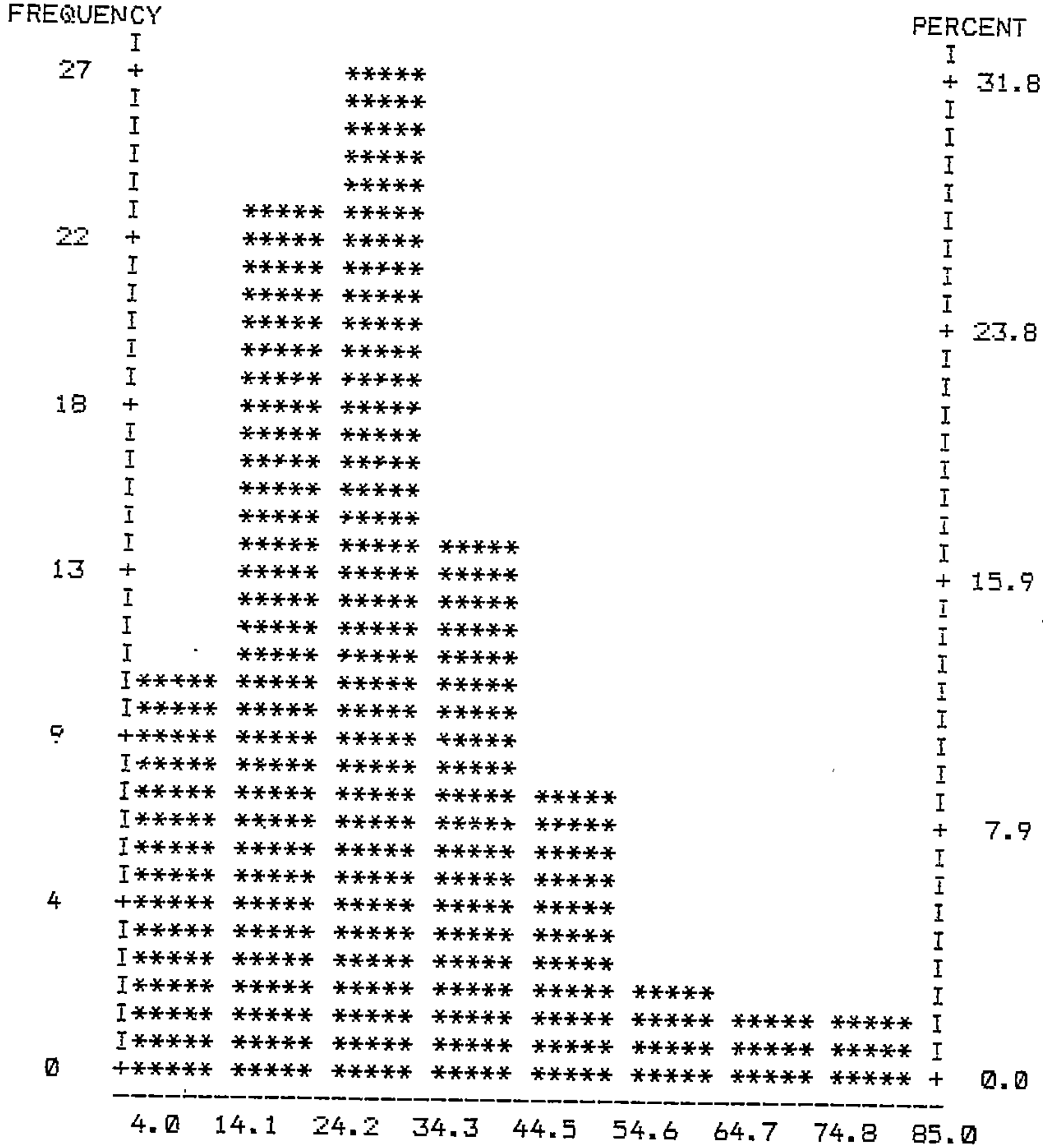
HISTOGRAM

```
FREQUENCY                                              PERCENT
     I                                                I
  33 +      *****                                     +  38.8
     I      *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
  27 +***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     +  29.1
     I***** *****                                     I
     I***** *****                                     I
  22 +***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
  16 +***** *****                                     +  19.4
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
     I***** *****                                     I
  11 +***** *****                                     I
     I***** ***** *****                               I
     I***** ***** *****                               I
     I***** ***** *****                               +   9.7
     I***** ***** *****                               I
     I***** ***** *****                               I
   5 +***** ***** *****                               I
     I***** ***** ***** *****                         I
     I***** ***** ***** ***** *****             ***** I
     I***** ***** ***** ***** *****             ***** I
     I***** ***** ***** ***** ***** *****       ***** I
     I***** ***** ***** ***** ***** *****       ***** I
   0 +***** ***** ***** ***** ***** *****       ***** +   0.0
     --------------------------------------------------
       3.0  20.5  38.0  55.5  73.0  90.5 108.0 125.5 143.0

           M A M M O T H   S O I L   L E A D
```

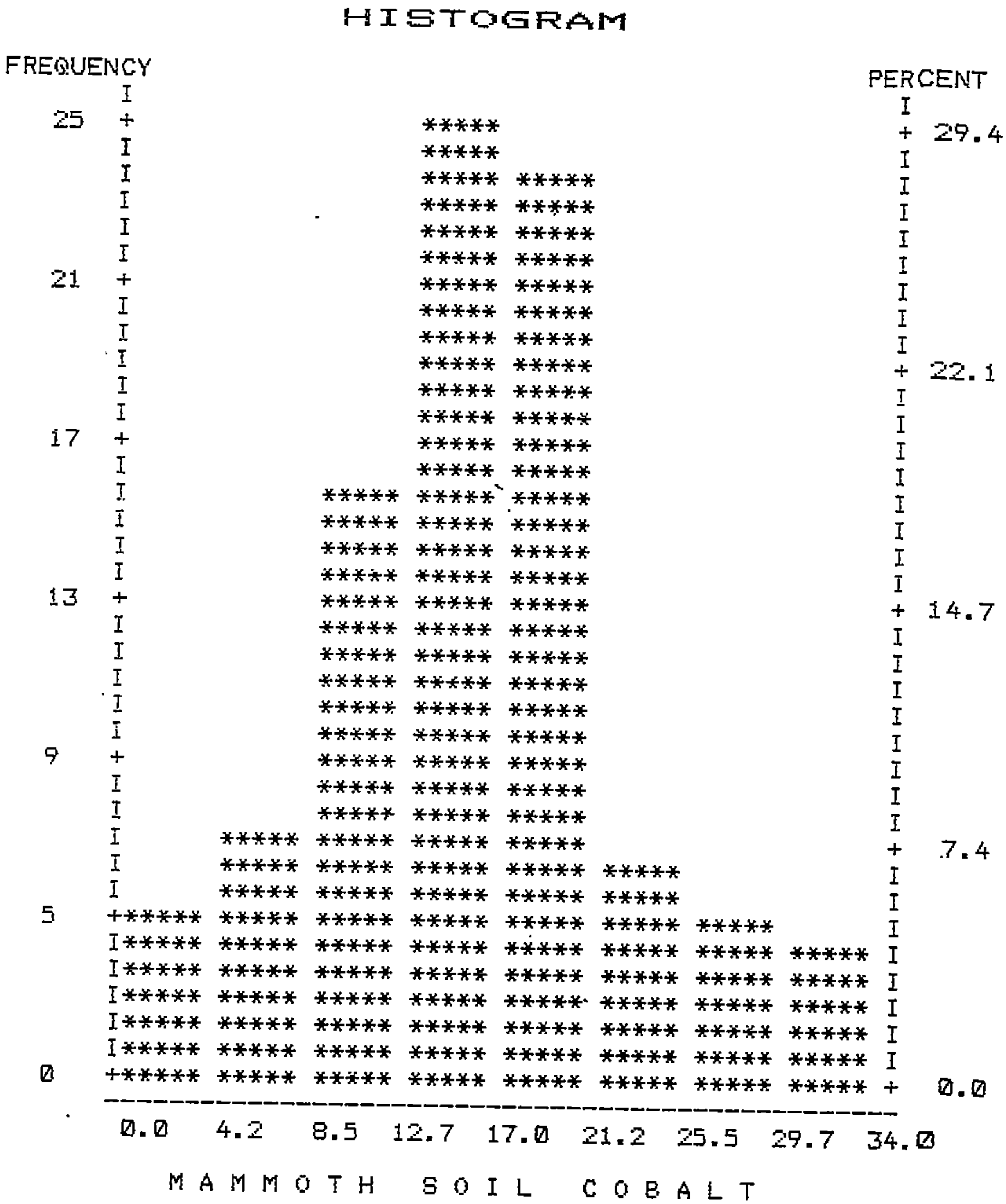
HISTOGRAM

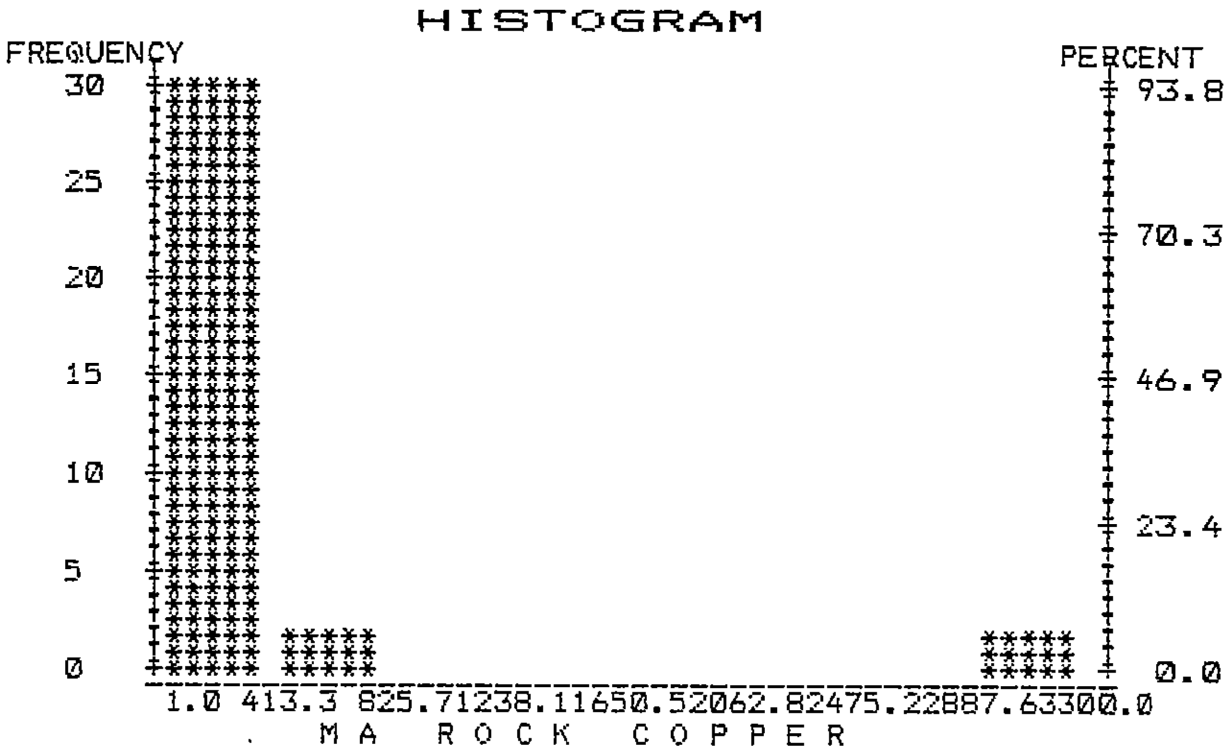
```
FREQUENCY                                                              PERCENT
        I                                                                I
  43   +*****                                                            +  50.6
        I*****                                                           I
        I*****                                                           I
        I*****                                                           I
        I*****                                                           I
        I*****                                                           I
  36   +*****                                                            I
        I*****                                                           I
        I*****                                                           I
        I*****                                                           +  37.9
        I*****                                                           I
        I*****                                                           I
  29   +*****                                                            I
        I*****                                                           I
        I*****                                                           I
        I*****                                                           I
        I*****  *****                                                    I
        I*****  *****                                                    I
  22   +*****  *****                                                     +  25.3
        I*****  *****                                                    I
        I*****  *****                                                    I
        I*****  *****                                                    I
        I*****  *****                                                    I
        I*****  *****                                                    I
  15   +*****  *****                                                     I
        I*****  *****  *****                                             I
        I*****  *****  *****                                             I
        I*****  *****  *****                                             +  12.6
        I*****  *****  *****                                             I
        I*****  *****  *****                                             I
   8   +*****  *****  *****                                              I
        I*****  *****  *****                                             I
        I*****  *****  *****                                             I
        I*****  *****  *****  *****                                      I
        I*****  *****  *****  *****  *****                               I
        I*****  *****  *****  *****  *****  *****                 *****  I
   0   +*****  *****  *****  *****  *****  *****                 *****  +   0.0
        ------------------------------------------------------------------
       43.0 130.1 217.2 304.3 391.5 478.6 565.7 652.8 740.0

                M A M M O T H   S O I L   Z I N C
```

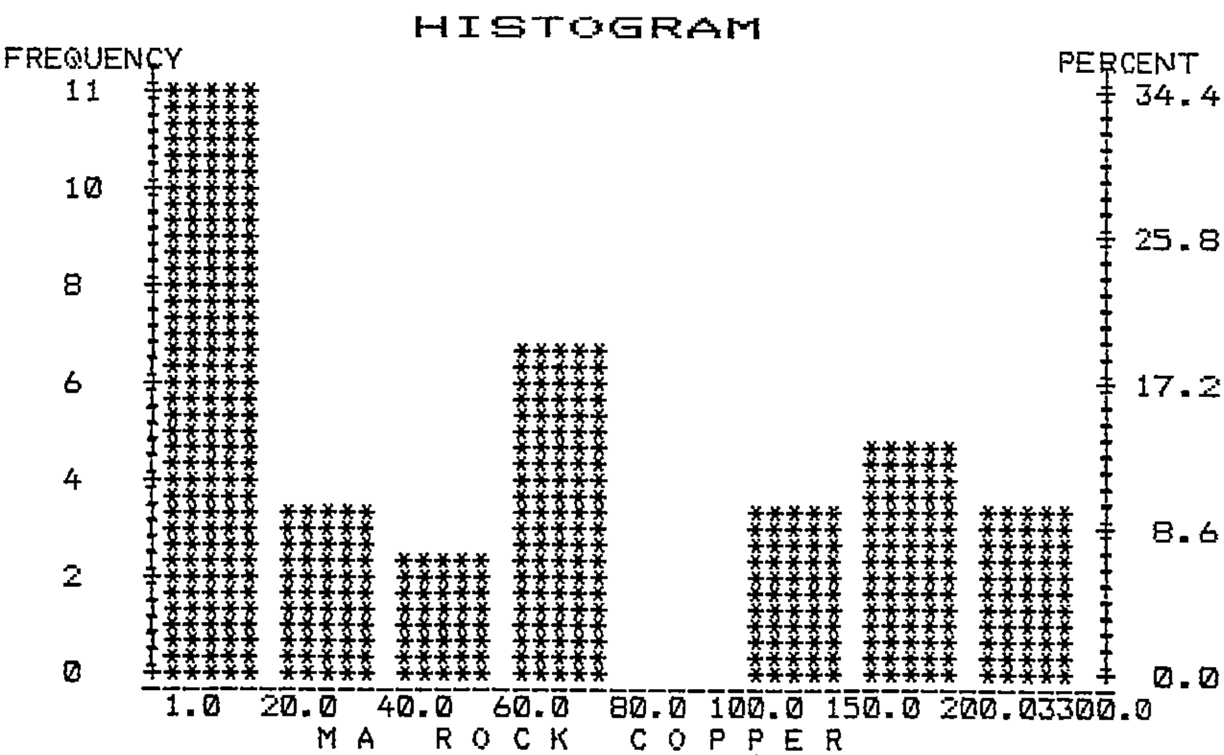
HISTOGRAM

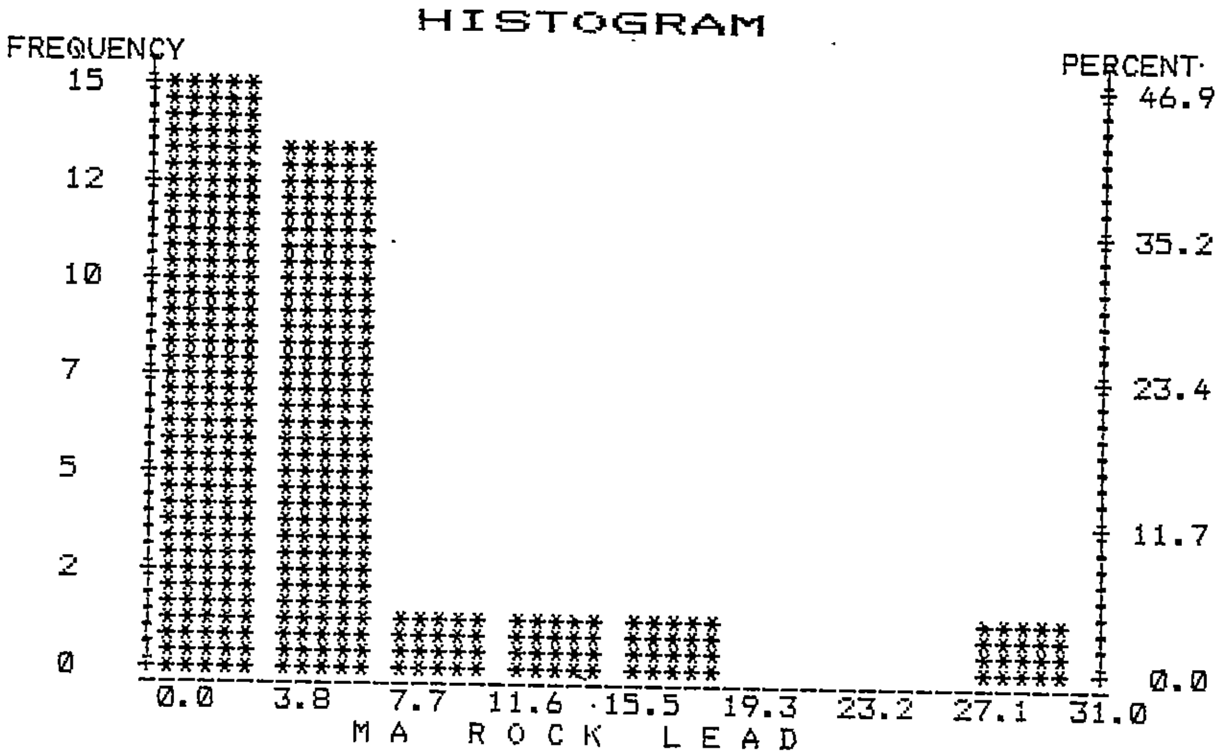


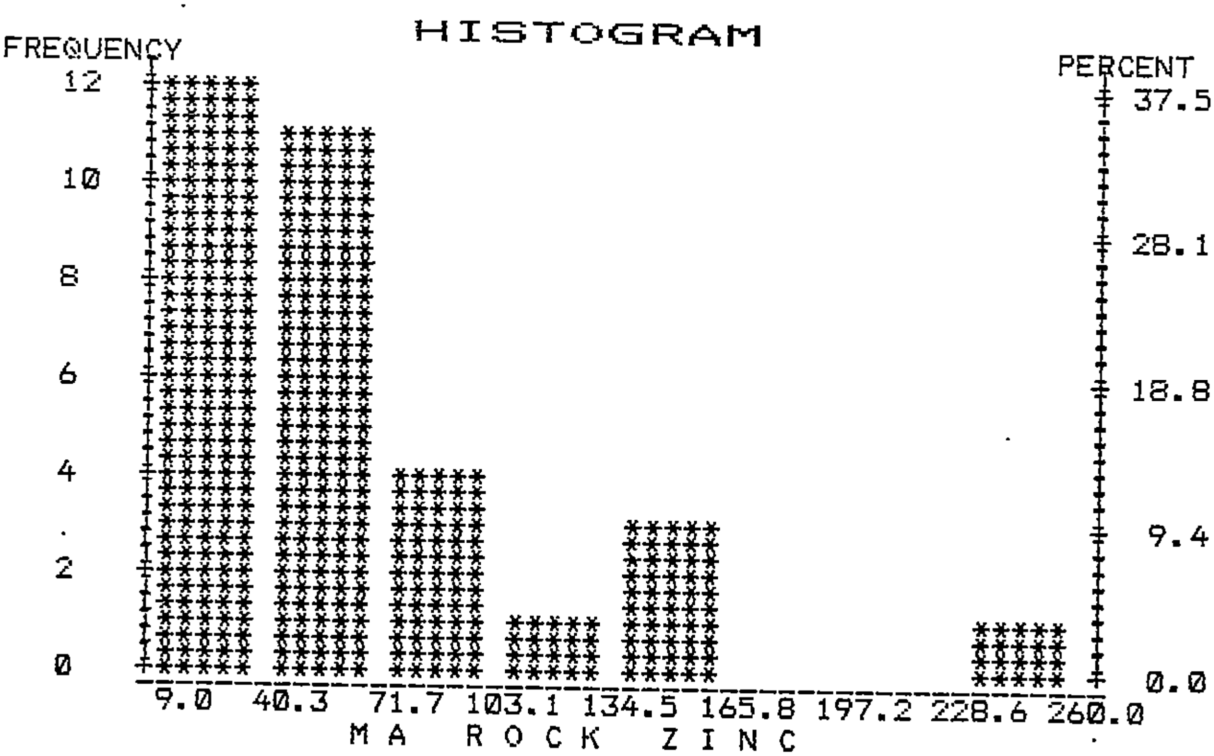
M A M M O T H   S O I L   N I C K E L

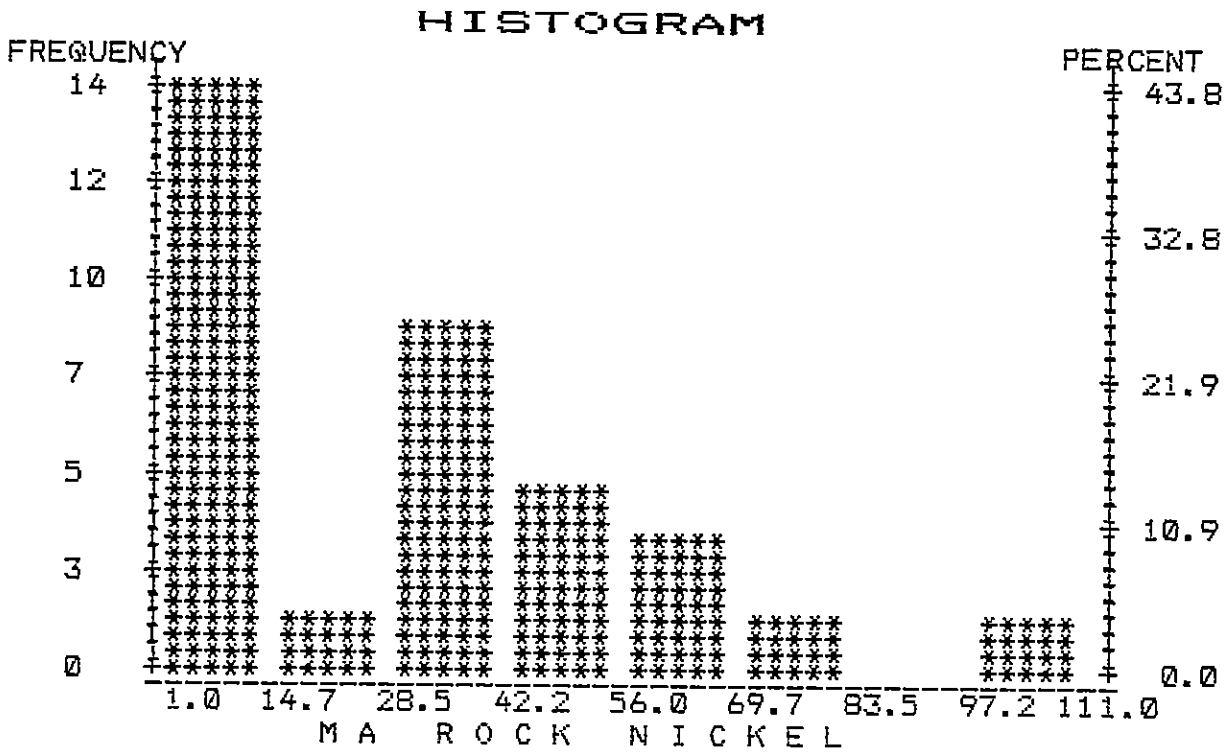

HISTOGRAM
FREQUENCY
PERCENT
25
21
17
13
9
5
0
29.4
22.1
14.7
7.4
0.0
0.0
4.2
8.5
12.7
17.0
21.2
25.5
29.7
34.0
MAMMOTH SOIL COBALT

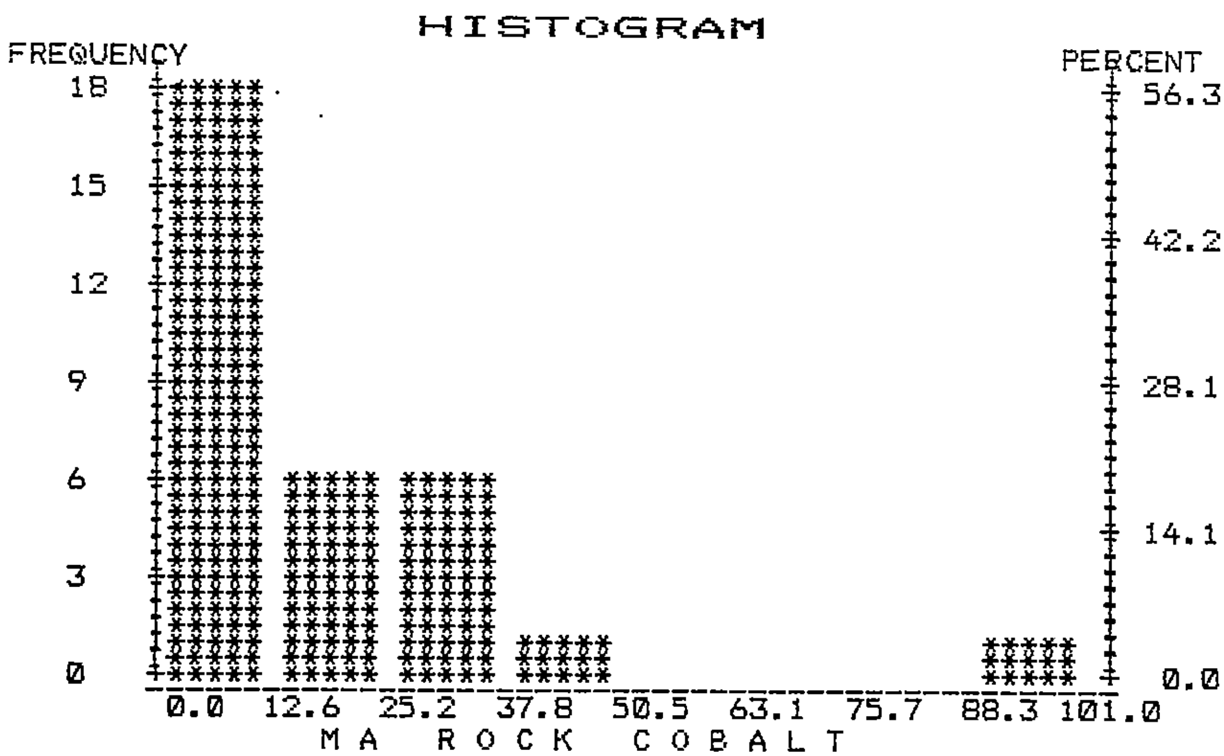

HISTOGRAM
FREQUENCY
PERCENT
30
25
20
15
10
5
0
93.8
70.3
46.9
23.4
0.0
1.0 413.3 825.71238.11650.52062.82475.22887.63300.0
MA ROCK COPPER

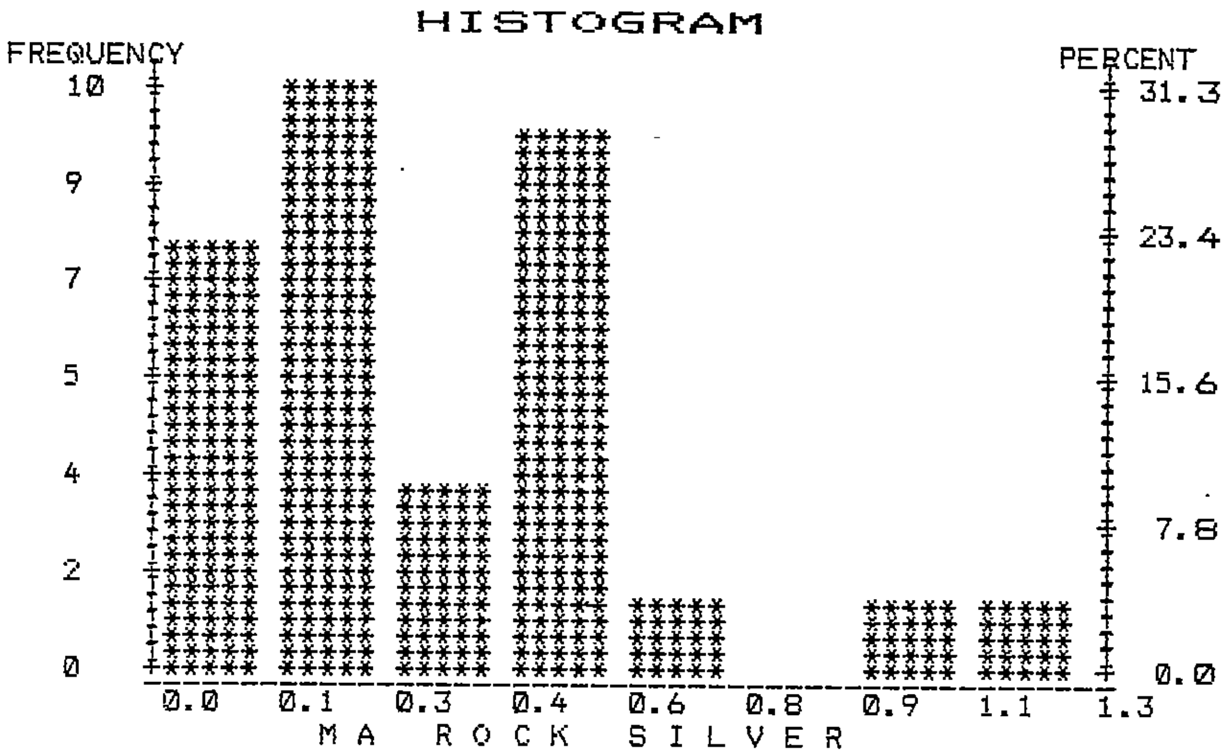

HISTOGRAM
FREQUENCY
PERCENT
11
10
8
6
4
2
0
34.4
25.8
17.2
8.6
0.0
1.0 20.0 40.0 60.0 80.0 100.0 150.0 200.03300.0
MA ROCK COPPER

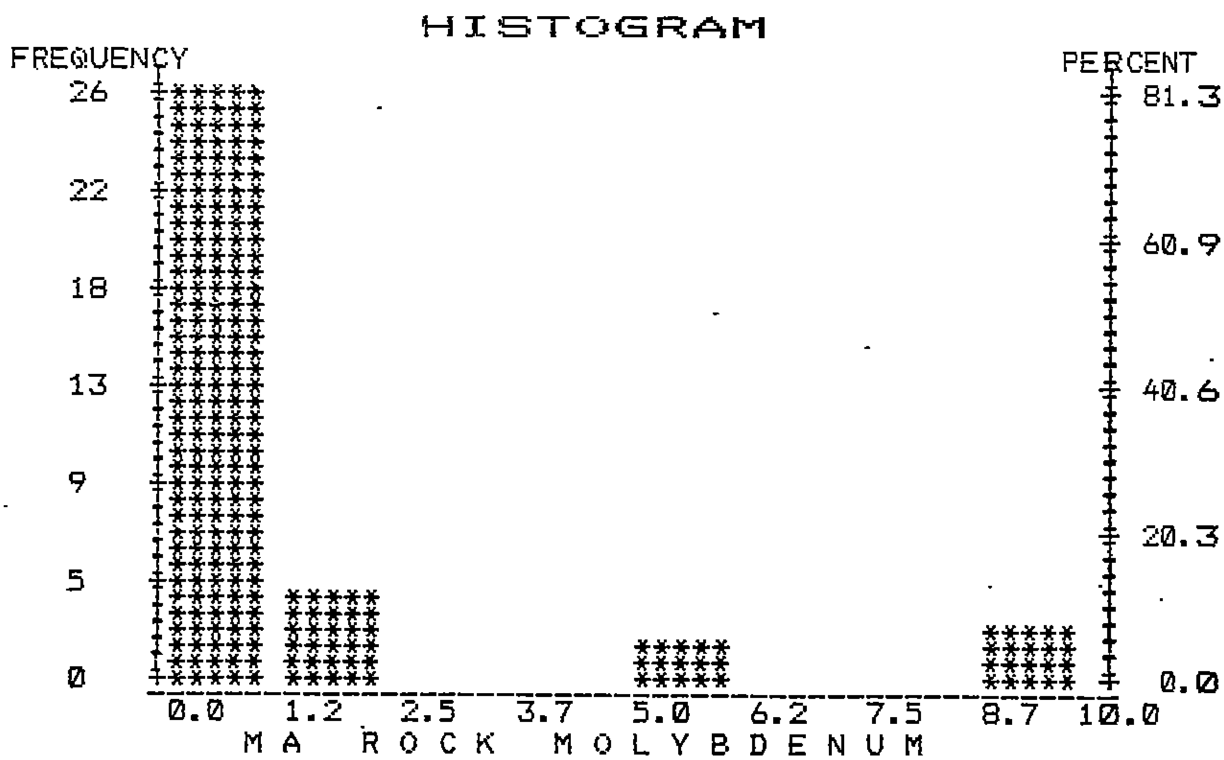

HISTOGRAM
FREQUENCY
15
12
10
7
5
2
0
PERCENT
46.9
35.2
23.4
11.7
0.0
0.0
3.8
7.7
11.6
15.5
19.3
23.2
27.1
31.0
MA ROCK LEAD

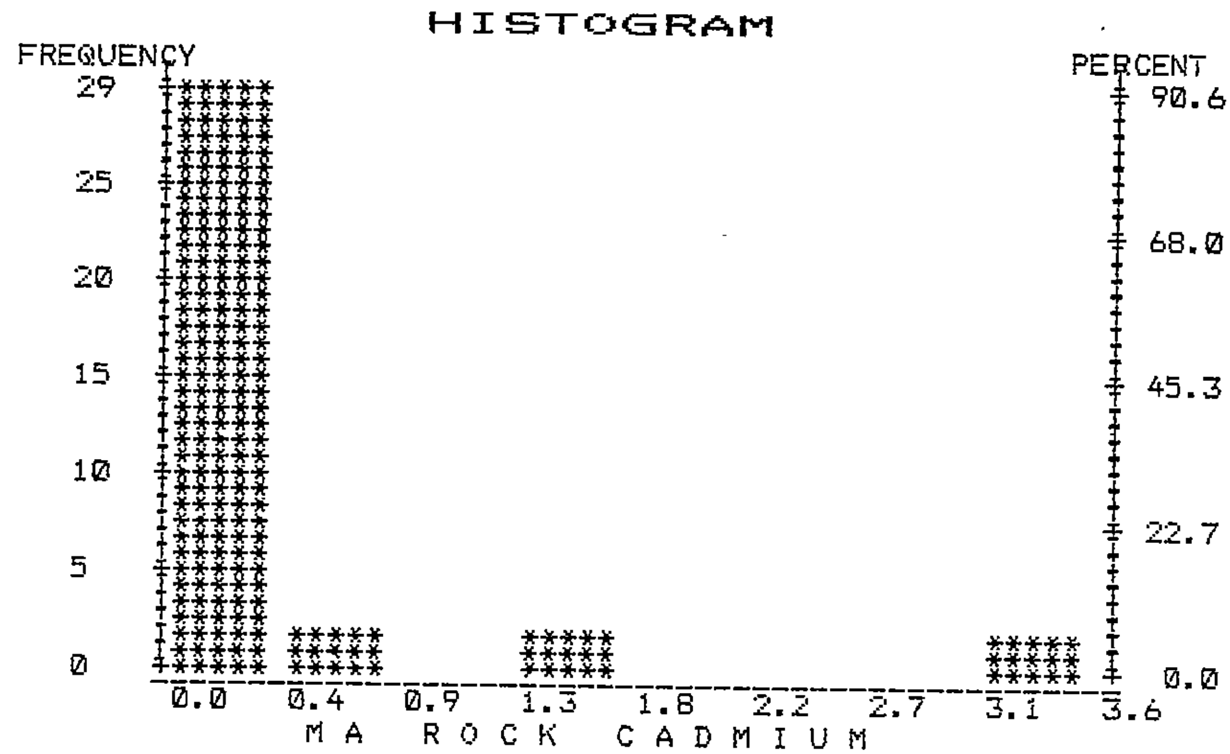

HISTOGRAM
FREQUENCY
12
10
8
6
4
2
0
PERCENT
37.5
28.1
18.8
9.4
0.0
9.0
40.3
71.7
103.1
134.5
165.8
197.2
228.6
260.0
MA ROCK ZINC

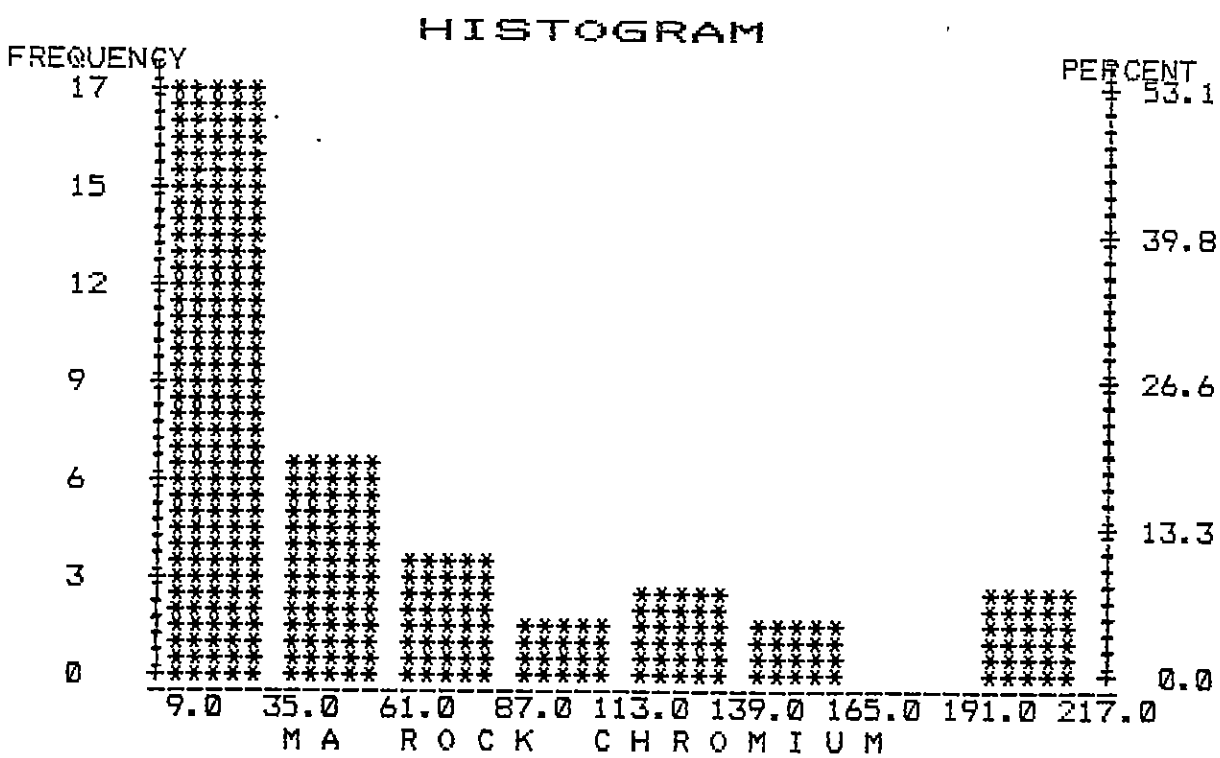

HISTOGRAM
FREQUENCY
PERCENT
14
12
10
7
5
3
0
43.8
32.8
21.9
10.9
0.0
1.0 14.7 28.5 42.2 56.0 69.7 83.5 97.2 111.0
MA ROCK NICKEL

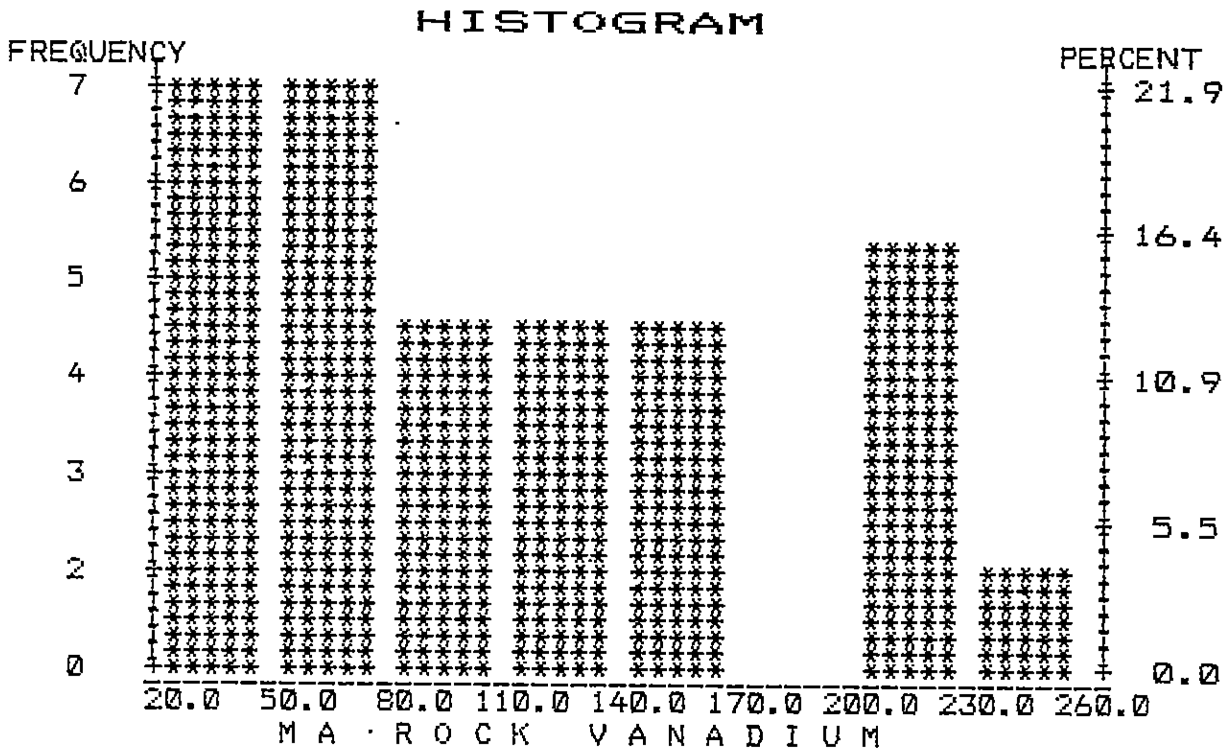

HISTOGRAM
FREQUENCY
PERCENT
18
15
12
9
6
3
0
56.3
42.2
28.1
14.1
0.0
0.0 12.6 25.2 37.8 50.5 63.1 75.7 88.3 101.0
MA ROCK COBALT


HISTOGRAM
FREQUENCY
PERCENT
10
9
7
5
4
2
0
31.3
23.4
15.6
7.8
0.0
0.0
0.1
0.3
0.4
0.6
0.8
0.9
1.1
1.3
MA ROCK SILVER


HISTOGRAM
FREQUENCY
PERCENT
26
22
18
13
9
5
0
81.3
60.9
40.6
20.3
0.0
0.0
1.2
2.5
3.7
5.0
6.2
7.5
8.7
10.0
MA ROCK MOLYBDENUM


HISTOGRAM
FREQUENCY
29
25
20
15
10
5
0
PERCENT
90.6
68.0
45.3
22.7
0.0
0.0 0.4 0.9 1.3 1.8 2.2 2.7 3.1 3.6
MA ROCK CADMIUM


HISTOGRAM
FREQUENCY
17
15
12
9
6
3
0
PERCENT
53.1
39.8
26.6
13.3
0.0
9.0 35.0 61.0 87.0 113.0 139.0 165.0 191.0 217.0
MA ROCK CHROMIUM


HISTOGRAM
FREQUENCY
PERCENT
7
6
5
4
3
2
0
21.9
16.4
10.9
5.5
0.0
20.0 50.0 80.0 110.0 140.0 170.0 200.0 230.0 260.0
MA ROCK VANADIUM

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: MA STREAM COPP

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
17.000	TO	20.999	3	10.0	10.0
21.000	TO	24.999	7	23.3	33.3
25.000	TO	28.999	1	3.3	36.7
29.000	TO	32.999	4	13.3	50.0
33.000	TO	36.999	2	6.7	56.7
37.000	TO	40.999	0	0.0	56.7
41.000	TO	44.999	2	6.7	63.3
45.000	TO	48.999	5	16.7	80.0
49.000	TO	52.999	3	10.0	90.0
53.000	TO	57.000	3	10.0	100.0
T O T A L			30	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: MA STREAM LEAD

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
13.000	TO	24.999	12	40.0	40.0
25.000	TO	36.999	8	26.7	66.7
37.000	TO	48.999	6	20.0	86.7
49.000	TO	60.999	1	3.3	90.0
61.000	TO	72.999	2	6.7	96.7
73.000	TO	84.999	0	0.0	96.7
85.000	TO	96.999	0	0.0	96.7
97.000	TO	108.999	0	0.0	96.7
109.000	TO	120.999	0	0.0	96.7
121.000	TO	133.000	1	3.3	100.0
T O T A L			30	100.0	

FREQUENCY DISTRIBUTION

DISTRIBUTION OF VARIABLE: MA STREAM ZINC

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
55.000	TO	72.499	14	46.7	46.7
72.500	TO	89.999	4	13.3	60.0
90.000	TO	107.499	4	13.3	73.3
107.500	TO	124.999	1	3.3	76.7
125.000	TO	142.499	3	10.0	86.7
142.500	TO	159.999	1	3.3	90.0
160.000	TO	177.499	1	3.3	93.3
177.500	TO	194.999	1	3.3	96.7
195.000	TO	212.499	0	0.0	96.7
212.500	TO	230.000	1	3.3	100.0
TOTAL			30	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: MA STREAM NI

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
13.000	TO	15.399	8	26.7	26.7
15.400	TO	17.799	5	16.7	43.3
17.800	TO	20.199	2	6.7	50.0
20.200	TO	22.599	3	10.0	60.0
22.600	TO	24.999	0	0.0	60.0
25.000	TO	27.399	5	16.7	76.7
27.400	TO	29.799	0	0.0	76.7
29.800	TO	32.199	2	6.7	83.3
32.200	TO	34.599	3	10.0	93.3
34.600	TO	37.000	2	6.7	100.0
T O T A L			30	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: MA STREAM CO

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
8.000	TO	8.999	2	6.7	6.7
9.000	TO	9.999	6	20.0	26.7
10.000	TO	10.999	0	0.0	26.7
11.000	TO	11.999	6	20.0	46.7
12.000	TO	12.999	3	10.0	56.7
13.000	TO	13.999	5	16.7	73.3
14.000	TO	14.999	3	10.0	83.3
15.000	TO	15.999	2	6.7	90.0
16.000	TO	16.999	1	3.3	93.3
17.000	TO	18.000	2	6.7	100.0
T O T A L			30	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: MAMMOTH SOIL C

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
12.000	TO	19.999	6	7.1	7.1
20.000	TO	29.999	10	11.8	18.8
30.000	TO	39.999	10	11.8	30.6
40.000	TO	49.999	17	20.0	50.6
50.000	TO	59.999	20	23.5	74.1
60.000	TO	69.999	5	5.9	80.0
70.000	TO	79.999	6	7.1	87.1
80.000	TO	89.999	2	2.4	89.4
90.000	TO	179.999	8	9.4	98.8
180.000	TO	300.000	1	1.2	100.0
T O T A L			85	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: MA SOIL LEAD

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
3.000	TO	16.999	25	29.4	29.4
17.000	TO	30.999	34	40.0	69.4
31.000	TO	44.999	9	10.6	80.0
45.000	TO	58.999	6	7.1	87.1
59.000	TO	72.999	4	4.7	91.8
73.000	TO	86.999	3	3.5	95.3
87.000	TO	100.999	0	0.0	95.3
101.000	TO	114.999	1	1.2	96.5
115.000	TO	128.999	0	0.0	96.5
129.000	TO	143.000	3	3.5	100.0
T O T A L			85	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: MA SOIL ZINC

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
43.000	TO	112.699	34	40.0	40.0
112.700	TO	182.399	21	24.7	64.7
182.400	TO	252.099	17	20.0	84.7
252.100	TO	321.799	7	8.2	92.9
321.800	TO	391.499	2	2.4	95.3
391.500	TO	461.199	2	2.4	97.6
461.200	TO	530.899	1	1.2	98.8
530.900	TO	600.599	0	0.0	98.8
600.600	TO	670.299	0	0.0	98.8
670.300	TO	740.000	1	1.2	100.0
T O T A L			85	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: MA SOIL NICKEL

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
4.000	TO	12.099	4	4.7	4.7
12.100	TO	20.199	18	21.2	25.9
20.200	TO	28.299	23	27.1	52.9
28.300	TO	36.399	16	18.8	71.8
36.400	TO	44.499	13	15.3	87.1
44.500	TO	52.599	7	8.2	95.3
52.600	TO	60.699	2	2.4	97.6
60.700	TO	68.799	0	0.0	97.6
68.800	TO	76.899	1	1.2	98.8
76.900	TO	85.000	1	1.2	100.0
T O T A L			85	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: MA SOIL COBALT

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	3.399	3	3.5	3.5
3.400	TO	6.799	2	2.4	5.9
6.800	TO	10.199	10	11.8	17.6
10.200	TO	13.599	17	20.0	37.6
13.600	TO	16.999	18	21.2	58.8
17.000	TO	20.399	19	22.4	81.2
20.400	TO	23.799	5	5.9	87.1
23.800	TO	27.199	6	7.1	94.1
27.200	TO	30.599	3	3.5	97.6
30.600	TO	34.000	2	2.4	100.0
T O T A L			85	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: MA ROCK COPPER

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
1.000	TO	19.999	11	34.4	34.4
20.000	TO	39.999	3	9.4	43.8
40.000	TO	59.999	2	6.3	50.0
60.000	TO	79.999	6	18.8	68.8
80.000	TO	119.999	1	3.1	71.9
120.000	TO	159.999	2	6.3	78.1
160.000	TO	199.999	4	12.5	90.6
200.000	TO	399.999	1	3.1	93.8
400.000	TO	799.999	1	3.1	96.9
800.000	TO	3300.000	1	3.1	100.0
T O T A L			32	100.0	

FREQUENCY DISTRIBUTION

DISTRIBUTION OF VARIABLE: MA ROCK LEAD

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	1.999	4	12.5	12.5
2.000	TO	3.999	11	34.4	46.9
4.000	TO	5.999	12	37.5	84.4
6.000	TO	7.999	1	3.1	87.5
8.000	TO	11.999	1	3.1	90.6
12.000	TO	15.999	1	3.1	93.8
16.000	TO	23.999	1	3.1	96.9
24.000	TO	31.000	1	3.1	100.0
TOTAL			32	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: MA ROCK ZINC

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
9.000	TO	33.999	9	28.1	28.1
34.000	TO	58.999	12	37.5	65.6
59.000	TO	83.999	4	12.5	78.1
84.000	TO	108.999	2	6.3	84.4
109.000	TO	133.999	1	3.1	87.5
134.000	TO	159.999	1	3.1	90.6
160.000	TO	209.999	2	6.3	96.9
210.000	TO	260.000	1	3.1	100.0
T O T A L			32	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: MA ROCK NICKEL

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
1.000	TO	11.999	13	40.6	40.6
12.000	TO	22.999	1	3.1	43.8
23.000	TO	33.999	1	3.1	46.9
34.000	TO	44.999	10	31.3	78.1
45.000	TO	55.999	2	6.3	84.4
56.000	TO	66.999	1	3.1	87.5
67.000	TO	77.999	2	6.3	93.8
78.000	TO	94.999	1	3.1	96.9
95.000	TO	111.000	1	3.1	100.0
T O T A L			32	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: MA ROCK COBALT

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	4.999	7	21.9	21.9
5.000	TO	9.999	9	28.1	50.0
10.000	TO	14.999	4	12.5	62.5
15.000	TO	19.999	1	3.1	65.6
20.000	TO	24.999	2	6.3	71.9
25.000	TO	29.999	3	9.4	81.3
30.000	TO	34.999	3	9.4	90.6
35.000	TO	39.999	1	3.1	93.8
40.000	TO	101.000	2	6.3	100.0
T O T A L			32	100.0	

FREQUENCY DISTRIBUTION

DISTRIBUTION OF VARIABLE: MA ROCK SILVER

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	0.099	4	12.5	12.5
0.100	TO	0.199	3	9.4	21.9
0.200	TO	0.299	4	12.5	34.4
0.300	TO	0.399	6	18.8	53.1
0.400	TO	0.499	3	9.4	62.5
0.500	TO	0.699	9	28.1	90.6
0.700	TO	0.999	1	3.1	93.8
1.000	TO	1.300	2	6.3	100.0
TOTAL			32	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: MA ROCK MOLYBD

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	0.399	21	65.6	65.6
0.400	TO	0.799	0	0.0	65.6
0.800	TO	1.199	5	15.6	81.3
1.200	TO	1.599	0	0.0	81.3
1.600	TO	1.999	0	0.0	81.3
2.000	TO	3.999	3	9.4	90.6
4.000	TO	5.999	1	3.1	93.8
6.000	TO	7.999	0	0.0	93.8
8.000	TO	10.000	2	6.3	100.0
T O T A L			32	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: MA ROCK CADMIU

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
0.000	TO	0.099	21	65.6	65.6
0.100	TO	0.199	2	6.3	71.9
0.200	TO	0.299	3	9.4	81.3
0.300	TO	0.599	3	9.4	90.6
0.600	TO	0.999	1	3.1	93.8
1.000	TO	1.999	1	3.1	96.9
2.000	TO	3.600	1	3.1	100.0
T O T A L			32	100.0	

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

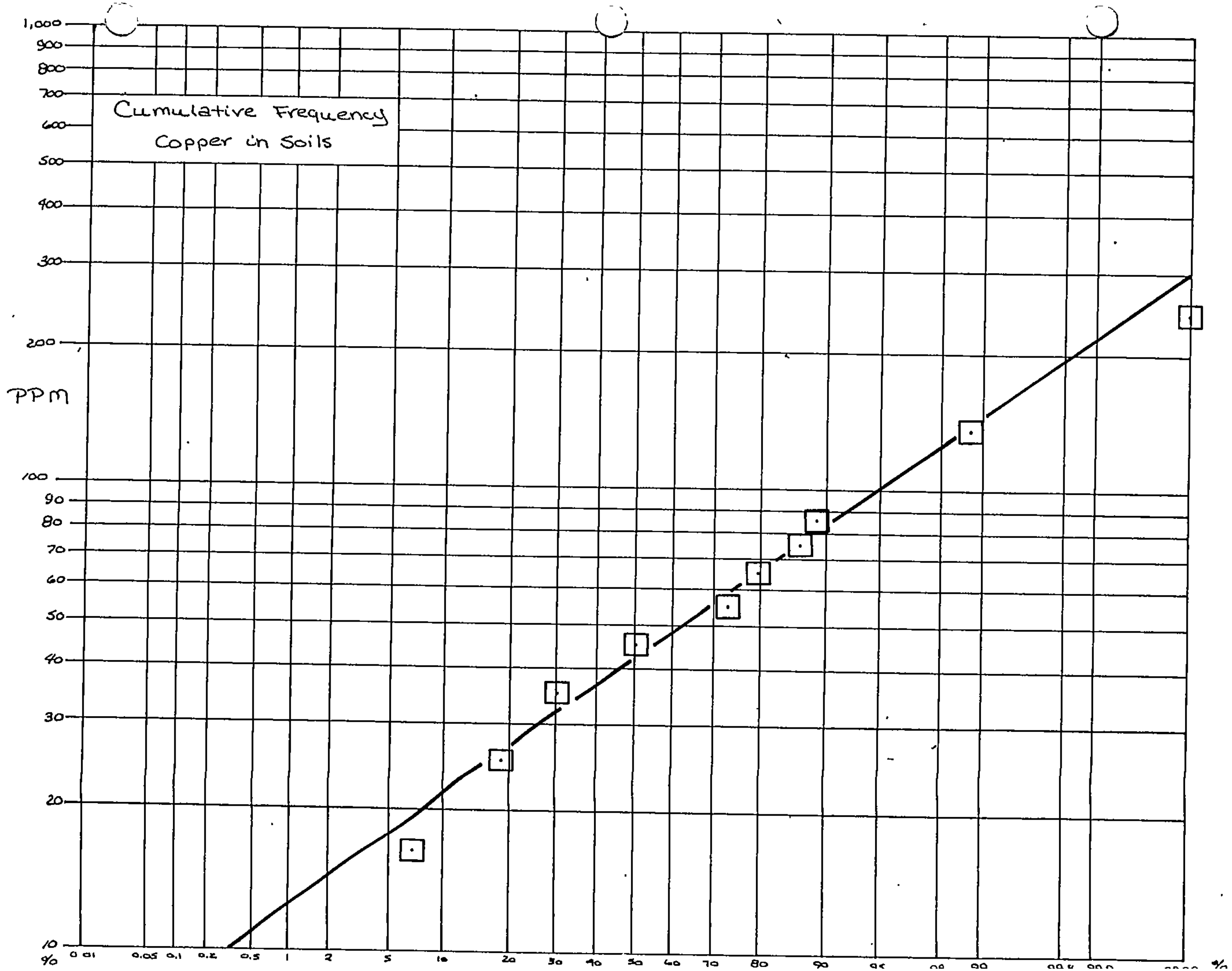
DISTRIBUTION OF VARIABLE: MA ROCK CHROME

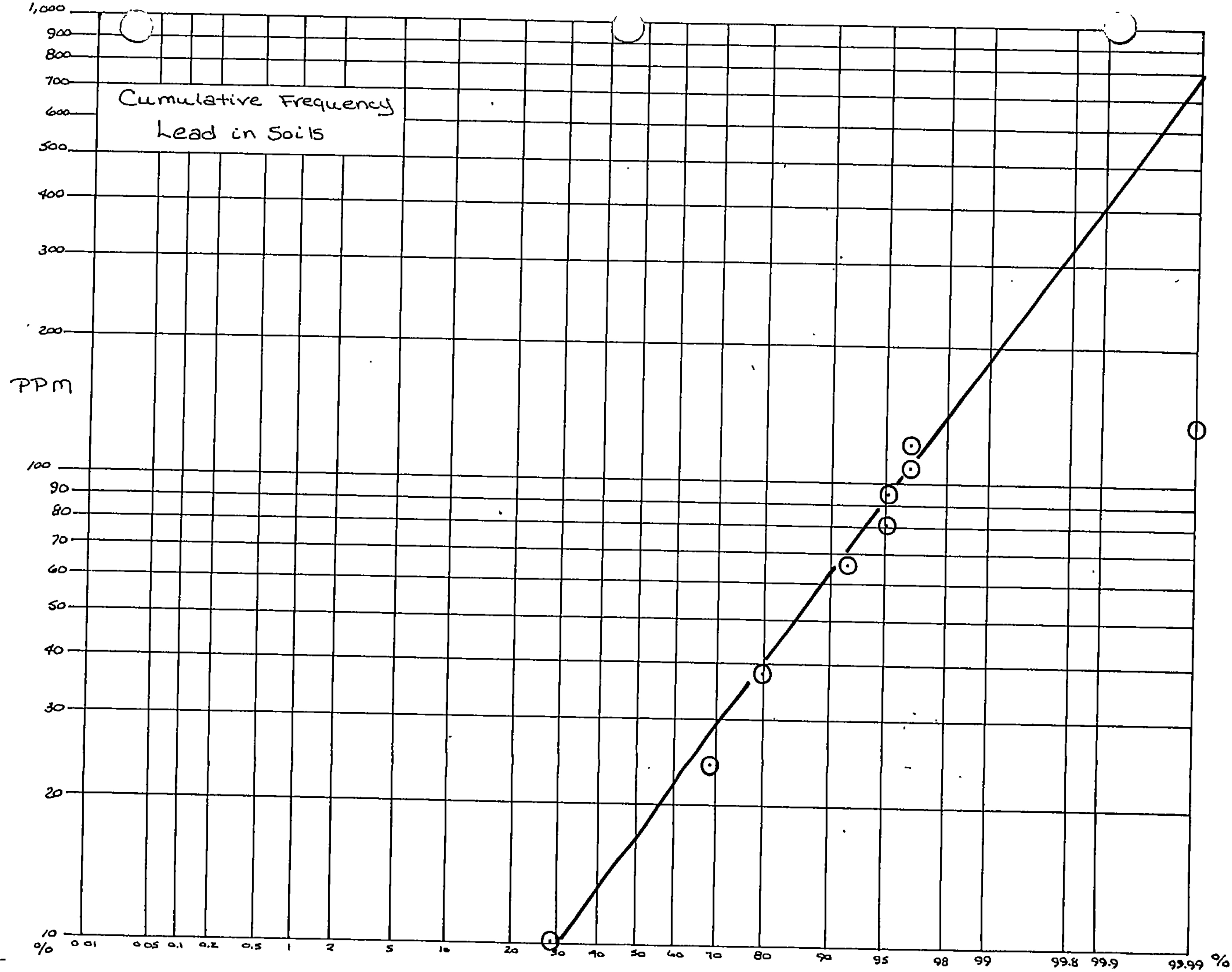
INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
9.000	TO	29.799	16	50.0	50.0
29.800	TO	50.599	4	12.5	62.5
50.600	TO	71.399	3	9.4	71.9
71.400	TO	92.199	3	9.4	81.3
92.200	TO	112.999	1	3.1	84.4
113.000	TO	133.799	1	3.1	87.5
133.800	TO	154.599	1	3.1	90.6
154.600	TO	175.399	1	3.1	93.8
175.400	TO	196.199	0	0.0	93.8
196.200	TO	217.000	2	6.3	100.0
T O T A L			32	100.0	

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

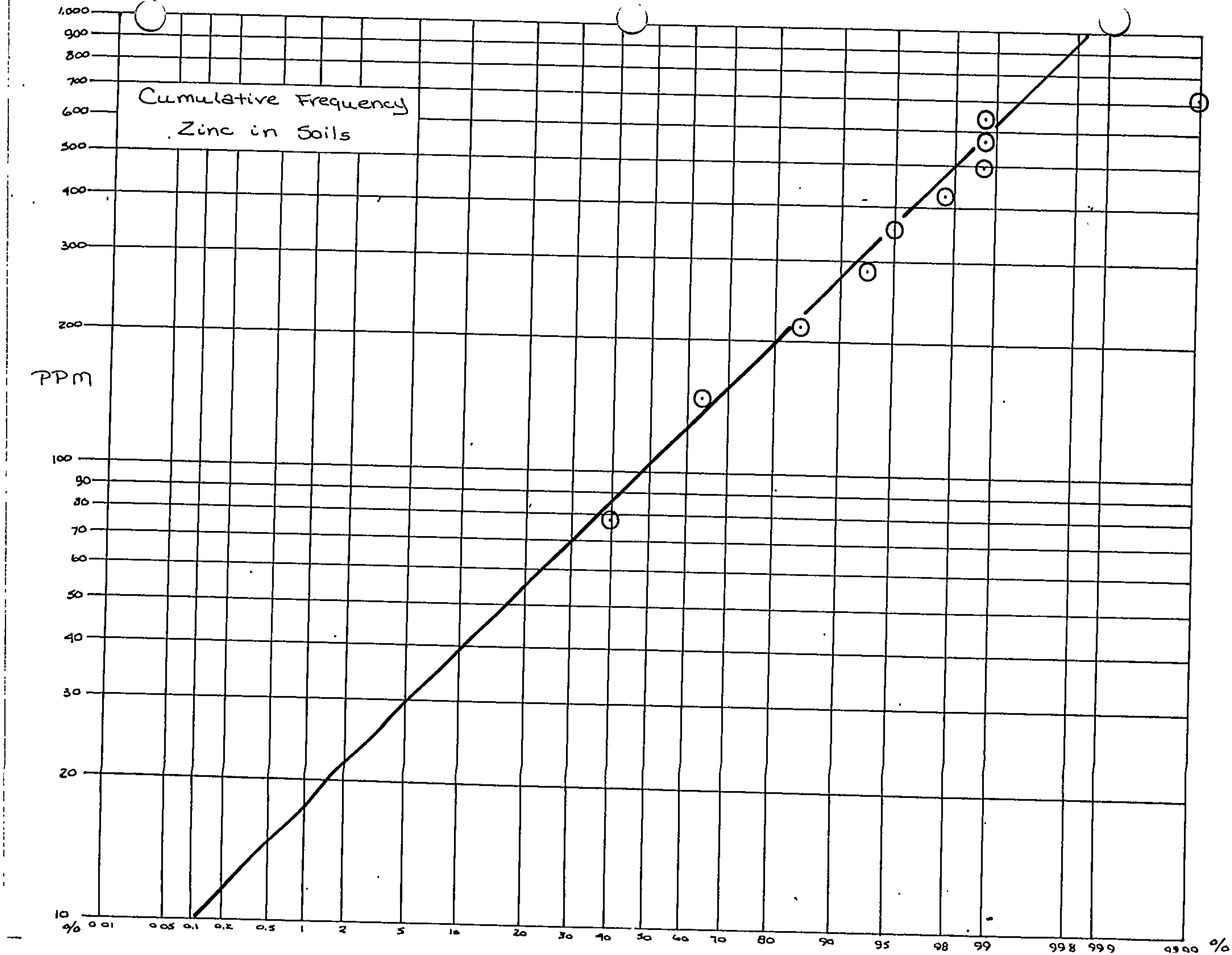
DISTRIBUTION OF VARIABLE: MA ROCK VANADI

INTERVAL			FREQUENCY	PERCENT	CUMULATIVE %
20.000	TO	43.999	7	21.9	21.9
44.000	TO	67.999	6	18.8	40.6
68.000	TO	91.999	4	12.5	53.1
92.000	TO	115.999	1	3.1	56.3
116.000	TO	139.999	4	12.5	68.8
140.000	TO	163.999	4	12.5	81.3
164.000	TO	187.999	0	0.0	81.3
188.000	TO	211.999	3	9.4	90.6
212.000	TO	235.999	2	6.3	96.9
236.000	TO	260.000	1	3.1	100.0
T O T A L			32	100.0	

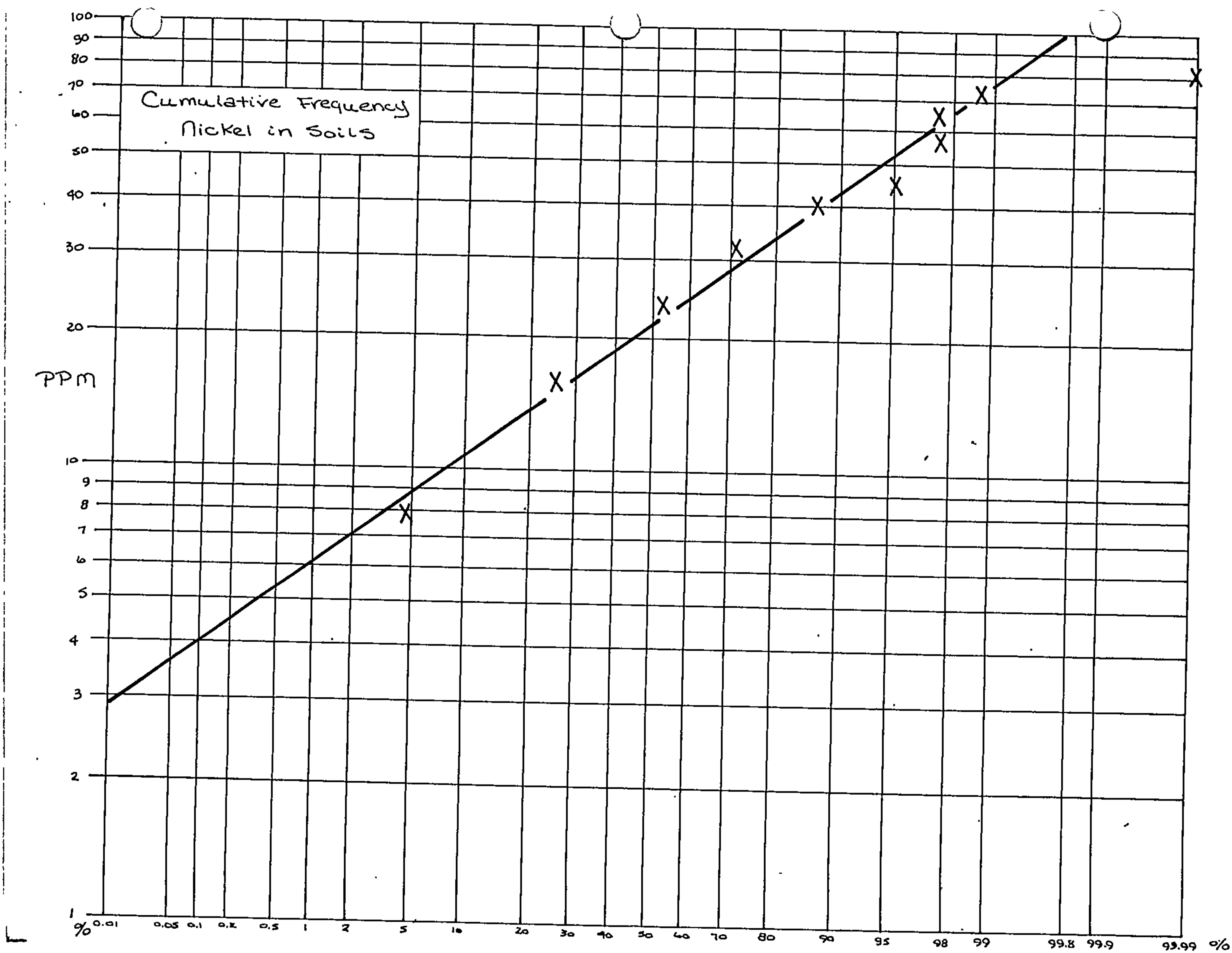

Cumulative Frequency
Copper in Soils
PPM
1,000
900
800
700
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
%
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
%



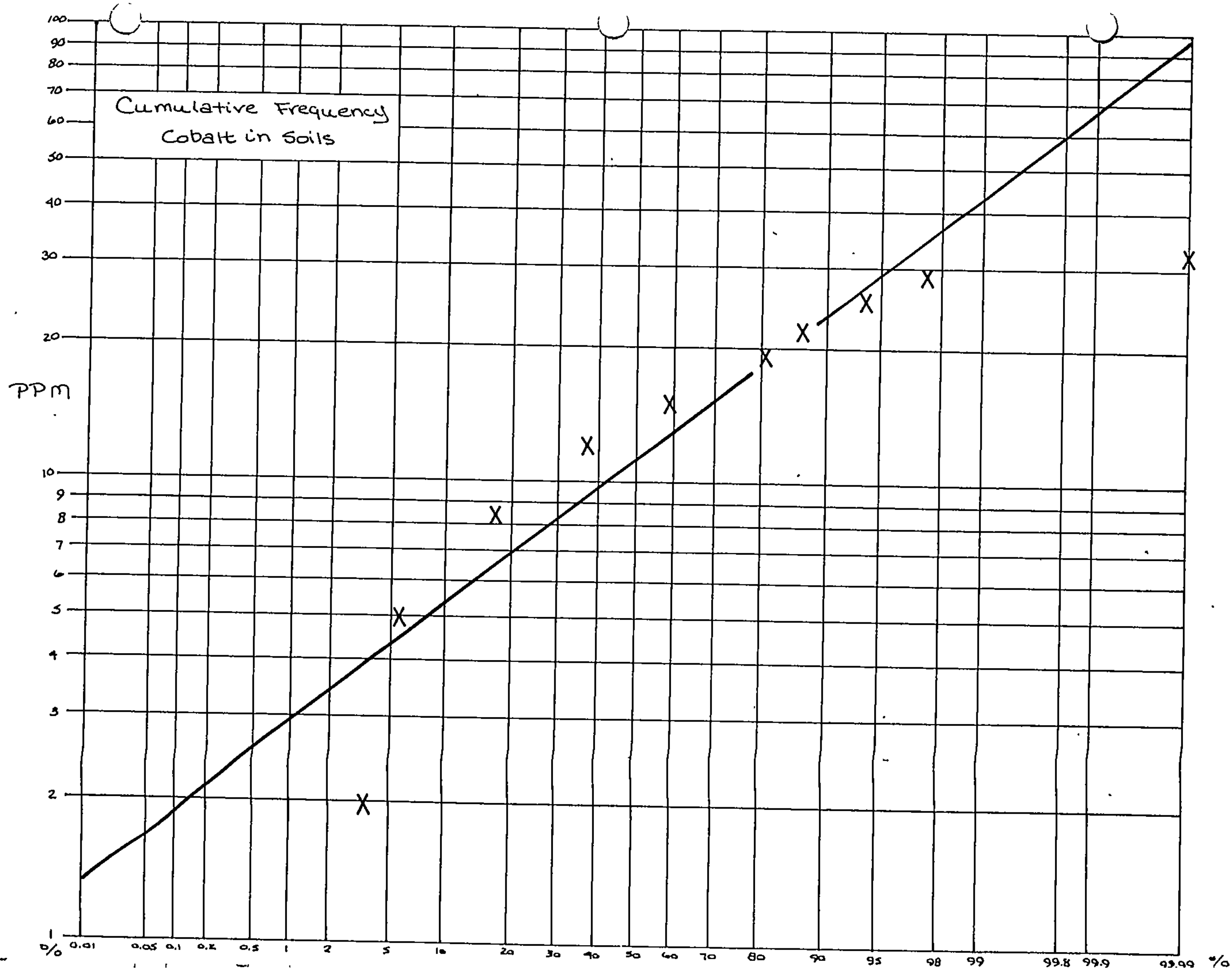
Cumulative Frequency
Lead in Soils
PPM
1,000
900
800
700
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
%
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99
%

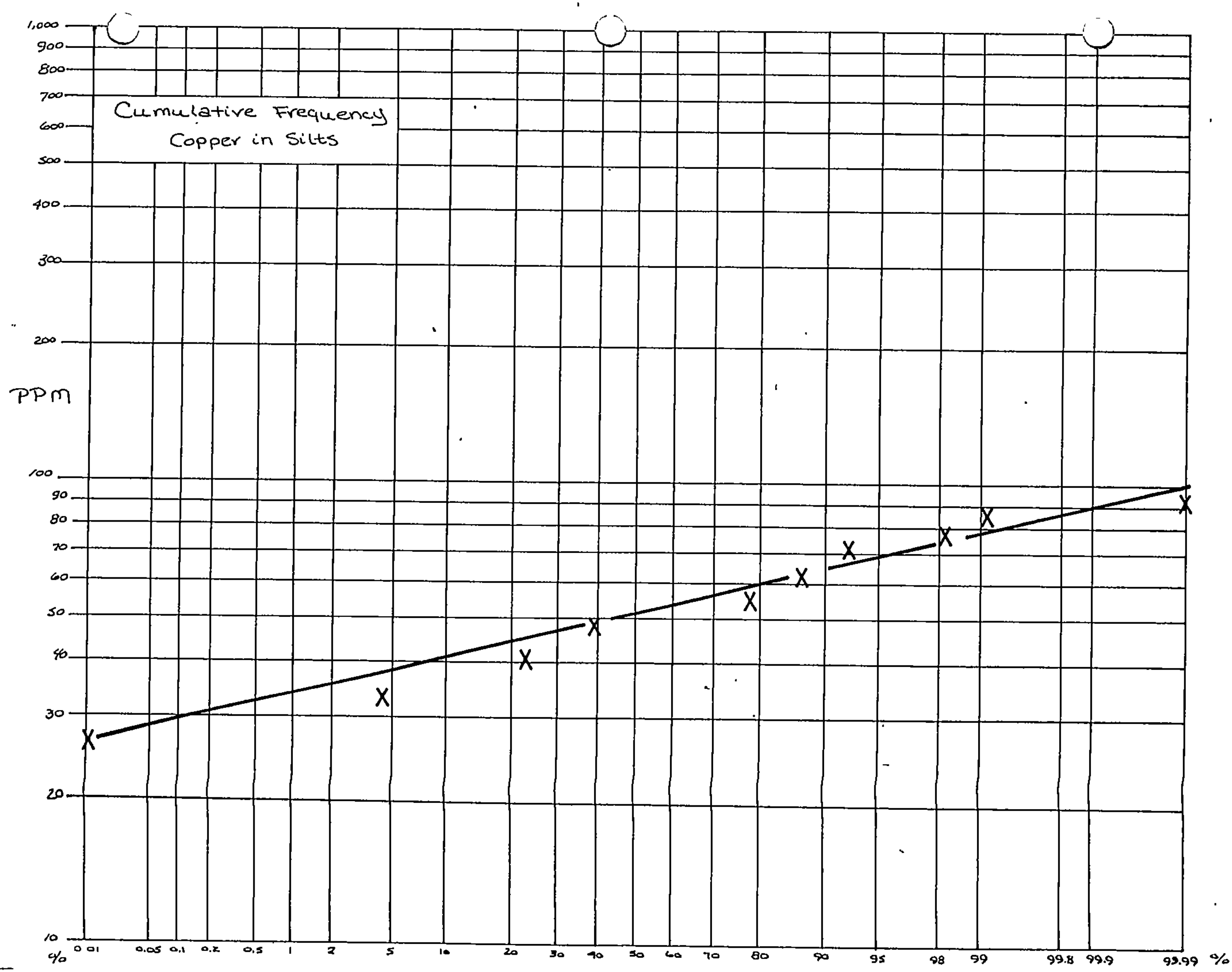


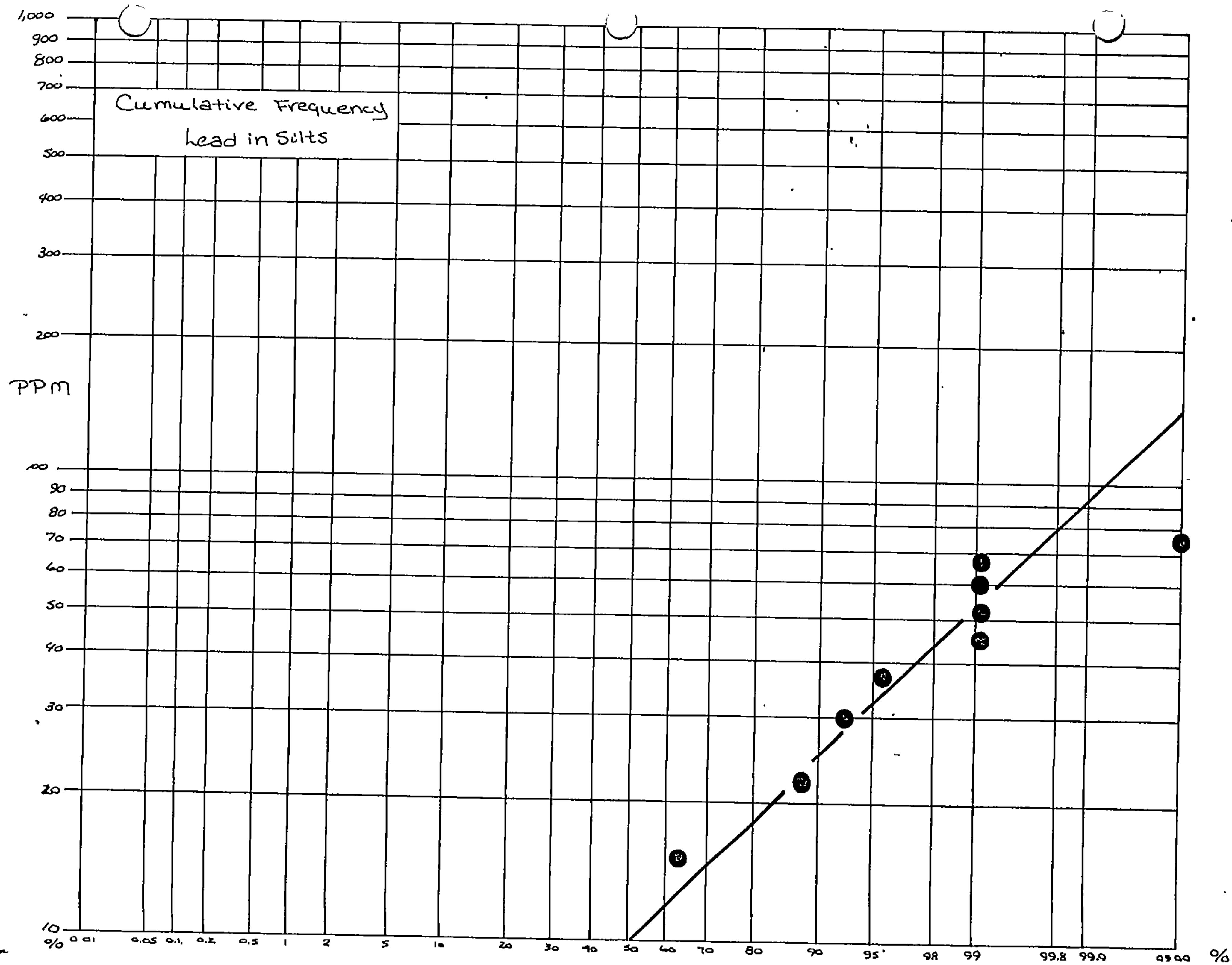
Cumulative Frequency
Zinc in Soils
PPM
1,000
900
800
700
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
%
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99
%

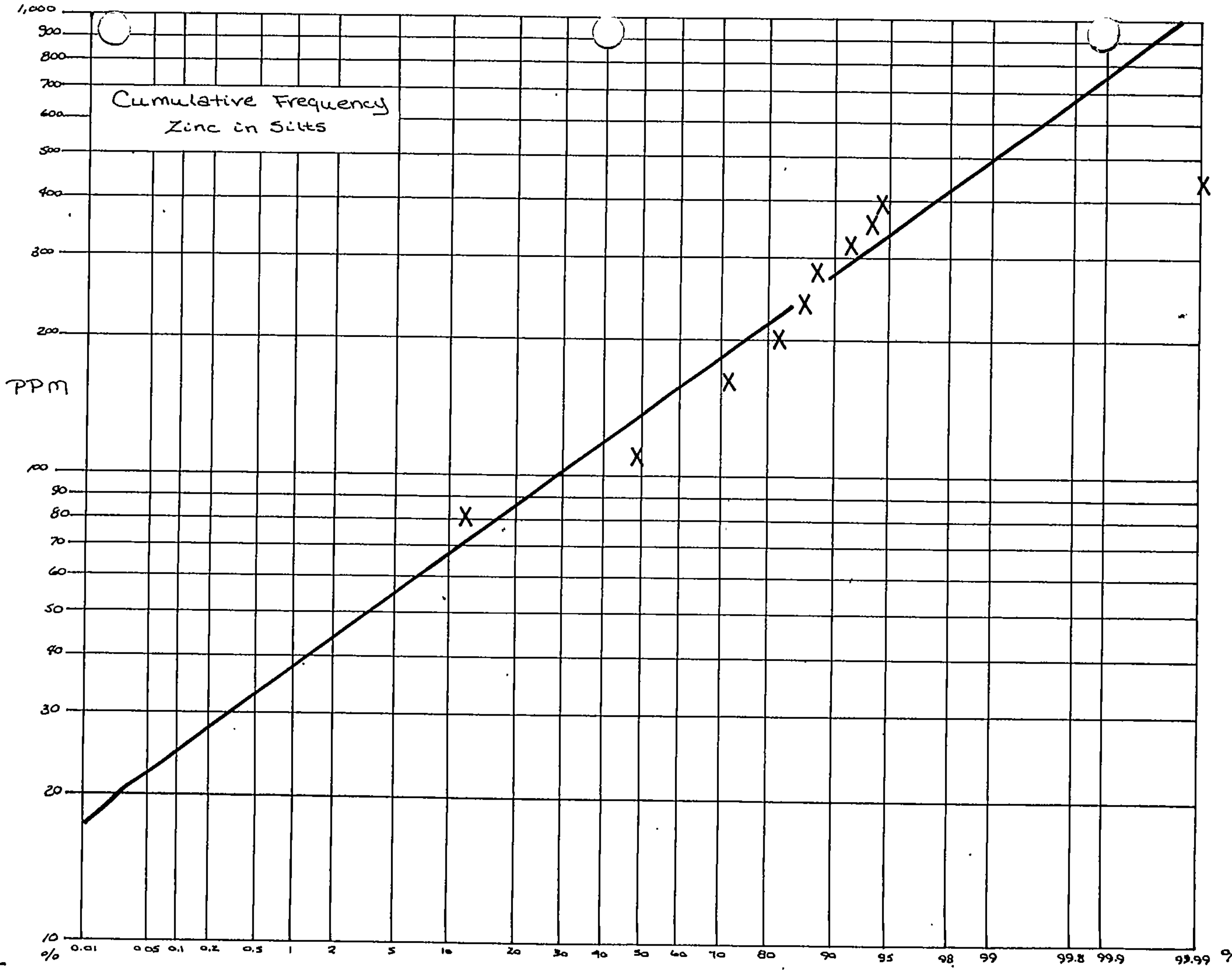


Cumulative Frequency
Nickel in Soils
PPM
100
90
80
70
60
50
40
30
20
10
9
8
7
6
5
4
3
2
1
%
0.01
0.05
0.1
0.2
0.5
1
2
5
10
20
30
40
50
60
70
80
90
95
98
99
99.8
99.9
99.99
%


Cumulative Frequency
Cobalt in Soils
PPM
100
90
80
70
60
50
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
%


Cumulative Frequency
Copper in Silts
PPM
1,000
900
800
700
600
500
400
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
Lead in Silts
PPM
1,000
900
800
700
600
500
400
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
Zinc in Silts
PPM
1,000
900
800
700
600
500
400
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
%

APPENDIX 6

WHOLE ROCK TRACE ELEMENT BAR CHARTS

490N 485W

COPPER	21
LEAD	11
ZINC	60
NICKEL	6
COBALT	7
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	37
VANADIUM	70

495N 225W

COPPER	21
LEAD	3
ZINC	57
NICKEL	5
COBALT	10
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	20
VANADIUM	110

500N 25W

COPPER	77
LEAD	5
ZINC	94
NICKEL	43
COBALT	11
SILVER	.5
MOLYBDENUM	6
CADMIUM	.6
CHROMIUM	78
VANADIUM	130

500N 52W

COPPER	64
LEAD	5
ZINC	153
NICKEL	39
COBALT	9
SILVER	.6
MOLYBDENUM	10
CADMIUM	.8
CHROMIUM	54
VANADIUM	220

500N 56W

COPPER	14
LEAD	1
ZINC	32
NICKEL	3
COBALT	1
SILVER	.1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	22
VANADIUM	40

500N 65W

COPPER	113
LEAD	8
ZINC	260
NICKEL	24
COBALT	7
SILVER	.2
MOLYBDENUM	10
CADMIUM	3.6
CHROMIUM	49
VANADIUM	140

500N 75W

COPPER	75
LEAD	4
ZINC	161
NICKEL	43
COBALT	14
SILVER	.3
MOLYBDENUM	2
CADMIUM	1.4
CHROMIUM	76
VANADIUM	80

500N 105W

COPPER	9
LEAD	25
ZINC	39
NICKEL	0
COBALT	0
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	20
VANADIUM	60

500N 130W

COPPER	12
LEAD	13
ZINC	54
NICKEL	5
COBALT	0
SILVER	.4
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	20
VANADIUM	70

500N 153W

COPPER	21
LEAD	14
ZINC	4
NICKEL	2
COBALT	0
SILVER	.5
MOLYBDENUM	2
CADMIUM	0
CHROMIUM	80
VANADIUM	80

500N 175W

COPPER	.55
LEAD	6
ZINC	42
NICKEL	6
COBALT	7
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	34
VANADIUM	70

500N 255W

COPPER	31
LEAD	2
ZINC	31
NICKEL	1
COBALT	1
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	21
VANADIUM	70

500N 275W

COPPER	142
LEAD	3
ZINC	76
NICKEL	15
COBALT	19
SILVER	.3
MOLYBDENUM	2
CADMIUM	.6
CHROMIUM	16
VANADIUM	80

500N 296W

COPPER	123
LEAD	1
ZINC	65
NICKEL	35
COBALT	34
SILVER	.7
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	24
VANADIUM	170

500N 325W

COPPER	6
LEAD	9
ZINC	46
NICKEL	5
COBALT	6
SILVER	.1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	26
VANADIUM	70

500N 375W

COPPER	115
LEAD	7
ZINC	59
NICKEL	64
COBALT	31
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	47
VANADIUM	150

500N 455W

COPPER	124
LEAD	56
ZINC	52
NICKEL	16
COBALT	16
SILVER	1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	16
VANADIUM	50

500N 535W

COPPER	5
LEAD	4
ZINC	13
NICKEL	34
COBALT	10
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	54
VANADIUM	80

500N 550W

COPPER	121
LEAD	4
ZINC	76
NICKEL	53
COBALT	27
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	217
VANADIUM	220

500N 600W

COPPER	166
LEAD	13
ZINC	69
NICKEL	36
COBALT	18
SILVER	.1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	102
VANADIUM	210

500N 605W

COPPER	86
LEAD	181
ZINC	360
NICKEL	34
COBALT	9
SILVER	1.1
MOLYBDENUM	16
CADMIUM	2.9
CHROMIUM	42
VANADIUM	180

500N 740W

COPPER	90
LEAD	1
ZINC	86
NICKEL	70
COBALT	32
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	64
VANADIUM	200

600N 150W

COPPER	93
LEAD	20
ZINC	990
NICKEL	75
COBALT	46
SILVER	.1
MOLYBDENUM	17
CADMIUM	7.8
CHROMIUM	76
VANADIUM	150

600N 200W

COPPER	56
LEAD	31
ZINC	93
NICKEL	7
COBALT	9
SILVER	0
MOLYBDENUM	2
CADMIUM	0
CHROMIUM	16
VANADIUM	100

600N 35W

COPPER	63
LEAD	5
ZINC	240
NICKEL	53
COBALT	17
SILVER	.5
MOLYBDENUM	3
CADMIUM	1.7
CHROMIUM	74
VANADIUM	80

600N 75W

COPPER	57
LEAD	2
ZINC	81
NICKEL	34
COBALT	14
SILVER	.6
MOLYBDENUM	16
CADMIUM	.5
CHROMIUM	73
VANADIUM	61

600N 110W

COPPER	13
LEAD	4
ZINC	91
NICKEL	3
COBALT	7
SILVER	.4
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	21
VANADIUM	50

600N 260W

COPPER	37
LEAD	4
ZINC	31
NICKEL	5
COBALT	6
SILVER	0
MOLYBDENUM	2
CADMIUM	0
CHROMIUM	22
VANADIUM	80

600N 275W

COPPER	32
LEAD	56
ZINC	54
NICKEL	8
COBALT	6
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	20
VANADIUM	110

600N 285W

COPPER	30
LEAD	13
ZINC	25
NICKEL	6
COBALT	6
SILVER	.3
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	22
VANADIUM	20

600N 282W

COPPER	164
LEAD	3
ZINC	26
NICKEL	26
COBALT	25
SILVER	.6
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	50
VANADIUM	100

600N 315W

COPPER	126
LEAD	1
ZINC	72
NICKEL	31
COBALT	24
SILVER	.4
MOLYBDENUM	2
CADMIUM	0
CHROMIUM	56
VANADIUM	190

600N 360W

COPPER	33
LEAD	2
ZINC	33
NICKEL	52
COBALT	14
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	118
VANADIUM	140

600N 370W

COPPER	132
LEAD	5
ZINC	138
NICKEL	81
COBALT	28
SILVER	.3
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	146
VANADIUM	190

600N 372W

COPPER	9
LEAD	1
ZINC	39
NICKEL	2
COBALT	9
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	35
VANADIUM	60

600N 375W

COPPER	18
LEAD	6
ZINC	50
NICKEL	9
COBALT	10
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	45
VANADIUM	50

600N 376W

COPPER	64
LEAD	3
ZINC	190
NICKEL	78
COBALT	17
SILVER	.2
MOLYBDENUM	2
CADMIUM	.4
CHROMIUM	84
VANADIUM	70

600N 407W

COPPER	100
LEAD	3
ZINC	21
NICKEL	22
COBALT	14
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	18
VANADIUM	150

600N 495W

COPPER	69
LEAD	4
ZINC	43
NICKEL	47
COBALT	21
SILVER	.1
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	79
VANADIUM	160

600N 500W

COPPER	39
LEAD	6
ZINC	67
NICKEL	58
COBALT	20
SILVER	.2
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	131
VANADIUM	100

600N 525W

COPPER	230
LEAD	12
ZINC	82
NICKEL	14
COBALT	43
SILVER	1.2
MOLYBDENUM	0
CADMIUM	.5
CHROMIUM	103
VANADIUM	140

600N 550W

COPPER	6
LEAD	7
ZINC	61
NICKEL	30
COBALT	12
SILVER	.2
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	174
VANADIUM	140

600N 585W

COPPER	2
LEAD	3
ZINC	46
NICKEL	2
COBALT	4
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	25
VANADIUM	60

600N 600W

COPPER	130
LEAD	8
ZINC	83
NICKEL	39
COBALT	23
SILVER	1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	48
VANADIUM	190

600N 625W

COPPER	141
LEAD	2
ZINC	57
NICKEL	45
COBALT	21
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	87
VANADIUM	180

600N 650W

COPPER	161
LEAD	7
ZINC	74
NICKEL	41
COBALT	22
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	76
VANADIUM	210

600N 775W

COPPER	16
LEAD	2
ZINC	43
NICKEL	34
COBALT	10
SILVER	.3
MOLYBDENUM	0
CADMIUM	.3
CHROMIUM	208
VANADIUM	150

600N 800W

COPPER	14
LEAD	1
ZINC	31
NICKEL	18
COBALT	8
SILVER	.3
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	280
VANADIUM	230

605N 590W

COPPER	197
LEAD	4
ZINC	163
NICKEL	42
COBALT	37
SILVER	.4
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	57
VANADIUM	260

610N 175W

COPPER	12
LEAD	6
ZINC	21
NICKEL	65
COBALT	8
SILVER	.2
MOLYBDENUM	27
CADMIUM	0
CHROMIUM	39
VANADIUM	190

615N 950W

COPPER	189
LEAD	4
ZINC	20
NICKEL	67
COBALT	40
SILVER	.6
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	22
VANADIUM	130

640N 155W

COPPER	84
LEAD	2
ZINC	82
NICKEL	61
COBALT	13
SILVER	.8
MOLYBDENUM	26
CADMIUM	.1
CHROMIUM	49
VANADIUM	350

615N 175W

COPPER	77
LEAD	1
ZINC	30
NICKEL	6
COBALT	10
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	25
VANADIUM	60

700N 500W

COPPER	191
LEAD	7
ZINC	89
NICKEL	70
COBALT	28
SILVER	.7
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	47
VANADIUM	140

700N 75W

COPPER	5
LEAD	3
ZINC	41
NICKEL	40
COBALT	11
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	107
VANADIUM	160

700N 125W

COPPER	19
LEAD	2
ZINC	63
NICKEL	6
COBALT	8
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	15
VANADIUM	60

700N 140W

COPPER	15
LEAD	4
ZINC	42
NICKEL	9
COBALT	6
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	29
VANADIUM	40

700N 175W

COPPER	130
LEAD	0
ZINC	37
NICKEL	58
COBALT	10
SILVER	.4
MOLYBDENUM	14
CADMIUM	0
CHROMIUM	76
VANADIUM	290

700N 180W

COPPER	44
LEAD	3
ZINC	54
NICKEL	7
COBALT	9
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	23
VANADIUM	60

700N 200W

COPPER	510
LEAD	5
ZINC	87
NICKEL	36
COBALT	33
SILVER	1
MOLYBDENUM	2
CADMIUM	.2
CHROMIUM	33
VANADIUM	100

700N 350W

COPPER	56
LEAD	0
ZINC	21
NICKEL	7
COBALT	7
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	20
VANADIUM	50

700N 365W

COPPER	16
LEAD	16
ZINC	43
NICKEL	6
COBALT	11
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	16
VANADIUM	70

700N 375W

COPPER	3
LEAD	1
ZINC	42
NICKEL	1
COBALT	4
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	12
VANADIUM	60

700N 383W

COPPER	26
LEAD	2
ZINC	103
NICKEL	53
COBALT	18
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	49
VANADIUM	170

700N 400W

COPPER	2300
LEAD	0
ZINC	84
NICKEL	11
COBALT	11
SILVER	3.8
MOLYBDENUM	0
CADMIUM	.8
CHROMIUM	22
VANADIUM	110

710N 125W

COPPER	149
LEAD	1
ZINC	30
NICKEL	47
COBALT	10
SILVER	.5
MOLYBDENUM	11
CADMIUM	.[illegible]
CHROMIUM	78
VANADIUM	170

710N 240W

COPPER	36
LEAD	2
ZINC	43
NICKEL	7
COBALT	11
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	21
VANADIUM	60

750E

COPPER	41
LEAD	17
ZINC	3600
NICKEL	2
COBALT	2
SILVER	.8
MOLYBDENUM	0
CADMIUM	24.8
CHROMIUM	105
VANADIUM	10

700N 550W

COPPER	250
LEAD	5
ZINC	48
NICKEL	37
COBALT	24
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	110
VANADIUM	180

700N 600W

COPPER	143
LEAD	0
ZINC	37
NICKEL	26
COBALT	12
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	62
VANADIUM	160

700N 624W

COPPER	3
LEAD	2
ZINC	38
NICKEL	1
COBALT	5
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	14
VANADIUM	60

700N 650W

COPPER	17
LEAD	0
ZINC	32
NICKEL	5
COBALT	7
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	14
VANADIUM	80

700N 675W

COPPER	66
LEAD	0
ZINC	121
NICKEL	42
COBALT	31
SILVER	.1
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	60
VANADIUM	200

700N 676W

COPPER	3
LEAD	2
ZINC	81
NICKEL	1
COBALT	7
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	22
VANADIUM	90

700N 700W

COPPER	15
LEAD	5
ZINC	35
NICKEL	6
COBALT	7
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	17
VANADIUM	60

700N 725W

COPPER	46
LEAD	0
ZINC	42
NICKEL	34
COBALT	20
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	76
VANADIUM	100

700N 925W

COPPER	209
LEAD	5
ZINC	97
NICKEL	47
COBALT	43
SILVER	1.2
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	5
VANADIUM	190

705N 325W

COPPER	3300
LEAD	2
ZINC	55
NICKEL	69
COBALT	101
SILVER	1.3
MOLYBDENUM	0
CADMIUM	.3
CHROMIUM	9
VANADIUM	30

700N 35W

COPPER	280
LEAD	4
ZINC	46
NICKEL	67
COBALT	42
SILVER	.8
MOLYBDENUM	12
CADMIUM	0
CHROMIUM	22
VANADIUM	140

800N 60W

COPPER	36
LEAD	3
ZINC	33
NICKEL	31
COBALT	3
SILVER	.5
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	37
VANADIUM	20

800N 100W

COPPER	31
LEAD	0
ZINC	49
NICKEL	5
COBALT	9
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	19
VANADIUM	30

800N 122W

COPPER	29
LEAD	3
ZINC	46
NICKEL	4
COBALT	6
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	20
VANADIUM	60

800N 125W

COPPER	330
LEAD	1
ZINC	24
NICKEL	21
COBALT	13
SILVER	.3
MOLYBDENUM	5
CADMIUM	0
CHROMIUM	40
VANADIUM	60

800N 180W

COPPER	17
LEAD	3
ZINC	30
NICKEL	7
COBALT	6
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	22
VANADIUM	50

800N 200W

COPPER	50
LEAD	0
ZINC	34
NICKEL	8
COBALT	9
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	38
VANADIUM	60

800N 218W

COPPER	18
LEAD	2
ZINC	9
NICKEL	19
COBALT	3
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	42
VANADIUM	70

800N 235W

COPPER	147
LEAD	5
ZINC	21
NICKEL	57
COBALT	12
SILVER	.4
MOLYBDENUM	9
CADMIUM	0
CHROMIUM	39
VANADIUM	110

800N 255W

COPPER	31
LEAD	1
ZINC	36
NICKEL	3
COBALT	7
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	24
VANADIUM	50

800N 290W

COPPER	24
LEAD	0
ZINC	39
NICKEL	5
COBALT	7
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	39
VANADIUM	60

800N 300W

COPPER	170
LEAD	2
ZINC	16
NICKEL	17
COBALT	6
SILVER	.6
MOLYBDENUM	4
CADMIUM	0
CHROMIUM	17
VANADIUM	70

800N 303W

COPPER	14
LEAD	17
ZINC	37
NICKEL	7
COBALT	6
SILVER	.7
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	10
VANADIUM	60

800N 310W

COPPER	104
LEAD	1
ZINC	38
NICKEL	7
COBALT	21
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	21
VANADIUM	110

800N 320W

COPPER	13
LEAD	2
ZINC	44
NICKEL	6
COBALT	11
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	20
VANADIUM	70

800N 525W

COPPER	33
LEAD	4
ZINC	116
NICKEL	53
COBALT	20
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	115
VANADIUM	110

795N 380W

COPPER	151
LEAD	10
ZINC	20
NICKEL	86
COBALT	29
SILVER	.4
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	47
VANADIUM	50

800N 360W

COPPER	86
LEAD	0
ZINC	84
NICKEL	73
COBALT	41
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	30
VANADIUM	170

800N 395W

COPPER	93
LEAD	5
ZINC	82
NICKEL	13
COBALT	8
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	21
VANADIUM	150

800N 457W

COPPER	111
LEAD	0
ZINC	60
NICKEL	133
COBALT	21
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	129
VANADIUM	130

800N 499W

COPPER	124
LEAD	4
ZINC	97
NICKEL	57
COBALT	15
SILVER	.5
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	50
VANADIUM	150

800N 532W

COPPER	51
LEAD	1
ZINC	83
NICKEL	53
COBALT	29
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	67
VANADIUM	140

800N 550W

COPPER	71
LEAD	4
ZINC	70
NICKEL	49
COBALT	30
SILVER	0
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	48
VANADIUM	130

800N 554W

COPPER	280
LEAD	3
ZINC	94
NICKEL	111
COBALT	31
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	138
VANADIUM	120

800N 555W

COPPER	12
LEAD	4
ZINC	26
NICKEL	6
COBALT	2
SILVER	0
MOLYBDENUM	0
CADMIUM	.3
CHROMIUM	17
VANADIUM	20

800N 557W

COPPER	13
LEAD	2
ZINC	54
NICKEL	81
COBALT	25
SILVER	0
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	160
VANADIUM	130

800N 570W

COPPER	81
LEAD	3
ZINC	113
NICKEL	55
COBALT	40
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	40
VANADIUM	170

800N 590W

COPPER	2
LEAD	2
ZINC	59
NICKEL	3
COBALT	3
SILVER	.3
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	29
VANADIUM	70

800N 650W

COPPER	2
LEAD	5
ZINC	44
NICKEL	2
COBALT	2
SILVER	.2
MOLYBDENUM	Ø
CADMIUM	.2
CHROMIUM	2Ø
VANADIUM	6Ø

800N 700W

COPPER	1
LEAD	13
ZINC	49
NICKEL	2
COBALT	3
SILVER	.2
MOLYBDENUM	Ø
CADMIUM	Ø
CHROMIUM	16
VANADIUM	6Ø

800N 750W

COPPER	3
LEAD	2
ZINC	76
NICKEL	4
COBALT	5
SILVER	.3
MOLYBDENUM	Ø
CADMIUM	Ø
CHROMIUM	18
VANADIUM	8Ø

900N 125W

COPPER	28
LEAD	3
ZINC	39
NICKEL	7
COBALT	11
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	16
VANADIUM	60

900N 150W

COPPER	53
LEAD	1
ZINC	36
NICKEL	6
COBALT	7
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	21
VANADIUM	60

900N 170W

COPPER	94
LEAD	2
ZINC	39
NICKEL	8
COBALT	11
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	13
VANADIUM	90

900N 198W

COPPER	181
LEAD	2
ZINC	27
NICKEL	40
COBALT	7
SILVER	.4
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	60
VANADIUM	140

900N 255W

COPPER	66
LEAD	0
ZINC	31
NICKEL	7
COBALT	2
SILVER	.2
MOLYBDENUM	2
CADMIUM	0
CHROMIUM	27
VANADIUM	90

900N 275W

COPPER	9
LEAD	3
ZINC	43
NICKEL	4
COBALT	6
SILVER	.6
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	19
VANADIUM	60

900N 295W

COPPER	56
LEAD	4
ZINC	10
NICKEL	3
COBALT	1
SILVER	.4
MOLYBDENUM	2
CADMIUM	0
CHROMIUM	24
VANADIUM	30

900N 305W

COPPER	13
LEAD	20
ZINC	29
NICKEL	5
COBALT	2
SILVER	.3
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	23
VANADIUM	50

900N 325W

COPPER	19
LEAD	2
ZINC	40
NICKEL	4
COBALT	6
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	18
VANADIUM	60

900N 378W

COPPER	17
LEAD	4
ZINC	22
NICKEL	44
COBALT	7
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	25
VANADIUM	40

900N 277W

COPPER	630
LEAD	3
ZINC	11
NICKEL	13
COBALT	27
SILVER	.6
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	23
VANADIUM	70

900N 325W

COPPER	146
LEAD	5
ZINC	69
NICKEL	57
COBALT	31
SILVER	.4
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	30
VANADIUM	120

900N 400W

COPPER	79
LEAD	1
ZINC	52
NICKEL	31
COBALT	14
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	22
VANADIUM	130

900N 450W

COPPER	131
LEAD	4
ZINC	48
NICKEL	123
COBALT	36
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	124
VANADIUM	110

900N 475W

COPPER	84
LEAD	0
ZINC	54
NICKEL	101
COBALT	24
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	15[illegible]
VANADIUM	100

900N 500W

COPPER	106
LEAD	0
ZINC	89
NICKEL	179
COBALT	42
SILVER	.1
MOLYBDENUM	1
CADMIUM	0
CHROMIUM	97
VANADIUM	130

900N 515W

COPPER	19
LEAD	5
ZINC	16
NICKEL	7
COBALT	1
SILVER	.2
MOLYBDENUM	1
CADMIUM	.3
CHROMIUM	34
VANADIUM	20

900N 550W A

COPPER	139
LEAD	2
ZINC	97
NICKEL	85
COBALT	37
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	42
VANADIUM	150

900N 550W B

COPPER	1
LEAD	4
ZINC	48
NICKEL	1
COBALT	3
SILVER	.3
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	39
VANADIUM	40

900N 555W

COPPER	153
LEAD	1
ZINC	67
NICKEL	45
COBALT	26
SILVER	.4
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	47
VANADIUM	140

900N 575W

COPPER	10
LEAD	0
ZINC	54
NICKEL	30
COBALT	7
SILVER	.1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	46
VANADIUM	140

900N 585W

COPPER	1
LEAD	2
ZINC	14
NICKEL	3
COBALT	0
SILVER	.2
MOLYBDENUM	0
CADMIUM	.2
CHROMIUM	20
VANADIUM	30

900N 600W

COPPER	1
LEAD	0
ZINC	52
NICKEL	1
COBALT	4
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	23
VANADIUM	60

900N 650W

COPPER	1
LEAD	3
ZINC	34
NICKEL	2
COBALT	2
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	21
VANADIUM	40

900N 700W

COPPER	2
LEAD	1
ZINC	71
NICKEL	3
COBALT	5
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	31
VANADIUM	60

1000N 100W

COPPER	510
LEAD	5
ZINC	57
NICKEL	81
COBALT	36
SILVER	.7
MOLYBDENUM	25
CADMIUM	0
CHROMIUM	18
VANADIUM	70

1000N 170W

COPPER	73
LEAD	2
ZINC	9
NICKEL	7
COBALT	1
SILVER	1.1
MOLYBDENUM	5
CADMIUM	0
CHROMIUM	18
VANADIUM	90

1000N 270W

COPPER	2
LEAD	6
ZINC	12
NICKEL	5
COBALT	0
SILVER	.1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	17
VANADIUM	10

1000N 275W

COPPER	207
LEAD	9
ZINC	11
NICKEL	6
COBALT	0
SILVER	.6
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	23
VANADIUM	50

1000N 325W

COPPER	106
LEAD	4
ZINC	82
NICKEL	26
COBALT	19
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	10
VANADIUM	120

1000N 375W

COPPER	2
LEAD	1
ZINC	7
NICKEL	7
COBALT	0
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	60
VANADIUM	20

1000N 450W

COPPER	13
LEAD	63
ZINC	51
NICKEL	14
COBALT	4
SILVER	.7
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	65
VANADIUM	80

1000N 475W

COPPER	25
LEAD	3
ZINC	25
NICKEL	7
COBALT	4
SILVER	.2
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	19
VANADIUM	20

1000N 507W

COPPER	57
LEAD	1
ZINC	27
NICKEL	73
COBALT	59
SILVER	.2
MOLYBDENUM	.2
CADMIUM	0
CHROMIUM	102
VANADIUM	490

1000N 525W

COPPER	53
LEAD	1
ZINC	88
NICKEL	61
COBALT	30
SILVER	.1
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	80
VANADIUM	140

1000N 555W

COPPER	5
LEAD	5
ZINC	25
NICKEL	4
COBALT	1
SILVER	.4
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	24
VANADIUM	20

1000N 575W

COPPER	92
LEAD	3
ZINC	64
NICKEL	63
COBALT	33
SILVER	.5
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	55
VANADIUM	140

1000N 590W

COPPER	3
LEAD	4
ZINC	60
NICKEL	3
COBALT	6
SILVER	.3
MOLYBDENUM	0
CADMIUM	0
CHROMIUM	18
VANADIUM	50

1000N 675W

COPPER	4
LEAD	6
ZINC	37
NICKEL	2
COBALT	5
SILVER	.4
MOLYBDENUM	0
CADMIUM	.1
CHROMIUM	26
VANADIUM	40

APPENDIX 7

WHOLE ROCK OXIDE BAR CHARTS

490N-485W

SiO_2	[illegible]
Al_2O_3	17.[illegible]
CaO	5.29
MgO	1.85
Na_2O	3.67
K_2O	2.[illegible]
Fe_2O_3	5.45

495N-225W

SiO_2	54.5
Al_2O_3	16.4
CaO	5.22
MgO	1.59
Na_2O	3.64
K_2O	1.72
Fe_2O_3	5.55

500N-25W

SiO_2	61.6
Al_2O_3	14.7
CaO	6.6
MgO	3.05
Na_2O	2.84
K_2O	.93
Fe_2O_3	7.12

500N-52W

SiO_2	61
Al_2O_3	13.8
CaO	4.95
MgO	2.24
Na_2O	2.39
K_2O	2.02
Fe_2O_3	4.78

500N-56W

SiO_2	59
Al_2O_3	16.4
[illegible]	[illegible]

500N-56W

Si02	59
Al203	16.4
Ca0	4.8
Mg0	1.74
Na20	3.94
K20	2.01
Fe203	4.86

500N-65W

Si02	58.2
Al203	12.3
Ca0	7.79
Mg0	2.04
Na20	1.67
K20	1.96
Fe203	3.46

500N-75W

Si02	56.9
Al203	13.2
Ca0	6.76
Mg0	2.49
Na20	2.21
K20	1.9
Fe203	6.69

500N-105W

Si02	63.7
Al203	17
Ca0	4.73
Mg0	1.64
Na20	4.19
K20	1.96
Fe203	4.42

500N-130W

SiO_2	59.9
Al_2O_3	16.6
CaO	4.85
MgO	1.66
Na_2O	4.27
K_2O	1.76
Fe_2O_3	5.43

500N-153W

SiO_2	71.7
Al_2O_3	9.45
CaO	2.52
MgO	2.74
Na_2O	.59
K_2O	5.15
Fe_2O_3	1.44

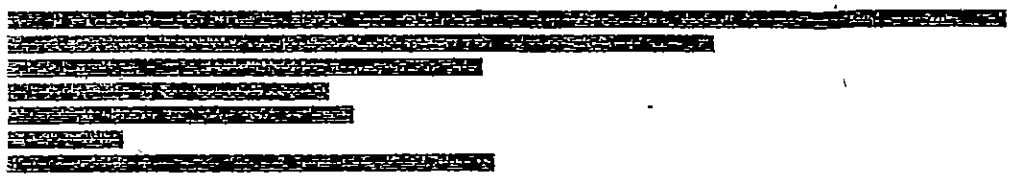
500N-175W

SiO_2	48.6
Al_2O_3	14.2
CaO	4.97
MgO	1.92
Na_2O	3.33
K_2O	1.48
Fe_2O_3	4.85

500N-255W

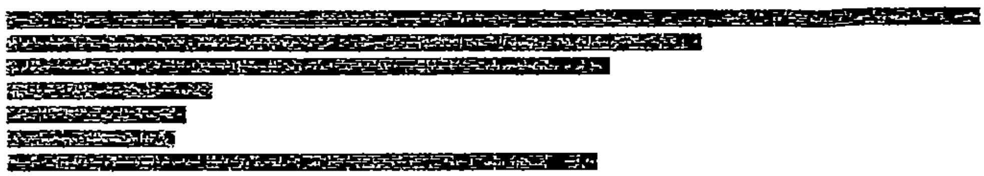
SiO_2	59.2
Al_2O_3	16.2
CaO	4.52
MgO	1.89
Na_2O	3.88
K_2O	1.22
Fe_2O_3	5.65

5ØØN—275W



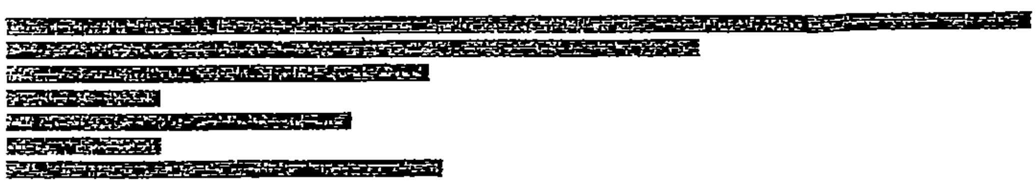
SiO2	52
Al2O3	17.4
CaO	6.7
MgO	3.76
Na2O	4.1
K2O	1.66
Fe2O3	7.02

5ØØN—296W



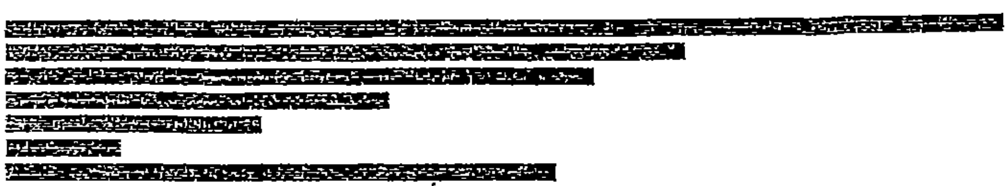
SiO2	48.6
Al2O3	16.2
CaO	11.4
MgO	2.35
Na2O	2.06
K2O	2.04
Fe2O3	10.77

5ØØN—325W



SiO2	57.1
Al2O3	16.2
CaO	5.54
MgO	1.87
Na2O	4.1
K2O	1.93
Fe2O3	5.78

5ØØN—375W



SiO2	52.6
Al2O3	15.1
CaO	10.7
MgO	4.79
Na2O	2.88
K2O	1.64
Fe2O3	9.37

500N-455W

SiO_2	51.8
Al_2O_3	14.7
CaO	10.2
MgO	5.16
Na_2O	2.52
K_2O	1.67
Fe_2O_3	11.27

500N-535W

SiO_2	56.3
Al_2O_3	12.9
CaO	13.4
MgO	4.48
Na_2O	.82
K_2O	3.42
Fe_2O_3	8.92

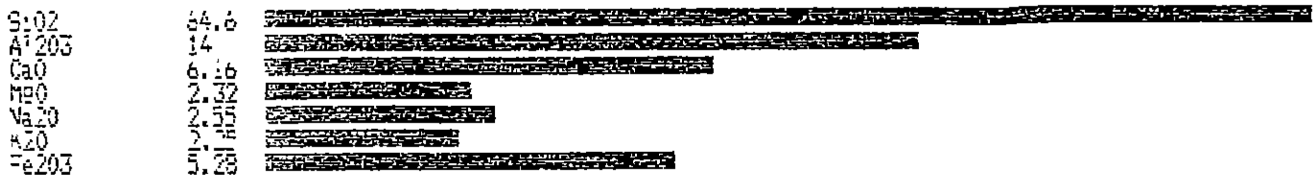
500N-550W

SiO_2	48.8
Al_2O_3	11.2
CaO	14.6
MgO	8.04
Na_2O	2.36
K_2O	1.4
Fe_2O_3	13.07

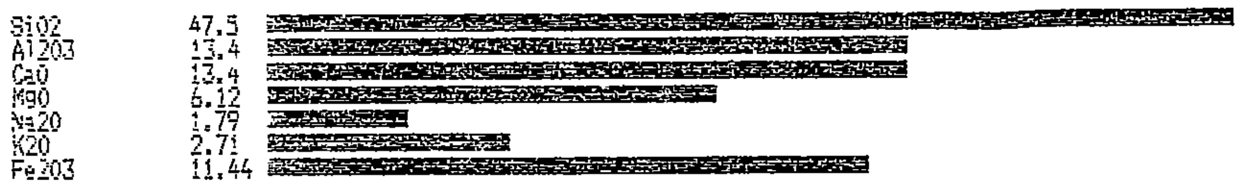
500N-600W

SiO_2	42.8
Al_2O_3	11.5
CaO	9.65
MgO	5.16
Na_2O	2.64
K_2O	1.66
Fe_2O_3	9.74

500N-605W



500N-740W



600N-35W

SiO2	57.3
Al2O3	[illegible]
CaO	8.35
MgO	2.47
Na2O	2.08
K2O	2.59
Fe2O3	6.13

600N-75W

SiO2	59
Al2O3	[illegible].36
CaO	8.77
MgO	2.57
Na2O	2.26
K2O	2.29
Fe2O3	7.61

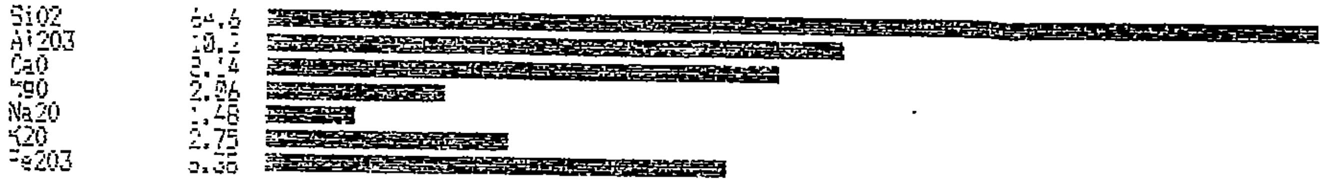
600N-110W

SiO2	50.3
Al2O3	14.6
CaO	4.27
MgO	1.66
Na2O	3.94
K2O	1.7
Fe2O3	5.13

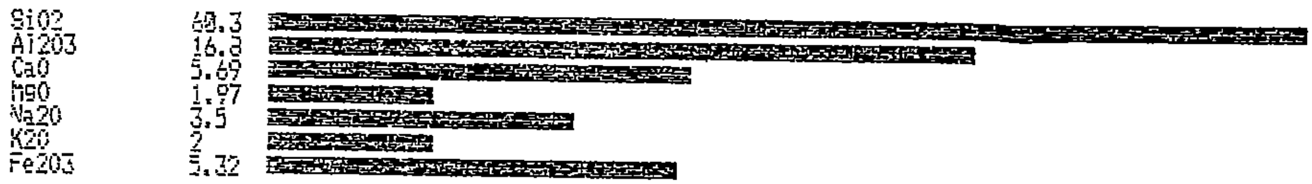
600N-150W

SiO2	62
Al2O3	10.4
CaO	8.84
MgO	1.66
Na2O	1.78
K2O	1.53
Fe2O3	[illegible].5

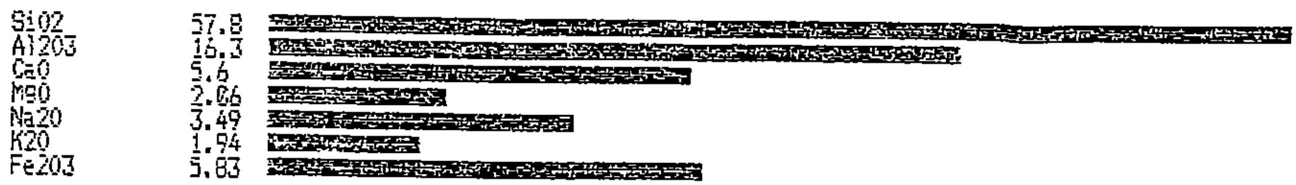
640N-155W



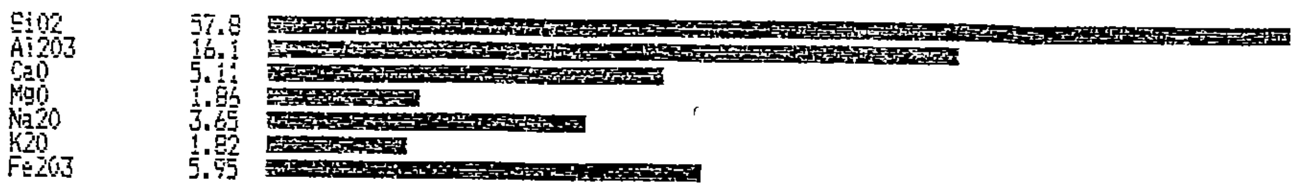
615N-175W



600N-200W

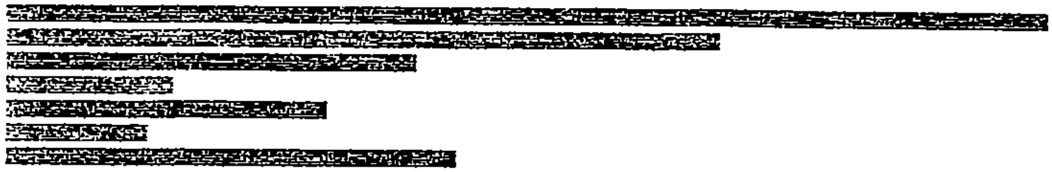


600N-260W



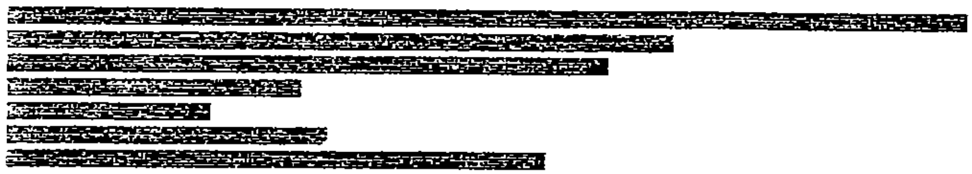
600N-275W

SiO_2	60.3
Al_2O_3	16.5
CaO	5.34
MgO	2.01
Na_2O	3.67
K_2O	1.76
Fe_2O_3	6.13



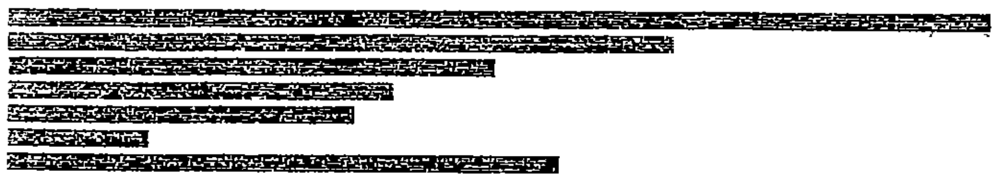
600N-282W

SiO_2	44.9
Al_2O_3	14.9
CaO	11.6
MgO	5.4
Na_2O	2.35
K_2O	3.69
Fe_2O_3	8.97



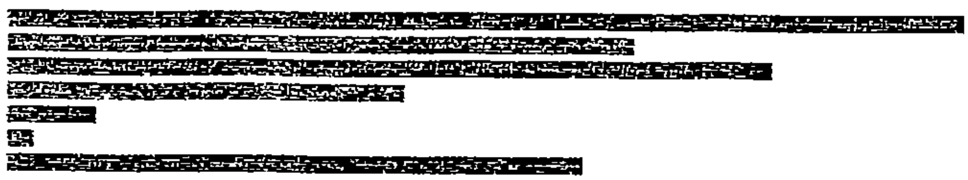
600N-315W

SiO_2	49
Al_2O_3	14.9
CaO	7.2
MgO	4.69
Na_2O	4.07
K_2O	1.83
Fe_2O_3	9.5



600N-360W

SiO_2	45.8
Al_2O_3	12.8
CaO	21.3
MgO	4.92
Na_2O	1.47
K_2O	1.16
Fe_2O_3	10.1



600N-370W

SiO2	49.4
Al2O3	15.7
CaO	12.2
MgO	5.75
Na2O	3.5
K2O	.98
Fe2O3	11.51

600N-372W

SiO2	54.3
Al2O3	16.1
CaO	5.3
MgO	1.79
Na2O	4.07
K2O	1.78
Fe2O3	5.26

600N-375W

SiO2	57.3
Al2O3	16.1
CaO	5.15
MgO	1.86
Na2O	4.23
K2O	2.02
Fe2O3	5.25

600N-376W

SiO2	48.8
Al2O3	14.7
CaO	12.7
MgO	5.47
Na2O	2.8
K2O	1.11
Fe2O3	10.38

600N-407W

Si02	51.6
Al203	15.5
CaO	11.7
MgO	3
Na20	3.11
K20	2.21
Fe203	9.8

600N-495W

Si02	49.8
Al203	11.2
CaO	13.7
MgO	7.59
Na20	2.41
K20	1.59
Fe203	13.11

600N-500W

Si02	45.8
Al203	10
CaO	18.9
MgO	7.18
Na20	1.43
K20	.52
Fe203	12.78

600N-525W

Si02	45.1
Al203	10.4
CaO	16.9
MgO	6.52
Na20	1.13
K20	1.45
Fe203	11.78

600N-550W

SiO2	46	
Al2O3	8.31	
CaO	13.8	
MgO	6.8	
Na2O	1.44	
K2O	.45	
Fe2O3	12.46	

600N-585W

SiO2	55.6	
Al2O3	15.9	
CaO	4.8	
MgO	2.25	
Na2O	3.46	
K2O	4.16	
Fe2O3	5.01	

605N-590W

SiO2	46.4	
Al2O3	13.2	
CaO	16.8	
MgO	6.22	
Na2O	1.43	
K2O	1.23	
Fe2O3	12.8	

600N-600W

SiO2	44.7	
Al2O3	12.7	
CaO	14.7	
MgO	5.69	
Na2O	1.59	
K2O	1.74	
Fe2O3	12.31	

600N-625W

Si02	46.8
Al203	14.2
CaO	17.1
MgO	4.92
Na20	1.48
K20	2.35
Fe203	11.94

600N-650W

Si02	52.6
Al203	13.2
CaO	10.4
MgO	5.07
Na20	3.4
K20	2.35
Fe203	10.78

600N-775W

Si02	50
Al203	10
CaO	20
MgO	6.05
Na20	1.78
K20	.94
Fe203	10.87

600N-800W

Si02	47.3
Al203	10.2
CaO	23.6
MgO	4.79
Na20	1.31
K20	.46
Fe203	13.6

615N-950W

SiO_2	53.1
Al_2O_3	16.8
CaO	6.93
MgO	2.19
Na_2O	3.41
K_2O	3.23
Fe_2O_3	9.15

610N-175W

SiO_2	59.5
Al_2O_3	9.82
CaO	16.1
MgO	1.64
Na_2O	.42
K_2O	.19
Fe_2O_3	11.3

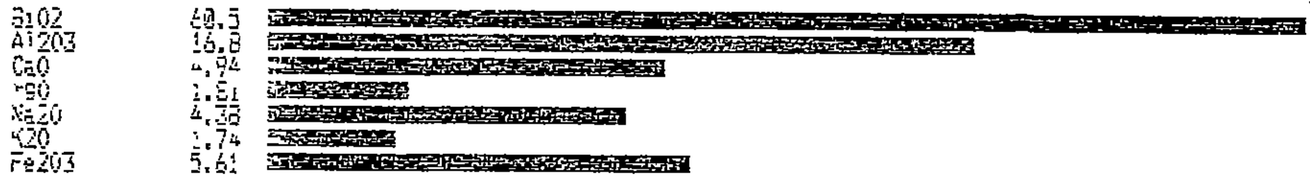
700N-35W

SiO_2	48.6
Al_2O_3	15.5
CaO	9.99
MgO	2.14
Na_2O	1.48
K_2O	1.57
Fe_2O_3	12.96

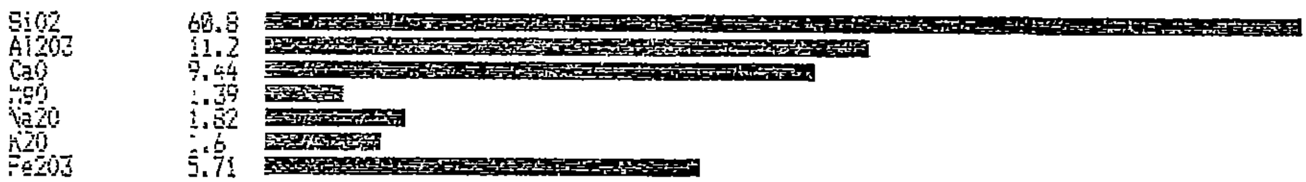
700N-75W

SiO_2	47.3
Al_2O_3	15.3
CaO	16.8
MgO	3
Na_2O	2.44
K_2O	1.37
Fe_2O_3	9.85

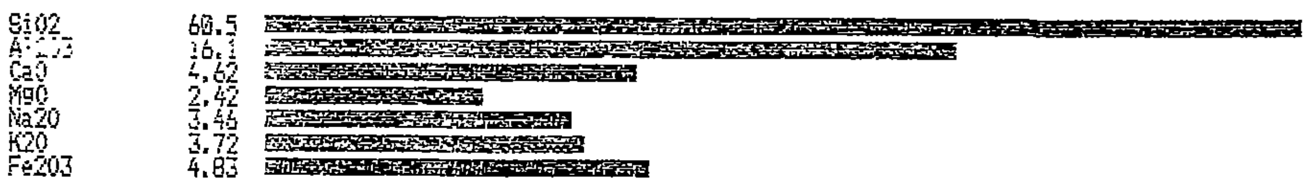
700N-125W



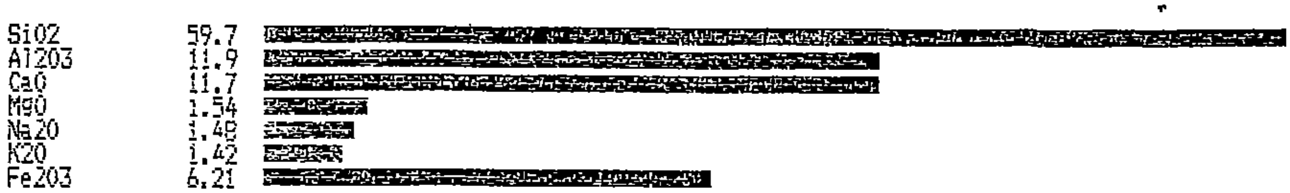
710N-125W



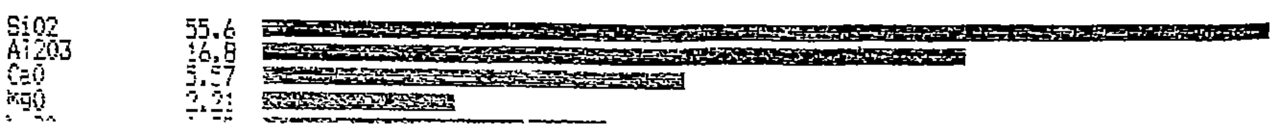
700N-140W



700N-175W



700N-180W



K2O	1.75
Fe2O3	5.56

700N-180W

SiO2	55.6
Al2O3	16.3
CaO	5.57
MgO	2.21
Na2O	4.08
K2O	1.75
Fe2O3	5.58

700N-200W

SiO2	49
Al2O3	16.8
CaO	3.64
MgO	2.99
Na2O	3.9
K2O	4.74
Fe2O3	11.53

[illegible]

SiO2	53.3
Al2O3	15.5
CaO	4.87
MgO	2.01
Na2O	4.19
K2O	1.69
Fe2O3	5.69

705N-325W

SiO2	47.9
Al2O3	14.7
CaO	12.8
MgO	2.98
Na2O	2.9
K2O	.66
Fe2O3	11.3

700N-350W

SiO2	60.1
Al2O3	16.8
CaO	6.49
MgO	2.27
Na2O	2.65
K2O	3.55
Fe2O3	5.13

700N-365W

SiO2	61.8
Al2O3	17
CaO	5.73
MgO	1.87
Na2O	3.91
K2O	1.64
Fe2O3	5.45

700N-375W

SiO2	59.5
Al2O3	16.3
CaO	6.1
MgO	2.74
Na2O	3.26
K2O	5.59
Fe2O3	5.66

700N-383W

SiO2	46
Al2O3	14.4
CaO	13.6
MgO	5.79
Na2O	2.25
K2O	1.04
Fe2O3	11.3

700N-400W

SiO2	42.4
Al2O3	10
CaO	15.6
MgO	5.43
Na2O	.35
K2O	.45
Fe2O3	13.66

700N-500W

SiO2	45.4
Al2O3	11.5
CaO	17.4
MgO	6.8
Na2O	1.32
K2O	2.1
Fe2O3	11.8

700N-550W

SiO2	47.5
Al2O3	11.7
CaO	19
MgO	5.22
Na2O	1.24
K2O	2.23
Fe2O3	11.98

700N-600W

SiO2	49.6
Al2O3	13.2
CaO	13.4
MgO	5.92
Na2O	2.52
K2O	1.86
Fe2O3	12.01

700N-624W

SiO2	59.9
Al2O3	17.6
CaO	6.38
MgO	3.65
Na2O	3.67
K2O	5.33
Fe2O3	4.46

700N-650W

SiO2	55
Al2O3	15.9
CaO	5.37
MgO	1.96
Na2O	3.4
K2O	.96
Fe2O3	5.35

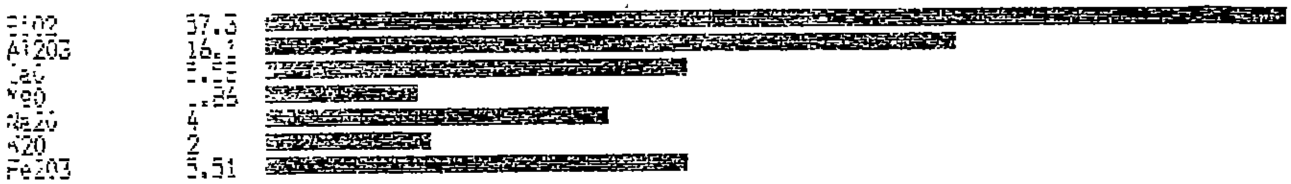
700N-675W

SiO2	48.3
Al2O3	11.5
CaO	[illegible]
MgO	7.79
Na2O	2.76
K2O	.9
Fe2O3	13.3

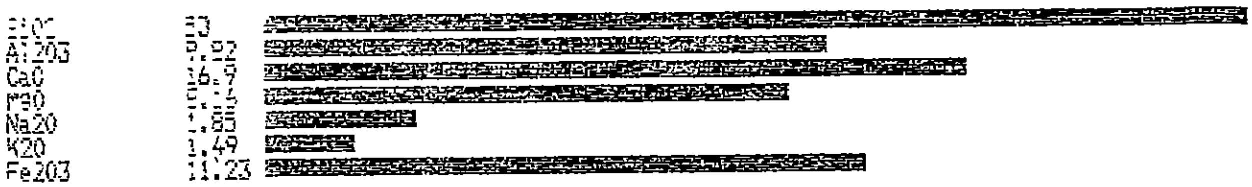
700N-676W

SiO2	57.3
Al2O3	15.5
CaO	5.01
MgO	2.82
Na2O	3.18
K2O	3.33
Fe2O3	7.45

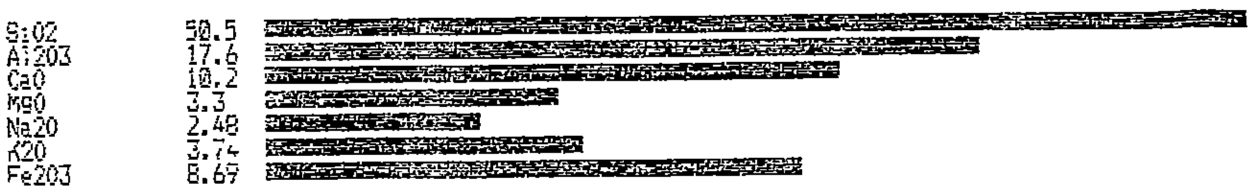
700N-700W



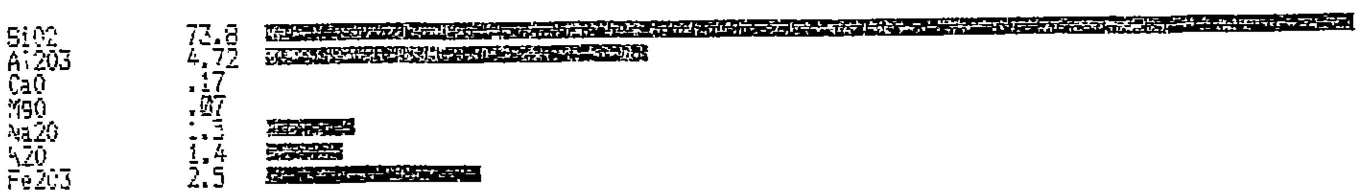
700N-725W



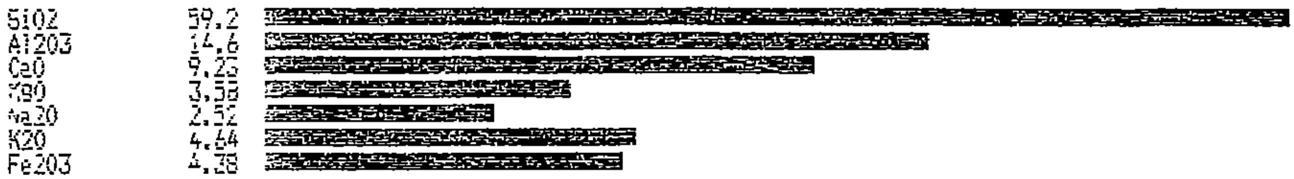
700N-925W



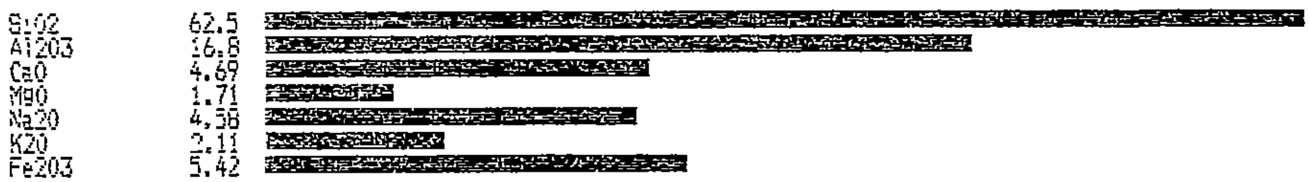
750E



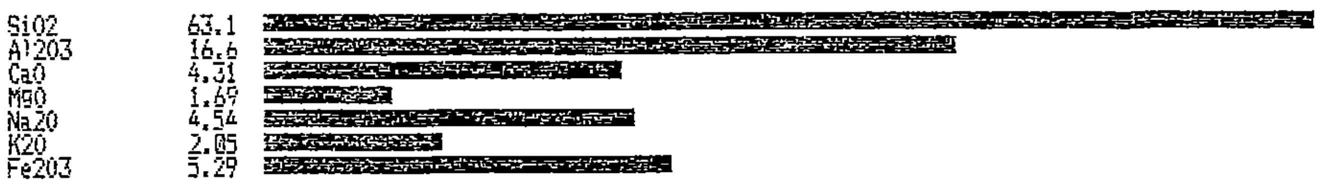
800N-60W



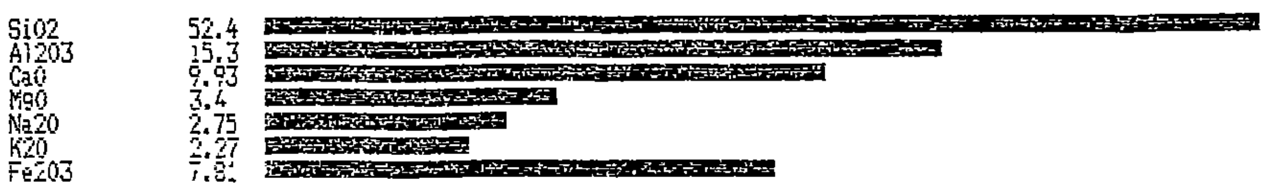
800N-100W



800N-122W



800N-125W



800N-180W

SiO_2	58.6
Al_2O_3	17
CaO	6.04
MgO	2.01
Na_2O	3.17
K_2O	4.59
Fe_2O_3	4.53

800N-200W

SiO_2	56.3
Al_2O_3	15.7
CaO	5.55
MgO	1.99
Na_2O	3.83
K_2O	2.08
Fe_2O_3	5.58

800N-218W

SiO_2	56.9
Al_2O_3	13.8
CaO	8.72
MgO	2.09
Na_2O	1.64
K_2O	7.59
Fe_2O_3	6.51

800N-235W

SiO_2	56.3
Al_2O_3	13.2
CaO	8.76
MgO	1.94
Na_2O	1.87
K_2O	6.65
Fe_2O_3	9.32

800N-255W

Si02	59.3
Al203	17.2
Ca0	5.61
Mg0	1.99
Na20	3.84
K20	2.78
Fe203	5.83

800N-290W

Si02	61.2
Al203	16.4
Ca0	5.33
Mg0	1.74
Na20	4.22
K20	2.05
Fe203	5.32

800N-300W

Si02	54.3
Al203	13.2
Ca0	10.14
Mg0	4.24
Na20	2.64
K20	2.31
Fe203	5.99

800N-303W

Si02	58.2
Al203	16.4
Ca0	5.02
Mg0	1.86
Na20	4.34
K20	3.1
Fe203	5.02

800N-310W

SiO2	50
Al2O3	16.8
CaO	9.33
MgO	2.92
Na2O	3.22
K2O	3.22
Fe2O3	10.07

800N-320W

SiO2	59.7
Al2O3	16.6
CaO	5.48
MgO	1.89
Na2O	3.98
K2O	2.01
Fe2O3	5.58

800N-360W

SiO2	48.8
Al2O3	17.8
CaO	10
MgO	4.03
Na2O	3.6
K2O	1.51
Fe2O3	9.98

795N-380W

SiO2	49.8
Al2O3	14
CaO	13.6
MgO	3.61
Na2O	1.58
K2O	2.7
Fe2O3	8.49

800N-395W

SiO_2	50.9
Al_2O_3	16.6
CaO	10.2
MgO	3.05
Na_2O	4.04
K_2O	1.99
Fe_2O_3	9.07

800N-457W

SiO_2	50.9
Al_2O_3	11.2
CaO	11.8
MgO	10.11
Na_2O	2.35
K_2O	1.59
Fe_2O_3	12.33

800N-499W

SiO_2	49.4
Al_2O_3	12.1
CaO	11.6
MgO	7.26
Na_2O	3.13
K_2O	1.67
Fe_2O_3	12.93

L8N-100N-525W

SiO_2	47.5
Al_2O_3	10.6
CaO	19
MgO	6.96
Na_2O	1.44
K_2O	.71
Fe_2O_3	12.47

800N-532W

SiO_2	46.2
Al_2O_3	13.4
CaO	15.2
MgO	5.47
Na_2O	1.83
K_2O	1.49
Fe_2O_3	12.23

800N-550W

SiO_2	48.1
Al_2O_3	12.5
CaO	16.8
MgO	5.72
Na_2O	1.97
K_2O	1.67
Fe_2O_3	10.74

800N-554W

SiO_2	48.3
Al_2O_3	11.3
CaO	13.8
MgO	7.91
Na_2O	1.55
K_2O	1.96
Fe_2O_3	12.33

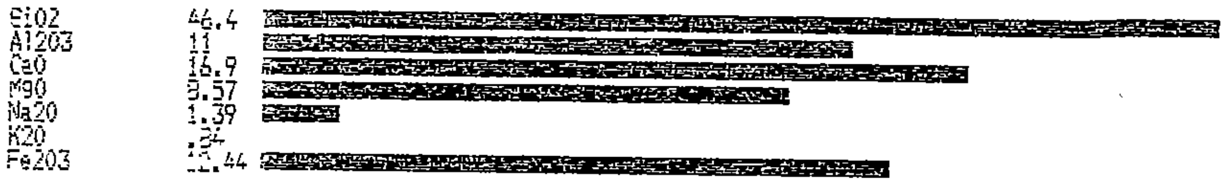
800N-555W

SiO_2	60.1
Al_2O_3	16.2
CaO	4.16
MgO	2.37
Na_2O	4.17
K_2O	4.72
Fe_2O_3	4.68

800N-557W

SiO_2	[illegible]

800N-557W



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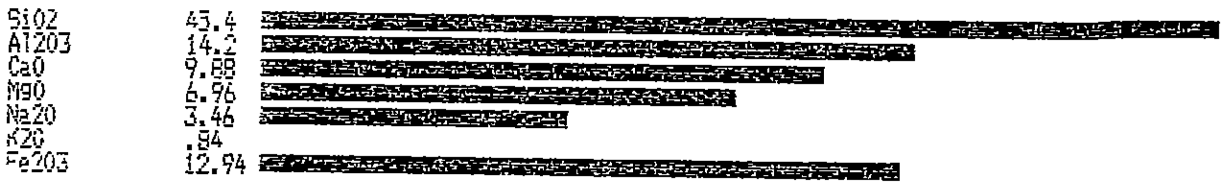
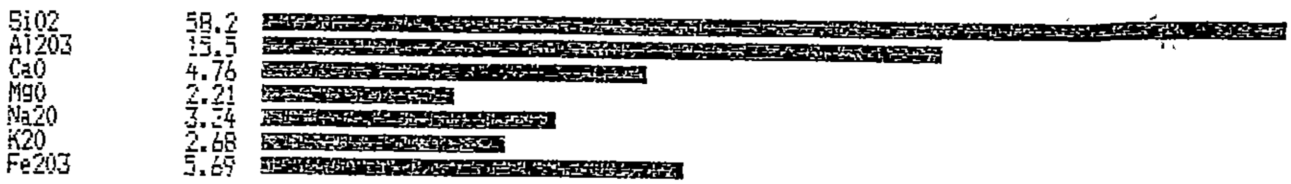


800N-590W



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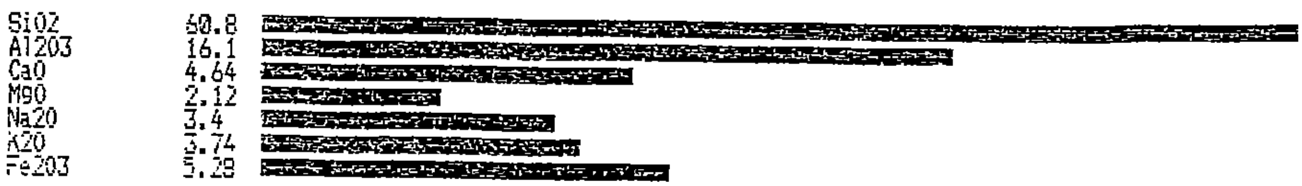


800N-700W

SiO2	59.5
Al2O3	16.2
CaO	5.26
MgO	2.3
Na2O	3.64
K2O	3.1
Fe2O3	5.99

800N-750W

SiO2	58.8
Al2O3	15.9
CaO	4.66
MgO	2.3
Na2O	3.4
K2O	3.07
Fe2O3	6.16

900N-125W

SiO2	58.8
Al2O3	17.2
CaO	8
MgO	3.18
Na2O	4.43
K2O	2
Fe2O3	6.02

900N-150W

SiO2	57.5
Al2O3	16.4
CaO	5.2
MgO	2.22
Na2O	3.86
K2O	2.1
Fe2O3	5.55

900N-170W

Si02	53.5
Al203	15.9
Ca0	3.68
Mg0	1.86
Na20	3.38
K20	1.84
Fe203	5.19

900N-198W

Si02	63.1
Al203	11.5
Ca0	7.76
Mg0	1.39
Na20	.9
K20	2.84
Fe203	4.66

900N-255W

Si02	57.8
Al203	15.1
Ca0	3.41
Mg0	2.44
Na20	3.24
K20	2.33
Fe203	6.13

900N-275W

Si02	60.8
Al203	16.4
Ca0	5.47
Mg0	1.82
Na20	3.96
K20	2.29
Fe203	5.63

900N-295W

SiO_2	57.3
Al_2O_3	16.4
CaO	5.29
MgO	1.81
Na_2O	4.27
K_2O	3.05
Fe_2O_3	4.33

900N-305W

SiO_2	59
Al_2O_3	16.4
CaO	5.23
MgO	1.74
Na_2O	3.86
K_2O	4.08
Fe_2O_3	4.78

900N-325W

SiO_2	59.1
Al_2O_3	16.2
CaO	5.25
MgO	1.82
Na_2O	4.14
K_2O	2.13
Fe_2O_3	5.32

900N-378W

SiO_2	47.1
Al_2O_3	9.45
CaO	17.4
MgO	6.78
Na_2O	1.29
K_2O	.75
Fe_2O_3	9.52

900N-277W

SiO_2	[illegible]
Al_2O_3	15.7
CaO	9.88
MgO	2.52
Na_2O	3.4
K_2O	2.48
Fe_2O_3	[illegible]

900N-325W

SiO_2	46.2
Al_2O_3	12.7
CaO	18.3
MgO	6.28
Na_2O	1.13
K_2O	1.78
Fe_2O_3	11.45

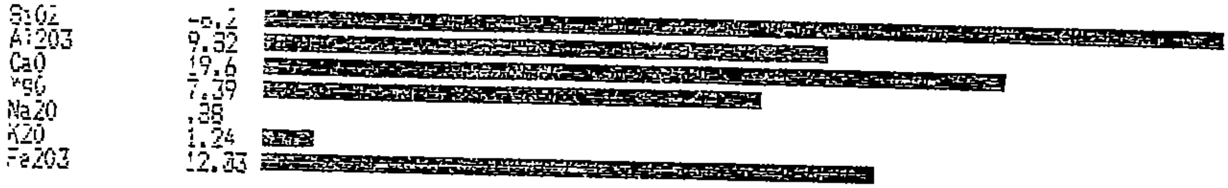
900N-400W

SiO_2	49
Al_2O_3	15.1
CaO	7.1
MgO	2.65
Na_2O	4.23
K_2O	2.49
Fe_2O_3	7.82

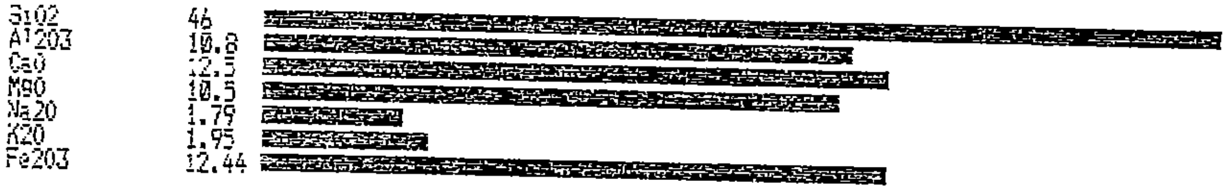
900N-450W

SiO_2	50.5
Al_2O_3	11.5
CaO	13.3
MgO	8.47
Na_2O	1.73
K_2O	1.52
Fe_2O_3	9.97

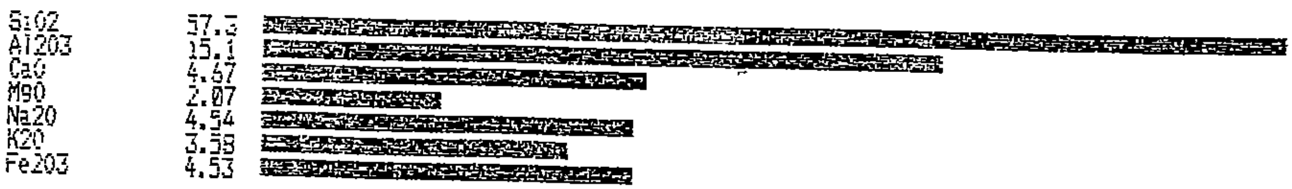
900N-475W



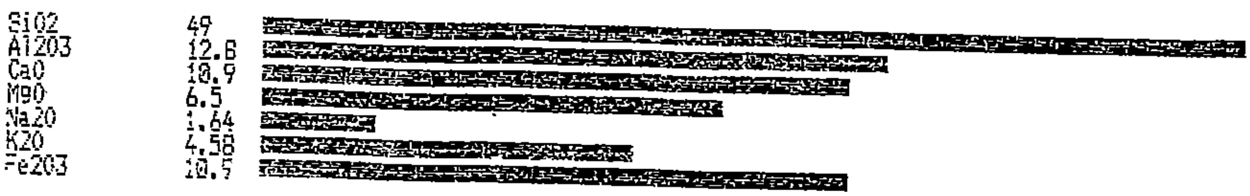
900N-500W



900N-525W



900N-550W-A



900N-550W-B

SiO_2	53.5
Al_2O_3	15.1
CaO	4.84
MgO	[illegible]
Na_2O	[illegible]
K_2O	3.23
Fe_2O_3	5.61

900N-555W

SiO_2	50.3
Al_2O_3	13.2
CaO	11.9
MgO	6.59
Na_2O	2.91
K_2O	2.08
Fe_2O_3	10.98

900N-575W

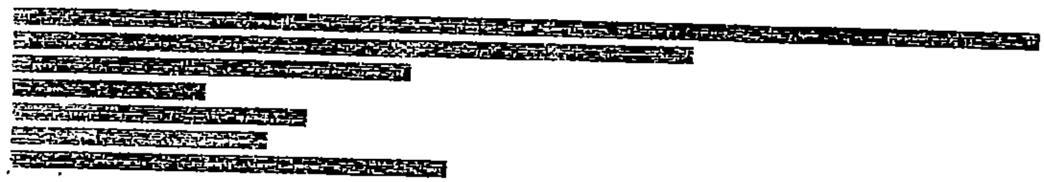
SiO_2	46
Al_2O_3	9.07
CaO	21
MgO	6.3
Na_2O	1.26
K_2O	.6
Fe_2O_3	12.74

900N-585W

SiO_2	61.3
Al_2O_3	16.6
CaO	5.64
MgO	2.06
Na_2O	3.13
K_2O	5.04
Fe_2O_3	2.75

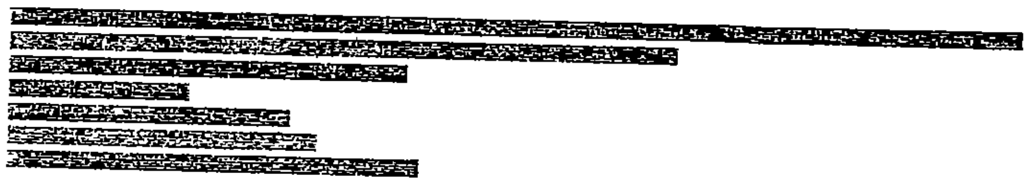
900N-600W

SiO_2	5[illegible].6
Al_2O_3	[illegible]
CaO	4.95
MgO	2.24
Na_2O	[illegible]
K_2O	[illegible].87
Fe_2O_3	5.78



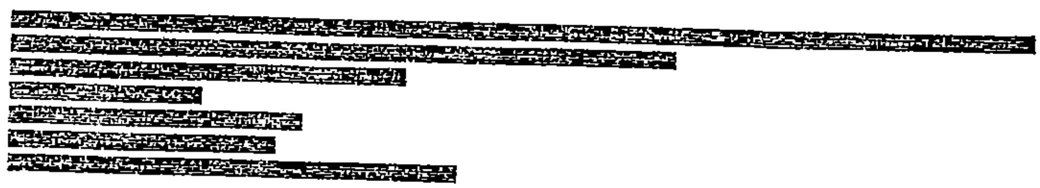
900N-650W

SiO_2	55.8
Al_2O_3	14.6
CaO	4.97
MgO	2.09
Na_2O	3.17
K_2O	3.54
Fe_2O_3	5.19



900N-700W

SiO_2	57.1
Al_2O_3	14.9
CaO	4.77
MgO	2.22
Na_2O	3.28
K_2O	2.98
Fe_2O_3	6.03



1000N-100W

SiO2	47.0
Al2O3	15.3
CaO	10
MgO	5.22
Na2O	2.48
K2O	2.07
Fe2O3	9.47

1000N-170W

SiO2	53.9
Al2O3	17.2
CaO	7.67
MgO	1.81
Na2O	3.26
K2O	4.82
Fe2O3	7.88

1000N-270W

SiO2	59
Al2O3	16.1
CaO	3.26
MgO	1.41
Na2O	2.37
K2O	9.51
Fe2O3	2.12

1000N-275W

SiO2	51.1
Al2O3	14.9
CaO	11.9
MgO	3.56
Na2O	3.22
K2O	1.39
Fe2O3	7.18

1000N-285W

SiO_2	62
Al_2O_3	16.8
CaO	5.46
MgO	1.94
Na_2O	3.81
K_2O	2.75
Fe_2O_3	5.35

1000N-325W

SiO_2	[illegible]
Al_2O_3	13.6
CaO	14.4
MgO	6.25
Na_2O	1.74
K_2O	2.28
Fe_2O_3	8.99

1000N-375W

SiO_2	63.1
Al_2O_3	18.7
CaO	.14
MgO	.23
Na_2O	9.75
K_2O	1.24
Fe_2O_3	1.12

1000N-450W

SiO_2	47.5
Al_2O_3	8.12
CaO	21.3
MgO	6.67
Na_2O	1.35
K_2O	.72
Fe_2O_3	12.3

1000N-475W

SiO_2	57.[illegible]
[illegible]	[illegible]

1000N-475W

SiO_2	57.7
Al_2O_3	[illegible]
CaO	2.95
MgO	[illegible]
Na_2O	[illegible]
K_2O	12.62
Fe_2O_3	1.93

1000N-507W

SiO_2	[illegible]
Al_2O_3	[illegible]
CaO	[illegible]
MgO	4.43
Na_2O	.39
K_2O	[illegible]
Fe_2O_3	26.24

1000N-525W

SiO_2	44.[illegible]
Al_2O_3	10.8
CaO	15.4
MgO	8.57
Na_2O	1.75
K_2O	.94
Fe_2O_3	12.8

1000N-555W

SiO_2	57.5
Al_2O_3	15.3
CaO	3.23
MgO	1.53
Na_2O	2.75
K_2O	6.89
Fe_2O_3	3.46

1000N-575W

SiO_2	49
Al_2O_3	12.8
CaO	13.7
MgO	[illegible].42
Na_2O	2.88
K_2O	2.[illegible]
Fe_2O_3	10.9

1000N-590W

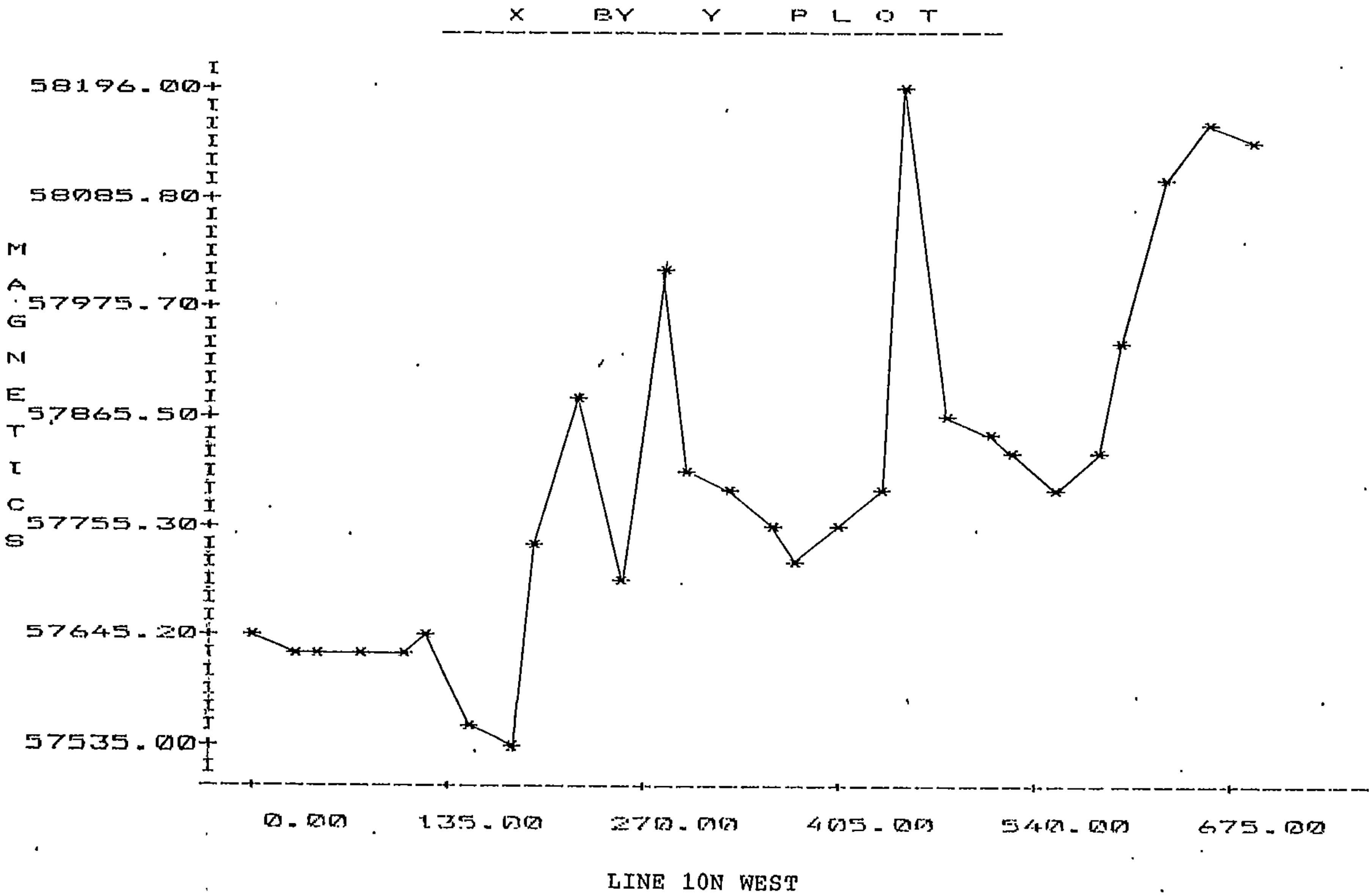
SiO_2	46.6
Al_2O_3	11.[illegible]
CaO	14.[illegible]
MgO	6.22
Na_2O	1.97
K_2O	[illegible].55
Fe_2O_3	10.93

1200N-675W

SiO_2	5[illegible].2
Al_2O_3	14.7
CaO	4.55
MgO	2.12
Na_2O	3.2[illegible]
K_2O	3.63
Fe_2O_3	5.28

APPENDIX 8

MAGNETIC PROFILES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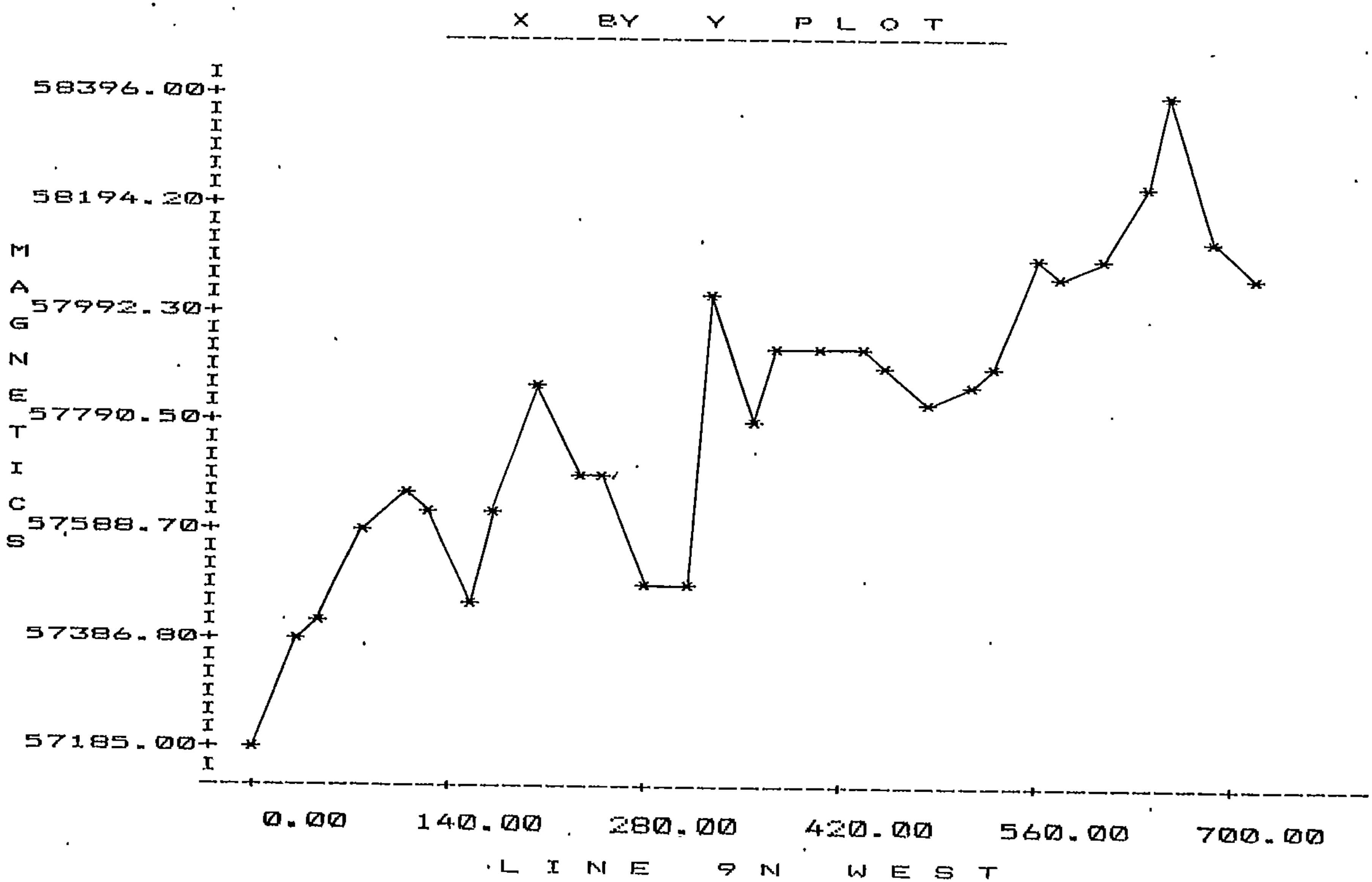
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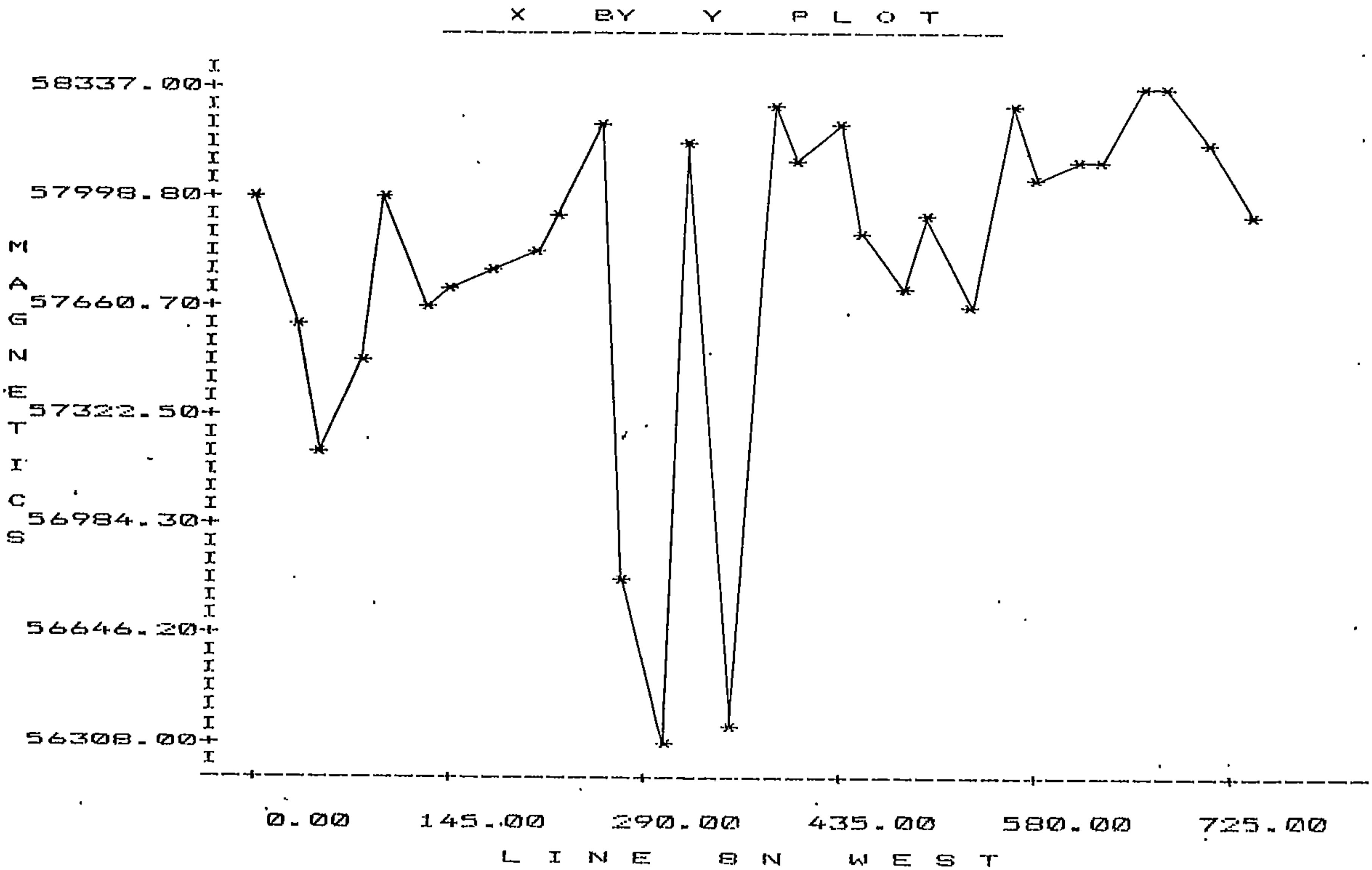
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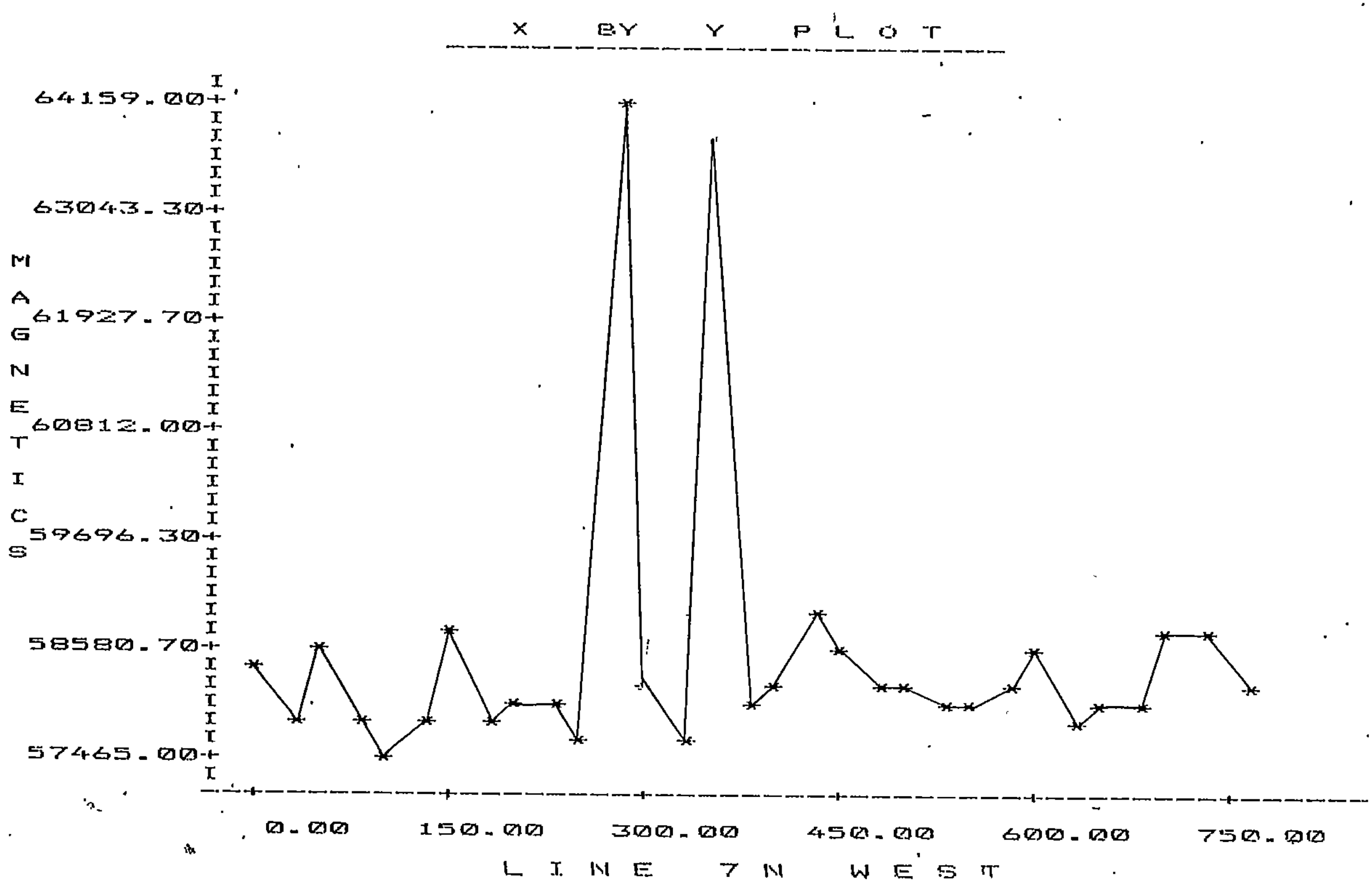
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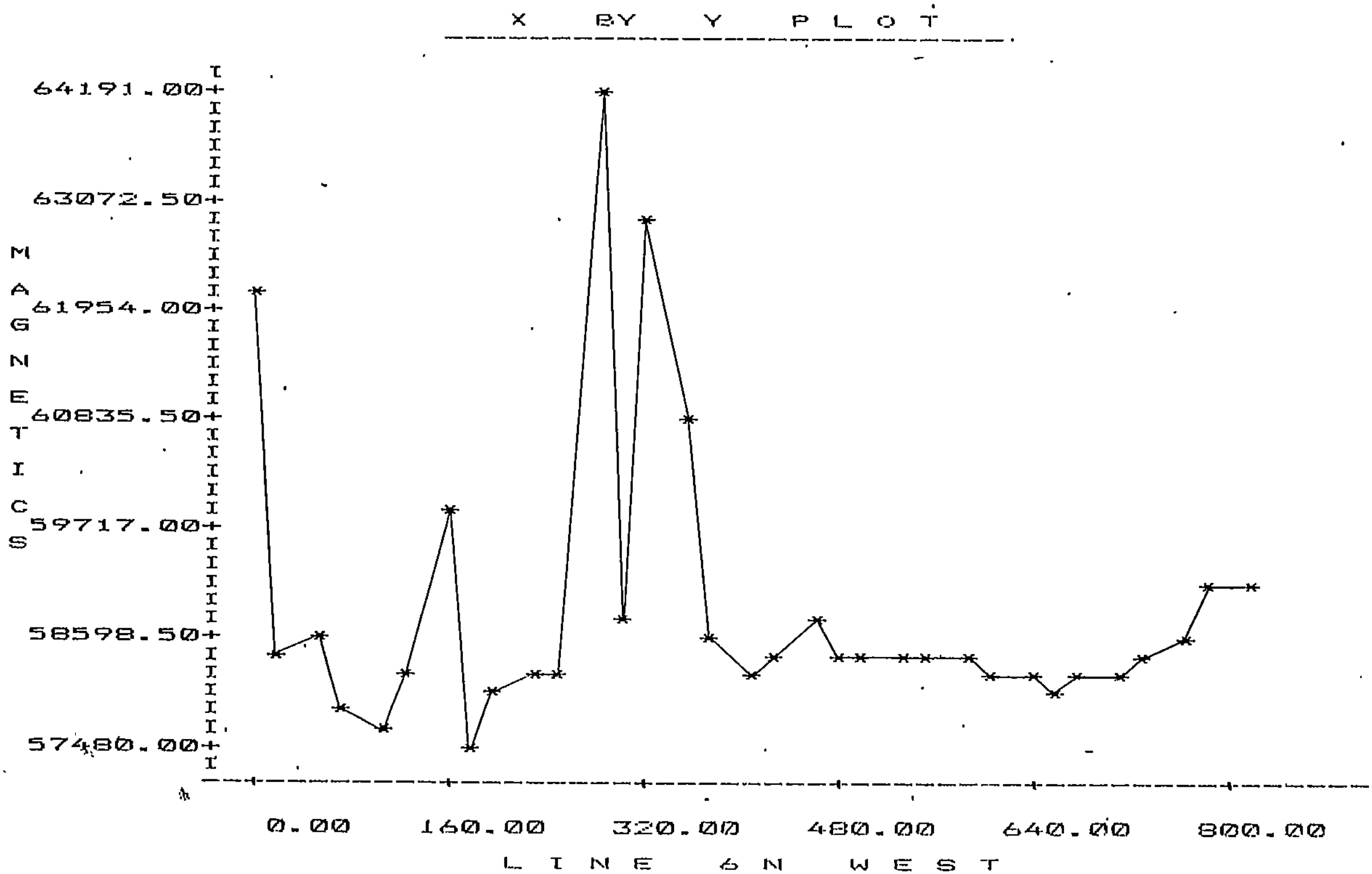

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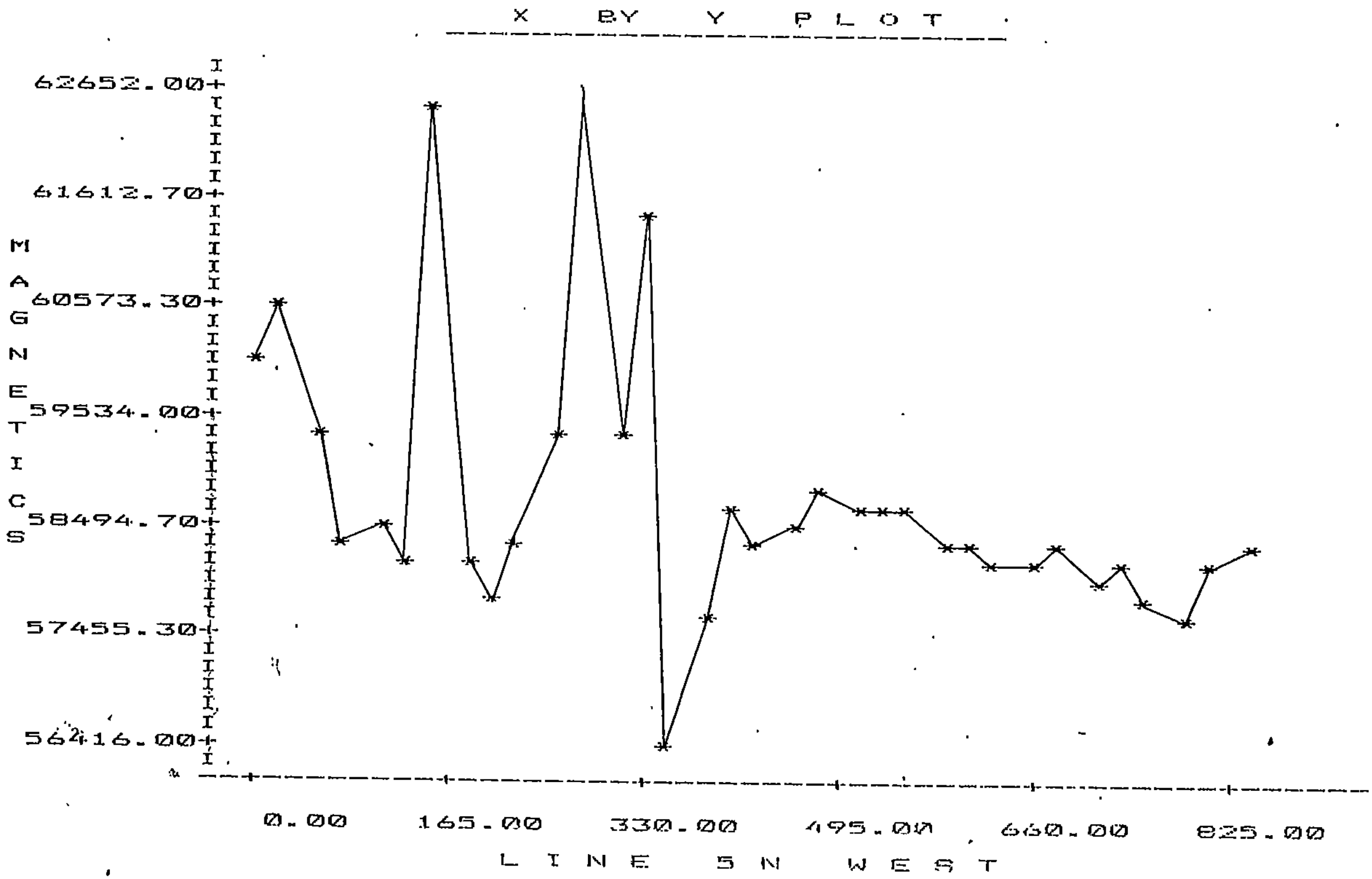

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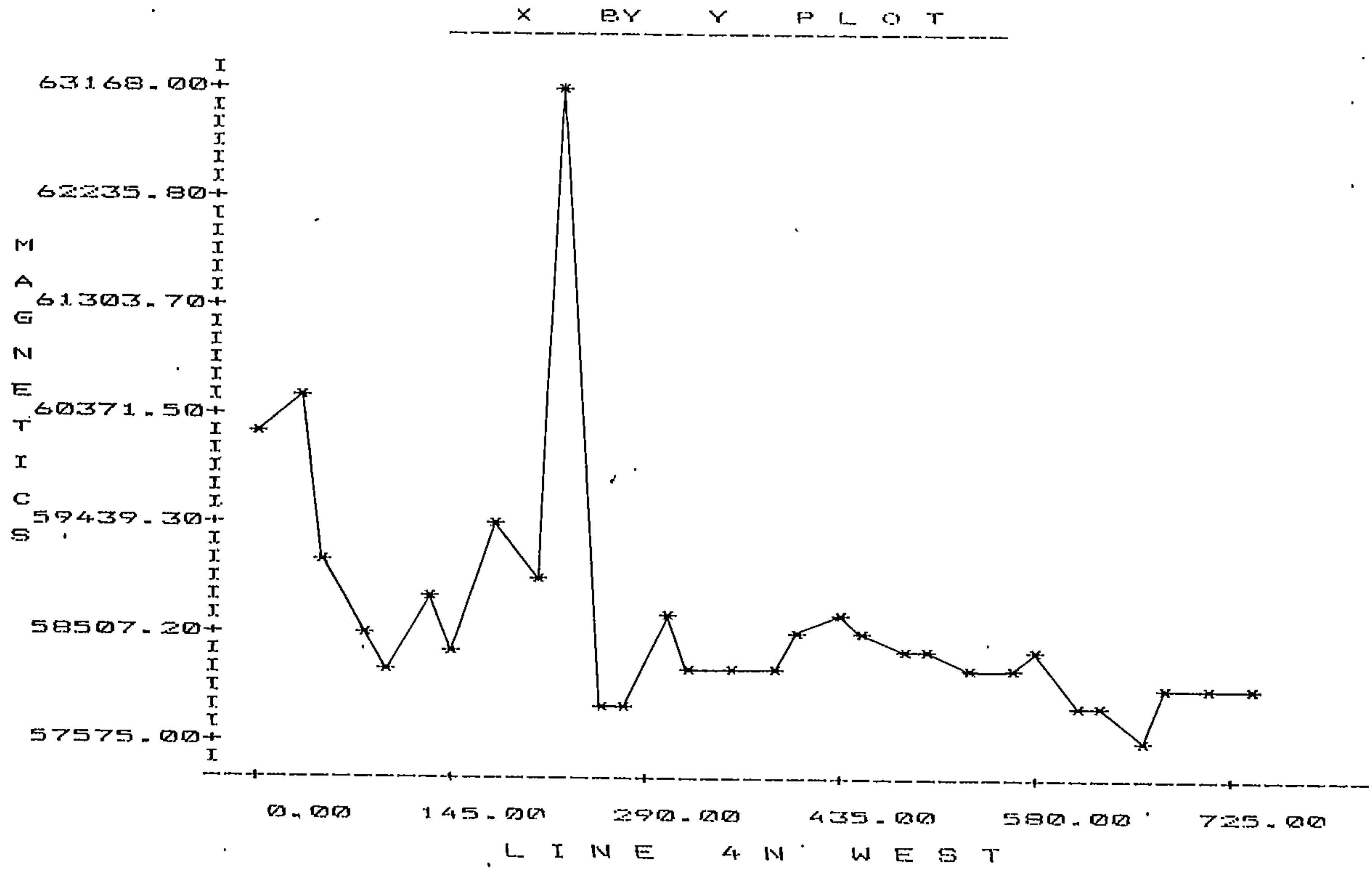
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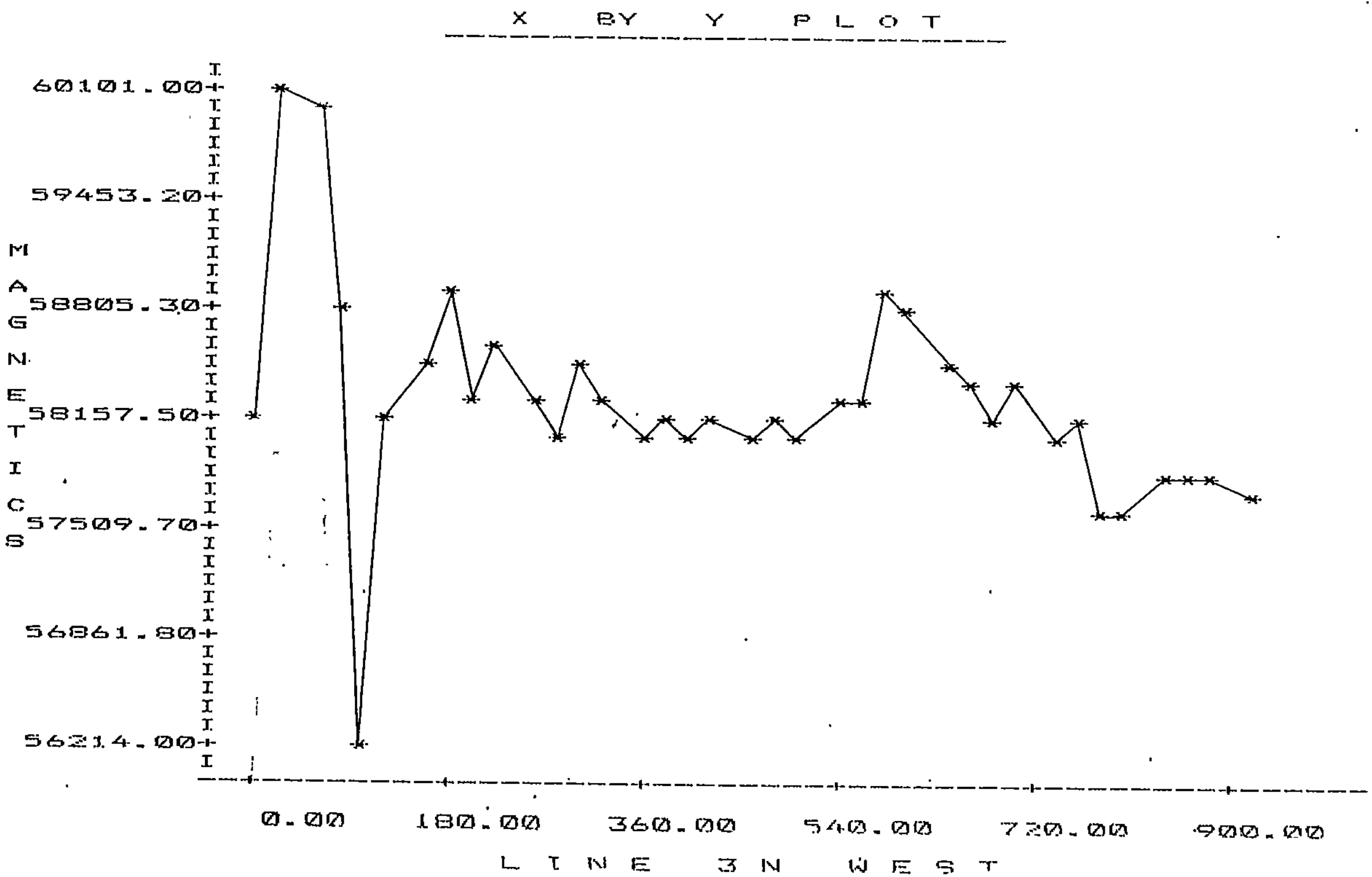
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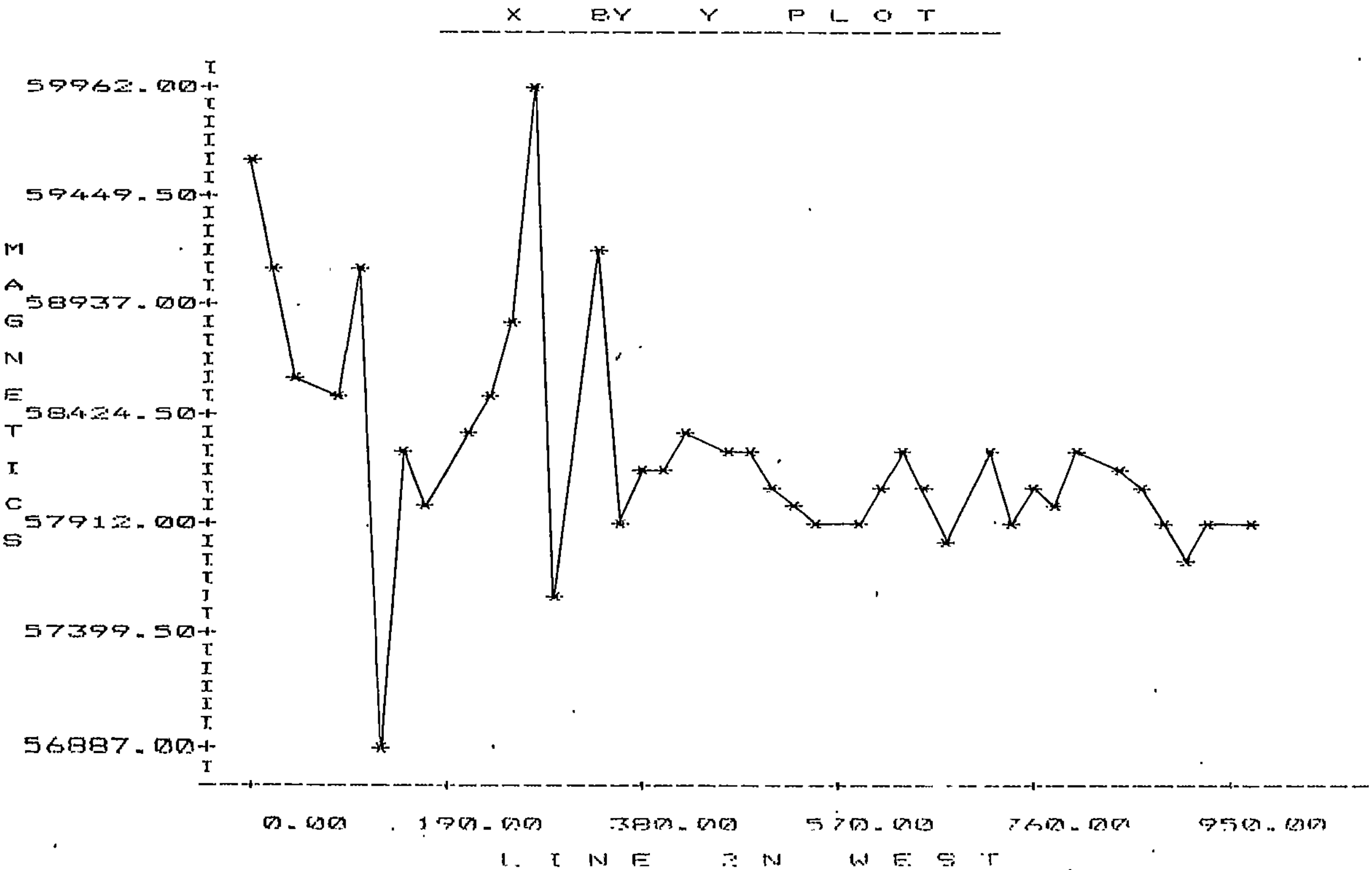

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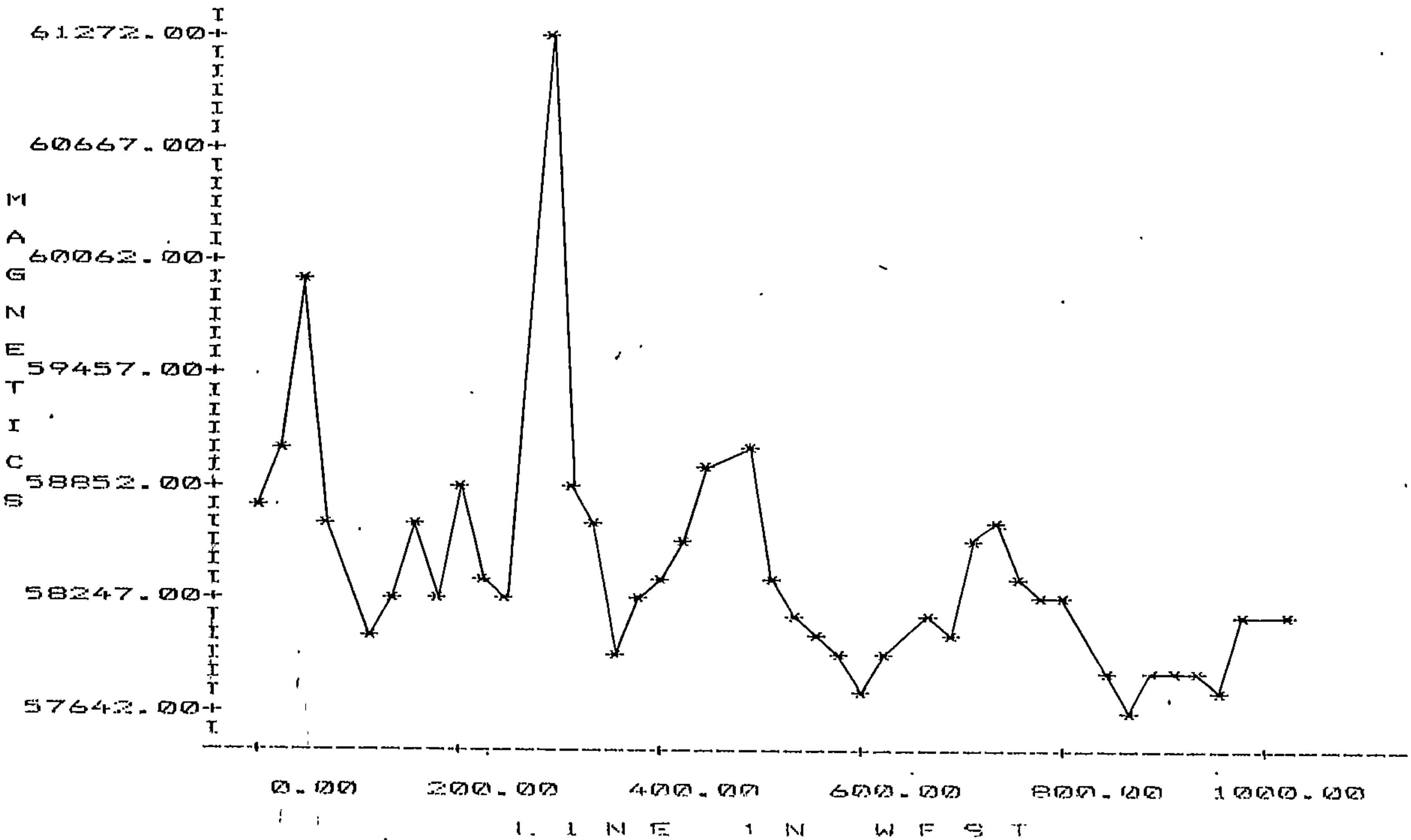

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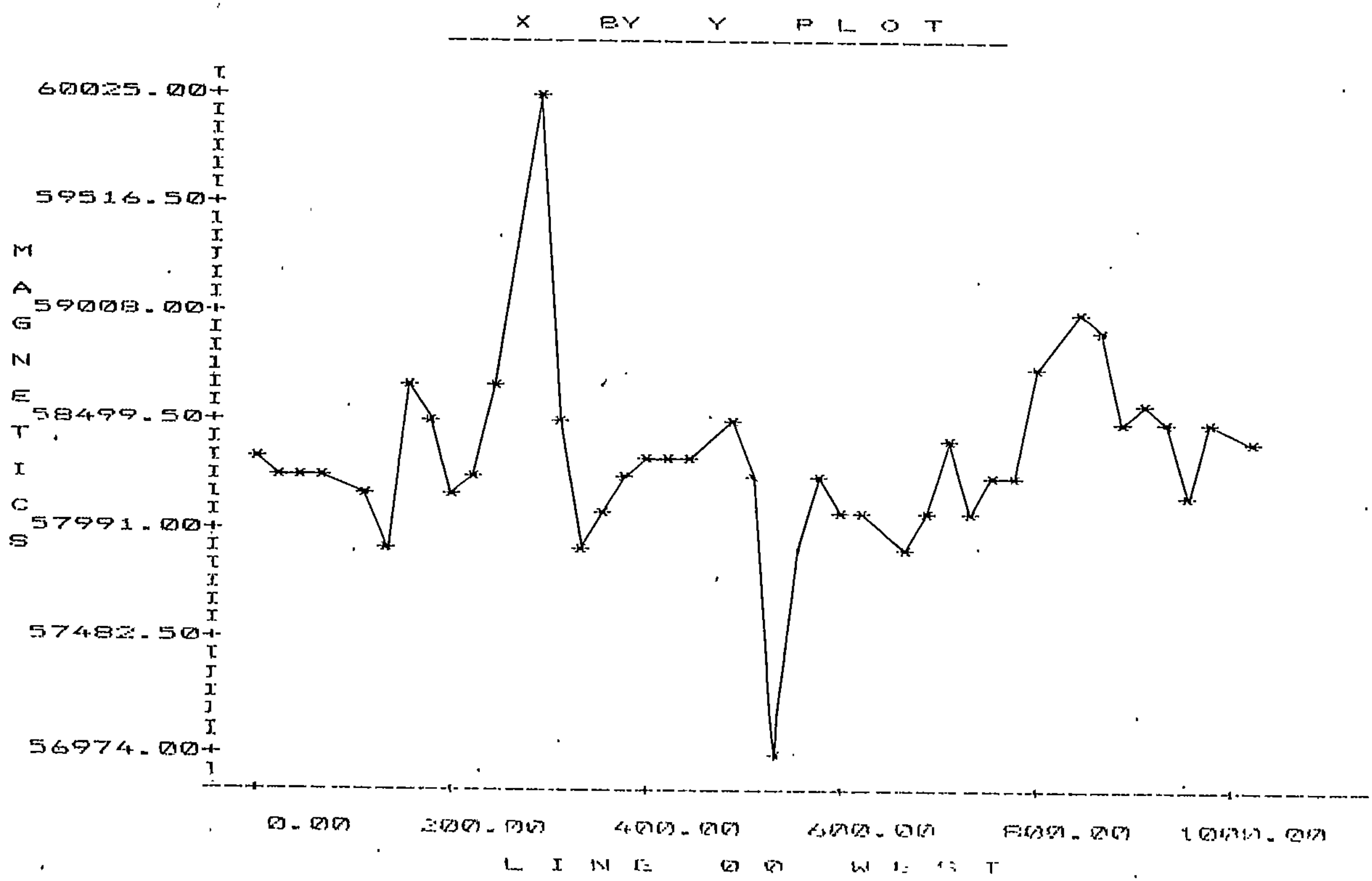

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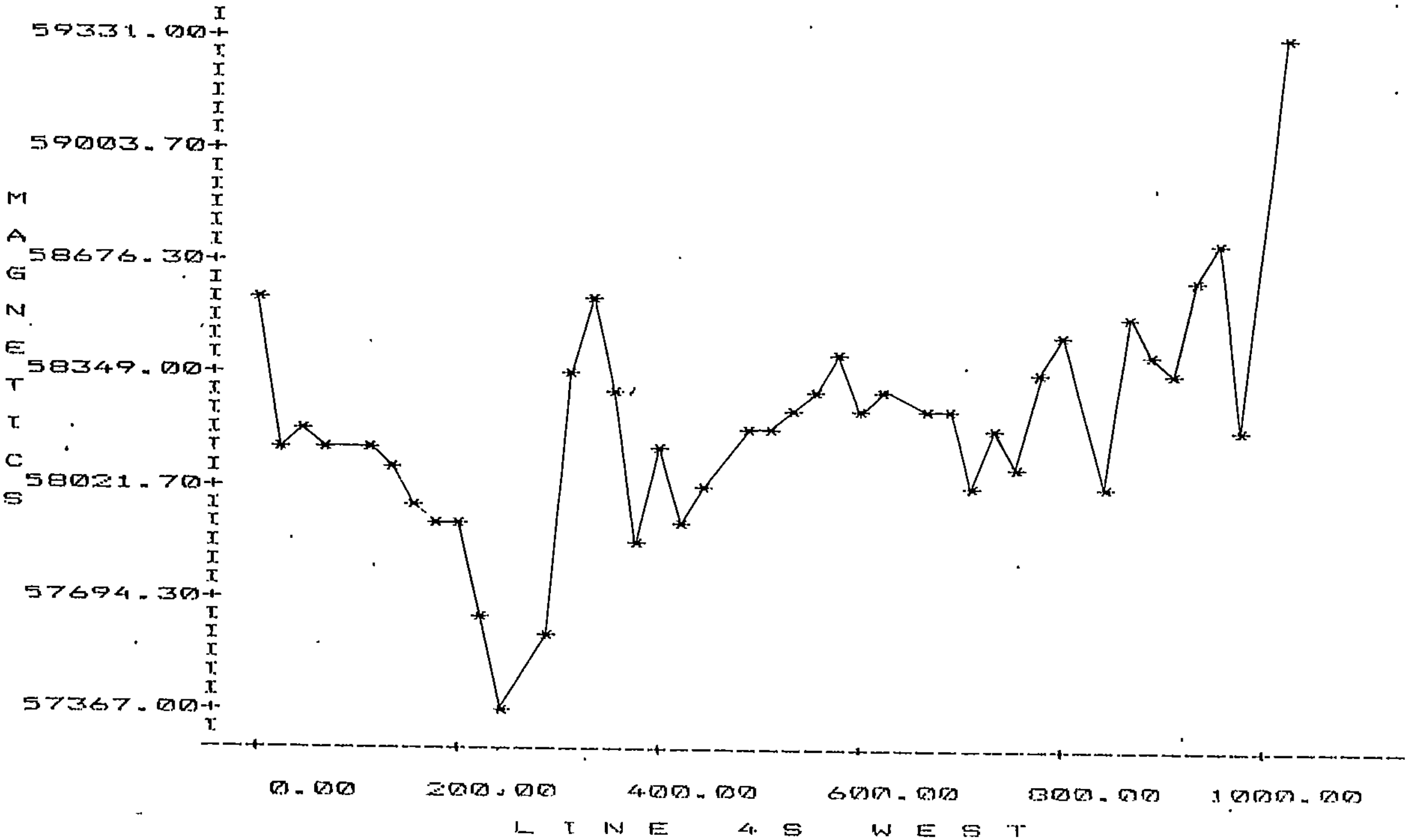
X BY Y PLOT



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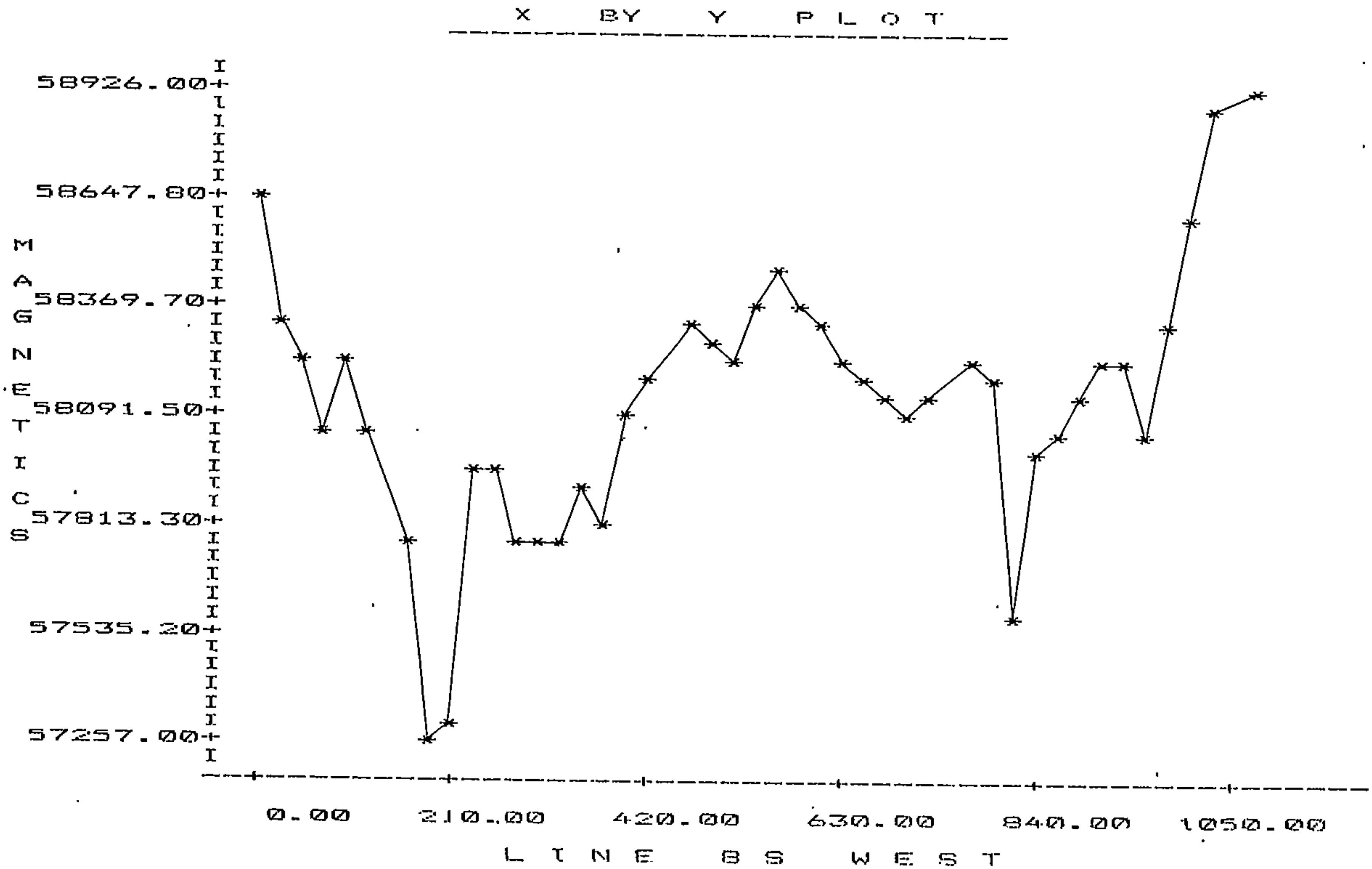
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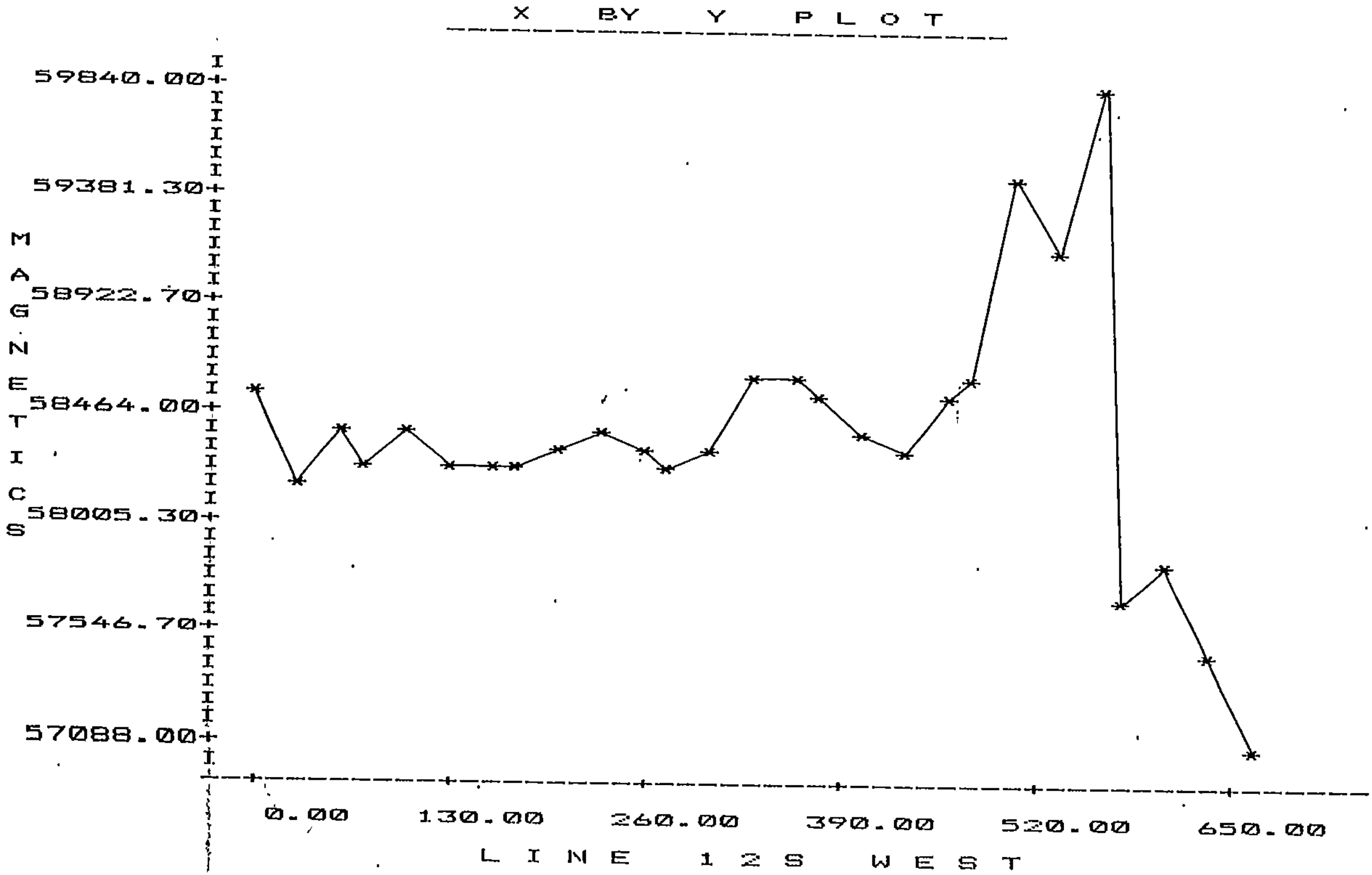

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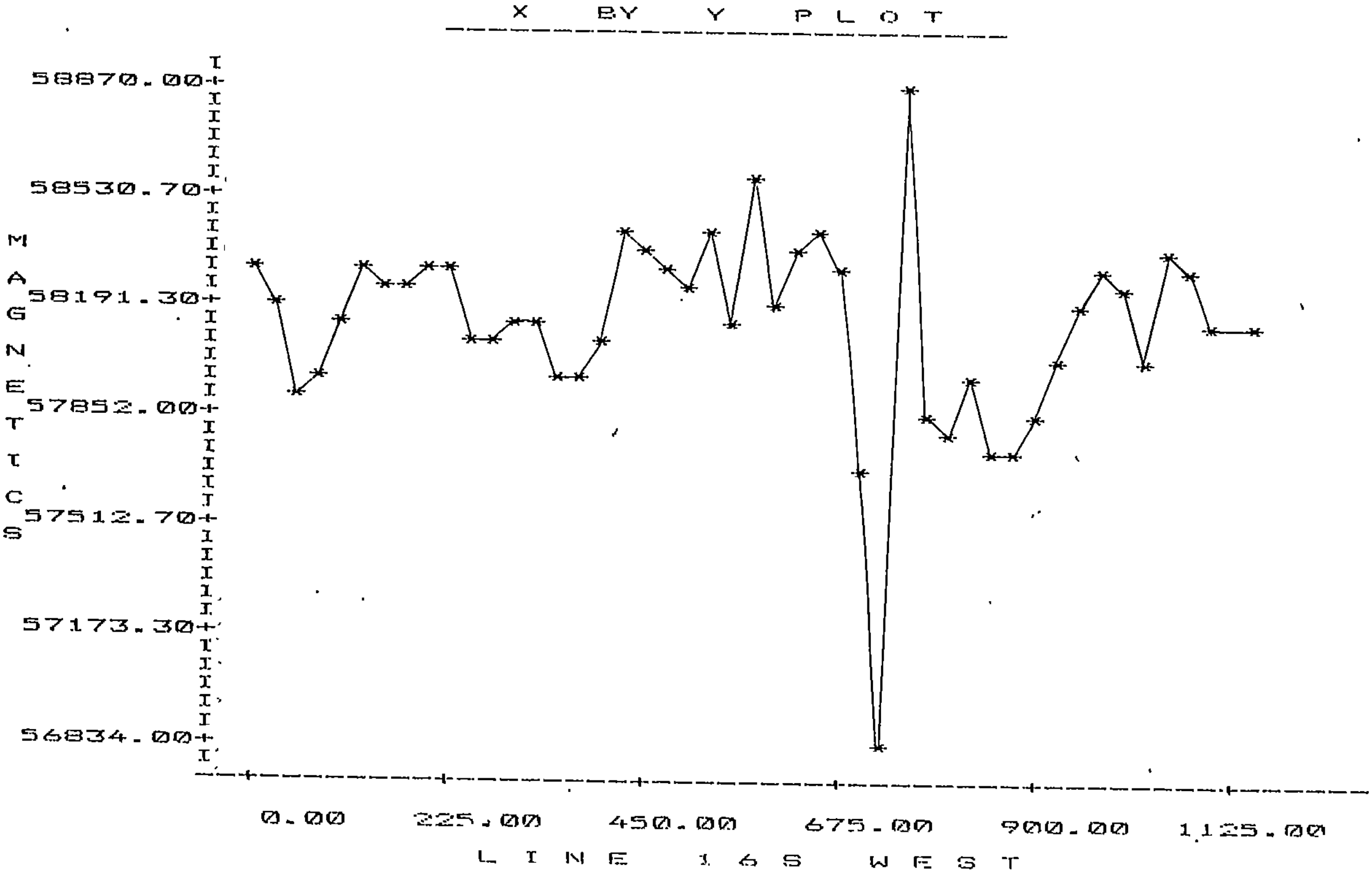
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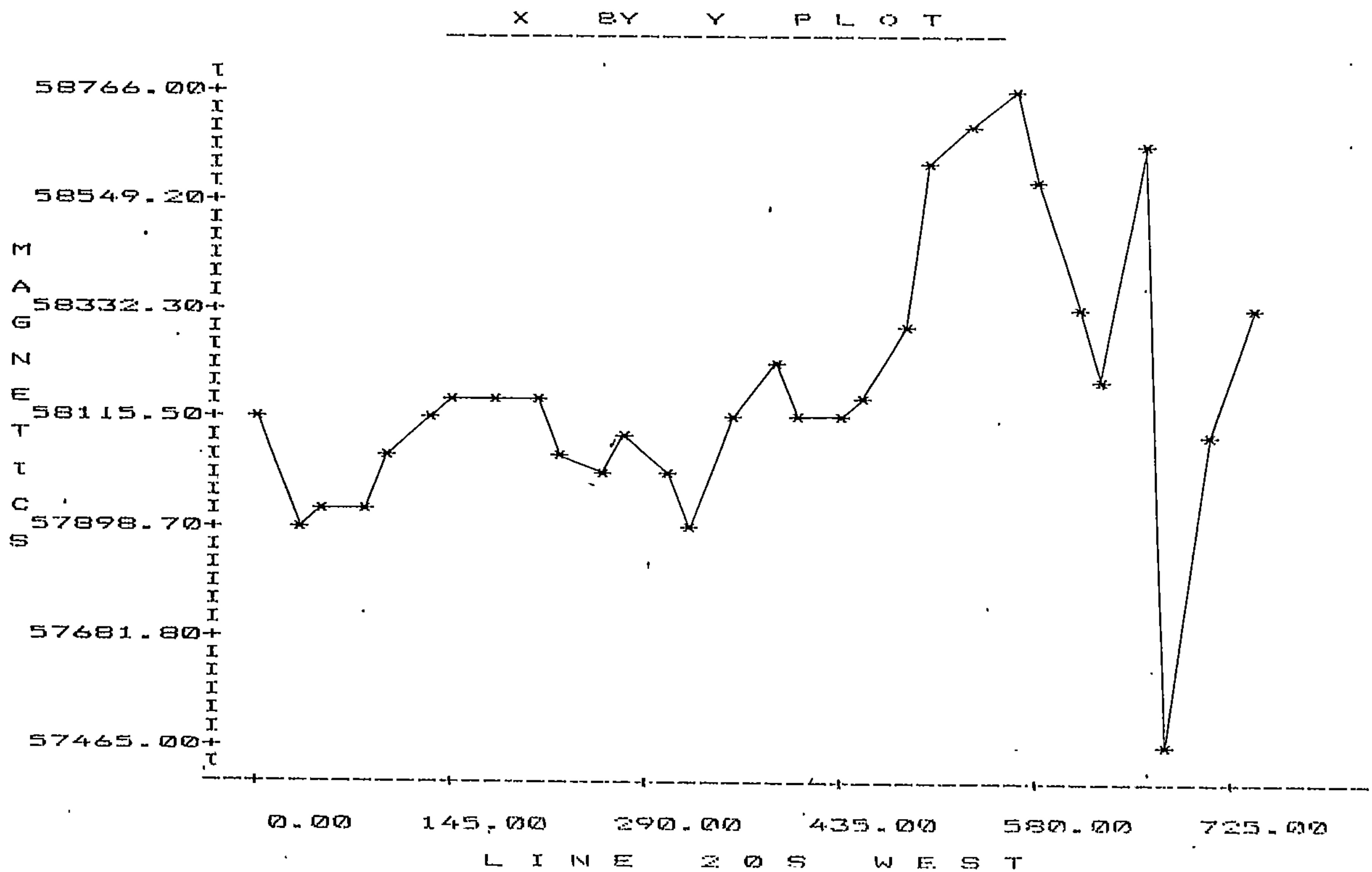
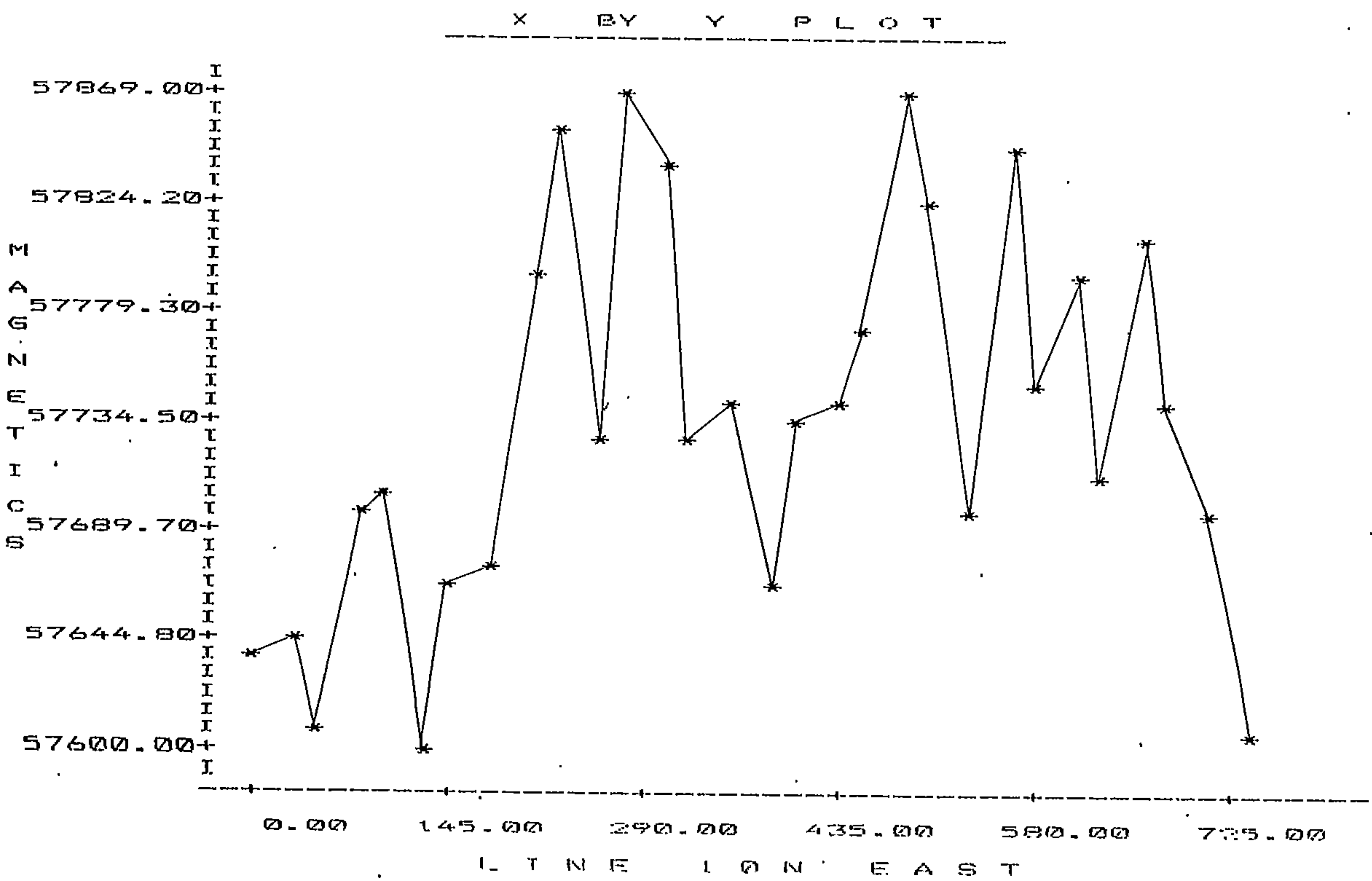
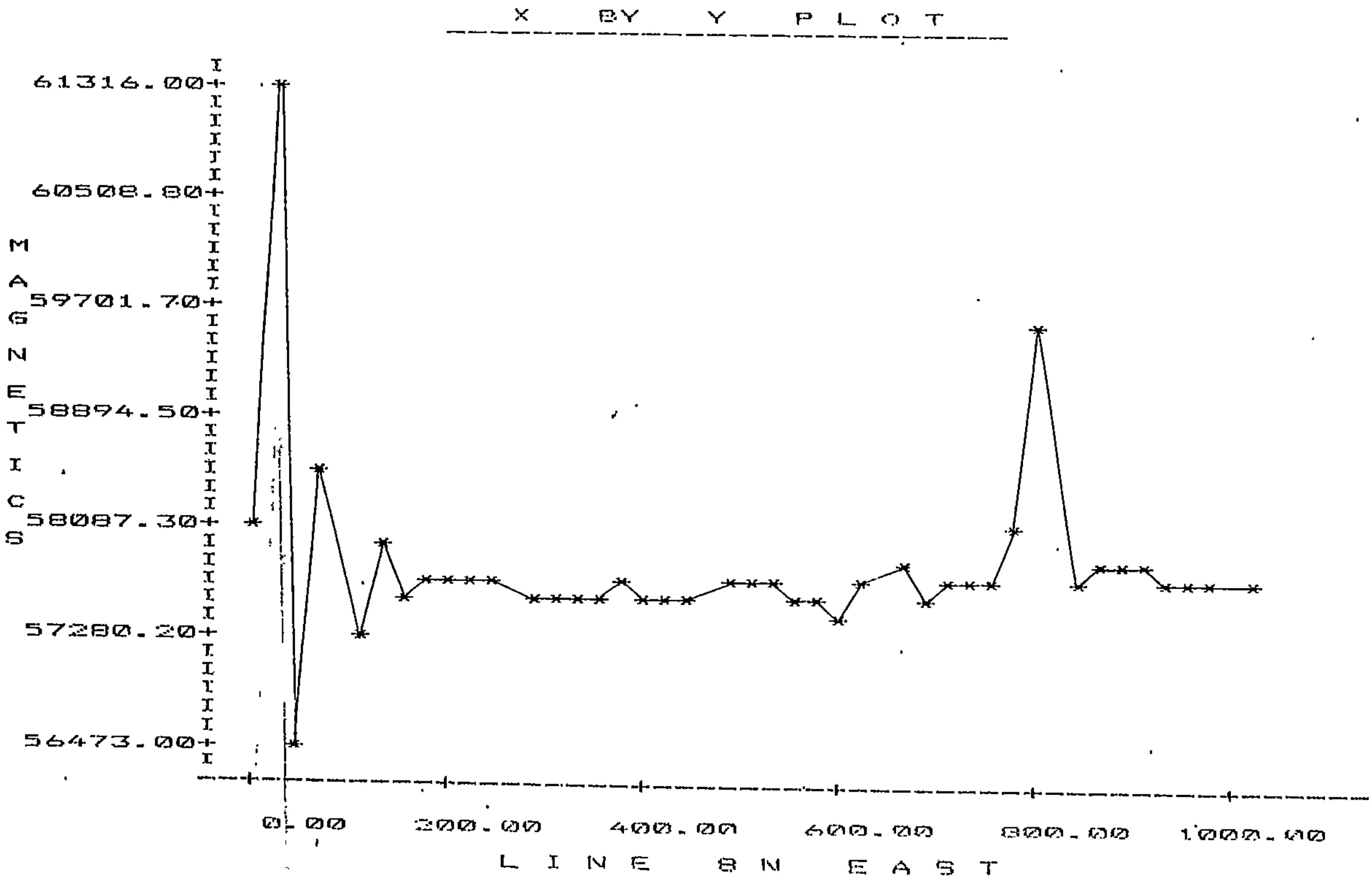
56834.00
MAGNETICS
0.00
225.00
450.00
675.00
900.00
1125.00
LINE 16S WEST

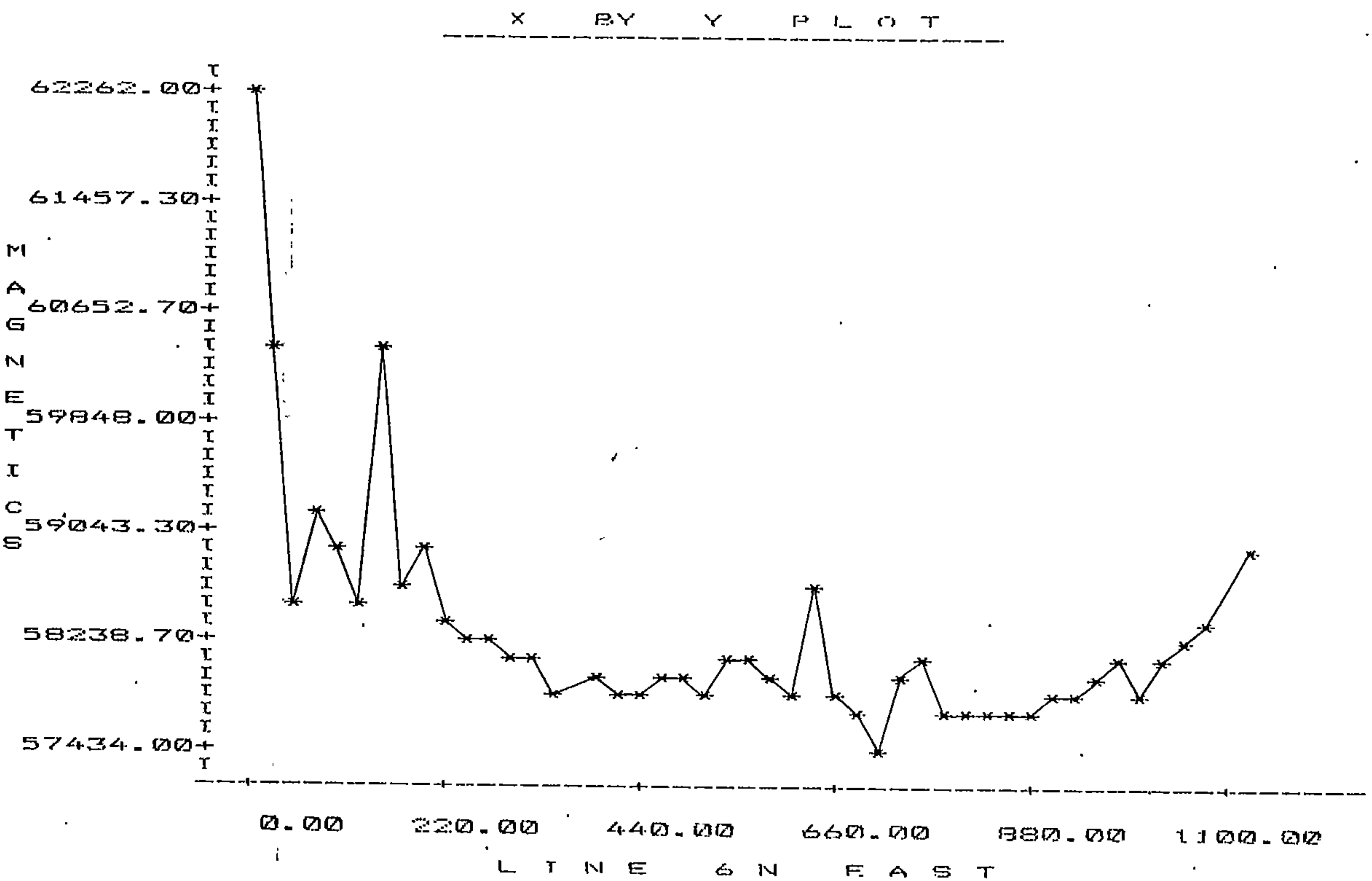

X BY Y PLOT
58766.00
58549.20
58332.30
58115.50
57898.70
57681.80
57465.00
MAGNETICS
0.00
145.00
290.00
435.00
580.00
725.00
LINE 20S WEST

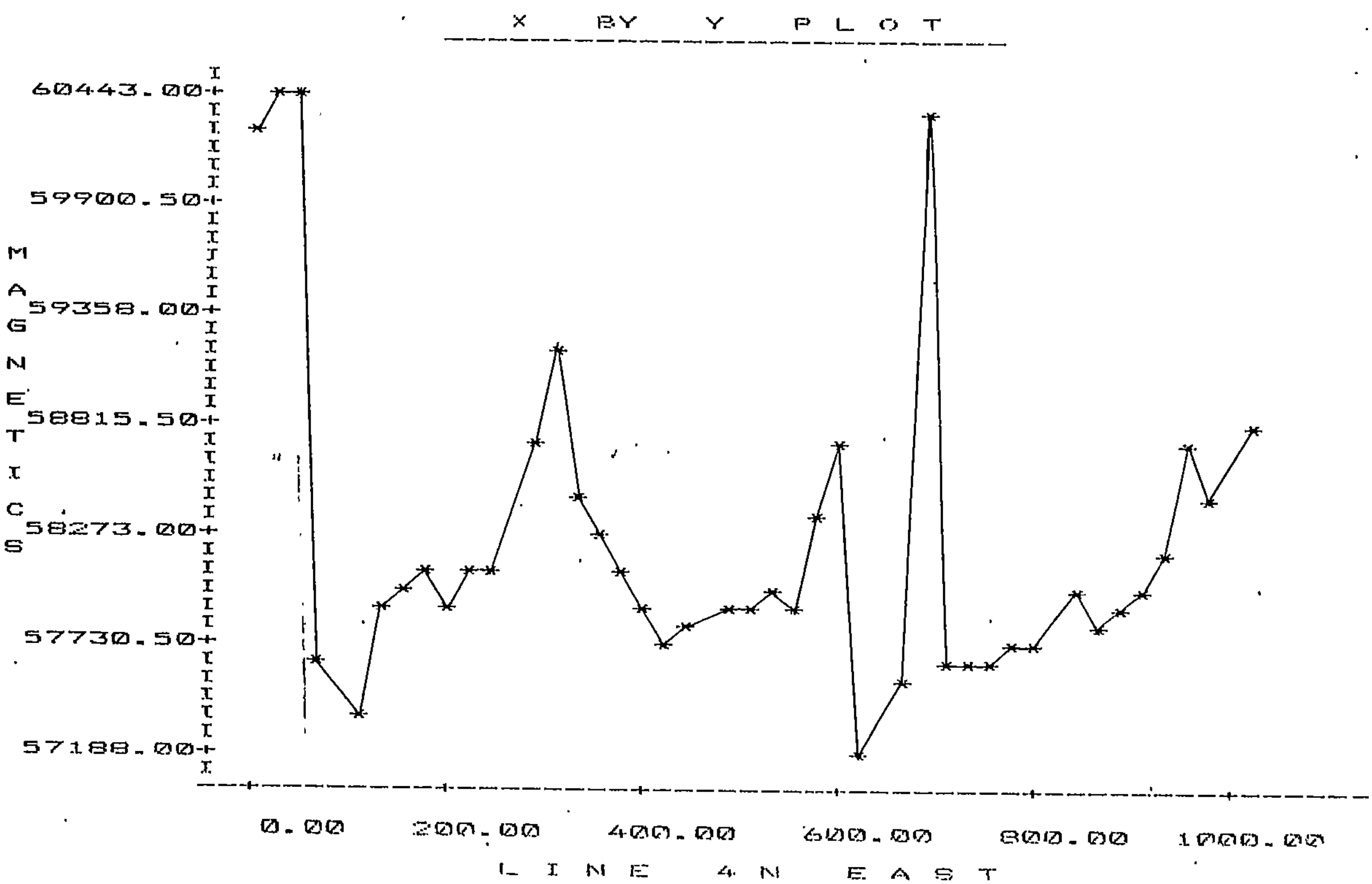


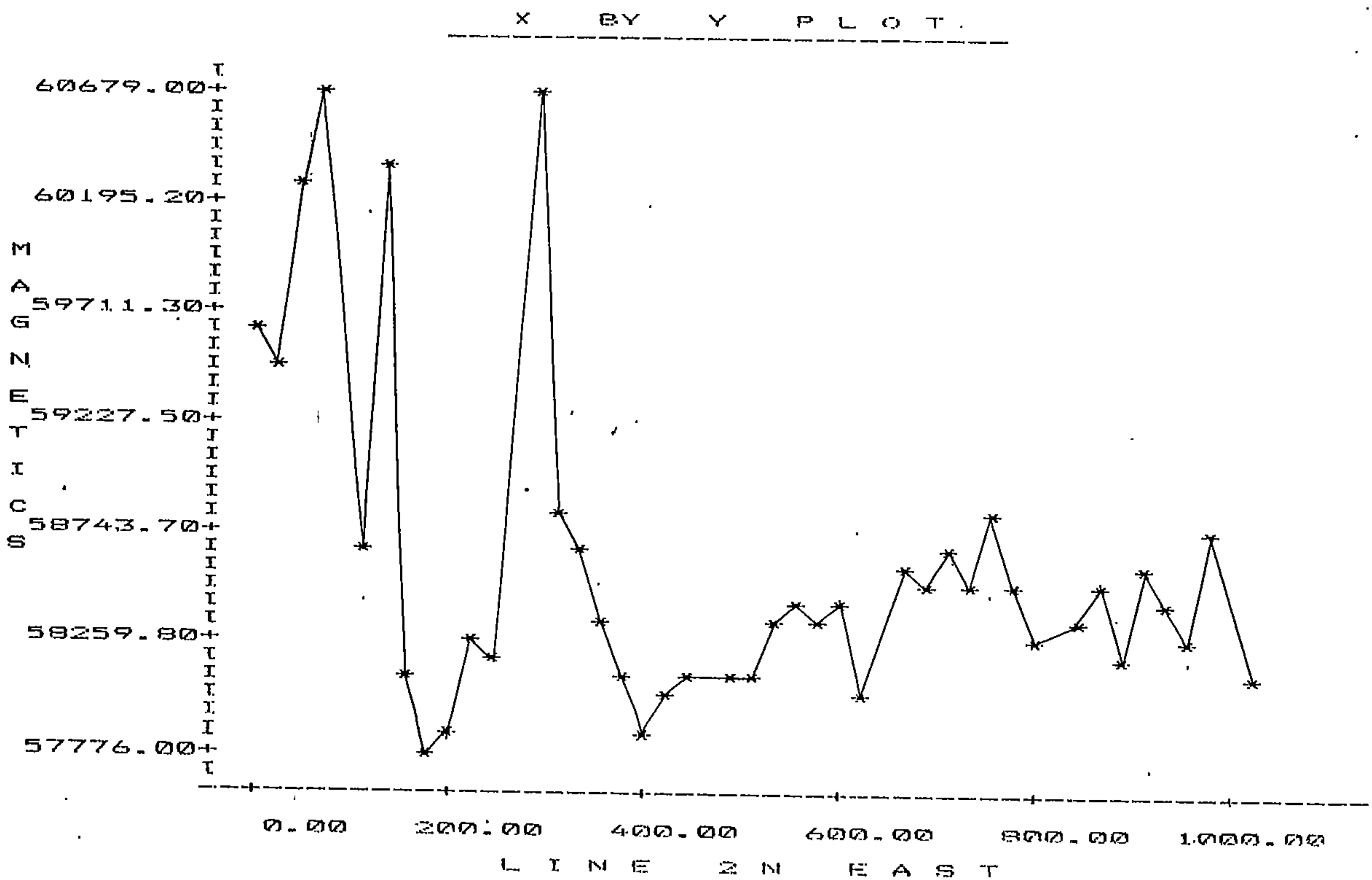
X BY Y PLOT
MAGNETICS
57869.00
57824.20
57779.30
57734.50
57689.70
57644.80
57600.00
0.00
145.00
290.00
435.00
580.00
725.00
LINE 10N EAST



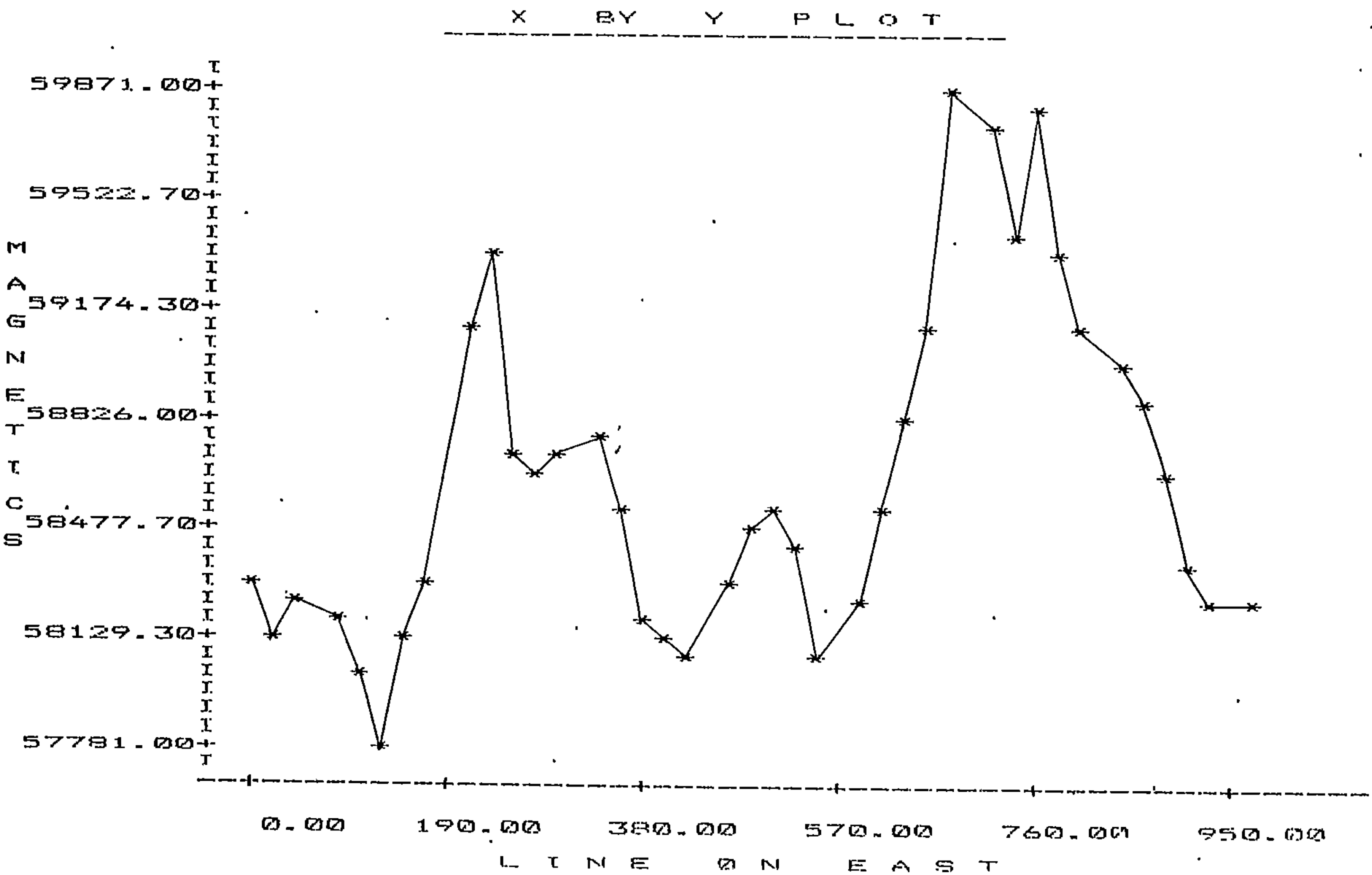
X BY Y PLOT
61316.00
60508.80
59701.70
58894.50
58087.30
57280.20
56473.00
MAGNETICS
0.00
200.00
400.00
600.00
800.00
1000.00
LINE 8N EAST


X BY Y PLOT
62262.00
61457.30
60652.70
59848.00
59043.30
58238.70
57434.00
MAGNETICS
0.00
220.00
440.00
660.00
880.00
1100.00
LINE 6N EAST

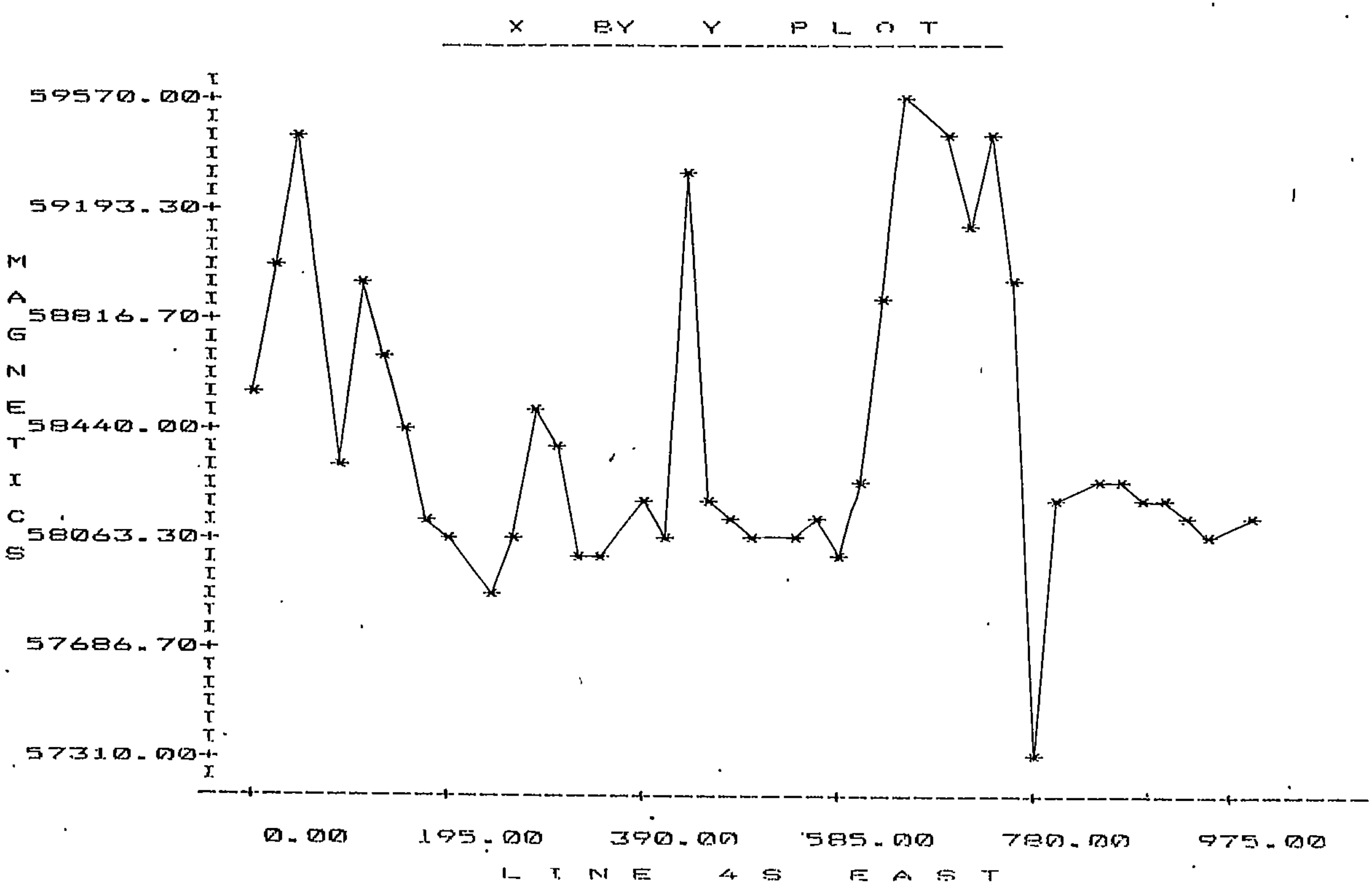

X BY Y PLOT
60443.00
59900.50
59358.00
58815.50
58273.00
57730.50
57188.00
MAGNETICS
0.00
200.00
400.00
600.00
800.00
1000.00
LINE 4N EAST

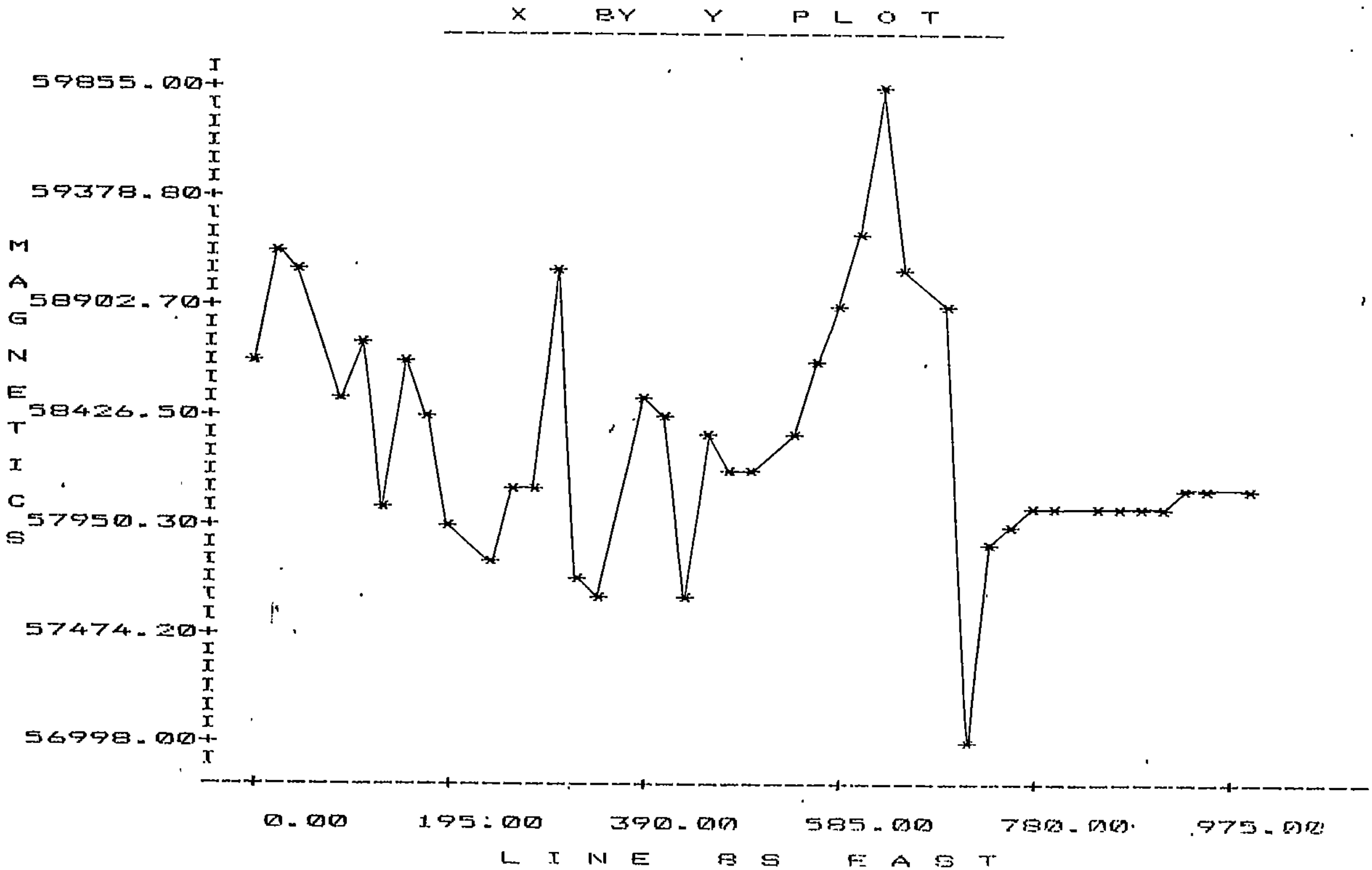


X BY Y PLOT.
60679.00
60195.20
59711.30
59227.50
58743.70
58259.80
57776.00
MAGNETICS
0.00
200.00
400.00
600.00
800.00
1000.00
LINE 2N EAST

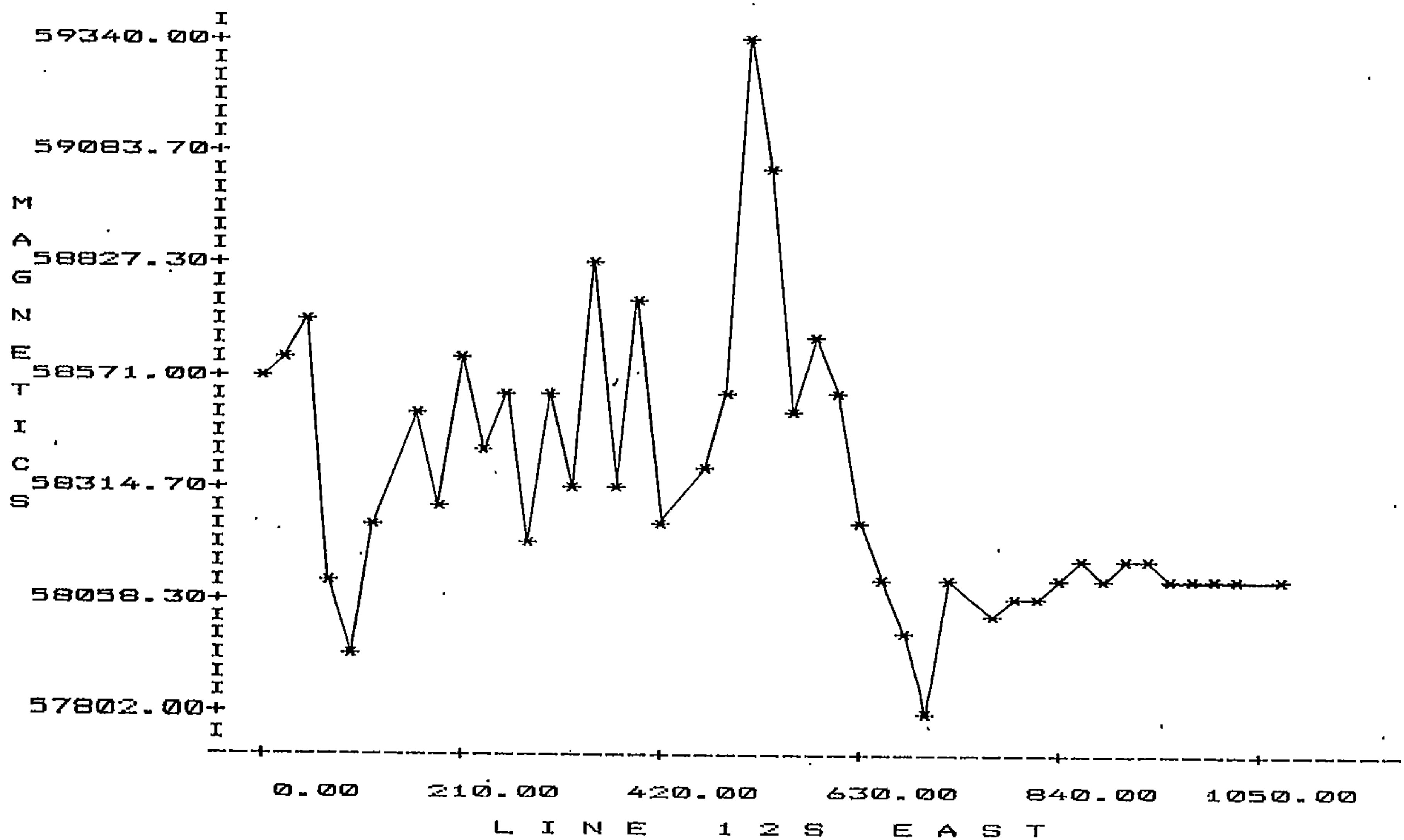


X BY Y PLOT
59871.00
59522.70
59174.30
58826.00
58477.70
58129.30
57781.00
MAGNETICS
0.00
190.00
380.00
570.00
760.00
950.00
LINE ON EAST

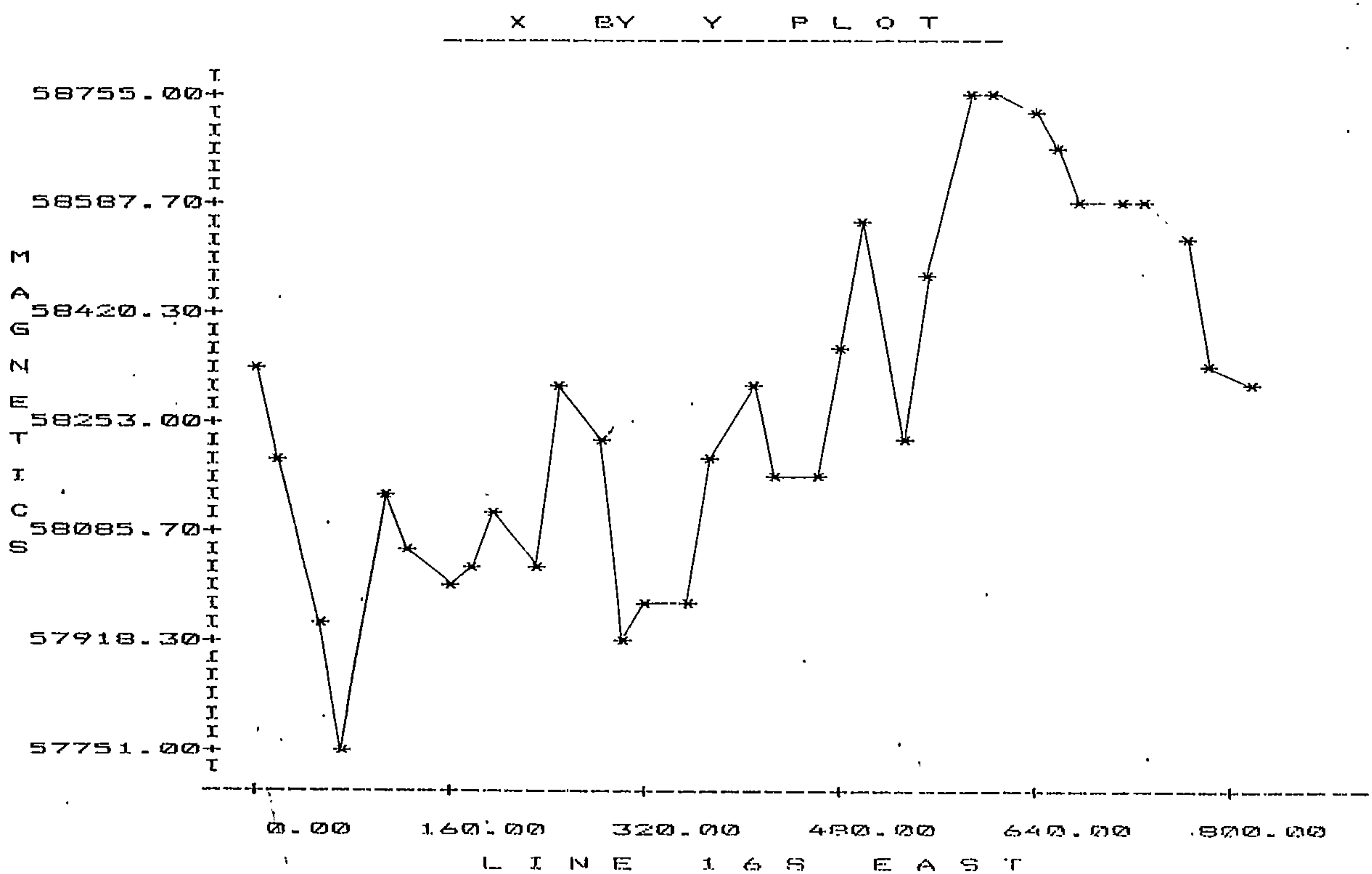

X BY Y PLOT
MAGNETICS
59570.00
59193.30
58816.70
58440.00
58063.30
57686.70
57310.00
0.00
195.00
390.00
585.00
780.00
975.00
LINE 4S EAST


X BY Y PLOT
59855.00
59378.80
58902.70
58426.50
57950.30
57474.20
56998.00
MAGNETICS
0.00
195.00
390.00
585.00
780.00
975.00
LINE 8S EAST

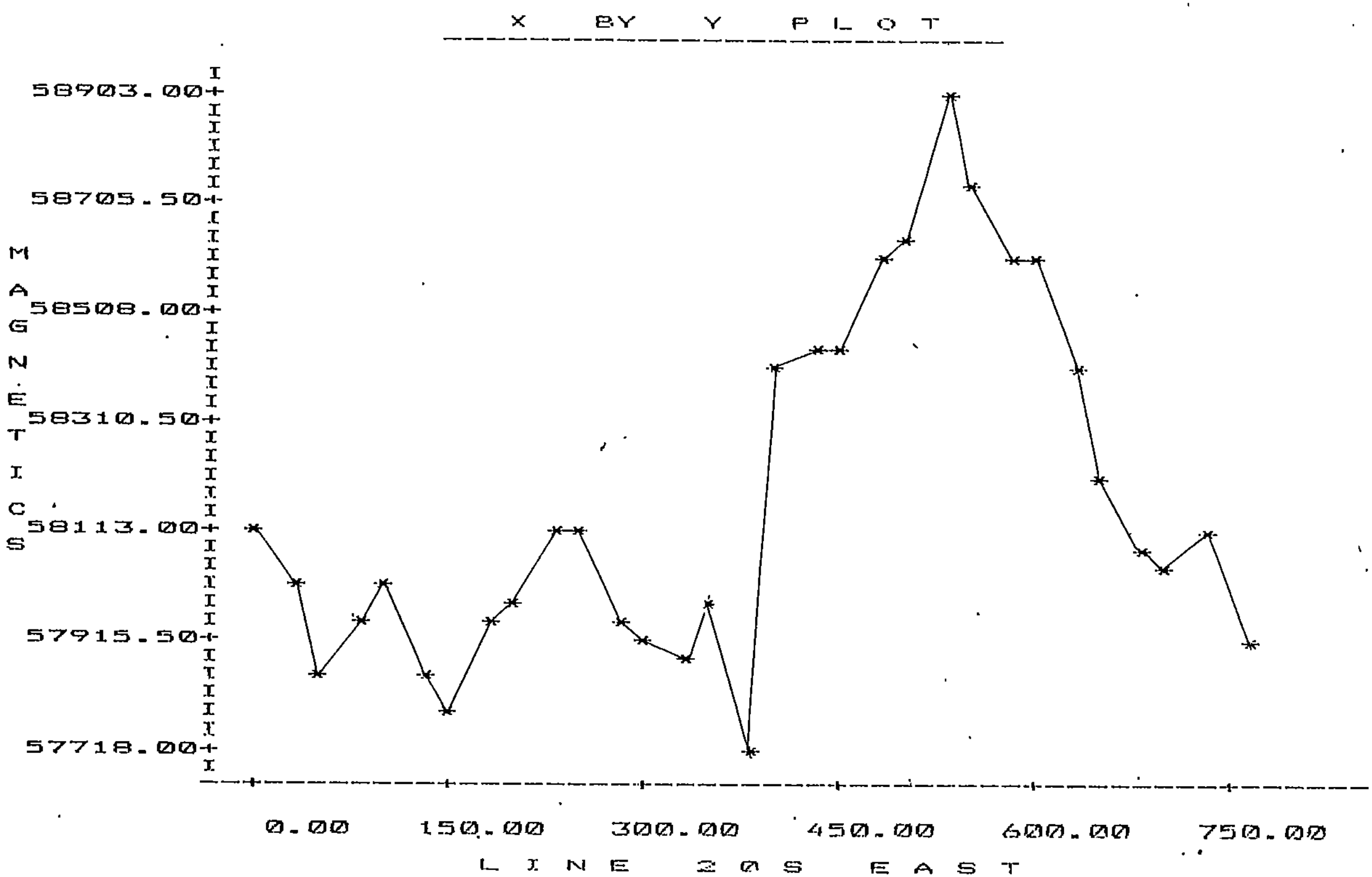
X BY Y PLOT



59340.00
59083.70
58827.30
58571.00
58314.70
58058.30
57802.00
MAGNETICS
0.00
210.00
420.00
630.00
840.00
1050.00
LINE 12S EAST



X BY Y PLOT
58755.00
58587.70
58420.30
58253.00
58085.70
57918.30
57751.00
MAGNETICS
0.00
160.00
320.00
480.00
640.00
800.00
LINE 16S EAST


X BY Y PLOT
MAGNETICS
58903.00
58705.50
58508.00
58310.50
58113.00
57915.50
57718.00
0.00
150.00
300.00
450.00
600.00
750.00
LINE 20S EAST

APPENDIX 9

1981 EXPENDITURES

STATEMENT OF 1981 EXPENDITURES
MAMMOTH 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 4H5	May 27 June 1,4,8-12,15-19,22, June 24-25,29-30 July 2-3,6-10,13-17 Aug. 13,28 Sept. 8,10,12,17-18,25, Sept. 26,30	40	$330.00/day	$13,200.00	47	$20.00	$940.00
Gordon W. Sinden Senior Technologist #55, 5625 Silverdale Dr. N.W. Calgary, Alberta T3B 4H5	May 27 June 2-4,8-12,15-19,22, June 23-26,29-30 July 2-3,10,13-17 Aug. 8 Sept. 8,10,12	33	$232.50/day	$7,672.50	37	$20.00	$740.00
David S. Evans Exploration Manager 5232 Viceroy Dr. N.W. Calgary, Alberta T3A 0V7	May 16 June 5 July 25 Aug. 8 Sept. 21	5	$450.00/day	$2,250.00	5	$20.00	$100.00
Ian D. Kewley Field Assistant 4603 Namaka Crescent N.W. Calgary, Alberta T2K 2H5	June 9-12,15-19,22-26 July 6-10,13-17	24	$207.68/day	$4,984.32	30	$20.00	$600.00
Tim Joveski Field Assistant R.R. #1 Nelson, B.C. V1L 5P4	June 3-5,8-12,15-19, June 22-26,29-30 July 2-3,6-10,13-17 July 20	33	$150.00/day	$4,950.00			
Ken Konkin Field Assistant Box 52 Nelson, B.C. V1L 5P7	June 3-5,8-12,15-19, June 22-26,29-30 July 2-3,6-10,13-17, July 20-24	37	$150.00/day	$5,550.00			
Darrel Gahoury Field Assistant Robson, B.C.	June 3-4	2	$150.00/day	$300.00			
Glen Dorey Field Assistant Salmo, B.C.	Sept. 19-20 Oct. 4	3	$100.00/day	$300.00			
Dale Pauls Field Assistant Nelson, B.C.	Aug. 6,10-12,18	5	$230.00/day	$1,150.00			
Bill McCuaig Field Assistant Nelson, B.C.	Aug. 6,10-12,18	5	$185.00/day	$925.00			
			TOTAL	$41,281.82		TOTAL	$2,380.00

STATEMENT OF 1981 EXPENDITURES
MAMMOTH PROPERTY
(continued)

Other Expenditures

Field Office Rental (@ $10.00/day/man)	$1,140.00
Supplies and Equipment	333.40
Truck Rental (incl. gas, oil, maintenance)	2,152.07
4-wheel Drive Rental (mileage @ 20¢/km)	106.50
Motorcycle Rental (mileage @ 20¢/km)	503.80
Airfares	401.65
Freight	136.20
Communications - Telephone	96.95
Communications - Radio	150.00
Field Office Rentals	24.31
Camp Maintenance	11.06
Camp Fuel	211.00
	5,266.94

Geochemical Analyses

1183 soil samples - preparation @ $0.50/sample	591.50
515 samples - $HClO_4/HNO_3$ digestion for Cu,Pb,Zn,Ni,Co,Ag,Mo @ $6.25/sample	3,218.75
668 soil samples - analyzed for Cu,Pb,Zn, Ni,Co,Mo @ $6.25/sample	4,175.00
317 rock samples - preparation @ $2.50/sample	792.50
169 rock samples - analyzed for Cu,Pb,Zn, Ni,Co,Ag,Mo @ $6.25/sample	1,056.25
148 rock samples - analyzed for Cu,Pb,Zn, Ni,Co,Ag,Cd,Cr,V @ $8.50/sample	1,258.00
148 rock samples - analyzed for Si,Al,Ca, Mg,Na,K,Fe,Mn,Ti @ $12.00/sample	1,776.00
	12,868.00

Geophysics

Sept. 10 - Mobilization fee - mag. survey	3,000.00
Sept. 10-22, Oct. 4-5 - Mag. survey	3,850.00
Apr. 17-19, Jan. 7-13 - Mag. survey interpretation	1,027.64
Rental - VLF transmitter, generator and magnet wire	150.00
	8,027.64

STATEMENT OF 1981 EXPENDITURES
MAMMOTH PROPERTY
(continued)

Data Reduction

Geophysical (computer analysis & plotting)	$1,800.50
Geochemical (computer analysis & plotting)	1,033.00
	2,833.50

Drafting

Geological:	
Oct. 26-28 - 15 hours @ $43.72/hr.	655.80
Nov. 10,12, Jan.18,19 - 12.5 hours @ $15.00/hr.	187.50
Geophysical:	
Nov. 22-26 - 15 hours @ $20.00/hr. plus expenses & 15% handling	513.02
	1,356.32

Summary

Total Wages	$41,281.82
Total Subsistence	2,380.00
Other Expenditures	5,266.94
Geochemical Analyses	12,868.00
Geophysics	8,027.64
Data Reduction	2,833.50
Drafting	1,356.32
Total Project Costs	$74,014.22
Plus 10% Report Preparation	7,401.42
TOTAL 1981 EXPENDITURES	$81,415.64

APPENDIX 10

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 replacement 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
Size:	Console: 3.5 x 7 x 11" (9 x 18 x 28 cm) Sensor: 3.5 x 5" (9 x 13 cm) Staff: 1" diameter x 8' 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	0.9
	11.5	5.2

RECORDING BASE STATION
PROTON MAGNETOMETER
MODEL G-826A

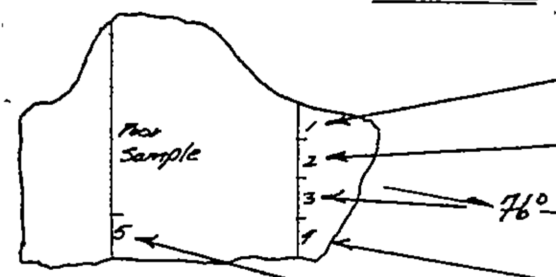
Sensitivity:	±1 gamma throughout tuning range
Tuning Range:	20,000 to 100,000 gammas
Sampling Rate:	Base Station Mode: Automatic every 4, 10, 30 seconds
	Portable Mode: Pushbutton reading every 5 seconds
Outputs:	Visual (Base station and portable): 5 digit readout directly in gammas
	Analog (Base station): 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 AC or 12 volts DC (approx. 20 watts)
Temperature Range:	0° to 50°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

Trench #1

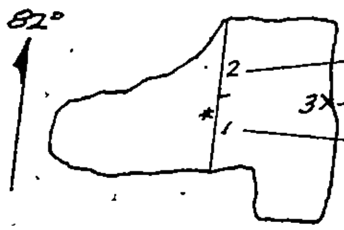


1.5m X 2m X .5m

101	280	3	67
81	16	1.2	0
102	198	2	83
23	19	1.3	1
103	250	16	340
20	27	1.1	2
104	173	4	120
54	25	1.5	6
105	140	0	42
17	10	1.3	3

ROCK = VX
AFO = 213
MIN = PY

Trench #2



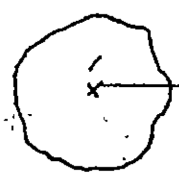
* WEATHERED

1.5X1.3X0.4

202	520	2	39
5	2	1.8	3
203	370	2	49
3	3	1.6	2
201	420	1	36
7	7	1.6	2

ROCK = VX
AFO = 332
MIN = PY

Trench #3

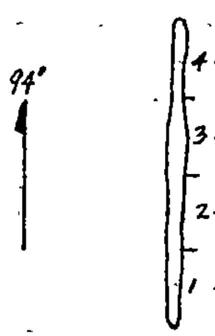


1m²

301	730	3	570
47	30	1.9	5

ROCK = VX
AFO = 122
MIN = PY

Trench #4



401	116	0	53
13	9	1.2	0
402	82	0	42
4	0	1	2
403	152	18	47
16	19	1.3	2
404	300	0	32
14	16	1.5	1

ROCK = [illegible]
AFO = 112
MIN = PY

2m channel Sample From o/c

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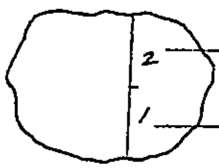
TRENCH #5

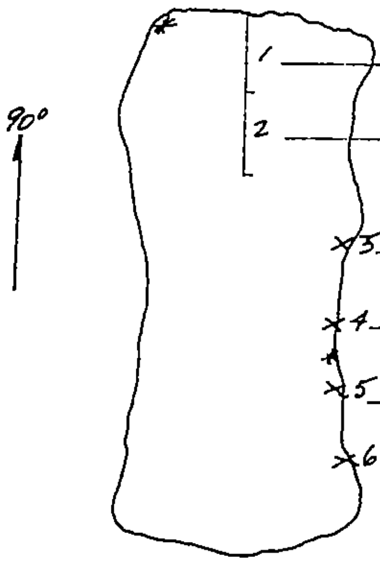


502	370	0	116
64	26	1.4	0
501	220	0	66
55	23	1.4	3

1.5 x 1 x 0.4

Rock = Atty
AFO = 222
PY = MIN

TRENCH #6



601	1420	0	134
12	13	4.7	6
602	5600	2	126
45	69	9.2	12
603	960	0	33
17	30	2.8	15
604	1790	0	58
13	13	2.5	19
605	660	0	62
27	26	2	2
606	100	0	45
20	17	0.9	0

1.5 x 3.5 x 1.35

Rock = Atty
AFO = 223
MIN = PY, MO, CP

* Green Alteration

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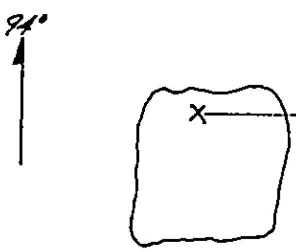
ALBERTA

TRENCH #8



801	5000	0	140
30	20	6.1	9

1 x 0.8 x 0.3

Rock = Atty
AFO = 122
MIN = Az, CP

THE ASS...
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GEOLOGISTS and GE...
OF ALBERTA
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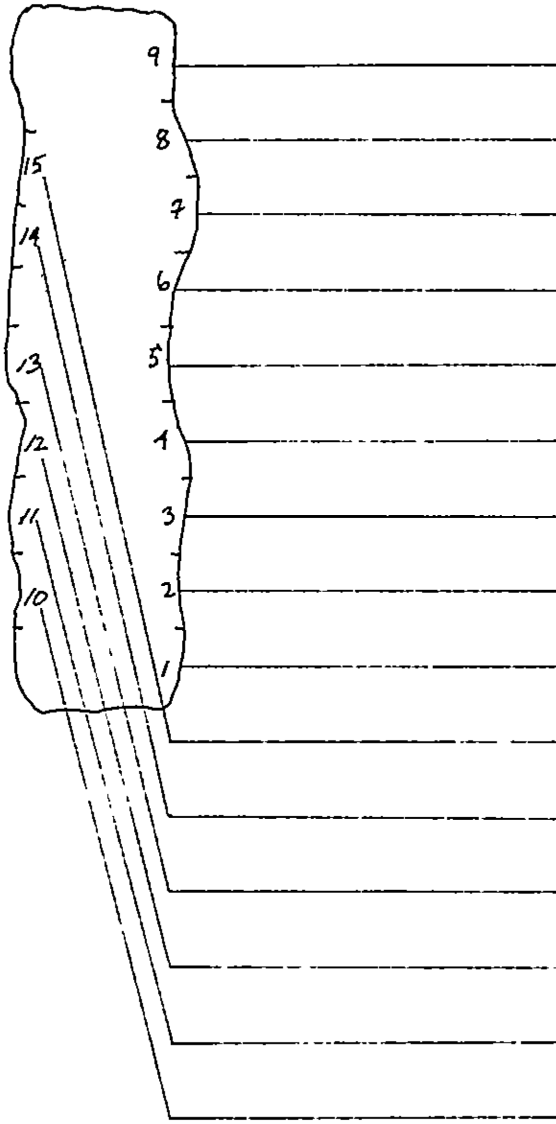
FIG. 6b

TRENCH #7

100°



4.5X1X0.5

709	240	6	43
61	26	1.7	0
708	460	9	47
59	30	2.0	5
707	450	10	56
44	17	1.8	6
706	330	14	550
47	19	2.3	6
705	330	4	57
28	9	2.5	7
704	540	4	40
30	17	2.1	2
703	280	0	34
9	9	1.9	0
702	470	46	46
27	20	2.3	55
701	5200	56	156
12	6	14.8	5
715	185	3	31
40	14	0.5	4
714	123	0	16
27	15	1.6	0
713	350	11	43
54	22	1.8	4
712	450	2	35
21	13	1.7	0
711	1050	138	144
34	17	1.6	4
710	410	2	51
36	17	1.8	4

ROCK = ATTY
AFO = 223
MIN = PY

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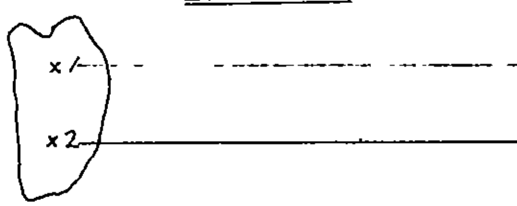
TRENCH #11



1X0.5X0.1

1101	113	0	30
11	12	0.2	1
1102	141	3	31
20	17	0.4	0

ROCK = ATTY
AFO = 222
MIN - NONE

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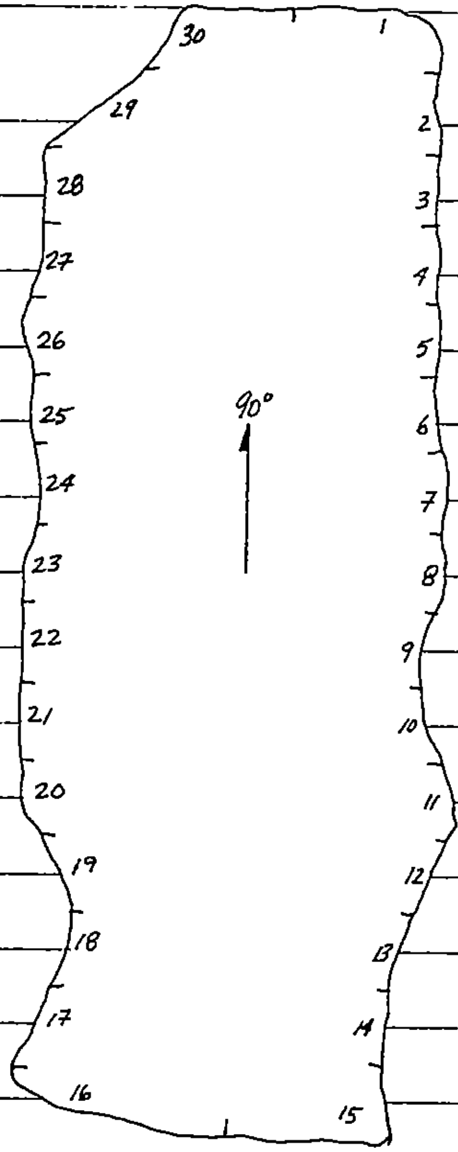
FIG. 6c

TRENCH # 9

930	6100	3	240
35	23	12.1	98
929	6000	34	270
49	33	13.1	280
928	5500	0	206
80	52	11	410
927	1460	0	101
53	31	4	170
926	5400	290	520
6	7	9.4	146
925	5000	57	203
24	19	7.5	660
924			
923	2600	0	163
27	13	5.9	20
922	4300	0	146
24	16	4.6	0
921	7500	0	190
29	20	10.8	199
920	830	7	78
30	9	1	14
919	2800	5	320
14	4	3	70
918	1850	0	80
17	8	4	120
917	800	0	121
35	17	1	0
916	480	5	58
26	11	0.5	4



901	2400	0	121
11	5	5	41
902	790	0	65
17	10	1.4	184
903	1860	3	87
27	16	3.4	20
904	890	4	90
38	30	1.1	310
905	9200	0	204
12	10	12.8	17
906	1890	3	69
30	43	2.9	62
907	1250	8	100
30	14	3.4	13
908	1700	0	85
27	10	2.9	125
909	1930	0	59
31	21	3.3	68
910	1120	0	270
88	16	0.4	23
911	960	0	135
31	9	1.6	20
912	6200	0	132
40	27	8	30
913	1530	0	84
26	10	1.1	9
914	740	0	122
50	15	0.5	3
915	1840	3	103
24	9	2	180

8 × 3 × 2

ROCK = ATTY
AFO = 222
MIN = MO, PY

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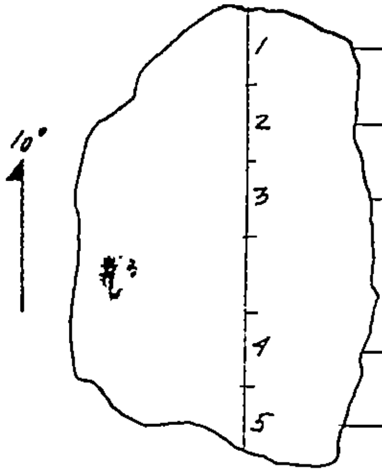
FIG 6d

TRENCH #10



1001	183	0	74
16	10	0.4	1
1002	270	0	87
47	31	0.5	3
1003	570	0	71
45	30	0.9	5
1004	350	0	94
21	16	0.5	2
1005	165	0	73
25	17	0.1	0

3×2

ROCK = ATTY + KSPAR
AFO = 222
MIN = Mo, KSPAR

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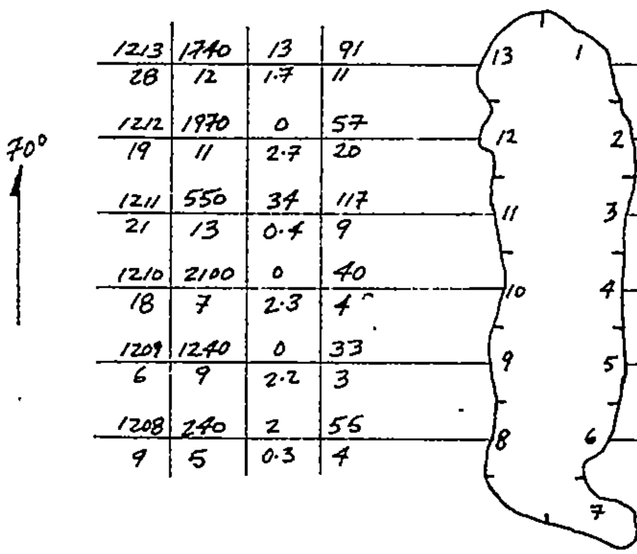
TRENCH #12



1213	1740	13	91
28	12	1.7	11
1212	1970	0	57
19	11	2.7	20
1211	550	34	117
21	13	0.4	9
1210	2100	0	40
18	7	2.3	4
1209	1240	0	33
6	9	2.2	3
1208	240	2	56
9	5	0.3	4

1201	2900	0	134
17	8	2.6	5.5
1202	2040	15	79
10	6	1.4	7
1203	1590	123	97
11	10	2.8	83
1204	1990	0	73
8	3	2.1	60
1205	1740	0	59
12	6	1.2	25
1206			
1207	390	0	46
9	4	0.5	6

3.5 × 2 × 1

ROCK = ATTY, FTTY
AFO = 121
MIN = PY, AZ

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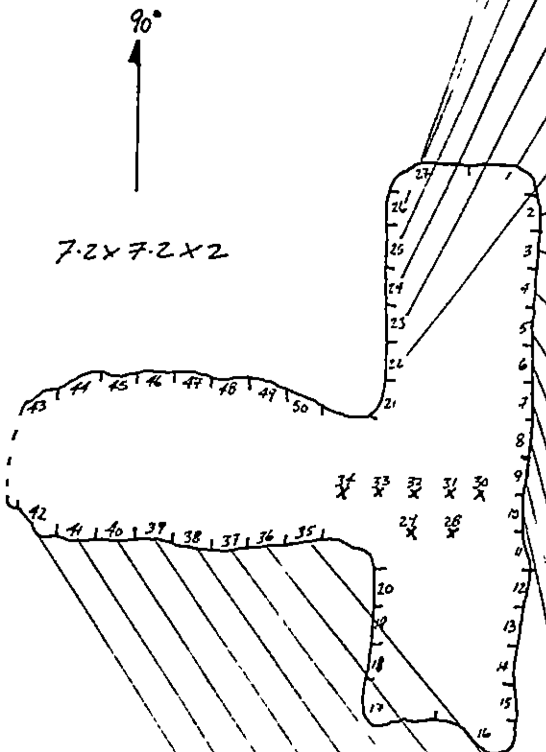
FIG 6E

TRENCH #13



7.2×7.2×2

1327	1570	0	53
390	111	0.9	29
1326	4200	0	60
122	47	2.9	22
1325	3800	67	69
180	89	4.5	38
1324	1400	0	16
500	126	1.2	39
1323	6200	0	74
178	61	3.7	24
1301	1130	0	32
134	53	1.1	23
1322	670	0	16
700	175	0	40
1302	1320	0	24
400	151	0.6	33
1303	5200	800	480
91	40	4.2	21
1304	1370	0	26
156	63	0.8	19
1305	1160	0	20
190	69	0.9	10
1306	16600	44	420
610	156	9.3	93
1307	2400	0	39
590	152	1.2	36
1308	2200	0	29
340	101	1.4	23
1309	1200	0	23
630	163	0.6	42
1310	5400	4	390
1010	390	2.6	79
1335	1410	0	31
41	11	0.3	9
1336	800	0	25
120	24	0.5	5
1337	3500	0	65
178	65	2.2	40
1338	2400	0	50
146	87	1.4	39
1339	129	0	47
54	16	0.2	5.
1340	114	3	24
51	15	0.2	5
1341	300	0	30
38	13	0.5	14
1342	310	0	16
34	15	0.5	31

ROCK - ANY
AFO = 212
MIN = PO, PY, CP

SCALE 1:100

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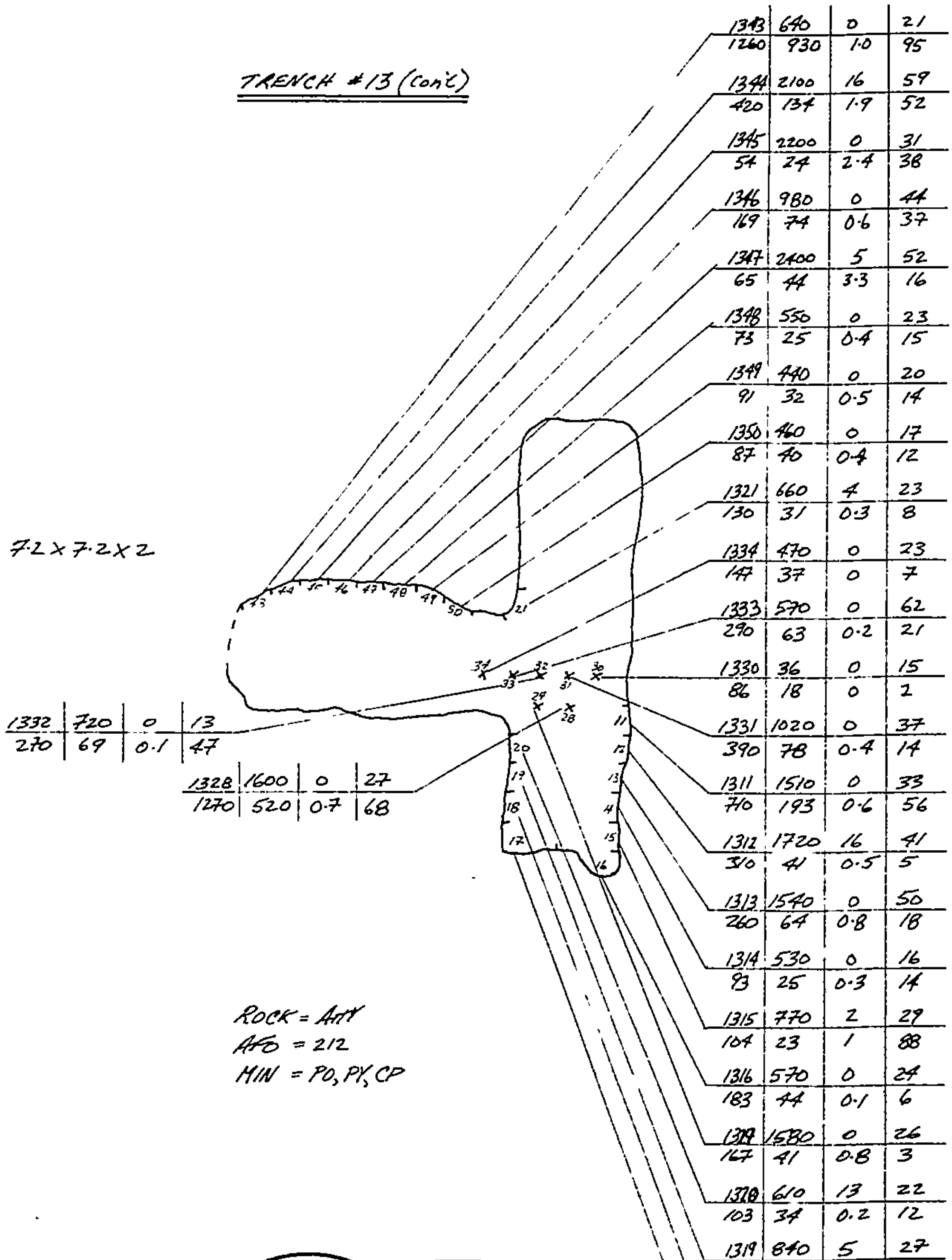
FIG. 6F.

TRENCH #13 (con't)



SCALE 1:100

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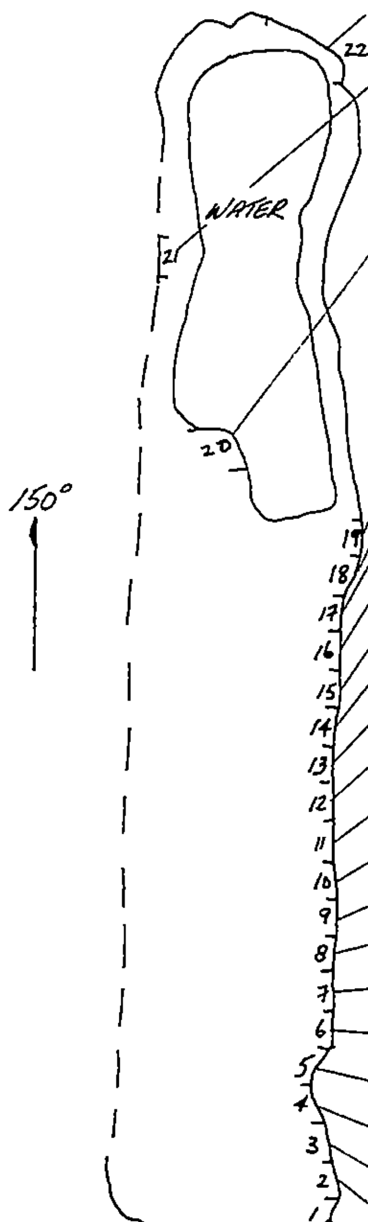
FIG. 69

TRENCH #14



Sample			
1422	420	16	36
23	26	0.9	6
1421	193	9	23
12	15	0.8	9
1420	52	6	14
4	3	0.8	24
1419	770	60	34
14	13	1.8	23
1418	188	0	25
9	7	0.2	10
1417	620	0	28
11	12	1.2	12
1416	330	48	37
9	7	0.7	8
1415	230	0	10
4	4	0.5	22
1414	290	0	14
3	7	0.6	3
1413	175	0	30
3	6	0.5	5
1412	121	2	20
6	4	0.4	15
1411	290	0	24
16	11	0.6	21
1410	360	0	45
7	13	0.5	1
1409	131	0	24
6	5	0.3	4
1408	340	0	9
4	4	0.8	5
1407	116	13	1430
9	6	0.8	8
1406	90	0	34
8	6	0.7	3
1405	168	7	58
22	12	0.7	4
1404	94	0	34
7	5	0.4	2
1403	84	0	14
3	3	0.4	4
1402	290	4	54
10	10	0.8	1
1401	113	0	17
5	2	0.7	3

ROCK = VX
AFO = 233
MIN = NONE

16 X 3 X 2

SCALE = 1:100

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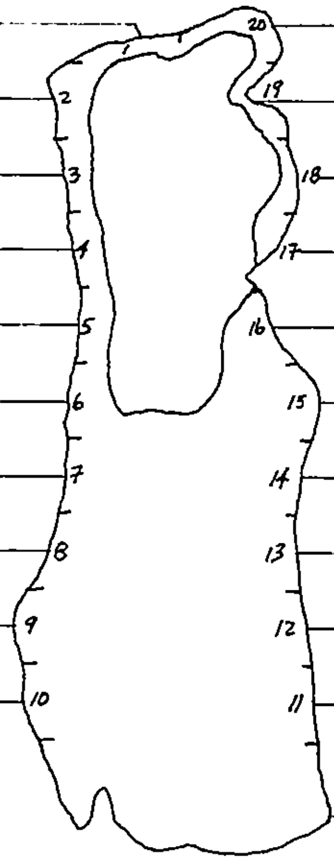
ALBERTA

FIG. 6h

TRENCH # 15

1501	520	0	112
27	13	0.3	13
1502	1300	0	72
51	25	2.4	29
1503	3000	0	126
40	24	8.4	13
1504	70	0	41
22	13	0	8
1505	61	0	64
37	15	0	30
1506	3100	0	173
41	23	7.5	70*
1507	2800	0	192
33	19	6.5	122
1508	600	0	87
36	16	1.8	28
1509	420	0	50
17	12	0	8
1510	460	0	53
19	16	0	5



1520			
1519			
1518			
1517			
1516			
1515			
1514			
1513			
1512			
1511			

5.5 x 2 x 2

ROCK = ATTY
AFO = 221
MIN = PY, MO

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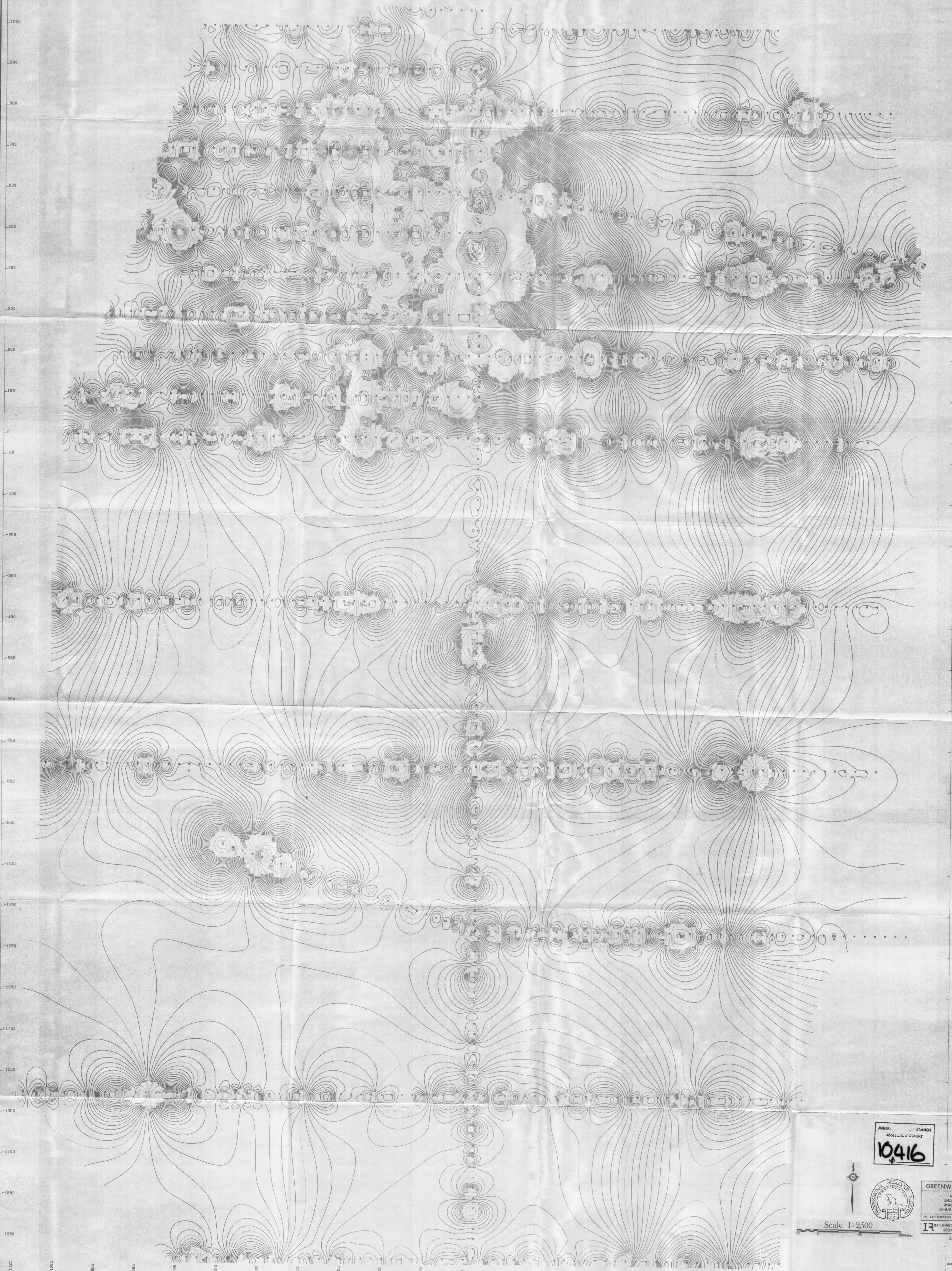
FIG. 6i



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
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JOHN S. HAND, M.Sc.(A)

GREENWICH RESOURCES, INC.

MAMMOTH PROPERTY
SALMO, BRITISH COLUMBIA
MAGNETIC CONTOUR MAP
G-816 PROTON MAGNETOMETER

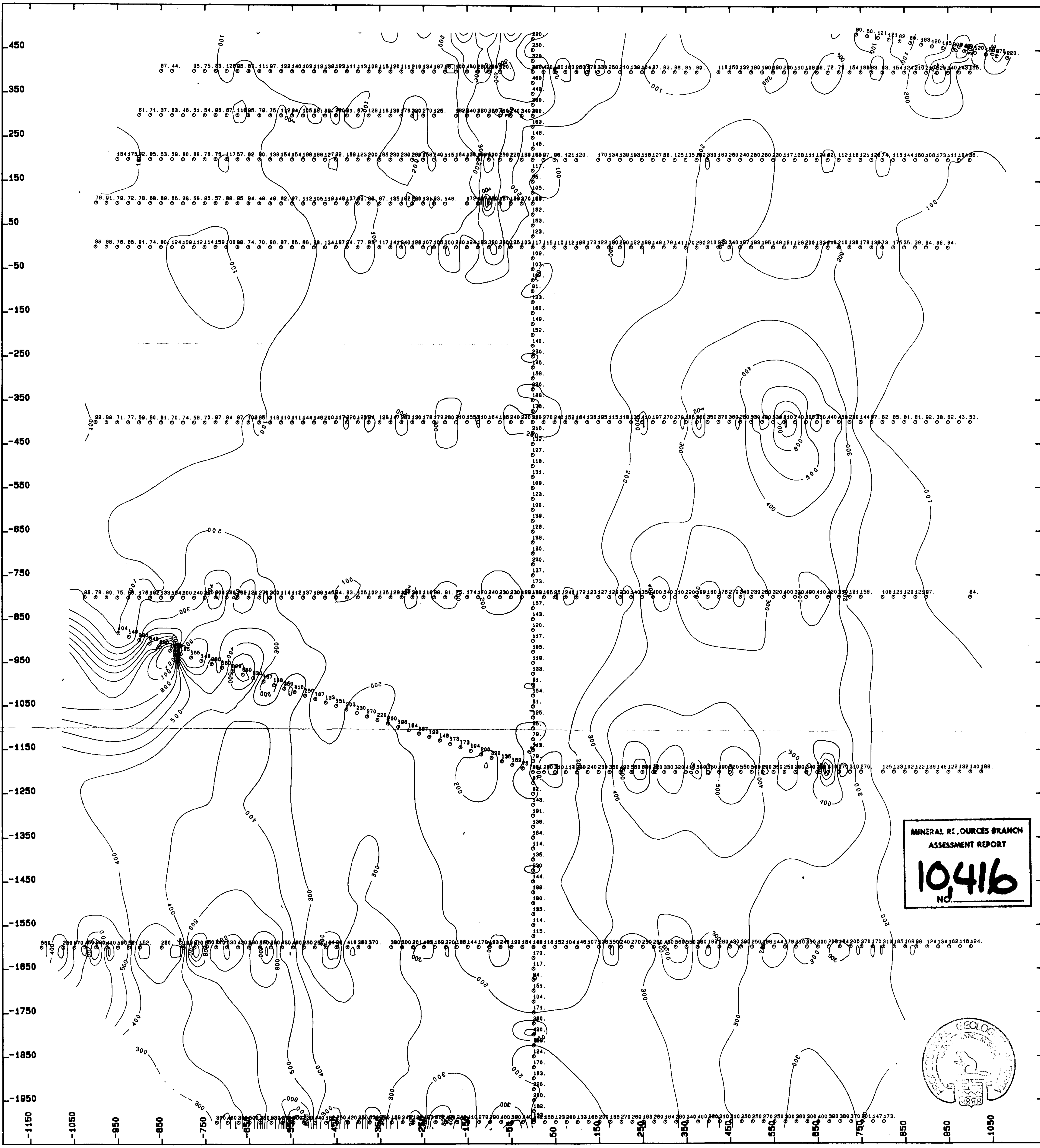
TO ACCOMPANY REPORT BY: E. R. ROCKEL

INTERPRETEX RESOURCES LTD.	SCALE: 1:2500	DATE: NOV., 1981
	PROJECT NO.: 81905	FIGURE NO.: 7(a)
	N.T.S.: 82 F/6	DRAWN BY: H. Meyers

Greenwich Resources, INC.

Mammoth Property
Magnetic Survey

Date: Sept 81 Scale: 1:2500 Ref.No 5013
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



Greenwich Resources, INC.
FIG. 4c
Mammoth Property
Zinc in soils

Date: Sept 81 Scale: 1:5000 Ref.No 5013
Prepared for
Robertson Research Canada Limited
By
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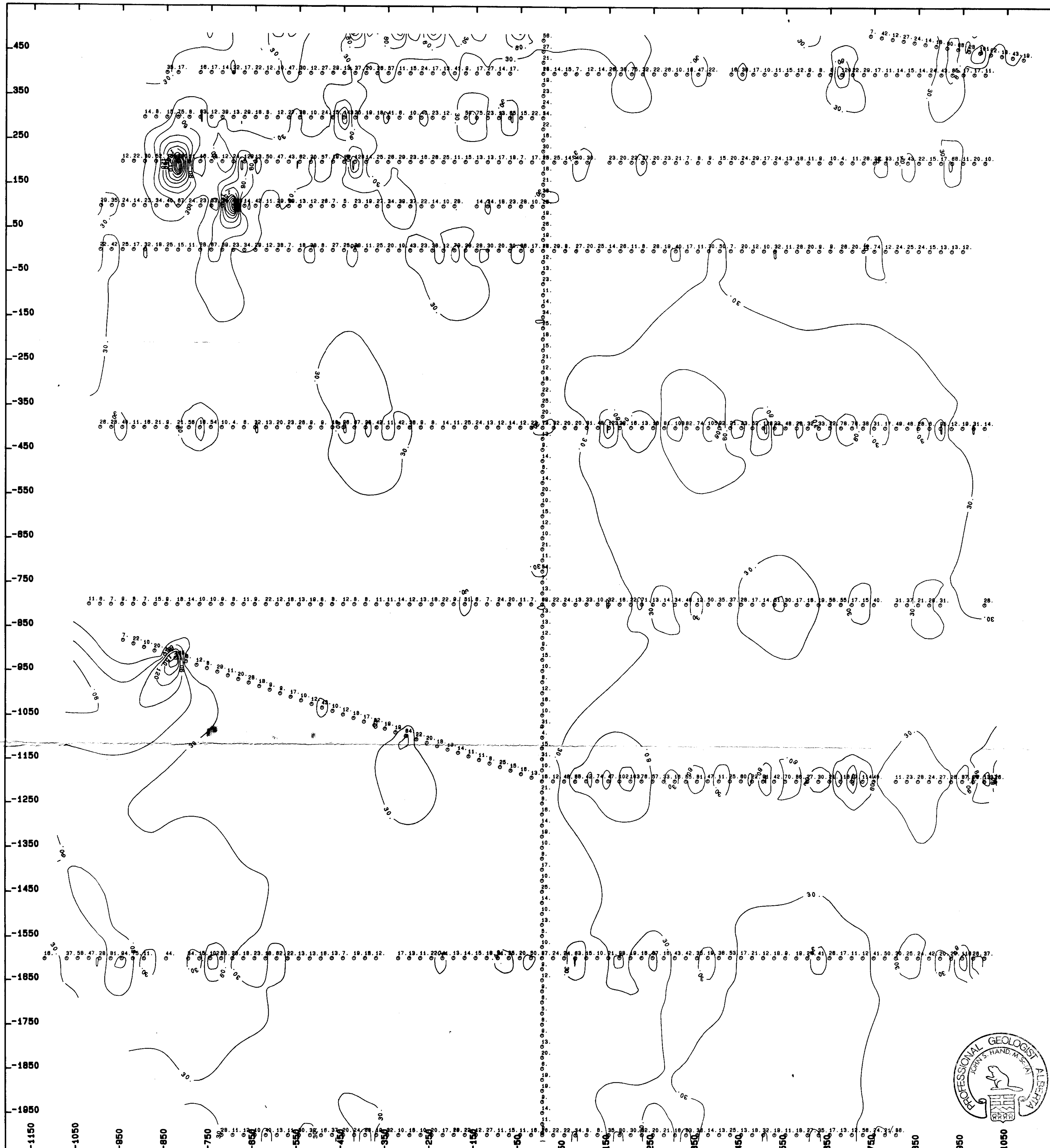

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ALBERTA

Greenwich Resources, INC.
FIG. 4b
Mammoth Property
Lead in soils

Date: Sept 81 Scale: 1:5000 Ref.No 5013
Prepared for
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by
International Geosystems Corp

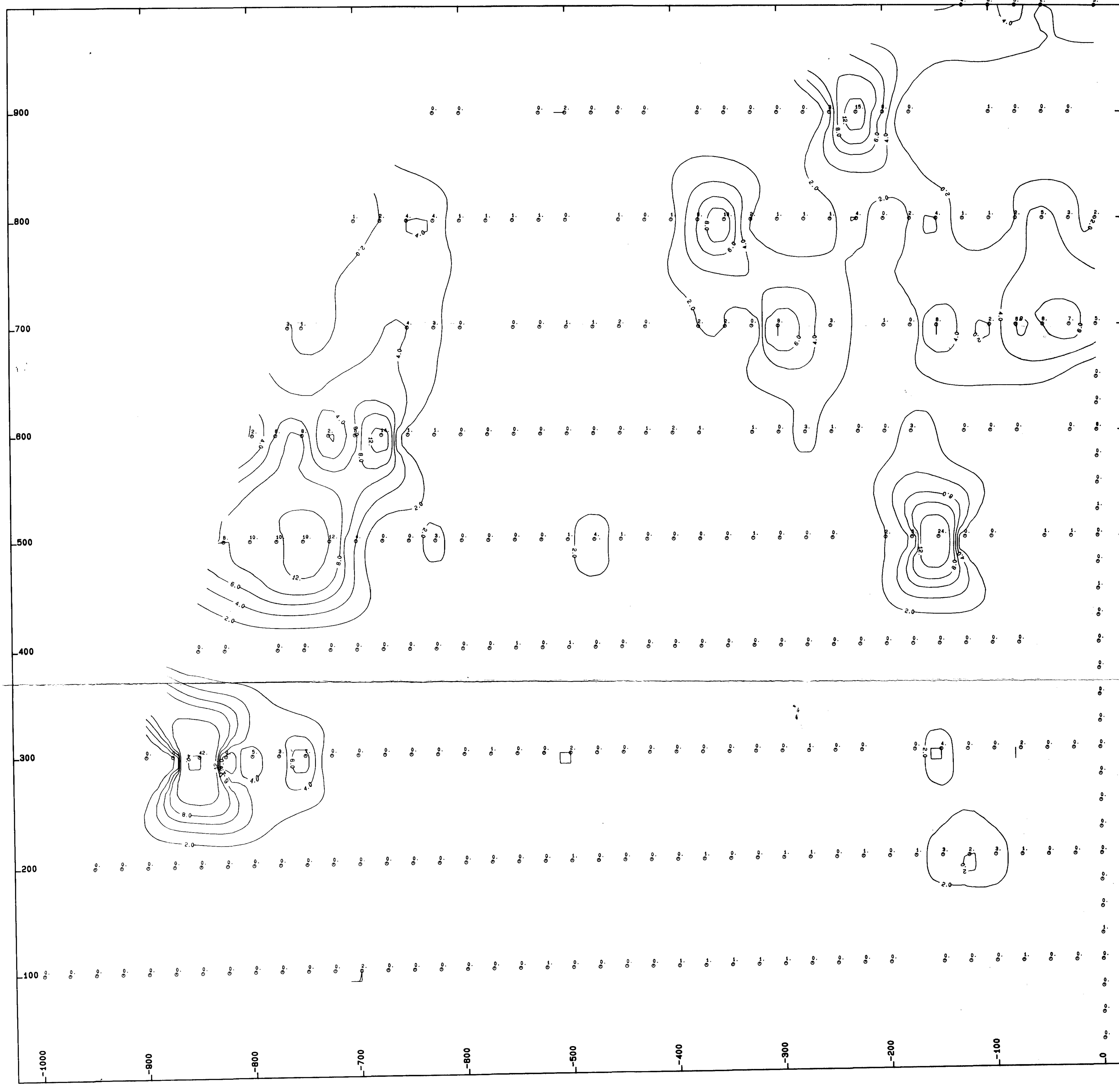

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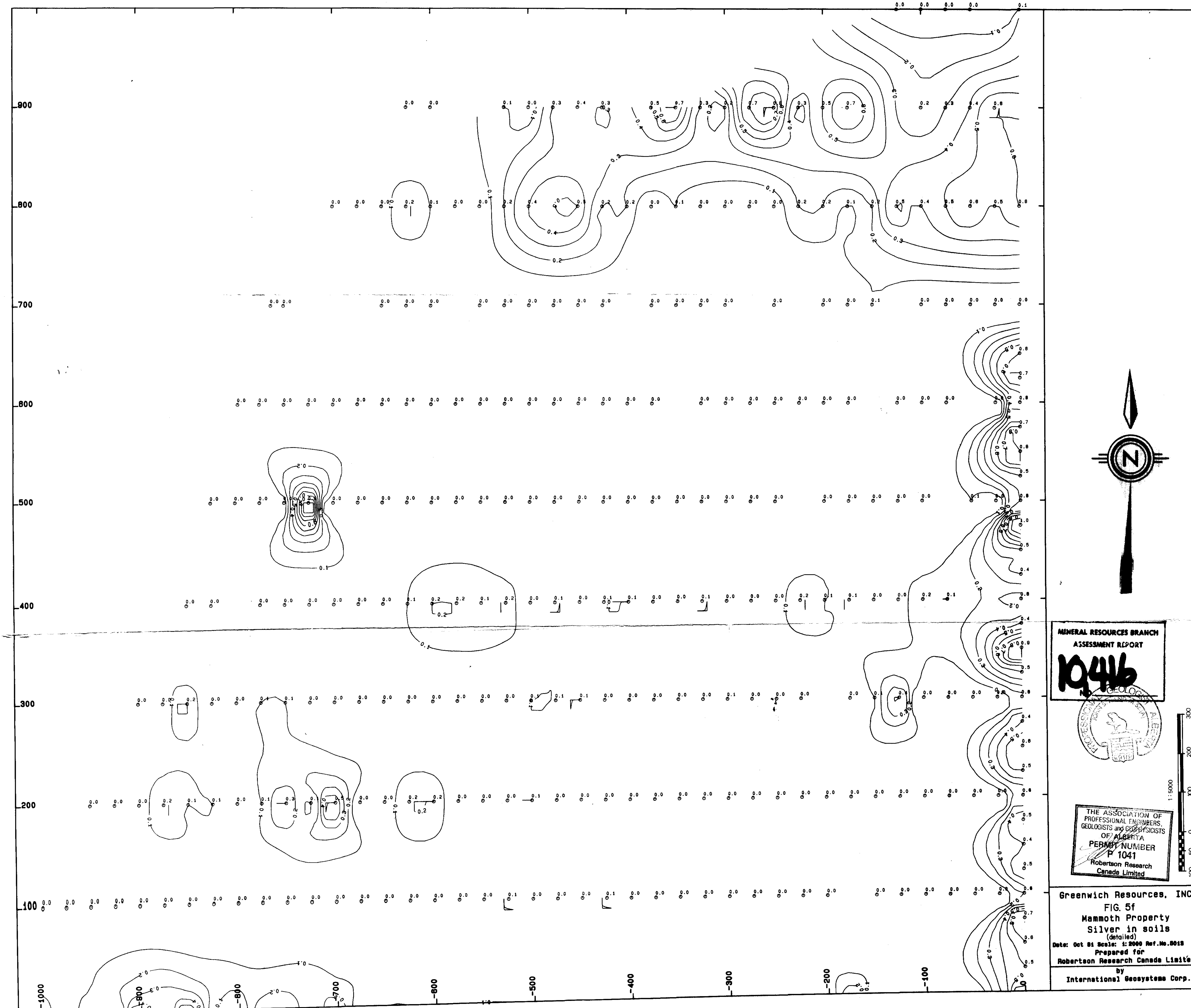
FIG. 5g
Mammoth Property
Molybdenum in soils
(detailed)
Date: Oct 81 Scale: 1:2000 Ref.No 5013
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.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ASSESSMENT REPORT
10,416
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PERMIT NUMBER
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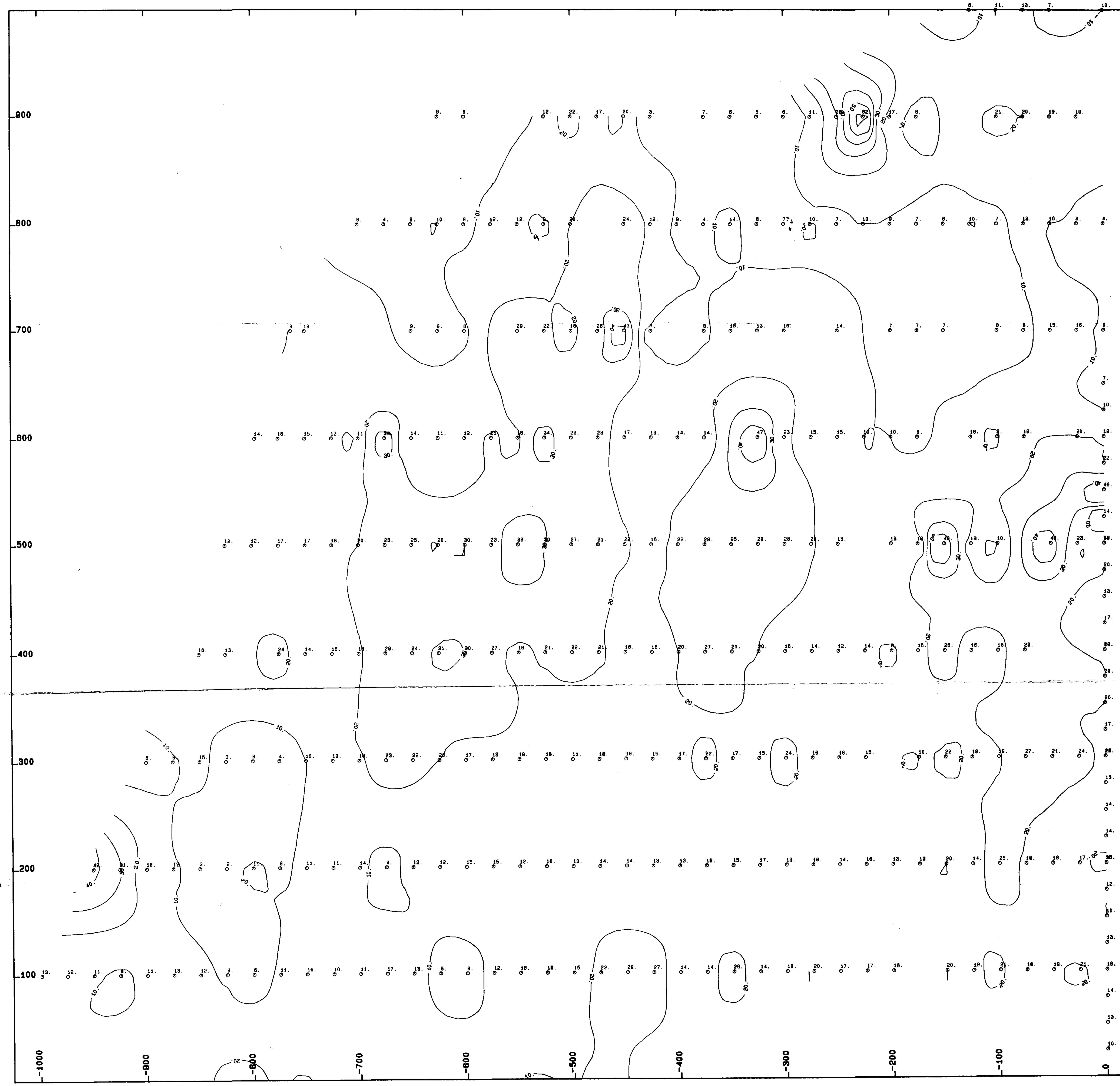
Robertson Research Canada Limited
1:5000
Greenwich Resources, INC.
FIG. 5f
Mammoth Property
Silver in soils
(detailed)
Date: Oct 81 Scale: 1:2000 Ref.No.5012
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.
900
800
700
600
500
400
300
200
100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100



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PERMIT NUMBER P 1047
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PROFESSIONAL GEOLOGIST
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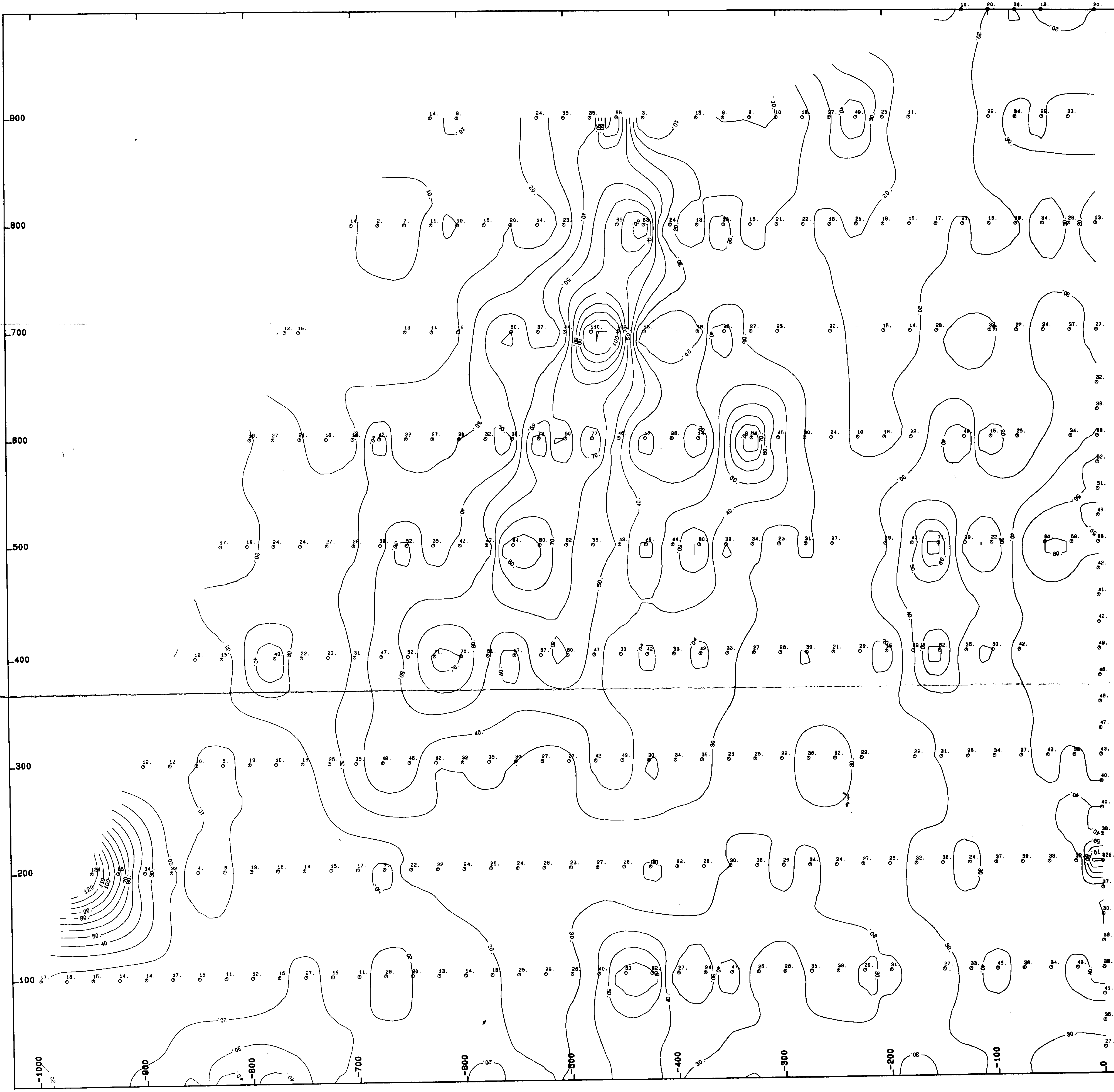
ALBERTA

Greenwich Resources, INC.
FIG. 5e
Mammoth Property
COBALT in soils
(detailed)
Date: Oct 81 Scale: 1:2000 Ref.No.5013
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.



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PROFESSIONAL GEOLOGIST ALBERTA
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Greenwich Resources, INC.

FIG. 5d
Mammoth Property
Nickel in soils
(detailed)

Date: Oct 81 Scale: 1:2000 Ref.No 5013

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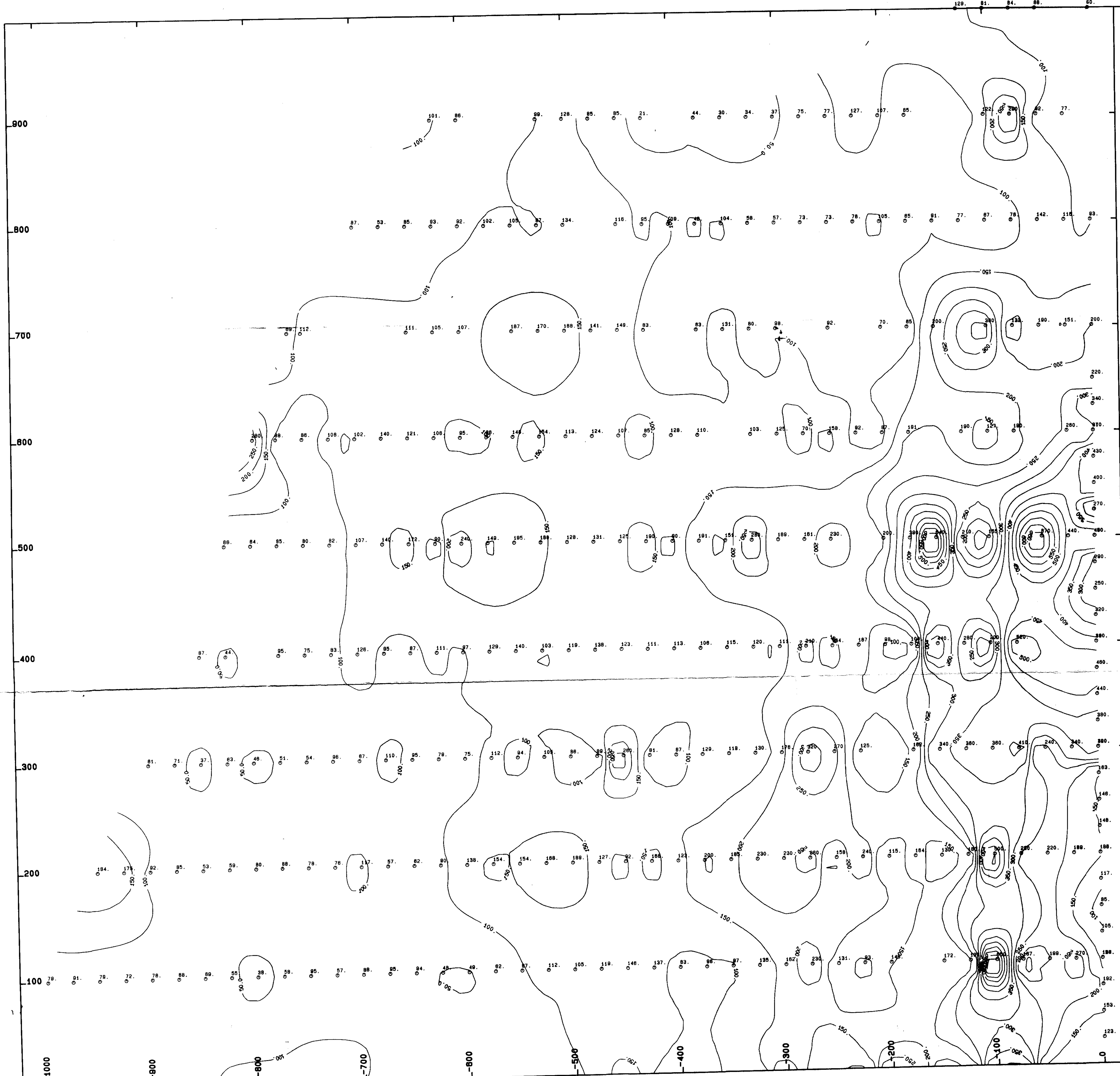

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JOHN S. HAND, M.Sc.
ALBERTA

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GEOLOGISTS and
OF ALBERTA
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Canada Limited

1:5000

Greenwich Resources, INC.

FIG. 5c

Mammoth Property

Zinc in soils (detailed)

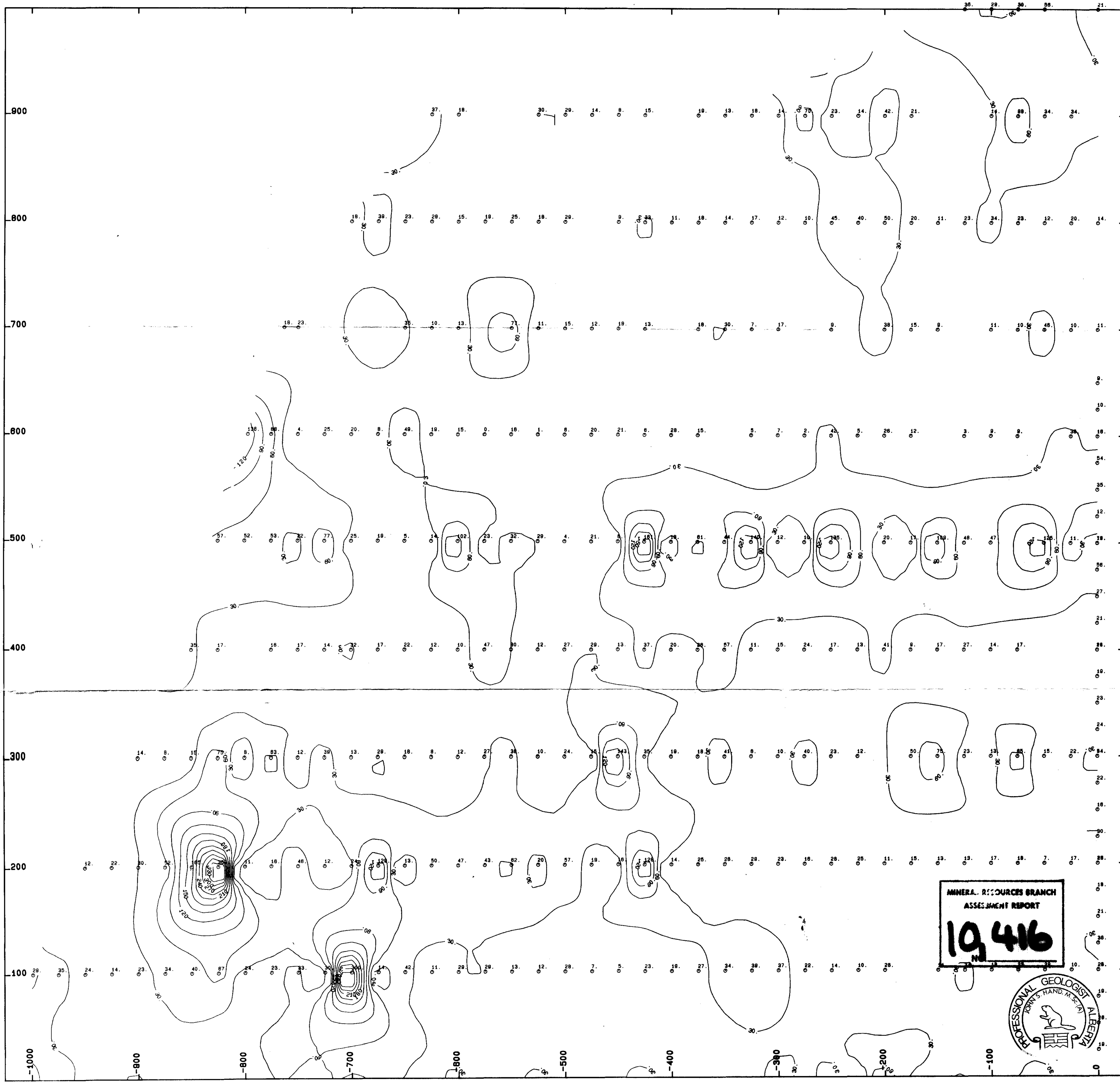
Date: Oct 81 Scale: 1:2000 Ref.No 5013

Prepared for

Robertson Research Canada Limited

By

International Geosystems Corp



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ASSESSMENT REPORT
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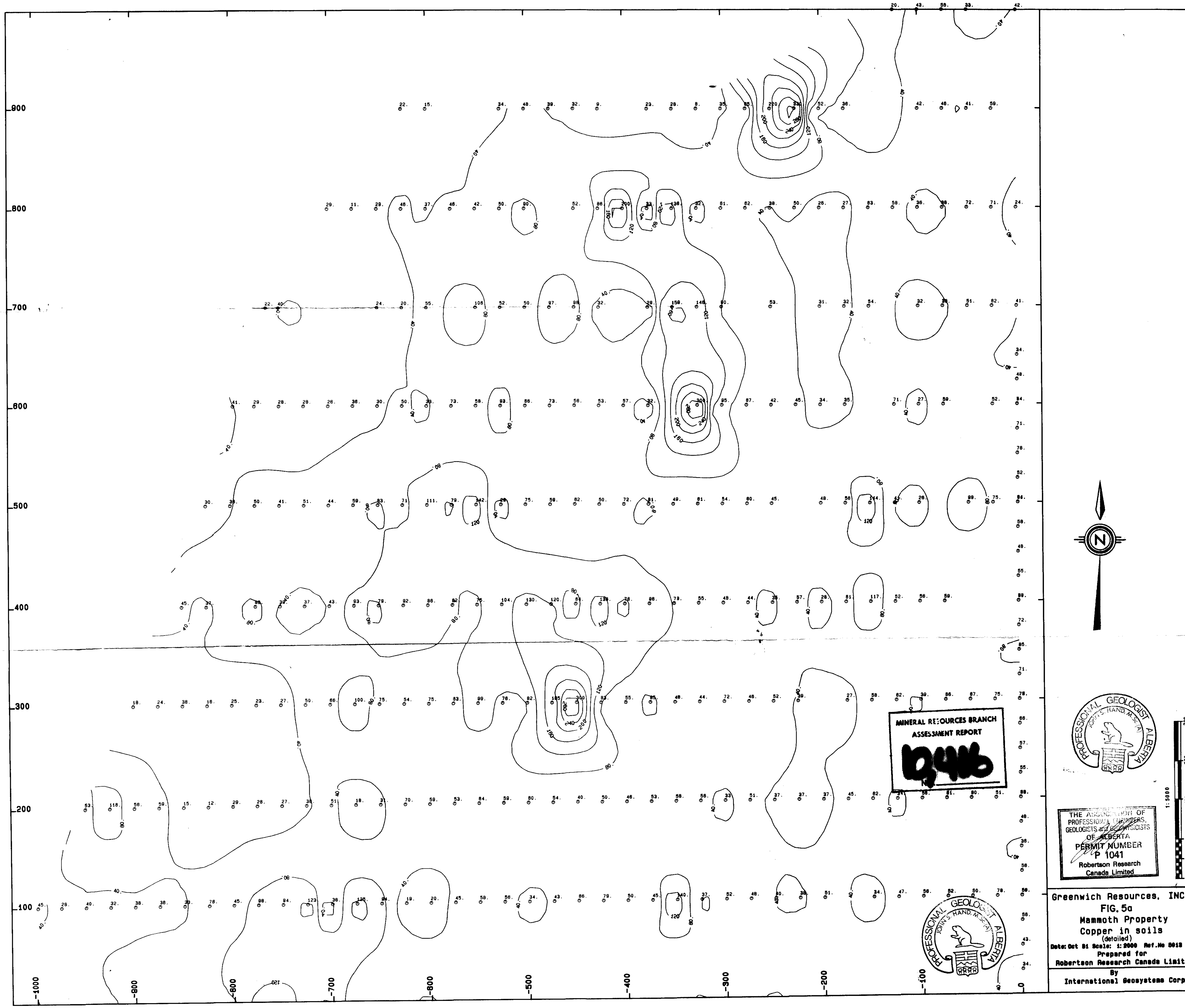
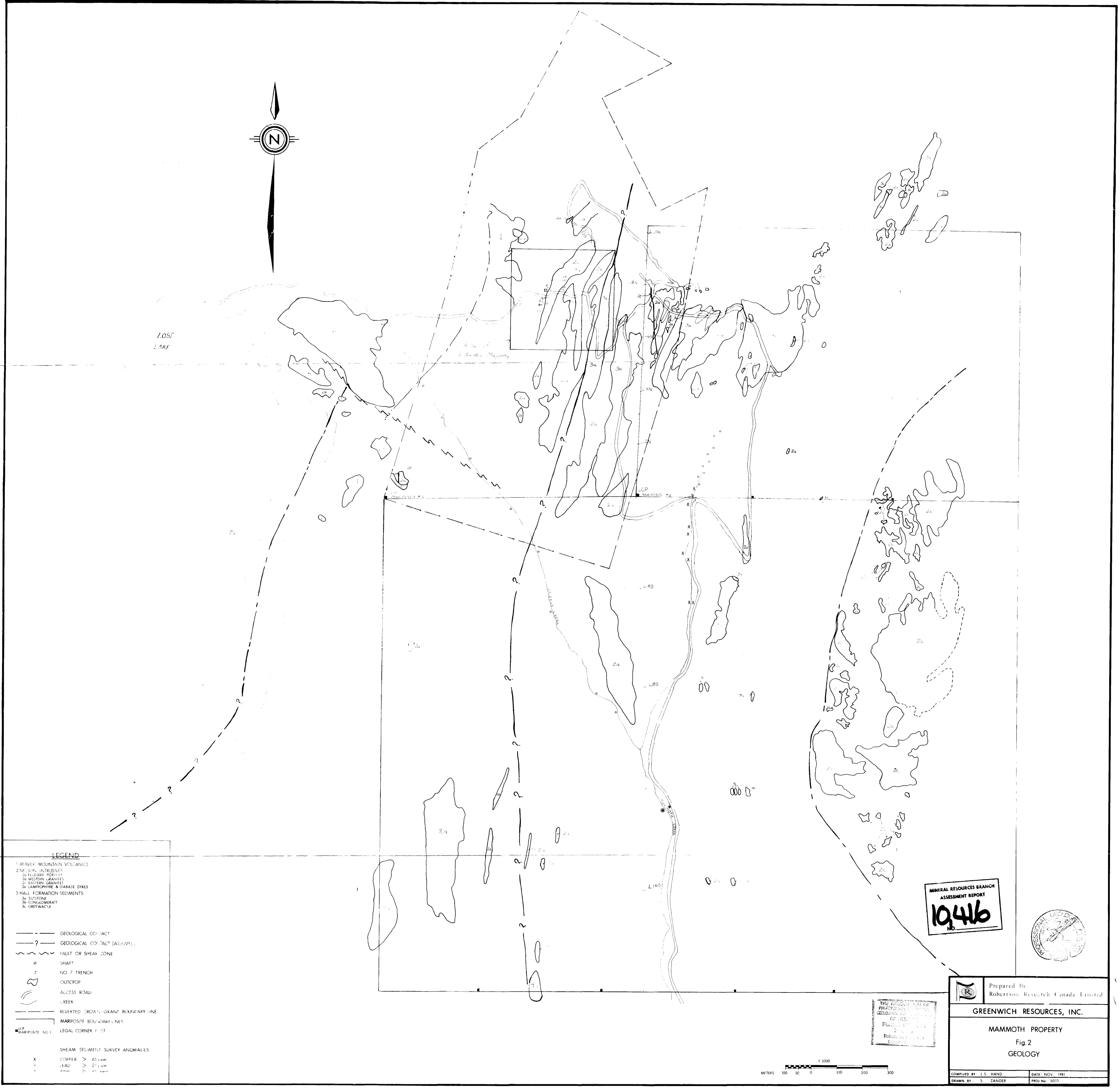
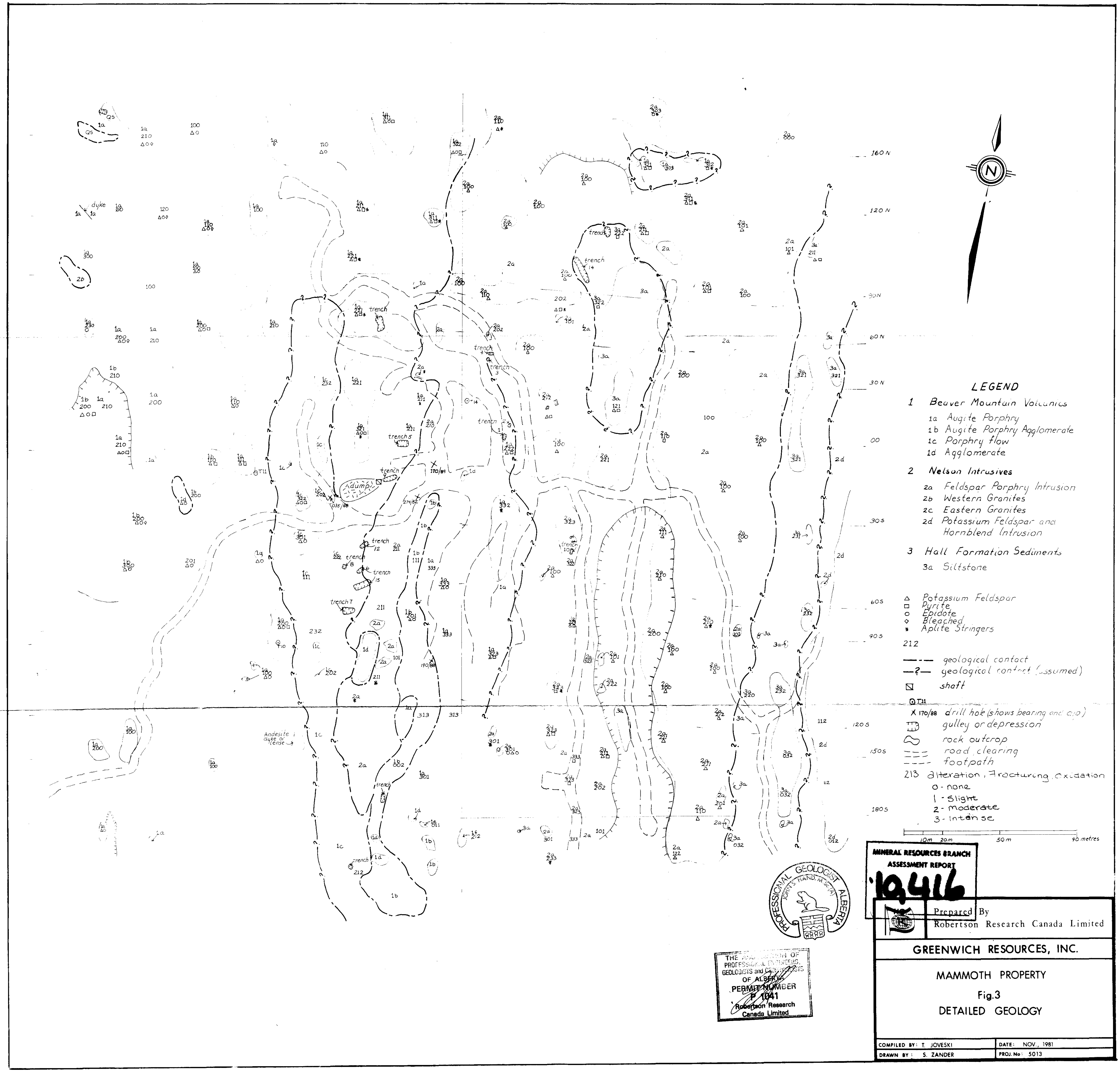
Greenwich Resources, INC.
FIG. 5b
Mammoth Property
Lead in soils
(detailed)
Date: Oct 81 Scale: 1:2000 Ref.No 5013
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp



900
800
700
600
500
400
300
200
100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
PROFESSIONAL GEOLOGIST
JOHN S. HAND, M.Sc.(A)
ALBERTA
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER
P 1041
Robertson Research Canada Limited
1:5000
Greenwich Resources, INC.
FIG. 5a
Mammoth Property
Copper in soils
(detailed)
Date: Oct 81 Scale: 1:2000 Ref.No 5013
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



LOST LAKE
LEGEND
1 BEAVER MOUNTAIN VOLCANICS
2 NELSON INTRUSIVES
2a FELDSPAR PORPHYRY
2b WESTERN GRANITES
2c EASTERN GRANITES
2e LAMPROPHYRE & DIABASE DYKES
3 HALL FORMATION SEDIMENTS
3a SILTSTONE
3b CONGLOMERATE
3c GREYWACKE
GEOLOGICAL CONTACT
GEOLOGICAL CONTACT (ASSUMED)
FAULT OR SHEAR ZONE
SHAFT
NO. 7 TRENCH
OUTCROP
ACCESS ROAD
CREEK
REVERTED CROWN-GRANT BOUNDARY LINE
MARIPOSITE BOUNDARY LINES
LCP MARIPOSITE NO 1
LEGAL CORNER POST
SHEAM SEDIMENT SURVEY ANOMALIES
COPPER > 65 ppm
LEAD > 25 ppm
MINERAL RESOURCES BRANCH ASSESSMENT REPORT
10,416
METERS 100 50 0 100 200 300
1:3000
Prepared By Robertson Research Canada Limited
GREENWICH RESOURCES, INC.
MAMMOTH PROPERTY
Fig. 2
GEOLOGY
COMPILED BY: J. S. HAND
DATE: NOV, 1981
DRAWN BY: S. ZANDER
PROJ. No: 5013


LEGEND
1 Beaver Mountain Volcanics
1a Augite Porphry
1b Augite Porphry Agglomerate
1c Porphry flow
1d Agglomerate
2 Nelson Intrusives
2a Feldspar Porphry Intrusion
2b Western Granites
2c Eastern Granites
2d Potassium Feldspar and Hornblend Intrusion
3 Hall Formation Sediments
3a Siltstone
Potassium Feldspar
Pyrite
Epidote
Bleached
Aplite Stringers
geological contact
geological contact (assumed)
shaft
drill hole (shows bearing and dip)
gulley or depression
rock outcrop
road clearing
footpath
213 alteration, fracturing, oxidation
0 - none
1 - slight
2 - moderate
3 - intense
10m 20m 50m 90 metres
160 N
120 N
90 N
60 N
30 N
00
30 S
60 S
90 S
120 S
150 S
180 S
dump
MINERAL RESOURCES BRANCH
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10,416
PROFESSIONAL GEOLOGIST ALBERTA
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
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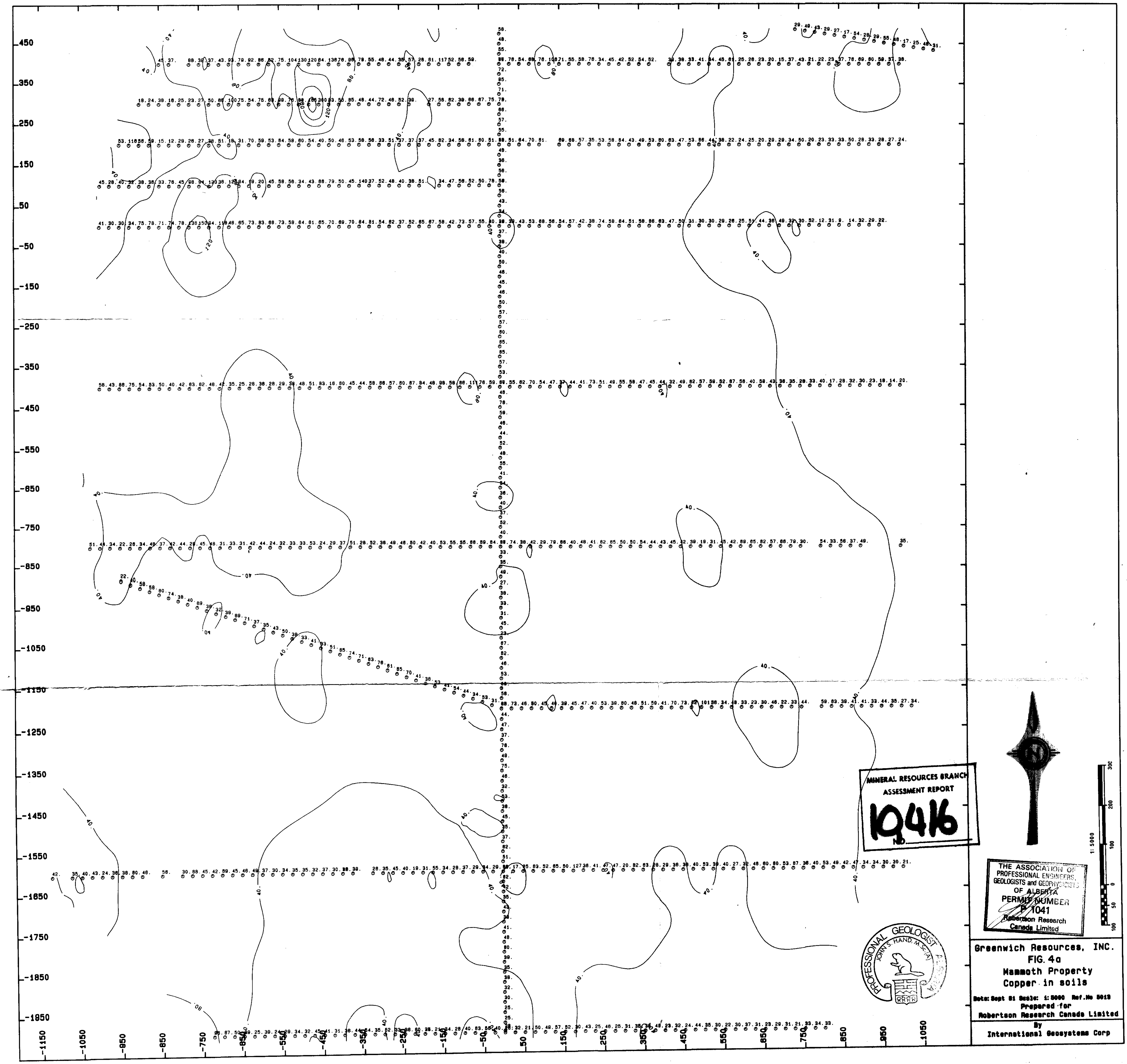
Prepared By
Robertson Research Canada Limited
GREENWICH RESOURCES, INC.
MAMMOTH PROPERTY
Fig.3
DETAILED GEOLOGY
COMPILED BY: T. JOVESKI
DRAWN BY: S. ZANDER
DATE: NOV., 1981
PROJ. No: 5013



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10,416
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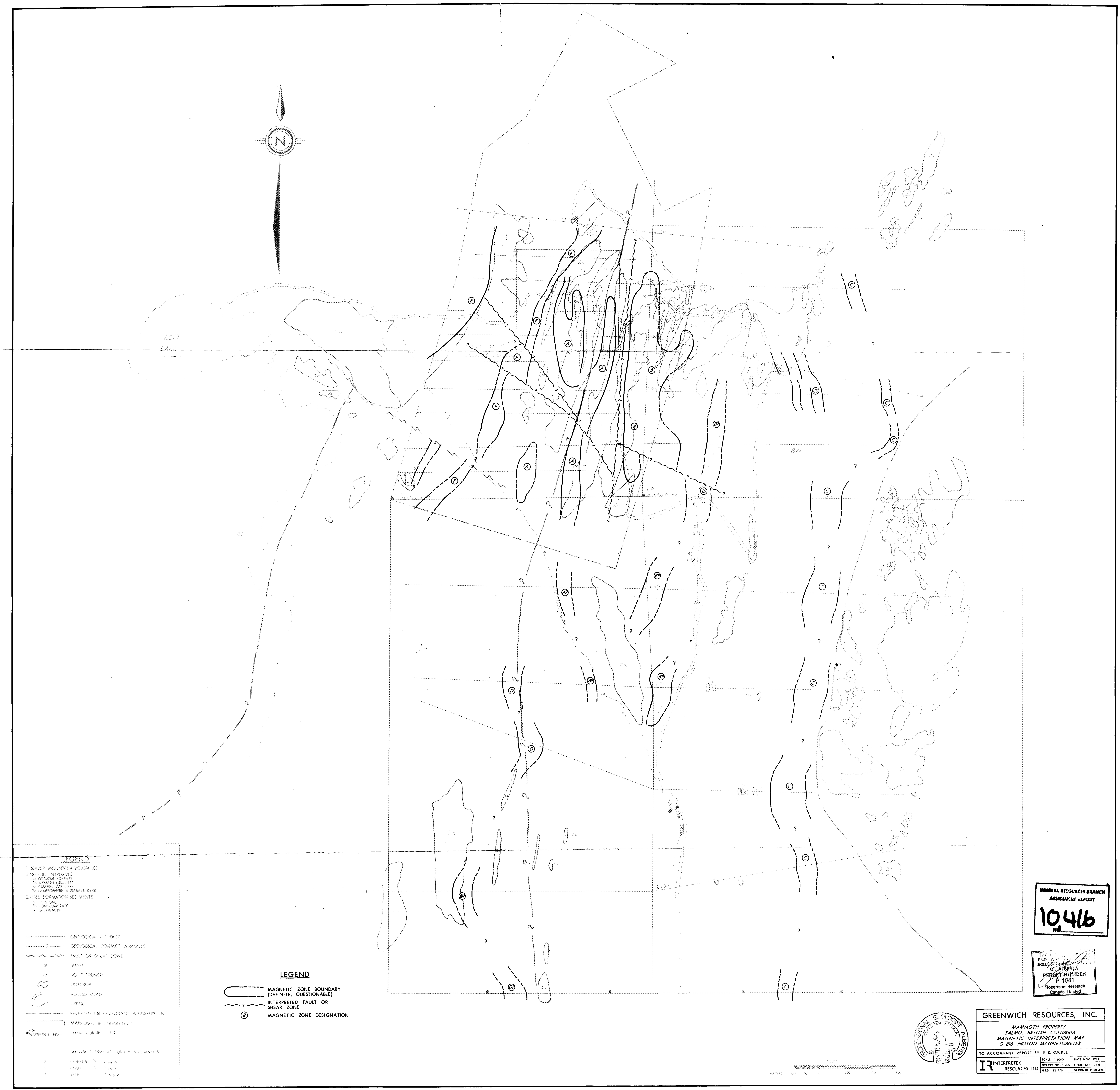
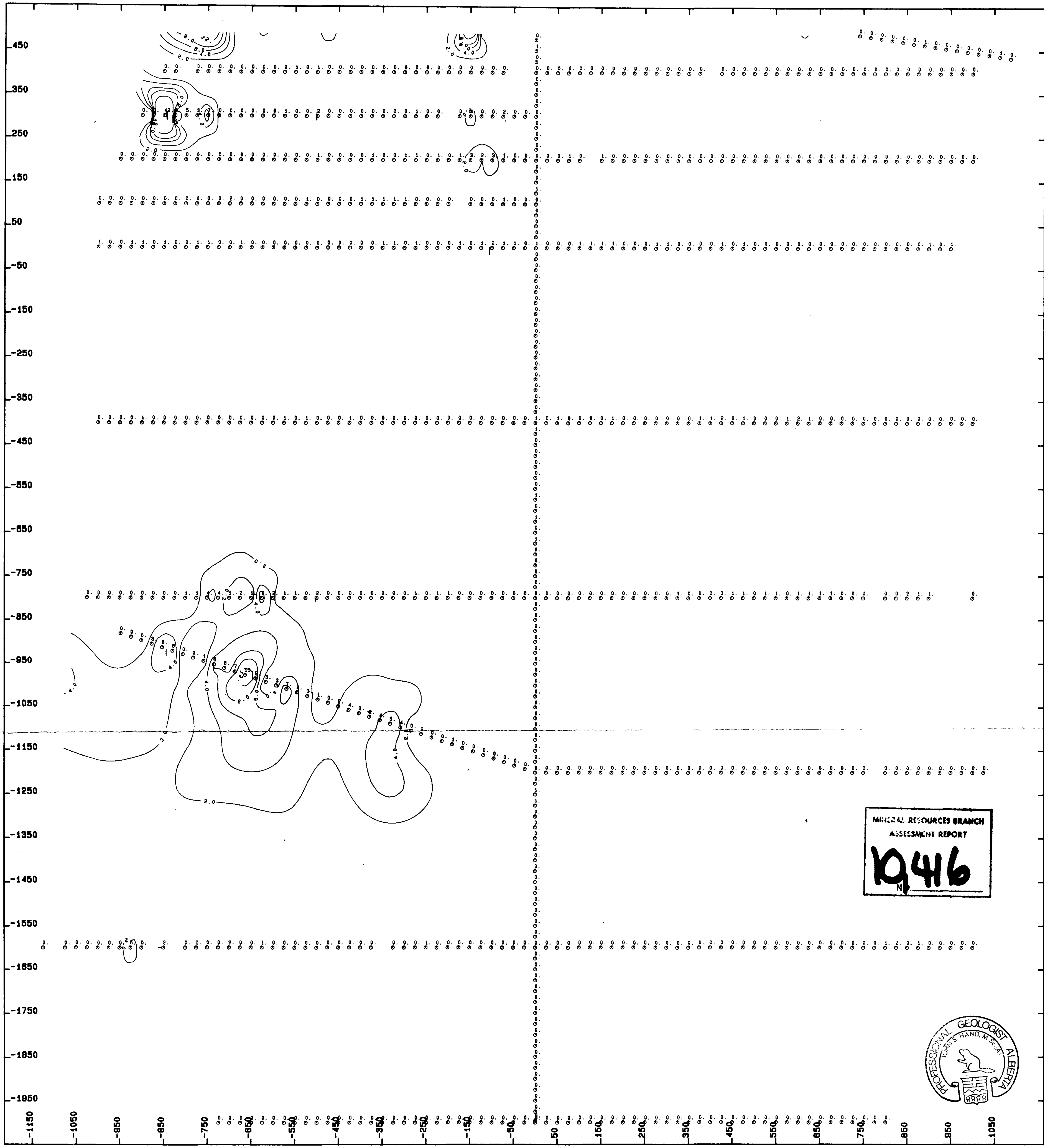
PROFESSIONAL GEOLOGIST
JOHN S. HAND, M.Sc.(A)
ALBERTA
1: 5000
Greenwich Resources, INC.
FIG. 4a
Mammoth Property
Copper in soils
Date: Sept 81 Scale: 1:5000 Ref.No 5013
Prepared for
Robertson Research Canada Limited
By
International Geosystems Corp



N
LOST LAKE
LEGEND
1. BEAVER MOUNTAIN VOLCANICS
2 NELSON INTRUSIVES
2a FELDSPAR PORPHRY
2b WESTERN GRANITES
2c EASTERN GRANITES
2e LAMPROPHYRE & DIABASE DYKES
3. HALL FORMATION SEDIMENTS
3a SILTSTONE
3b CONGLOMERATE
3c GREYWACKE
GEOLOGICAL CONTACT
GEOLOGICAL CONTACT (ASSUMED)
FAULT OR SHEAR ZONE
SHAFT
NO 7 TRENCH
OUTCROP
ACCESS ROAD
CREEK
REVERTED CROWN-GRANT BOUNDARY LINE
MARIPOSITE BOUNDARY LINES
LCP MARIPOSITE NO.1
LEGAL CORNER POST
LEGEND
MAGNETIC ZONE BOUNDARY (DEFINITE, QUESTIONABLE)
INTERPRETED FAULT OR SHEAR ZONE
MAGNETIC ZONE DESIGNATION
MINERAL RESOURCES BRANCH ASSESSMENT REPORT
10,416
THE ... PROFESSIONAL ... GEOLOGISTS ... OF ALBERTA PERMIT NUMBER P 1041 Robertson Research Canada Limited
PROFESSIONAL GEOLOGIST ALBERTA
GREENWICH RESOURCES, INC.
MAMMOTH PROPERTY
SALMO, BRITISH COLUMBIA
MAGNETIC INTERPRETATION MAP
G-816 PROTON MAGNETOMETER
TO ACCOMPANY REPORT BY: E. R. ROCKEL
INTERPRETEX RESOURCES LTD.
SCALE: 1:5000
DATE: NOV., 1981
PROJECT NO: 81905
FIGURE NO: 7(c)
N.T.S: 82 F/6
DRAWN BY: H. Meyers
METERS



Greenwich Resources, INC.

FIG. 4g

Mammoth Property

Molybdenum in soils

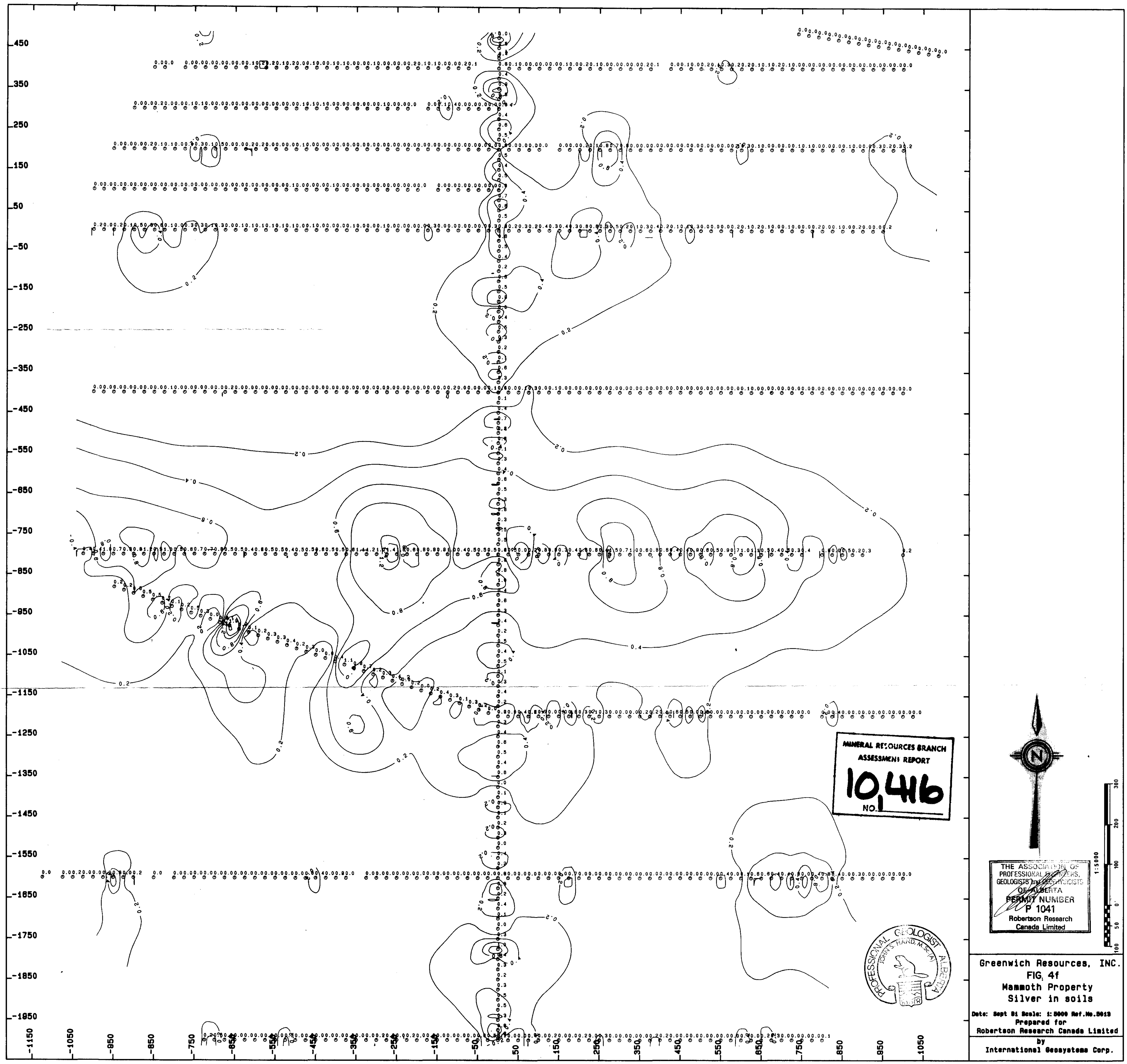
Date: Sept 81 Scale: 1:5000 Ref.No 8013

Prepared for

Robertson Research Canada Limited

by

International Geosystems Corp.



Greenwich Resources, INC.
FIG. 4f
Mammoth Property
Silver in soils
Date: Sept 81 Scale: 1:5000 Ref.No.5013
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,416
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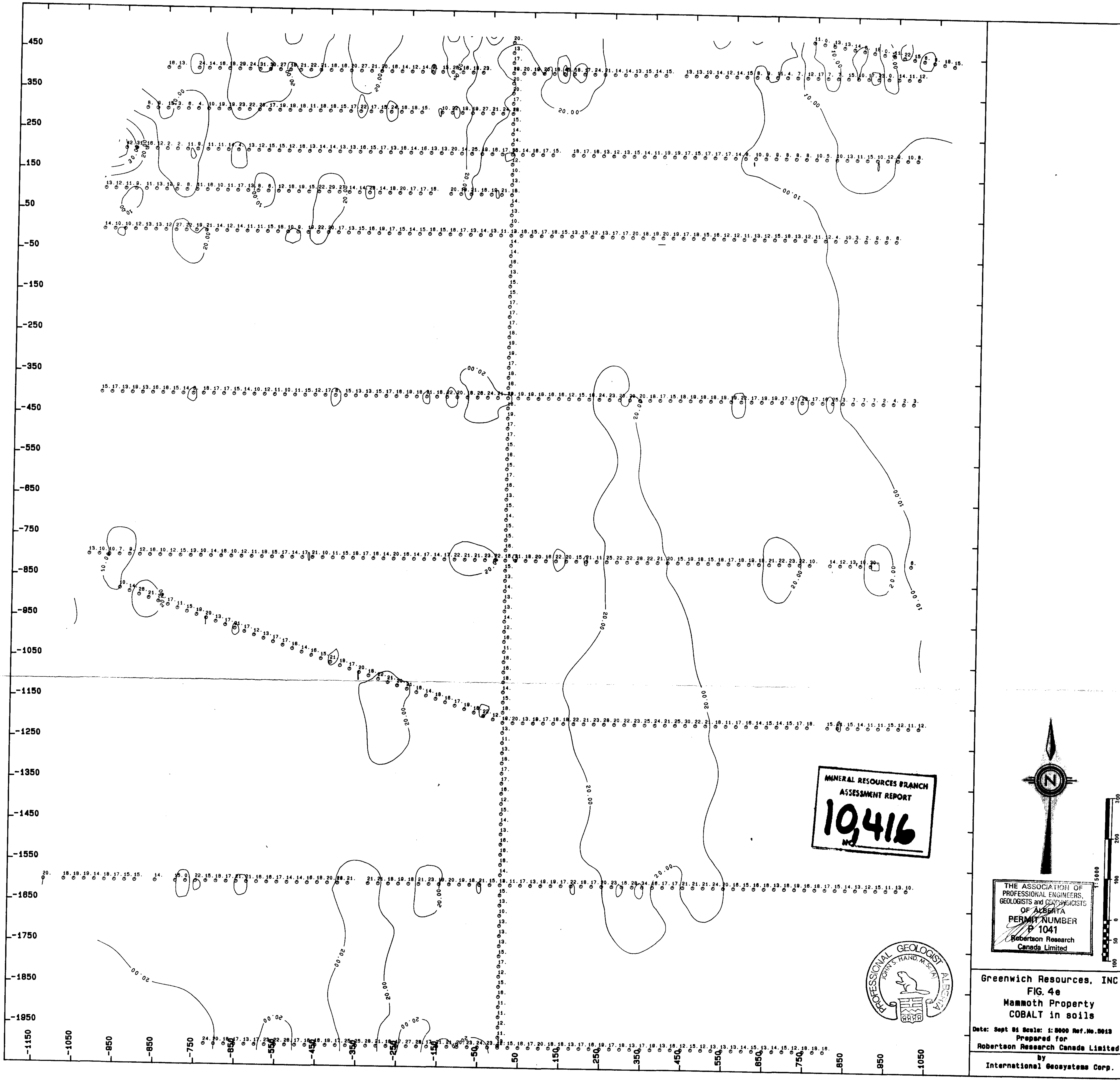
PERMIT NUMBER
P 1041
Robertson Research Canada Limited
PROFESSIONAL GEOLOGIST
ALBERTA
1:5000
N
450
350
250
150
50
-50
-150
-250
-350
-450
-550
-650
-750
-850
-950
-1050
-1150
-1250
-1350
-1450
-1550
-1650
-1750
-1850
-1950
-1150
-1050
-950
-850
-750
-650
-550
-450
-350
-250
-150
-50
50
150
250
350
450
550
650
750
850
950
1050


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,416
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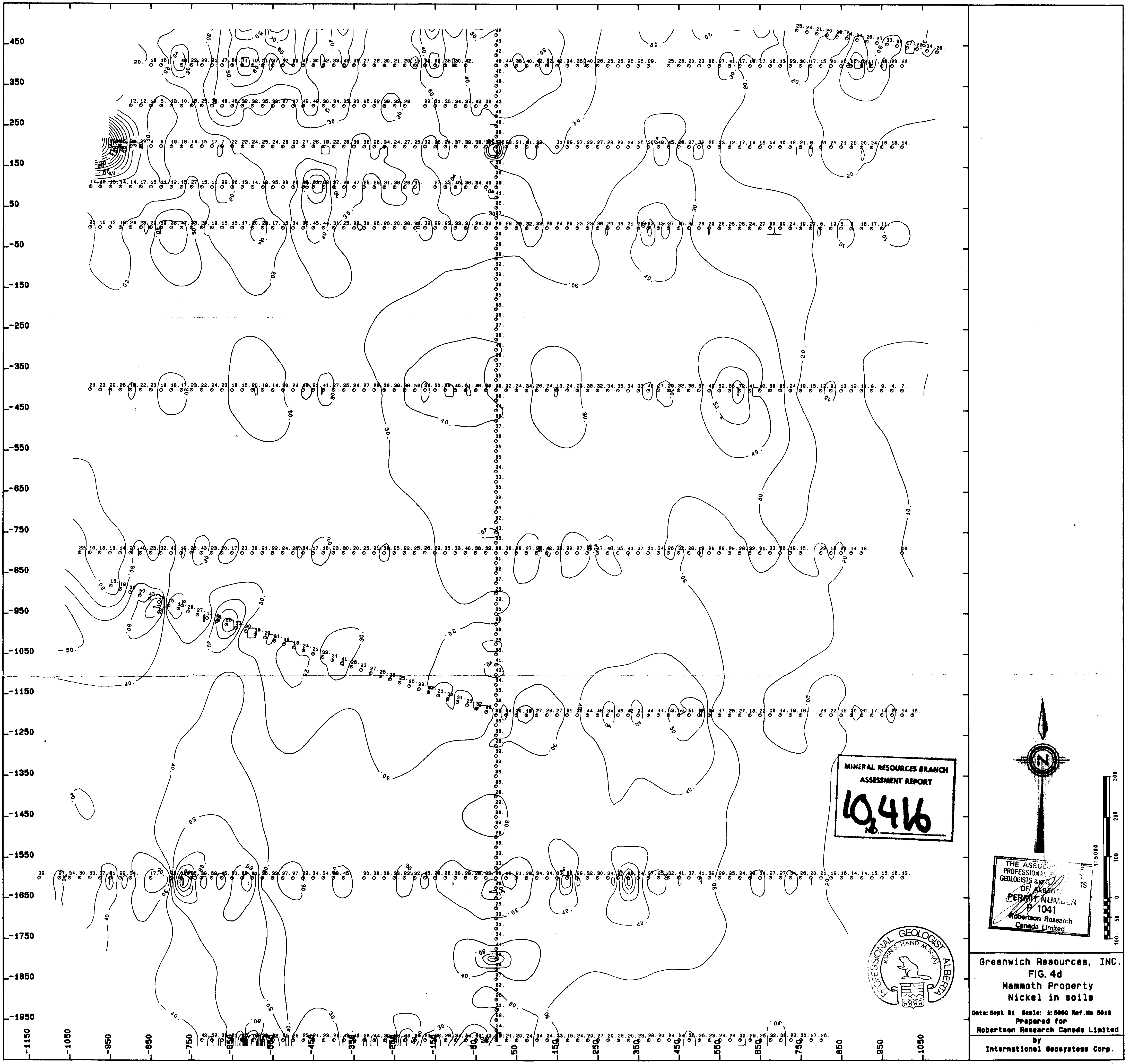
Robertson Research Canada Limited
PROFESSIONAL GEOLOGIST
JOHN S. HAND, M.Sc.(A)
ALBERTA
Greenwich Resources, INC.
FIG. 4e
Mammoth Property
COBALT in soils
Date: Sept 81 Scale: 1:5000 Ref.No.5013
Prepared for
Robertson Research Canada Limited
by
International Geosystems Corp.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ALBERTA
Greenwich Resources, INC.
FIG. 4d
Mammoth Property
Nickel in soils
Date: Sept 81 Scale: 1:5000 Ref.No 5013
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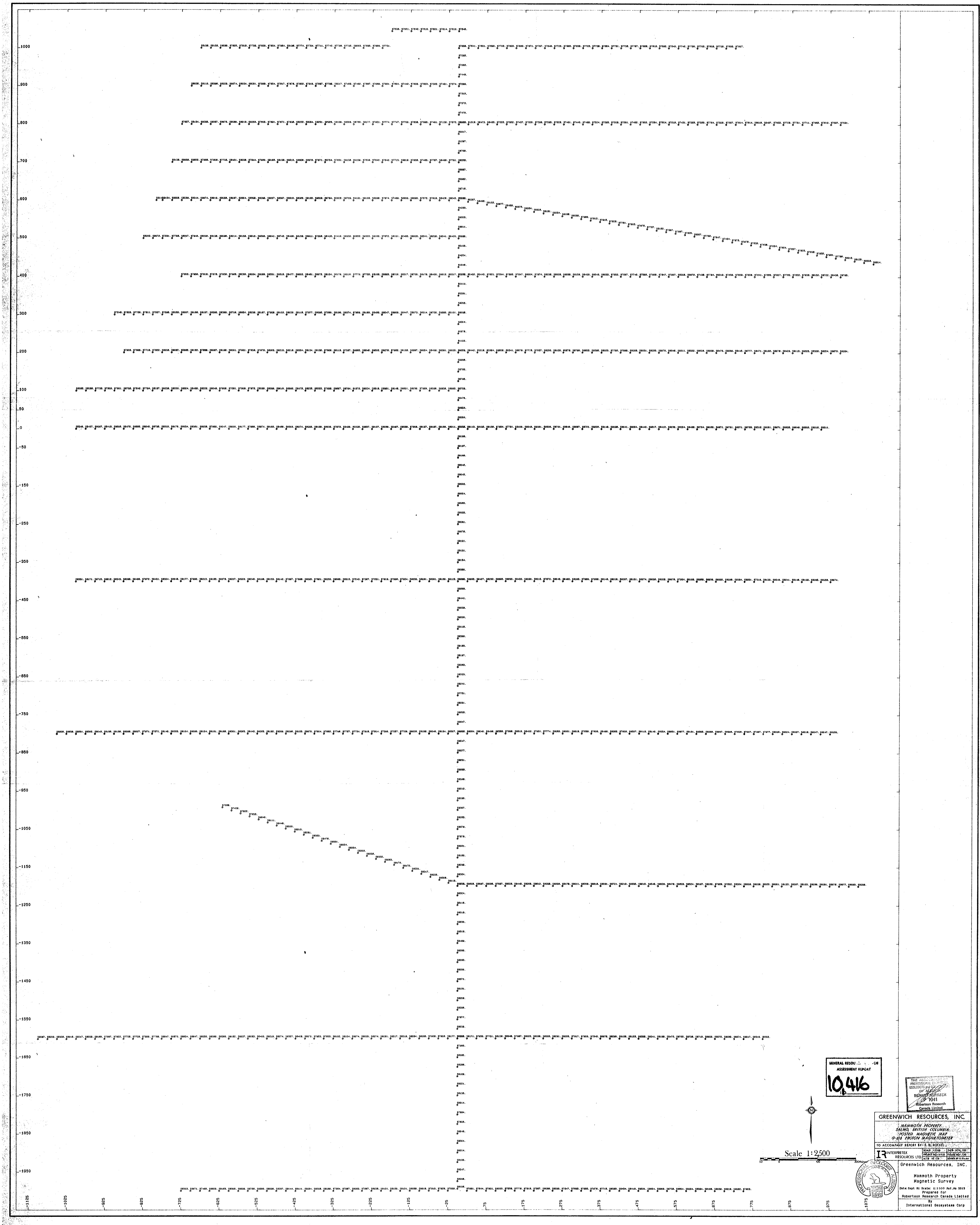
by
International Geosystems Corp.
1:5000



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Robertson Research Canada Limited
GREENWICH RESOURCES, INC.
MAMMOTH PROPERTY
SALMO, BRITISH COLUMBIA
POSTED MAGNETIC MAP
G-816 PROTON MAGNETOMETER
TO ACCOMPANY REPORT BY: E. R. ROCKEL
INTERPRETEX RESOURCES LTD.
SCALE: 1:2500
DATE: NOV., 1981
PROJECT NO.: 81903
FIGURE NO.: 7(b)
N.T.S. 82 F/6
DRAWN BY: H. Meyers
Scale 1:2,500
100
200 Metres
PROFESSIONAL GEOLOGIST ALBERTA
JOHN S. HAND, M.Sc.(A)
Greenwich Resources, INC.
Mammoth Property
Magnetic Survey
Date: Sept 81 Scale: 1:2500 Ref.No 5013
Prepared for
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By
International Geosystems Corp