84-658(b)- 13356

REPORT ON

GEOLOGICAL, GEOCHEMICAL, MAGNETOMETER, SELF POTENTIAL

AND

VERY LOW FREQUENCY - ELECTROMAGNETIC SURVEYS

CONDUCTED ON THE JON MINERAL CLAIM
VERNON MINING DIVISON

N.T.S. 82E/15E

49° 54' N. LATITUDE and 118° 34' W. LONGITUDE

OWNER OF CLAIMS: LIGHTNING MINERALS INCORPORATED OF VANCOUVER

PART

13,356

5 OF 5

OPERATOR: MOHAWK OIL CO. LTD.
AUTHOR: B. CALLAGHAN
DATE: August 10, 1984

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INTRODUCTION

The work and data presented in this report represents a combination and continuation of the initial exploration work carried out on the Jon Claim in 1982. For a description of the 1982 work, reference can be made to the report dated September 30, 1983, entitled "Report on Geological, Geochemical, Magnetometer and Very Low Frequency -electromagnetic Surveys conducted on the Jon Mineral Claim, Vernon Mining Division by Mohawk Oil Co. Ltd., for the owner of the claims, Lightning Minerals Incorporated of Vancouver.

Property work during the 1983 field season centred on geologically favourable areas based on the 1982 results of the geochemical, VLF-EM and magnetometer surveys. Detailed follow-up work of anomalous areas included trenching, further geochemical sampling as well as VLF-EM and magetometer surveys. In addition, three anomalous areas were surveyed for Self-Potential and major drainage systems were silt sampled. Prospecting and detailed geological mapping of trenches was carried out until October 19th, after a July 22nd start to the season.

SUMMARY

Exploration work during the 1983 follow-up programme has not provided firm drill targets but has established encouraging target areas for further investigation. Results of the geochemical follow-up program have confirmed earlier indications of geochemical anomalies in the southeast, southwest and west central areas of the claim. A detailed VLF-EM survey west of the Waterloo Crown Grant boundary was designed to find a possible westward extension of the E/W trending Waterloo vein on to the Jon property west of the Waterloo Creek and to explain the source of a 300 meter long train of sphalerite-galena float discovered during the 1983 season.

The 1983 VLF-EM survey indicates that dip angle relief of the Waterloo structure was found to weaken towards Waterloo Creek. Two structures were observed to trend west southwest and west southwest west of Waterloo Creek. Significant, is the west-southwest trending structure that may indicate the presence of vein-type silver mineralization associated with galena sphalerite tetrahedrite and chalcopyrite. Assessment was extended to Waterloo Creek to expose an 8' wide quartz vein previously discovered in the 1920's. Sampling across the vein indicated low values. Detailed geophysics of the showing indicated VLF structures associated with higher magnetism intersecting to the south and west of the quartz showing in an area where numerous pieces of sphalerite-galena float have been located.

In addition, exposure of outcrop along the road-cut to Waterloo Creek, revealed presence of disseminated galena south and slightly west down slope from the quartz showing. An induced polarzation survey using domain is recommended in addition to the other geophysical techniques already used in order to confirm anomalous zones when necessary and to establish drill targets. Also, further trenching and detailed mapping and prospecting is recommended to establish target areas for future drilling.

Summary of work done:

Areas prospected and mapped were surveyed at a scale of 1:300. Geological mapping included the study and plotting of rock outcrops, rock types and geological structures on traverse lines placed between 1982 geochemical and geophysical grid lines. Use of these grid lines provided control in establishing outcrop locations. Traverse lines in the southern portion of the property were run north/south perpendicular to possible

east/west shear zones. Traverse lines for the geophysics grids in the northern portion of the property were run east/west perpendiuclar to possible north/south structures. The total length of the mapping and geochemical survey was approximately 6 kilometers. The geochemical and geological survey grid lines were flagged and chained for control for the surveys conducted on the property.

A total of 71 soil samples were collected and 41 silt samples were taken from the Rendell and Waterloo Creeks drainage systems. Eighty rock geochem samples were analysed as well as 6 assay samples.

VLF-EM surveys were conducted in seven areas on the Jon Claim in varying detail. A total of 1151 readings were taken at either 10 meter or 12.5 metre intervals over 13.2 kilometres of flagged lines. Three areas were surveyed for Self Potential and a total of 372 readings were taken over 4.7 kilometres of flagged lines. Readings were taken every 12.5 metres. Detailed magnetic surveys on the Jon Claim were conducted in three areas. Exactly 713 readings were taken at either 12.5 metres or 5 metre intervals over 6.8 kilometres of flagged lines.

The access road to the Potosi was extended to Waterloo Creek, an area directly west of the Waterloo Crown Grant. In total, 261 hours were spent on the 2.5 kilometres of road construction, 260 metres of trenching, backfilling and skidding of logs using a D-6 Bulldozer. A further 92 hours were spend on 145 metres of trenching ditching and back-filling using an FL9 Allis Chalmers backhoe. Trenches and selected areas providing access to Waterloo Creek were mapped at a scale of 1:200.

LOCATION AND ACCESS

The Jon Claim is situated on the East side of a mountain range known locally as the Granite Range, approximately 3 1/2 kilometres Northwest of Lightning Peak. The southern poriton of the Jon Claim borders the Waterloo Crown Grant to the East. To the West - the Jon borders the headwaters of Rendell Creek, a tributary of the Kettle River.

Approximate coordinates of the centre of the claim are 118° 34' West longitude and 49° 54' North latitude, NTS map sheet 82E/15E. See Index map (Fig. 1).

Access to the Jon is via Highway No. 6 approximately 110 kilometres southeast of Vernon passing through Lumby and Cherryville. The 30 kilometre long Lightning Peak access road joins Highway No. 6, 16 kilometres Southeast of the Spruce Grove Cafe. A turning to the west at the "post office" turn-off along the Waterloo Mine road provides access to the Jon Claim. Access to the north central portion of the Jon, that occupies ground once called the "Potosi Group", is via the reopened Potosi Trail.

The one kilometre trail branches off the Dictator Mine road two kilometres from the Dictator-Waterloo turn-off. Four wheel drive transportation is recommended especially during September prior to freeze-up.

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JON CLAIM

LOCATION MAP

FIGURE 1

PHYSIOGRAPHY

The Baby Range occupies the northern, central portion of the Jon property. This is a broad relatively flat-lying ridge which reaches an elevation of 1700 metres. It is drained by Waterloo Creek to the south and Rendell Creek to the west.

Best exposures of outcrop occur in the narrow creek bottoms and along sharply rising ridges especially in the southern portion of the Jon Claim. Overburden is more pronounced in the northern portion of the Jon where outcrop exposure is fairly limited, i.e. 2-5% outcrop. Overburden depth averages 1 metre and may be as much as 5 metres.

Substantial stands of Spruce, Jack pine as well as Cedar occur on south facing slopes along Waterloo Creek. Balsam, Jack pine, Spruce and Alder are the more common stands on the flatter ridge top areas to the north of the claim.

MINING PROPERTY

The Jon Claim is a 12 unit claim located in the Vernon Mining Division, record no.396, record date **December 5, 1977.** The claim is owned by Lightning Minerals Incorporated of Vancouver. Mohawk Oil Co. Ltd. has an option on the property.

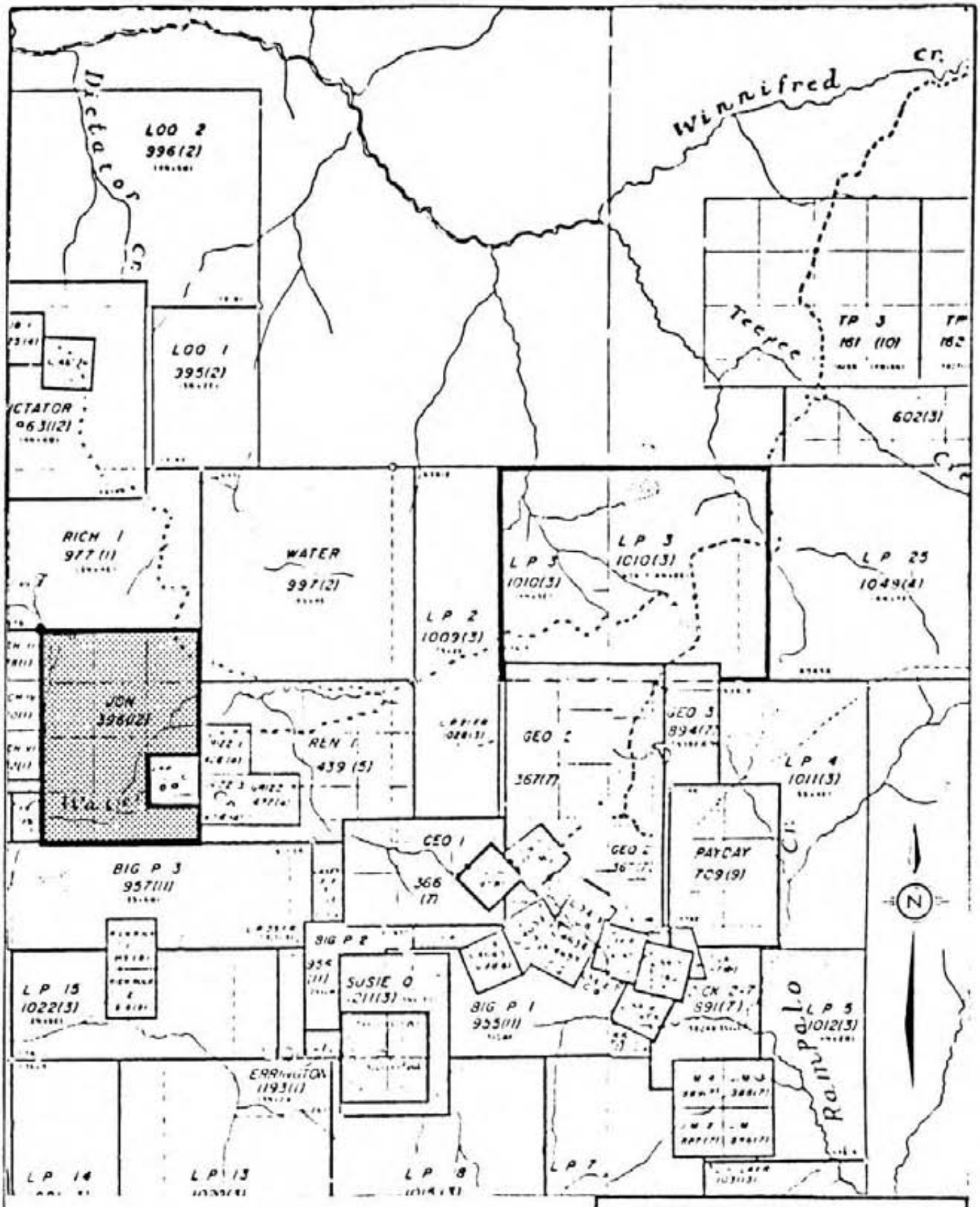
The Jon covers an area formerly known as the Potosi Group of claims and consisted of the Potosi, Potosi no. 4 and Silver Spot no. 4. The Potosi Group is described briefly by Cairnes (1930)

Early activities on the Potosi during the 1920's centered around the exposure of an 8ft. wide quartz vein found in limestone. This vein carried silver, galena and tetrahedrite in a gangue of calcite and quartz. The vein appeared to have the same strike as the main Waterloo vein, as developed on the Waterloo Crown Grant. A cabin was constructed on the Potosi property in 1929. Access then, was via a short trail from the Waterloo Mine camp or by a turn-off along the Dictator trail, half mile north-west of the Waterloo tractor road.

Surface exploration work included hand dug trenches placed along strike of shear zones containing quartz. Quartz veins 2ft. - 6ft. wide were exposed over a 1000ft. in a north/south direction.

In 1927, a selected sample of ore containing pyrite assayed .04 oz/ton gold and silver values of 35 ozs/ton. (Ann. Report B.C. Minister of Mines 1927).

A geochemical and topographic survey by International Mine Services Ltd was carried out in 1968 for Great Horn Mining Syndicate. The survey covered ground in the Lightning Peak area that included the Jon Claim. Also, in 1979, Sawyer Consultants Inc. compiled a report containing geochemical and uncorrected magnetic survey results for the Jon. Field data was supplied by Lightning Minerals Inc.



SCALE 1:50,000

METRES 0 1000 2000 3000

MOHAWK OIL CO. LTD.

CLAIMS MAP

DRAWN BY	DATE	DRAWING NO.
B.C.	MARCH, 1984	FIG. 2

GENERAL GEOLOGY

The property was mapped along the 1983 follow-up flagged grid lines on a scale of 1:3000 (drawing No. 1). The geological type mapping program used the geochemical and geophysical grid lines as control in establishing outcrop locations. The general geology of the area is described by Cairnes (1930) and Little (1957). The Permian (?) Anarchist Group rocks consist of greenstone graywacke, tuffs, limestone and paragneiss. These rocks host the lead, zinc, silver mineralization at the nearby Waterloo Mine. The Anarchist Group rocks form a roof pendant in the Lightning Peak area and are intruded by Cretaceous (?) Valhalla Instrusions and Nelson Intrusions. These instrusive rocks in the vicinity of the property have been interpreted by Little to be Nelson Intrusions.

Lightning Peak is Tertiary in age and is composed of massive, dark gray olivine basalt with large olivine phenocrysts.

The intrusive rocks mapped on the property are primarily granodiorite although the compositon is somewhat variable and locally is diorite in composition. There are also some outcrops which are quartz diorite in composition. These rocks are generally gray to greenish-gray, coarse-grained and often porphyritic distinguished by K-feldspar phenocrysts of 1 - 2 cm in length. The mafic mineral is usually biotite which composes about 10% of the rock. The remainder of the rock is composed generally of about 30% quartz, 30% plagioclase and 30% orthoclase, although these compositions do vary depending upon the rock type. Alteration of the intrusives includes some chloritization of the mafics and sericitization of the feldspars.

Pre-Batholithic rocks include Anarchist Group metamorphosed sedimentary and volcanic rocks. Crystalline limestone occurs in the central and eastern portion of the Jon Claim as a belt that extends Northwest in contact with Nelson Intrusives and Anarchist metavolcanics. Limestone also occurs west of the Waterloo Crown Grant and can be seen readily in the creek bottoms.

The limestone is coarse crystalline with grain size in the order of 5mm. Individual calcite crystals as large as 3-5 cms can be found as cavity fillings. They occur just north of the Waterloo Crown Grant on line 3+00E. Original bedding

structures are not easily identifiable. Fibrous wollastonite occurs at the contact between limestone and intrusives on Waterloo Creek at approximately 2+20W. These Anachist limestones are the host for high grade silver, lead and zinc mineralization on the Waterloo Crown Grant.

Metavolcanic Anarchist Group rocks which outcrop on the property are composed primarily of andesitic lava, flow breccia and recrystallized limy tuffs. The lavas are generally gray-green, fine grained and massive. The metamorphosed andesitic lava is rarely foliated. Any mafic phenocrysts are small and minor. Some andesite includes feldspar phenocrysts. Recrystallized limy tuffs interpretated by Cairnes contain bedding of tuffs are waterlain although this is not evident on the Jon Claim. The tuffs often contain calcite and mafic phenocrysts 2-3 mm in size. The volcanic breccia are similar to the tuffs but contain larger fragments and very minor phenocrysts.

Minor intrusive rocks occasionally occur within the metavolcanics as dykes. These dykes are composed of quartz diorite and granodiorite and are generally classified as acid dykes or acid porphyries. Pegmatites are related to the intrusives.

STRUCTURAL GEOLOGY

The structural geology has been interpreted using aerial photography, VLF-EM data and magnetic data in conjunction with the geological mapping. The property is disturbed by several major faults notably striking to the North and Northeast. East/West faulting occurs in the south half of the claim. The topographic expression of these faults are Rendell Creek on the western side of the claim and Waterloo Creek on the eastern side of the claim. In addition, there are other topographic features and VLF-EM "cross-overs" which have been interpreted to be faults. These interpreted structures are illustrated on Drawing No. 1.

ECONOMIC GEOLOGY

An 8' wide quartz vein found in limestone during the 1920's thought to have the same strike as the Waterloo vein and possibly lying in the same fracture zone was rediscovered in Waterloo Creek and subsequently prospected. The vein was trenched and mapped at a scale of 1:200 (refer to Trench B-1 Drawing No. 20). The on is recorded as being silver, galena and tetrahedrite in a gangue of calcite. The exposure revealed white to cloudy grey quartz mineralized locally with pyrrhotite, tetrahedrite, pyrite ± sphalerite. Orientation of the structure was not determined due to overburden although a northeast trending shear zone within the quartz was mapped. Samples taken across the vein indicate low lead, zinc, gold and silver values (see Table I Sample Nos. 4176 - 4182). A detailed geophysics grid was surveyed around the quartz vein so that both VLF-EM and a magnetic survey could be conducted in order to determine structures around the quartz vein. Results and an interpretation of both surveys conducted over the quartz showing are detailed in the geophysics section. A second order zinc anomaly occurs to the south and downstream of the quartz showing and is coincident with anomalous copper values to the west. Galena-sphalerite float found occurring up hill within a northwest gulley may be the cause of anomalous zinc rather the quartz grid area numerous other pieces of galena/sphalerite float were discovered in an area prospected on the west side of Waterloo Creek and an area east of the creek in close proximity to the Waterloo Crown Grant (see Drawing No. 1).

The mineralized float is essentially a medium grained, equigranular, massive, brown grey coloured silicified rock with sphalerite and galena. The float samples consist of veins of coarse galena and quartz adjacent to veins of sphalerite and calcite. Sphalerite and galena occur as small veinlets as well as fine-grained disseminations. Pyrite is minor. Representative mineralized float samples include numbers 0698, 4259, 4388, 4392 and 4170 (see Table I) and no silver minerals were seen. Some float samples resemble the Waterloo ore. Ore minerals from the north dipping Waterloo vein include galena, sphalerite, chalcopyrite, ruby silver, native silver, minor tetrahedrite and pyrite. A train of mineralized float extends in an east west direction on both sides of Waterloo Creek coincient and parallel with VLF structures that strike approximately east/west slightly north of the train. This structure running west of the Waterloo Crown Grant towards Waterloo Creek ends at the creek. Dip angle relief is strongest at the Waterloo Crown Grant boundary and weaker towards the creek (see VLF GEOPHYSICS section for further details).

Geochem, response is most noticeable to the west of the float train in an area referred to as the SP grid centred on line 1+00w and in the area north of the train in the area of the quartz showing on line 0+50E. Find grained disseminated galena was observed in outcrop exposure along the access road to the quartz showing on Waterloo Creek at approximately 3+00S, on line 0+50E approximately 150 metres to the south and west of the quartz showing on Waterloo Creek. Samples, 4467 to 4469 were collected from a structure that trends 290° and dips 50° to the north. Mineralization occurs in a silicified, slightly equigranular, massive grey-brown coloured rock with limorite stain along fracture surfaces. Assays of 50 oz/ton silver, 16% lead, 14% zinc and significant amounts of arsenic were recorded within this silicified zone that is coincident with an east west trending VLF strucutre on line 0+50E (82) at +60S. Samples 4467 to 4469 were collected from this structure. Mineralization in this area of the Jon claim may occur as fault infilling or in veins that represent an east/west extension of the Waterloo vein to the east.

A northeast trending zone anomalous in silver, zinc, antimony and minor copper is coincident with a northwest trending S.P. anomaly within an area referred to as the S.P. mini grid on line 1+00W, 3+87S. Maximum amplitudes of -151mV and -127mV occur in two main zones coincident with VLF-EM using annapolis and two north/south structures mapped at a scale of 1:200 in C3 Trench (see Drawing No. 18). The structures trend N 10° E and N 341°W respectively. Highly altered metrandisite with crystalline calcite infilling containing pyrolusite occurs in contact with altered granodiorite. Pyrite, pyrrhotite, pyrolusite minor chalcopyrite $\pm$ sphalerite was observed. Mineralization hosted in the volcanics may be skarn-vein type. Sample numbers from the trench include 0681 - 0683, 4254 - 4258, 4351 - 4354.

Trenching of geochm anomaly B_2 identified during 1982, did not reveal outcrop in place due to deep overburden. Samples taken within this northwest trending zone of anomalous lead, zinc and antimony include sample nos. 0677 - 0680.

A zone highly anomalous in zinc, lead, silver, copper, antimony and arsenic occurs in the southeastern corner of the claim. Rock samples collected in this area included sample nos. 4404 - 4407. Low values are indicated. The anomalies occur in an area of diorite that is in contact, to the north and south of the anomaly, with metavolcanic

rock. This may indicate presence of massive sulphide or vein type mineralization of galena, sphalerite, tetrahedrite, chalcopyrite and pyrite.

A follow-up geochem survey in the southwest part of the property revealed presence of anomalous silver, lead and copper. Mineralization hosted in intrusives may be disseminated or vein-type associated with galena chalcopyrite and pyrite.

Lead, zinc and arsenic anomalies occur in the central west portion of the claim at the north end of line 7+00W. Pyrite and pyrrholite mineralization was observed at the contact between metavolcanic andesites and diorite on line 5+00W.

This may indicate the presence of massive sulphide or vein-type minealization associated with galena, sphalerite and chalcopyrite. Samples taken up slope from this southeast trending anomalous zone include 0695 - 0697.

Sample numbers 4355 - 4360 were taken from Trench L7 located on line 6+00N at approximately 0+50W. Pyrite, pyrolusite, trace chalocpyrite were observed a northeast trending fault dipping east (see Trench L7 Drawing No. 21). Values of 183 ppm lead and 14ppm arsenic were recorded in the volcanic host rocks. Sulphide mineralization observed occurred as fine disseminations and veinlets on the hanging wall side of the main strucutes. Anomalous lead occurs up slope from the trenched area and also to the north. Anomalous silver occurs in between the lead anomalies east of the trenched area. Two parallel VLF-EM strucutres trend approximately N24E, 200 metres to the northwest of the trenched area. Mineralization hosted in volcanies may occur as fault in-filling or in veins.

A total of 80 rock samples were collected on the Jon claim and assayed for gold, silver, copper, lead, zince, arsenic and antimony. These samples are identified on the geology map (Drawing No. 1). The assay results are illustrated in Table I.

TABLE I

ROCK SAMPLE ASSAYS

Sample No.	Type	Width	Location	Au ppb	Ag ppm	Pb ppm	Zn ppm	Cu ppm	As ppm	Sb ppm
0675	Grab	-	Trench C2	5	1.0	32	81	9	L 2	0.1
0676	"	-	" C1	5	0.6	37	91	9	L 2	0.1
0677	"	-	" C1	L 5	0.4	16	124	14	L 2	0.1
0678	"	-	" C1	L 5	0.4	16	55	7	L 2	0.1
0679	"	-	" C1	L 5	1.5	43	47	169	L 2	0.1
0680	"	-	" C1	L 5	0.3	15	42	17	L 2	0.1
0681	Channel	21"	" C3	L 5	1.6	19	60	294	L 2	0.1
0682	"	42"	C3	10	1.8	18	64	368	L 2	1.6
0683	"	12"	C3	10	3.4	20	60	980	L 2	0.1
0684	Grab	-	C2	5	0.4	11	40	23	L 2	0.1
0685	"	-	C2	10	0.4	8	10	5	5	0.1
0686	"	-	Qtz vein Waterloo Creek	5	0.4	10	11	16	L 2	0.1
0687	"	-	Qtz vein Waterloo Creek	5	0.7	17	43	76	L 2	1.0
0688	Float	-	Waterloo Creek	5	0.7	17	36	109	L 2	0.1
0690	"	-	C2	20	0.9	17	96	11	3	0.1
0691	"	-	C2	L 5	0.6	19	91	6	5	0.1
0692	"	-	C2	10	0.4	9	10	6	2	0.9
0694	"	-	C2	L 5	0.6	19	126	6	L 2	0.1
0695	Grab	-	L6+00W @ #572	L 5	0.6	12	84	40	L 2	3.0
0696	"	3"	L6+00W @ #572	30	0.2	26	27	7	L 2	0.1
0697	"	-	L6+00W @ #572	L 5	3.2	476	222	160	L 2	0.1
0698	Float	-	Lower road cut above Waterloo Creek	L 5	G 20 oz/ton 1.72	G4000 % 7.10	G4000 % 23.7	41	L 2	16.4
0699	Channel	1'	Lower road cut above Waterloo Creek	5	0.5	11	98	80	L 2	0.1
0700	Channel		Lower road cut above Waterloo Creek	L 5	0.9	32	175	504	L 2	0.1
4254	Chip	-	Trench C3	L 5	1.0	15	170	195	4	0.1
4255	"	-	C3	L 5	1.5	93	745	403	L 2	0.1
4256	"	-	C3	20	0.9	14	45	204	L 2	0.1
4257	"	-	C3	10	0.7	27	79	195	L 2	0.1
4258	"	-	C3	L 5	0.6	19	42	150	L 2	0.1
4259	Float	-	L0+50E Waterloo Creek	940	G20.0	G4000 oz/ton	G4000 %	82 %	G 15	22.5
				0.002	2.48	3.00	24.7			
4272	Grab	-	Trench C2	5	0.6	18	120	4	1.0	0.1
4273	Float	-	Trench C2	10.0	0.6	18	60	6	8.0	0.1

Sample No.	Type	Width	Location		Au ppb	Ag ppm	Pb ppm	Zn ppm	Cu ppm	As ppm	Sb ppm
4351	Channel	39"	Trench	L5	1.0	0.9	15	64	166	1.0	0.1
4352	Chip	2"		L5	1.0	1.0	16	25	6	1.0	0.1
4353	Grab	-		L5	5.0	1.5	20	107	154	10.0	0.1
4354	"	-		L5	5.0	1.3	15	46	357	3.0	0.1
4355	Channel	28"		L7	5.0	2.2	183	91	62	1.0	0.9
4356	"	14"		L7	10	1.8	177.0	119.0	91	14.0	0.9
4176	Grab	-	Trench	B1	1.0	1.0	150	91	105.0	1.0	0.5
4177	B-1	5cms		B1	40.0	1.7	8.0	40.0	375.0	1.0	1.4
4178	B1	-		B1	20.0	0.8	8.0	78.0	68.0	1.0	0.1
4179	B1	1.5m		B1	1.0	1.9	32.0	165.0	76.0	7.0	0.1
4180	B1	-		B1	10.0	0.7	7.0	33.0	76.0	1.0	0.1
4181	B1	-		B1	1.0	0.4	5.0	7.0	5.0	1.0	0.4
4182	Channel	1m		B1	1.0	0.4	7.0	41.0	31.0	1.0	0.1

Sample No.	Type	Width	Location	Au ppb	Ag ppm	Pb ppm	Zn ppm	Cu ppm	As ppm	Sb ppm
4357	Channel	29"	Trench L7	1.0	1.3	106.0	109.0	76	9.0	0.7
4358	"	9"	L7	5.0	1.1	100.0	80.0	145.0	3.0	0.5
4359	"	6"	L7	5.0	1.1	49.0	121.0	75	1.0	0.3
4360	"	36"	L7	5.0	1.1	69.0	68.0	76	1.0	0.3
4375	Float	-	L7+00N 0+00E/W	10.0	2.6	82.0	23.0	10	36.0	0.6
4376	Grab	-	L7+00N, 0+00E/W	5.0	0.8	21.0	66.0	40	2.0	0.3
4384	Channel	36"	Lower road cut above Waterloo Creek	20.0	1.0	108.0	64.0	161.0	53.0	0.1
4385	"	44"	"	1.0	0.7	45.0	40.0	199.0	1.0	0.1
4386	"	27"	"	290.0 0.009	2.5	820.0 0.07	103.0	444.0 0.05	1000.0 0.10	0.2
4387	"	13"	"	1.0	0.8	28.0	69.0	44.0	1.0	0.1
4388	Grab	-	"	1.0	4.6	2300.0	4000.0	14.0	32.0	0.4
4389	Channel	36"	"	1.0	0.6	25	74.0	22	1.0	0.1
4390	"	9"	"	1.0	1.3	48	78.0	625.0	25.0	0.1
4391	"	96"	"	1.0	0.7	20.0	78.0	17.0	1.0	0.1
4392	Float	-	0+50E(83) 0+50S		1.0	20.0 1.98	4000.0 0.74	4000.0 4.20	53.0	53.0
4393	Grab	-	Access road to Waterloo Creek	1.0	1.9	38.0	103.0	4.0	3.0	0.1
4394	"	-	"	1.0	1.5	70.0	355.0	8.0	5.0	0.1
4395	Chip	4"	"	1.0	1.1	51.0	551.0	3.0	1.0	0.1
4396	Channel	16"	"	1.0	0.9	73.0	262.0	32.0	1.0	0.1
4397	"	60"	"	1.0	0.9	20.0	100.0	82.0	1.0	0.1
4398	"	66"	"	1.0	0.9	18.0	86.0	69.0	1.0	0.1
4399	"		"	5.0	0.5	13.0	23.0	69.0	1.0	0.1
440	Chip	-	"	1.0	1.0	415.0	766.0	21.0	8.0	0.1
4404	Grab	-	@ #111	5	0.3	23	68	7	6	0.1
4405	"		7m North of #111	L 5	0.7	14	72	18	2	0.8
4406	"	-	10m upslope from #109	10	0.6	48	63	27	L 2	0.1
4407	"	-	15m South of #109 L5	0.4	12	24	18	L 2	0.1	
4408			9+50S east of Rendell Creek	L 5	0.6	115	239	20	L 2	0.1
4410	Chip	12"	Access road to Waterloo Creek							
4466	Channel	39"	"	1.0	0.5	10	114.0	33.0	1.0	0.1
4467	"	48"	"	1.0	20.0 0.67	1300.0 0.11	744.0	64.0	390.0	0.5

Sample No.	Type	Width	Location	Au ppb	Ag ppm	Pb ppm	Zn ppm	Cu ppm	As ppm	Sb ppm
4468	Grab		Access road to Waterloo Creek	145.0	14.5	1940.0	1358.8	45.0	780.0	0.3
				0.002	0.50	0.16	0.14			
4469	Grab		"	1.0	1.0	30.0	127.0	74.0	4.0	0.1
4470	Gloat		0+50E - 200S	1.0	10.7	4000.0	4000.0	10	21.0	1.2
					0.38	1.50	1.71			

GEOCHEMISTY

A detailed follow-up geochemical survey was conducted on traverse lines placed between 1982 geochemical and geophysical grid lines in the southeast, southwest and west central areas of the Jon Claim. Soil samples were taken along these lines at 50 metre intervals. A sample interval of 25 metres was used for Spot geochemical anomalies. The grid lines were established as flagged ines. The 1983 assay data has been plotted with 1982 data on single element maps at a scale of 1:300.

A total of 71 soil samples were taken, 37 samples were taken from the southeast corner of the Jon claim referred to as Anomaly A in the report on the '82 work. twenty-four samples were taken in the southwest corner and 10 samples taken from the west central area. In addition, 42 silt samples were collected from Rendell and Waterloo Creek. Silt samples were taken approximately every 100 metres. Soil Samples were taken in the 'B; horizon whenever possible. Samples were taken from a 'C; horizon if the 'B' horizon was not well developed. The 'B' horizon was generally reddish-brown in colour and occurred at a depth of 5 to 50 cm and was abour 20 cm thick. A small mattock was used to dig the hole. Coarse rock debris and organic matter was discarded. Samples were not collected in swampy areas, in areas of talus or rock outcrop. The grid location, soil horizon type and depth, degree of oxidation of soil and exposure were noted at each soil sample site.

All soil samples were boxed and freighted to Kamloops for preparation and analysed by Kamloops Research and Assay Laboratories Ltd. All samples except sample nos. 6 - 37 were dried and screened to minus 80 mesh. Samples 6 - 37 were screened to minus 10 mesh. A measured amount of the mesh fraction was then digested in hog aqua regia. Gold determinations reported in parts per billion were done using a combination of atomic absorption and fire assaying. Hot acid extraction and atomic absorption were used to determined parts per million for silver, copper, lead and zinc. Arsenic determinations were done using a combination of nitric hydrochloric digestion and colorimetric, acid extraction and AA hydride generation were used for antimony.

The rock samples were treated in a similar way to the soil samples except the rock samples required crushing and pulverizing to minus 80 mesh prior to the hot aqua regia digestion.

The data treatment has included contouring and definition of subanomalous, anomalous and second order anomalous values for seven elements over the intrusive rocks and Anarchist Group metamorphic rocks. Table II illustrates the statistical data, controur intervals and subanomalous, anomalous and second order anomalous values for each of the seven elements analysed. Generally, subanomalous values for each element are the mean plus one standard deviation, anomalous values are the mean plus two standard deviations and second order anomalous values are the mean plus three standard devaitions.

The result of the 1983 geochem follow-up programme to the 1982 programme confirmed earlier indications that two areas including, Anomaly A centred in the southeast quadrant south of the Waterloo Crown Grant on line 5+00E and Anomaly C on the north end of 7+00W are anomalous in at least two or more elements.

Southeast Quadrant - Anomaly A

Zinc values of up to 400ppm are coincident with second order silver, lead, copper, arsenic and antimony on line 5+00E in the southeast quadrant of the property in an overburden covered area. The north/south trending anomaly occurs in an area of quartz diorite and appears confined to an east/west inferred contact zone with volcanic and associated limestone to the north and south of the anomaly. Scattered second order spot anomalies of lead and silver occur on lines 4+00E and 6+00E at the inferred contact zone between anarchist volcanics and related limestone to the north and east of the larger anomaly.

Three parallel VLF-EM structures 80-100metres apart trend west, southwest and are coincident with S.P. structures and a higher magnetic zone striking approximately eastwest (for additional information refer to geocphysics report).

Silver, lead, zinc mineralization related to vein or skarn type mineraliztion may exist in this southeast quadrant.

Southwest Quadrant

Anomalous values for silver and copper along lines 5+00W and 6+00W in the southwest portion of the claim were not repeated on lines placed between 1982 treverse lines. Arsenic and antimony values remained low. Samples assayed for gold in the 1983

follow-up programme are low in this southwest quadrant. Subanomalous values of zinc occur on line 4+50W. Anomalous lead values were recorded on line 8+25W, west of the Jon claim boundary. The second order silver anomaly is confined to intrusives and is coincident with anomalous copper and lead on line 5+00w.

Strong crossovers determined from the 1982 VLF-EM survey using Hawaii, are coincident with the anomalous silver values on lines 5+00W and 6+00W suggesting a possible northwest strucutral trend.

Anomaly C

A high zinc anomaly of 260ppm hosted in intrusives recorded on the northend of 7+00W coincident with related second order lead and arsenic was surveyed in the 1983 follow-up programme. A single zinc value of 149ppm and a value of 22ppm silver occurs 50 metres east of the anomalous zone. The anomaly may be related to an old hand dug trench that occurs upslope to the northeast of the anomaly. Pyrite and pyrrhotite mineralization was observed at the contact with volcanic rock and quartz diorite. The possibility of gold or proustite mineralization as well as sphalerite and galena has not been indicated.

Anomaly B

A second order zinc soil anomaly occurs west of the Waterloo Crown Grant in close proximity to the quartz showing on Waterloo Creek. The area in which anomaly B occurs is referred to as the quartz grid that is cut by a northwest trending dry galley. Silt sampling of the gulley revealed a zinc value of 185ppm in the northwestern portion of the quartz grid and subanomalous values of copper lower down the gulley upslope from the soil anomaly. A second order arsenic anomaly on line 1+00W occurs just west of the anomalous zinc silt sample location. Several pieces of galena/sphalerite float were discovered on the westside of the dry gulley above the zinc soil anomaly and below the zinc silt anomaly.

The quartz grid outlines two VLF-EM structures whose centre point of intersection is located at approximately 110W and 0+10S. these structures associated with high magnetism, may represent a northwest trending contact zone between limestone and volcanic intruded by quartz diorite and diorite as mapped along the access road to

Waterloo Creek (refer to magnetic report where a comparision between magnetics and VLF is made).

The soil zinc anomaly may be attributable to the galena sphalerite float located up slop in the northwest trending gulley VLF-EM structures indicated the possibility of a northwest trending contact zone mineralized with sphalerite and galena within the quartz grid and beyond, above the zinc silt anomaly.

A single value of 140ppm zinc occuring on the southeast tributary of Waterloo Creek may be attributable to mineralization related to a volcanic, intrusive inferred contact that occurs in a northeast trending direction parallel to Waterloo Creek on line 0+00W.

A second order copper and arsenic anomaly is coincident with a photo interpretated northeast trending fault contact between intrusive and volcanic rocks on line 1+00E. Mineralization may be related to these contacts.

Northeast Quadrant

The 1982 soil geochem survey revealed a northtrending silver anomaly with highs of 1.9ppm extending from line 1+00N to line 7+00N. The anomaly is confined to a granodiorite host between lines 1+00N to 4+00N and is centred in between and along a series of northeast trending faults interpretated with VLF. Anomalous silver hosted in metavolcanics occurs on lines 6+00N and 7+00N to the west of a series of northeast trending faults.

A spot lead anomaly is coincident with this second order silver anomaly on line 4+00N. Related second order and anomalous copper occurs on lines 1+00N, 2+00N and 3+00N. The intersection of this northeast trending structure with a north trending silver anomaly is significant.

TABLE II

GEOCHEMICAL PARAMETERS

Parameter	Anarchist Group Rocks (ppm)							Intrusive Rocks (NELSON INTRUSIVES) (ppm)						
Anomalous	Au	Pb	Zn	Ag	Cu	As	Sb	Au	Pb	Zn	Ag	Cu	As	Sb
Mean 1983	1.96	15	64	.8	22	1.350	8.22 .212	1.44	15.6	70	.8	20	1.064	8.467 .202
Standard Deviation 1983	3.55	3.2	25.8	.3	13	2.147	1.867 .214	1.28	3.5	20.9	.3	10	.518	1.864 .125
Contour Interval 1983	3	2	25	.3	15	2	2 .1	1	2	20	.3	10	1	2 .1
Sub Anomalous 1983	5	20	90	1.1	35	3	10 .4	3	20	90	1.1	30	2	10 .3
Anomalous 1983	8	22	115	1.4	50	5	12 .6	4	22	110	1.4	40	3	12 .4
2ndOrder Anomalous 1983	11	24	140	1.7	65	7	14 .8	5	24	130	1.7	50	4	14 .5

GEOPHYSICS

Work performed on the Jon claim during the 1983 field season is summarized and presented on Table III. The instrumentaiton and theory of VLF-EM, Magnetic and Self Potential surveys is described in Appendices I, II and III.

Dip angle readings were collected for the Hawaiian (23.4 kH_z) and Annapolis, M.D. (21.4 kH_z) transmitters. Frazer filtered data has been contoured and is presented on Drawing Nos. 9 and 10. Data from the magnetic survey using a Scintrex model MP-2 precession magnetometer is presented on Drawing Nos. 12 - 14. Data from the Self Potential survey is presented on Drawing Nos. 15 and 16.

VLF-EM

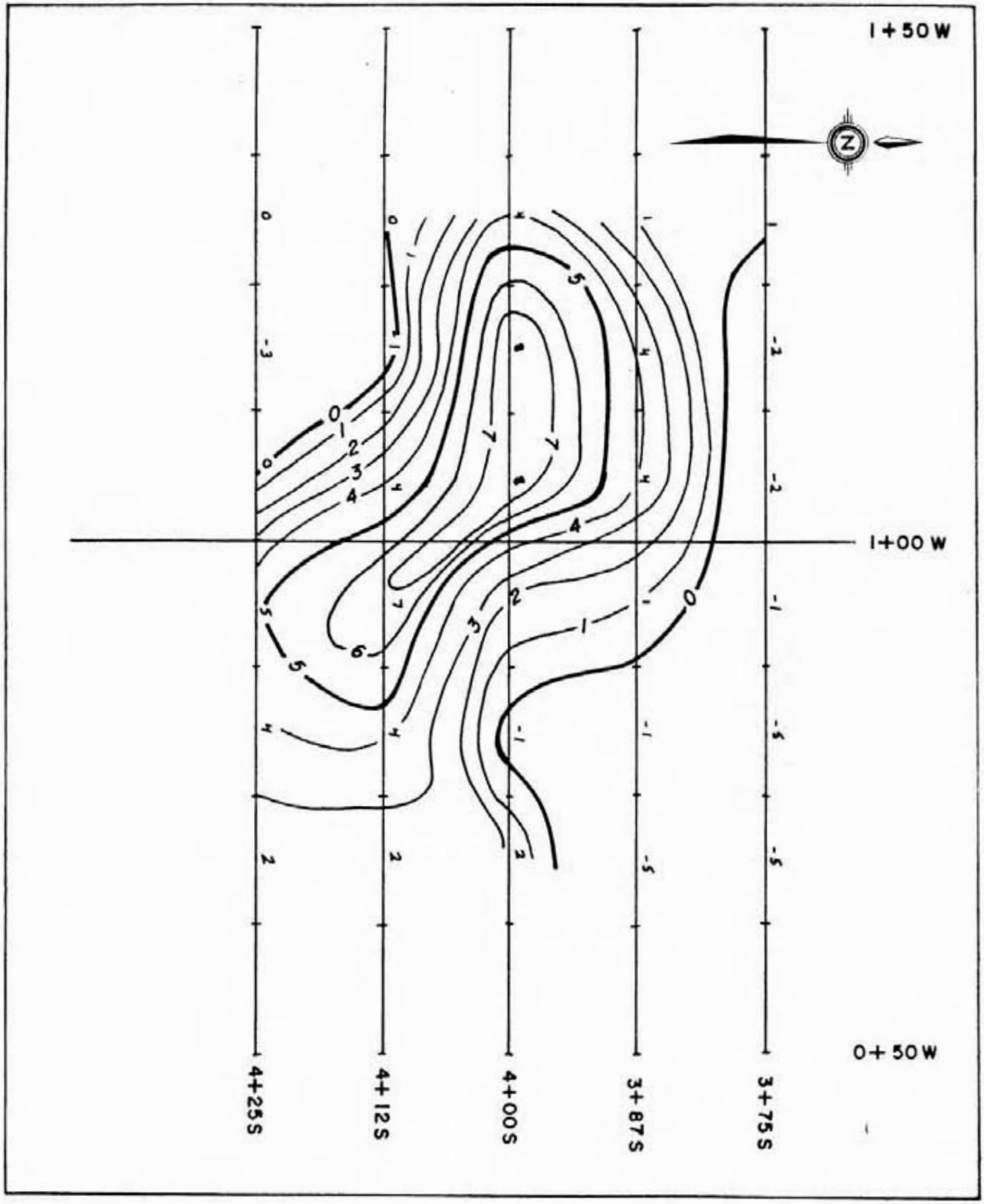
Seven areas were surveyed in varying detail within anomalous areas on the Jon claim to acquire better resolution of the structures determined from the 1982 survey work. A small grid involving five north/south lines 300 metres long over a lead, silver anomaly and three east/west lines 350 metres long were surveyed at the northend of the property. The line spacing and station interval on both sets of lines were 50 and 12.5m respectively.

In the northeast of the Jon more detailed work was performed by filling in lines between 1982 lines, spaced 100, apart, resulting in a new line spacing of 50m. This was done to obtain more detailed structural information to possibly explain a silver geochem anomaly occurring on lines 1+50N - 7+50N, in this area. There are a total of seven new lines, all but one of which extend to 500 metres west of the eastern property boundary. The shorter line is 300 metres long. The station spacing is 12.5 metres. The area further to the south known as the "Galena Grid" was partially designed to find a possible westward extension of the Waterloo area zone whose EM effects are measureable at the Waterloo Crown Grant boundary.

The line spacing was mostly 50m and the stations were 12.5 metres apart. Located within and at the galena grids' periphery are smaller grids known as the 1.) "Fine Grid", 2.) "Quartz Mine Grid" and 3.) "Mine S.P. Grid".

The Quartz Mine Grid was surveyed during 1983 and detailed this year with mag and VLF E/M. The line and station spacing was 10 metres. The Mine S.P. Grid was surveyed during 1983 to outline an S.P. anomaly. The line and station spacing here was 12.5 m. In the southeast corner of the Jon fill-in lines were put in to improve resolution of data surrounding a large geochemical anomaly (Anomaly A). The fill-in lines were put in such that the resulting line spacing is now 50 metres compared to last years 100 metres. The station spacing is 12.5 metres. These structures running approximately parallel strike west, southwest and are separated by distances of 80 - 100 metres in the southeast quadrant of the claim. The middle VLF structure is coincident with Anomaly A on line 5+00E. Dip angle relief of these structures is highest on lines 21+00E and 3+50E. The VLF is coincident with a copper silver anomaly on line 2+50E and a silver, zinc, lead and antimony anomaly on line 4+00E.

An east-west VLF structure with dip angle relief of 14° runs west of the Waterloo Crown Grant and weakens towards Waterloo Creek. Another weaker structure striking approximately west with a dip angle relief of 40° occurs on the west side of Waterloo Creek, 150 metres south of the base line. Anomalous zinc and lead are coincident with this structure on line 0+50E. This structure develops into two structures further to the west with amplitudes of 12° and 11° at 0+75S and 1+50W respectively on line 1+50W. Anomalous silver, zinc, copper and antimony are coincident with the southwest trending VLF structure. Silver, sphalerite and galena mineralization may be related to east/west mineralized shears at the intrusive metavolcanic contact in the vicinity of these strucutres that extend northwest into the area referred to as the fine grid between 0+50E and 3+00W.



SCALE 1:500

MOHAWK OIL
JON NO 11

VLF -EM CONTOURS
ANNAPOLIS (21.4) KH_z
SP MINI GRID
CONT. INT. 1° (FRAZER FILTERED)

SCALE 1:500 MARCH, 1984

SELF POTENTIAL

These areas were surveyed for S.P. on the Jon Claim. They included 1.) a large VLF-EM structure in the north central portion of the claim, 2.) an area west of the Waterloo Crown Grant referred to as the 'Galena Grid', 3.) Anomaly A in the southeast quadrant.

Anomaly A as well as the Galena grid were surveyed using the fixed electrode spead. Survey of the larger VLF-EM structured centred on line 8+50N was done using the gradient method. A drift error of -2mV per station was recorded. Drift corrections were made so that the sum of the potential differences over a loop added up to zero. The line spacing in all areas was 50 metres with a reading interval of 12.5 metres.

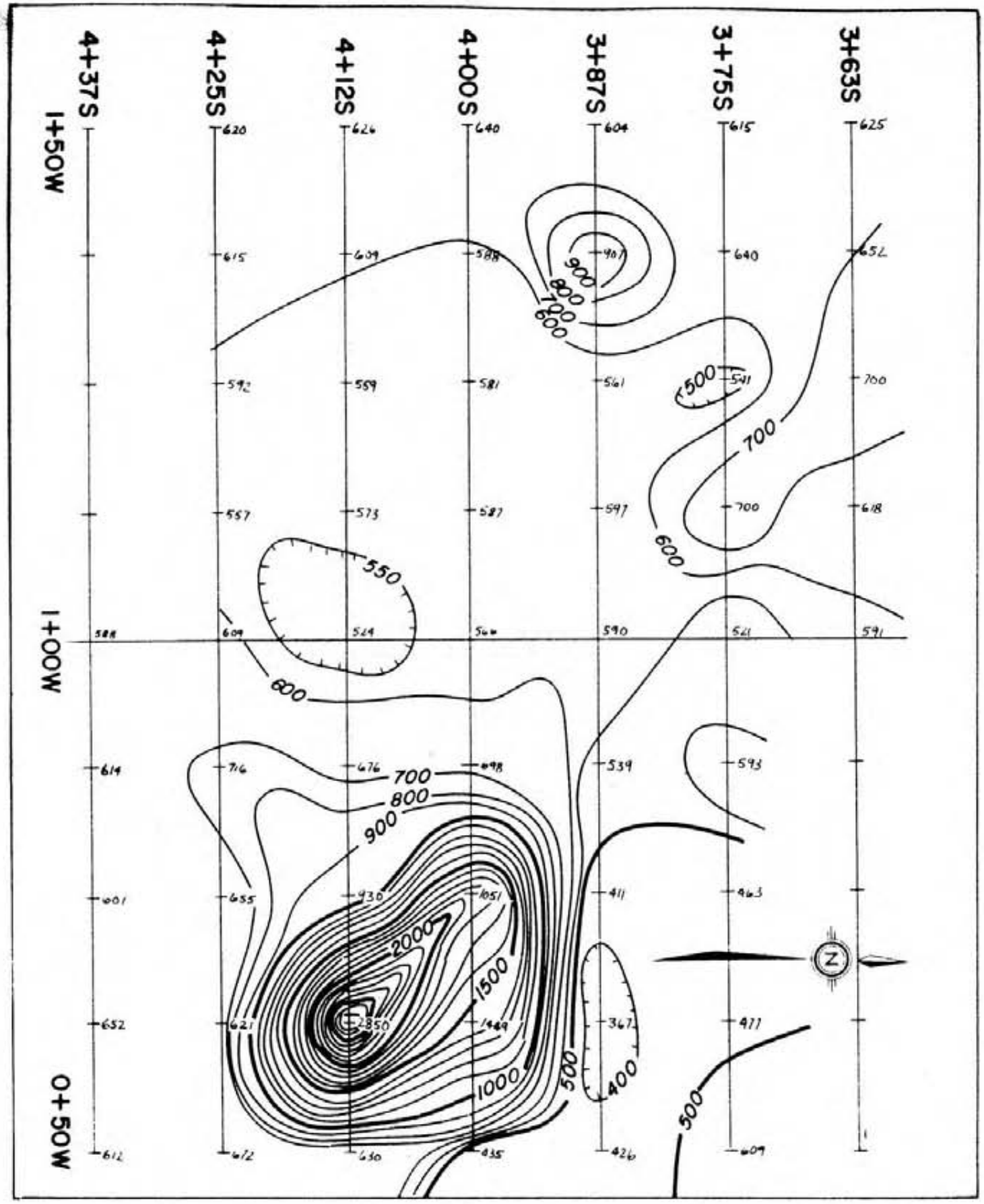
A 12.5 metre line spacing and 12.5 metre station spacing was used in the 'SP mini grid'. Adjacent lines were tied together by measuring the potentials between the base stations of each line.

A detailed Self Potential survey was carried out in an anomalous northeast trending on lines 7+00N - 8+50N. This survey area had a standard deviation of 4.6mV and was considered low in comparison to the galena grid and the southeast corner having standard deviations of 10.65mV and 10.59mV respectively. The low background may be attributable to areas of swampy ground in the survey area.

The survey revealed one anomalous station located at 7+50N and 62 metres west and a possible east/west trend around the anomaly. Further SP is required in this area.

A strongly anomalous reading of -151mV was recorded on line 3+87S in an area referred to as the 'Galena Grid'. A smaller zone east of this reading peaks at -127mV. The main zone is coincident with VLF-EM using Annapolis and is centred over north/south trending structures interpretated from trench mapping. Further SP or IP work is recommended in this anomalous zone of silver, zinc, lead and copper. One anomalous readings occur on line 50E. The possible cause may be a very small source. The largest anomaly occurs on line 0+00E/W. Its maximum/minimum value is -167mV and is anomalous for four stations. More detailed follow-up is required to determine its relationship to other anomalies in this area.

Several anomalies were recorded in the southeast quadrant of the claim, the largest being -37mV on line 3+50E. The anomaly is centred between two east/west trending VLF structures. The anomalies are coincident with VLF-EM and higher magnetics occurring at the contacts with metavolcanic, metasedimentary rocks near quartz diorite intrusives.



10m 0 10 20 30m

SCALE 1:500

MOHAWK OIL NO 14

JON

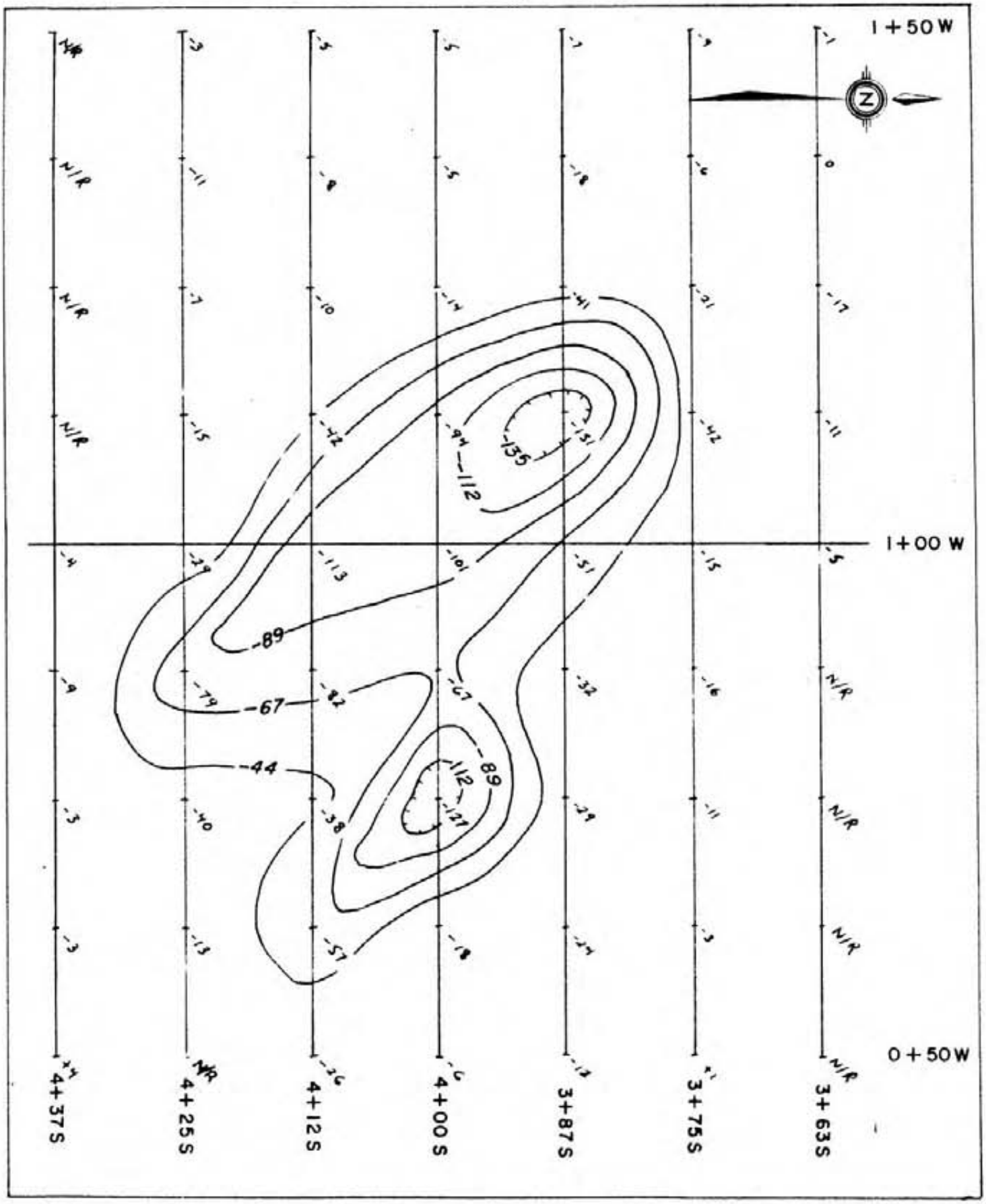
S.P. MINI GRID

MAGNETIC MAP

TOTAL FIELD

CONT. INT. 100 GAMMAS

BASE 57000 γ MARCH /84



10m 0 10 20 30m

SCALE 1:500

CONTOUR INTERVAL

-44 mV – SUBONOMALOUS
-67 mV – ANOMALOUS
-89 mV – STRONGLY ANOMALOUS
-112 mV
-135 mV

MOHAWK OIL
JON

NO 16

SP MINI GRID
SP DATA & CONTOURS

CONT. INT. 12.5 mV

SCALE 1:500 MARCH, 1984

MAGNETIC SURVEY

Detailed follow-up magnetic survey work was conducted in three areas that included: 1) the southeastern corner of the Jon property, 2) a small grid near an exposed quartz vein found in Waterloo Creek 3) a small grid over an SP anomaly.

Details of line spacing, reading intervals and reading number are illustrated in Table III.

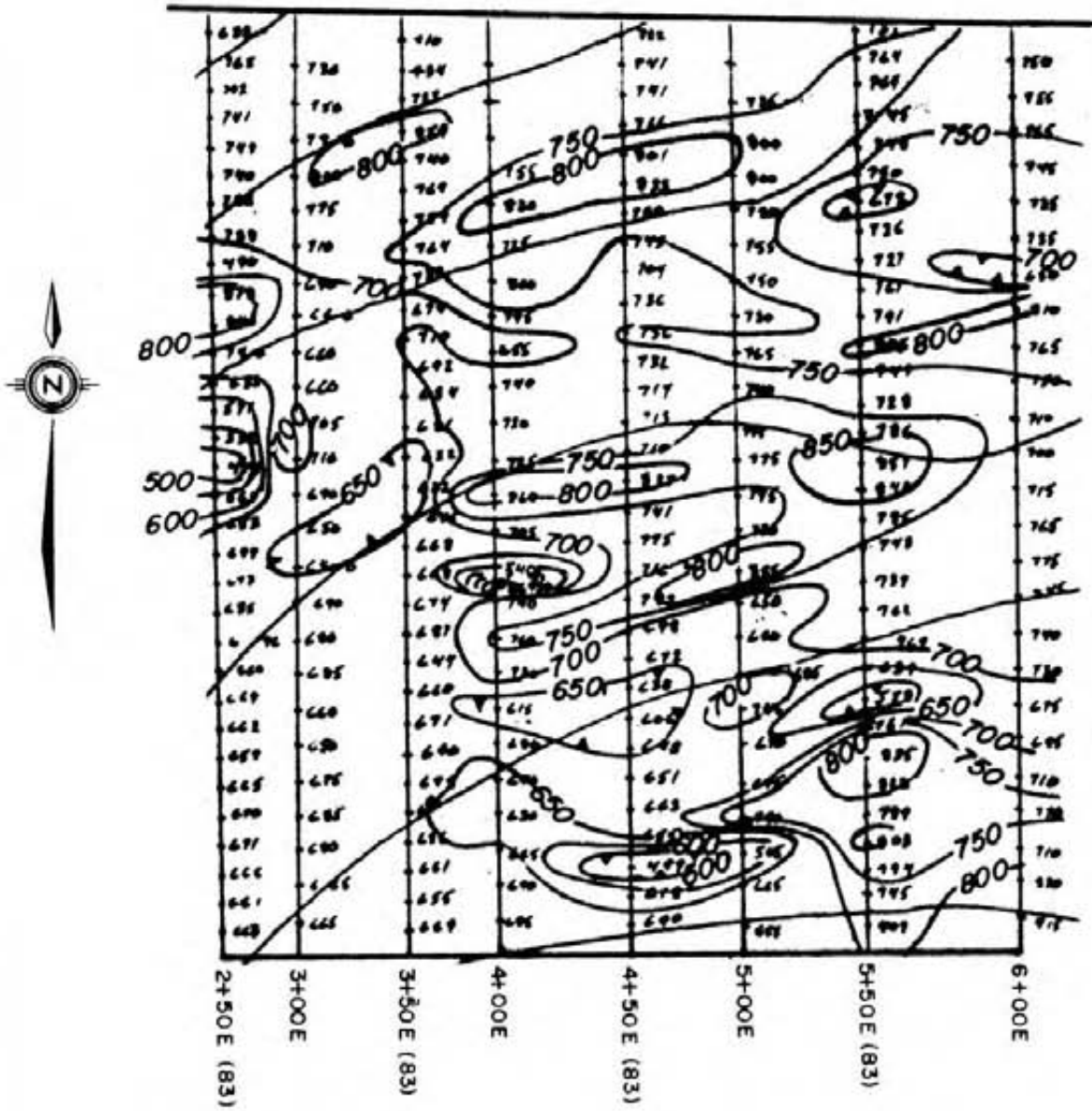
The southeast corner of the Jon exhibits low to moderate relief background values of 57700 gammas (see Drawing No. 13). The higher magnetic zones running east/west correlate with VLF and SP structures interpretated as geological contacts.

A small grid near an exposed quartz vein found in Waterloo Creek exhibits moderate to strong relief with up to 1200 gammas. The magnetic survey did not indicate any magnetic minerals associated with the quartz. Most significant, is a dipole whose negative deflection of 56800 gammas is larger than the positive deflection of 58000 gammas from a background of 57,700 gammas. The dipole occurs in the southwestern portion of the grid and may be attributable to the presence of magnetic minerals (see Drawing No. 12). An intersection of northeast and northwest trending magnetic linneations within the quartz grid occurs at approximately 1+10W and 0+10S. These linneations correlate with VLF structures determined by the VLF survey on this grid using Annapolis MD. occur in an area in which sphalerite galena float was found. These strucutres associated with higher magnetism may represent mineralized contact zones.

A magnetic survey was conducted over an SP Anomaly in an area referred to as the SP mini grid. Line spacing was 12.5 metres as well as the readings interval. The grid exhibits strong magnetism with one reading 2000 gammas above background.

The strongest magnetism on lines 1+12S and 601W is probably due to presence of pyrrhotite. This mag. high is coincident and slightly east of a strongly anomalous SP reading of -127mV on lines 1+00S and 80W. There is correlation of the magnetism and SP with a northwest trending VLF structure using Hawaii and also a similar trending structure mapped in C Trench. Anomalous silver, zinc, copper and antimony occurs within this surveyed grid. Pyrite, pyrrhotite and minor sphalerite mineralized was recorded in C3 Trench.

The presence of silver, zinc, copper and antimony anomalies down slope of pyrite, pyrrhotite and sphalerite mineralization in C3 Trench and a general southwest trend to SP, VLF and Mag structures indicates a general southwest trending mineralized vein at or near the contact with metavolcanic/sedimentary rocks with intrusive rocks.



100m 50 0 50 100 150m

SCALE 1:3000

MOHAWK OIL NO 13

JON

MAGNETIC SURVEY

CONT. INT. 50 GAMMAS
S.E. CORNER OF JON CLAIM
SCALE 1:3000 MARCH, 1984

TABLE III

1983 GEOPHYSICS WORK SUMMARY

LOCATION	VLF	MAG	SP
Southeast Corner	2.2 kms @ 12.5m/stn. No. of Readings = 176 Line spacing - 50 metres	2.2 kms @ 12.5m/stn. No. of Readings = 176	1.7 kms @ 12.5m/stn. No. of Readings = 136
Quartz Grid	.85 kms @ 10m/stn. No. of Readings = 85 Line spacing - 10 metres	1.3 kms @ 5m/stn. No. of Readings = 273	
Galena Grid	1.95 kms @ 12.5m/stn. No. of Readings = 156 Line spacing - 50 metres		2 kms @ 12.5m/stn. No. of Readings = 160
Silver Anomaly	3.3 kms @ 12.5m/stn. No. of Readings = 264 Line spacing - 50 metres	3.3 kms @ 12.5m/stn. No. of Readings = 264	
Lead, Silver Anomaly	2.63 kms @ 12.5m/stn. No. of Readings = 210 Line spacing - 50 metres		9.5 kms @ 12.5m/stn. No. of Readings = 76
Fine Grid	1.8 kms @ 10m/stn. No. of Readings = 180 Line spacing - 10 metres		
Mini SP Grid	.5 kms @ 12.5m/stn. No. of Readings = 40 Line spacing - 12.5 metres	.70 kms @ 12.5m/stn. No. of Readings = 56	
Summary Totals	13.2 Kms/1,151 Readings	6.8 Kms/713 Readings	4.7 Kms/372 Readings

TABLE IV

VLF-EM DATA

	Line 50E		Line 0E/W	Line 50W	Line 100W	Line 150W
?0N	+2		+1	-5	-8	-4
		-1				
	+2					
		0				
	+2					
		1				
	+2					
		3				
6+50N	+1					
		2				
	-1					
5+00N	0					

	Line 750N		Line 850N		Line 950W	
3+00W	+6		+6		-4	
	+8		+7		-2	
		-5		0		-5
	+9		+6		-1	
		-6		-2		-5
	+10		+7		0	
		-9		-3		-4
2+50W	+13		+8		+2	
		-9		-2		-1
	+15		+8		+1	
		-6		-5		-3
	+17		+9		+2	
		4		-9		-6
	+17		+12		+4	
		18		-10		-6
2+00W	+11		+14		+5	
		25		-11		-8
	+5		+17		+7	
		21		-13		-9
	-2		+20		+10	
		9		1		-6
	-3		+24		+11	
		5		27		-7
1+50W	-3		+12		+13	
		9		28		-8
	-7		+5		+15	
		8		10		1
	-8		+3		+17	
		6		-2		17
	-10		+4		+10	
		3		-7		18
1+00W	-11		+6		+5	
		-3		-4		8
	-10		+8		+4	
		-5		11		3
	-8		+6		+3	
		1		22		1
	-8		-3		+3	
		4		12		0
0+50W	-11		-5		+3	
		-3		1		3
	-9		-4		+3	
		-9		0		11
	-7		-5		0	
		-9		-1		12
	-4		-4		-4	
		-6		1		5
0+00E/W	-3		-4		-5	
		-3		+1		0
	-2		-5		-3	
		-1		-3		-1
	-2		-4		-6	
		0		-8		-8
	-2		-2		-1	
0+50E	-2		+1		0	

Stn.	Line 50E		Line 50W		Line 100W		Line 150W	
0	-18		-8		-3		+4	
	-20		-8		-3		+3	
		0		0		5		0
	-19		-7		-5		+3	
		-2		0		4		-4
	-19		-9		-6		+4	
		-4		-5		1		-5
50S	-18		-6		-6		+6	
		-6		-4		-1		0
	-16		-3		-6		+6	
		-5		1		-2		8
	-15		-6		-5		+4	
		-4		1		-1		12
	-14		-6		-5		0	
		-3		-1		1		9
100S	-13		-6		-5		-2	
		-3		-1		2		4
	-13		-5		-6		-3	
		-6		1		1		0
	-11		-6		-6		-3	
		-5		2		0		-2
	-9		-6		-6		-2	
		1		4		1		0
150S	-10		-7		-6		-2	
		4		6		4		3
	-11		-9		-7		-3	
		1		5		8		4
	-12		-10		-9		-4	
		-5		5		9		3
	-10		-11		-12		-5	
				4		4		2
200S	-8		-13		-13		-5	
				4		-2		6
			-12		-12		-6	
				6		-4		11
			-16		-11		-10	
				0		-2		8
			-15		-10		-12	
				-4		2		0
250S			-13		-11		-12	
				-4		2		-7
			-14		-12		-10	
				-11		-2		-16
			-10		-11		-7	
				-13		-6		-8
			-6		-10		-5	
				-9		-10		-6
300S			-5		-7		-4	
				-10		-11		-6
			-2		-4		-2	
				-11		-9		-3
			+1		-2		-1	
				-11		-8		-5
			+3		0		-2	
				-11		-8		-13
350S			+7		+2		+4	
				-7		-10		-12

VLF MINI MAG. GRID NEAR QTZ VEIN ON JON

Date: September 18, 1983
Location: (Annapolis)

	Line 10W		20W		30W		40W		50W		60W		70W			
		FF		FF		FF		FF		FF		FF	-2	FF	-2	FF
50N	-8		-7		-6		-4		-3		-3		-2			
														1		
40N	-8		-7		-6		-5		-4		-3		-2			
		-2		-1		-1		1		3		2		3		
30N	-8		-7		-6		-6		-5		-4		-3			
		-4		-3		-2		-2		1		2		2		
20N	-6		-6		-5		-4		-5		-4		-4			
				-5		-2		0		0		2		0		
10N	-6		-5		-5		-5		-5		-5		-3			
				-5		-2		0		-1		0		0		
0N/S			-3		-4		-5		-5		-5		-4			
				-2		-2		-2		-2		-2		0		
10S			-3		-4		-4		-4		-4		-3			
				2		0		1		0		1		3		
20S			-3		-3		-4		-4		-4		-4			
				5		3		-3		2		4		4		
30S			-5		-5		-6		-5		-6		-6			
				3		3		0		2		2		1		
40S			-6		-5		-5		-5		-6		-5			
				0		1		0		2		0		0		
50S			-5		-6		-5		-6		-6		-6			
			-6		-5		-6		-6		-6		-5			

	Line 80W		90W		100W		110W		120W		130W	
	-2	FF	-2	FF	-1	FF	-1	FF	0	FF	0	FF
50N	-1		0		0		+1		+1		+2	
		-2		-5		-5		-5		-6		-5
40N	-1		+1		+2		+2		+3		+3	
		-1		-2		-3		-3		-3		-3
30N	0		+2		+2		+3		+4		+4	
		3		4		2		-1		1		-1
20N	-1		+1		+3		+3		+3		+4	
		6		8		8		2		2		1
10N	-3		-2		-1		+3		+3		+4	
		3		6		6		6		3		4
0N/S	-4		-3		-2		+1		+2		+3	
		0		3		3		8		6		6
10S	-3		-4		-2		-1		+1		+1	
		3		3		5		8		0		7
20S	-4		-4		-4		-3		-2		0	
		4		3		4		5		6		7
30S	-6		-6		-5		-5		-4		-3	
		0		0		1		0		1		3
40S	-5		-5		-5		-4		-3		-3	
		-1		-2		-1		-1		1		0
	-5		-5		-5		-4		-4		-3	
	-5		-4		-4		-4		-4		-3	

VLF On Galena Grid

Date: October 4, 1983

	Line 75S		87S		100S		112S		125S	
	0		0		0		0		0	
150W	-1	FF	+3	FF	+6	FF	+6	FF	+4	FF
	-1		+3		+5		+5		+3	
		1		1		4		0		0
	-2		+3		+5		+5		+3	
		-2		4		8		-1		-3
	-1		+2		+2		+6		+4	
		-2		4		8		4		0
100W	0		0		0		+5		+5	
		-1		1		2		7		5
	-1		+1		-1		+2		+2	
		-5		-1		-1		4		4
	+1		0		+1		+2		+2	
		-5		-5		2		2		2
	+3		+2		-1		+1		+1	
50W	+4		+4		-1		+1		+1	

VLF DATA NEAR SILVER GEOCHEM ANOMALY ON JON

Date: September 17, 1983
Date Collected: August 18th and 19th

Annapolis

Stn	7+50N		6+50N		5+50N		4+50N		3+50N		2+50N		1+50N	
500W	-4	FF		FF	-2	FF	-8	FF	-3	FF		FF	-3	FF
	-4		+4		0		-8		-3				-4	
		-2				-1		-1		-6		0		1
	-4		+5		0		-6		-3				-4	
		-6		-1		2		-6		-6				0
	-2		+5		-1		-4		-3				-4	
		-6		0		1		-2		-1				0
4+50W	0		+5		-1		-4		-3				-4	
		-2		0		1		0		-1				2
	0		+5		-1		-4		-2				-4	
		-1		0		2		0		1				4
	0		+5		-2		-4		-3				-6	
		-2		0		2		-1		1				2
	+1		+5		-2		-4		-3				-6	
		-1		-1		0		-2		0				1
4+00W	+1		+5		-3		-3		-3				-6	
		0		-1		-3		0		1				1
	+1		+6		-1		-3		-3				-7	
		0		1		-4		1		2				-3
	+1		+5		-1		-4		-4				-6	
		0		2		-7		-1		1				-7
	+1		+5		+1		-3		-4				-4	
		-1		2		-8		0		0				-6
3+50W	+1		+4		+5		-3		-4				-2	
		-2		2		1		1		0				-2
	+2		+4		+3		-4		-4				-2	
		-1		0		6		-3		-1				0
	+2		+3		+2		-3		-4				-2	
		-1		-4		7		-4		-3				1
	+2		+5		0		-1		-3				-2	
		-3		-5		7		-1		-4				1
3+00W	+3		+6		-2		-2		-2		-1		-3	
		-3		-2		4		0		-3				-1
	+4		+7		-3		-1		-1		-1		-2	
		-3		2		1		2		-2		-2		-1
	+4		+6		-3		-2		-1		0		-2	
		-3		4		0		3		-2		0		0
	+6		+5		-3		-3		0		0		-2	
		0		3		0		2		-1		2		-1
2+50W	+5		+4		-3		-3		0		-1		-2	
		1		1		-1		2		-1		-1		-2
	+5		+4		-3		-4		0		-1		-1	
		0		0		-2		2		-2		-4		-1
	+5		+4		-2		-4		+1		1		-1	
		1		-1		-2		2		0		-2		-1
	+5		+4		-2		-5		+1		1		-1	
		2		-2		-2		1		6		0		-3
0W	+4		+5		-1		-5		0		1		0	
		2		-1		-1		0		8		0		-3
	+4		+5		-1		-5		-4		1		1	
		3		1		0		1		0		3		0

Annapolis

Stn	7+50N		6+50N		5+50N		4+50N		3+50N		2+50N		1+50N	
	+3		+5		-1		-5		-3		1		1	
		4		4		-1		2		-6		6		2
	+2		+4		-1		-6		-1		-2		0	
		2		6		-2		0		-4		4		1
1+50W	+1		+2		0		-6		0		-2		0	
		-1		5		1		-3		-1		3		0
	+2		+1		0		-5		0		-3		0	
		-1		4		4		-3		-1		2		0
	+2		0		-2		-4		0		-4		0	
		-1		3		5		0		-1		3		1
	+2		-1		-2		-4		1		-5		0	
		-2		2		6		2		3		1		2
1+00W	+3		-1		-5		-5		0		-5		-1	
		-1		2		3		1		6		0		2
	+3		-2		-5		-5		-2		-5		-1	
		-1		1		1		1		7		-1		2
	+3		-2		-5		-5		-3		-5		-2	
		-1		1		3		1		8		-3		1
	+4		-2		-6		-6		-5		-4		-2	
		2		2		4		0		8		-3		-1
0+50W	+3		-3		-7		-5		-8		-3		-2	
		3		-1		3		1		2		-1		-2
	+2		-3		-8		-6		-8		-3		-1	
		3		-2		1		1		-3		0		-1
	+2		-1		-8		-6		-7		0		-1	
		4		4		0		1		-2		0		0
	0		-3		-8		-6		-6		-3		-1	
0+00W	0		-5		-8		-7		-7		-3		-1	

Stn.	Line 250E Dip	FF	Line 350E Dip	FF	Line 450E Dip	FF	Line 550E Dip	FF
4+50S	-1		-6		0		+8	
		0		-1		0		6
	-2		-4		+1		+4	
		-2		-8		-6		2
	-1		-1		+3		+4	
		-3		-5		-4		0
5+00S	0		-1		+4		+4	
		-1		-4		-1		-1
	0		+1		+4		+4	
		0		-1				-1
	0		+1		+4		+5	
	-1		0				+4	
5+50S	0						+2	

VLF ON JON (Collected July 24th)

Date: September 17, 1983

Location: See 1983 VLF map of Jon

Stn.	Line 0+50W Annapolis	FF	Line 1+50W Annapolis	FF
2+00S	-4		-8	
	-3		-6	
		9		2
	-7		-7	
		10		2
	-9		-9	
		4		-2
3+00S	-11		-6	
		-2		-1
	-9		-8	
		-2		-2
	-9		-6	
		-1		-1
	-9		-6	
		-4		-1
4+00S	-8		-7	
		-9		-7
	-6		-4	
		-12		-8
	-2		-2	
		-9		-4
	0		-1	
		0		3
5+00S	+1		-1	
		9		10
	-3		-5	
		6		11
	-5		-7	
		-3		11
	-3		-10	
6+00S	-2		-13	

CONCLUSIONS

1. Results of the 1983 geochemical follow-up programme confirm earlier indications of geochemical anomalies in the southeast, southwest and west central areas of the claim.

2. There is correlation between lead and zinc values which appears consistent with known mineralogical assemglages of galena and sphalerite at the Waterloo Mine and other prospects on the Peak.

3. The presence of a 300 metre long train of galena sphalerite float similar to the Waterloo vein is found on both the east and west side of Waterloo Creek, West of the Waterloo Crown Grant, this indicates the possibility of mineralization in place on the Jon Claim.

4. Trenching in the vicinity of B_2 geochemical anomaly did not indicate the possibility of vein-type sphalerite galena mineralization trending west/northwest due to a lack of outcrop in place and deep overburden.

5. The presence of second order silver, zinc, spot anomalies with anomalous copper and antimony, as well as pyrite, pyrrhotite, sphalerite mineralization in C3 Trench, with coincident southwest trending SP, VLF and magnetic structures, indicates the presence of a generally northwest striking vein.

6. Anomaly C may be an indication of a northwest trending mineralized strucutre with sphalerite, galena and pyrite at or near, a metavolcanic intrusive contact mapped in an old hand dug trench upslope on line 5+00W.

7. Silver, lead and zinc mineraliation related to vein or skarn-type mineralization may exist in the vicinity of Anomaly A in the southeast corner of the claim.

8. Sampling of an exposed quartz vein in Waterloo Creek first discovered during the 1920's, indicated low values in gold, silver, lead, zinc and antimony.

9. Silver mineralization hosted in altered metavolcanic rocks may ocur as fault in filling or vein type along a northeast trending fault in the vicinity of L7 trench on line 6+00N.

10. Geochemical anomalies do not occur within the mapped train of mineralized float.

RECOMMENDATIONS

Exploration work during the 1983 follow-up programme has not provided firm drill targets but has established encouraging target areas for further investigation. A time domain induced polarization survey is recommended in geochemically anomalous zones to establish drill targets within an area west of the Waterloo Crown Grant using the Galena grid base line for running lines north and south. Possible vein-type mineralization occurs to the north and south of the Galena Grid base line as indicated by silver, zinc anomalies coincident with VLF-Em conductors on lines 1+00W,E and 1+00W. IP in the vicinity of Anomaly A is also recommended to assist in establishing drill targets where electromagnetic structures were encountered.

1. Recommend further prospecting for mineralized float and detailed mapping to pursue the possiblity of a northwest striking strucutre mineralized with sphalerite and galena in the vicinity of the quartz grid survey area, and geochemical follow up over the quartz grid survey area.

2. Detail the area of Anomaly C including lines 5+00W and 6+00W with EM16 to chase a possible northwest trending mineralized contact zone in the area of an old hand dug trench upslope from the anomaly on line 5+00W. Also recommend detailed geochem. follow-up west of Anomaly C on line 6+50W.

3. Detailed geology, geophysics (I.P.) and prospecting should be done on Geochemical anomaly A to establish targets for trenching.

4. Closed spaced VLF-EM follow-up on lines orientated north/southwest of line 0+50E north of the galena grid base line to an effort to delineate drill targets in vicinity of Anomaly B_2 and west of the quartz grid.

5. Further trenching, detailed mapping and sampling of the anomalous zones within the SP mine grid including C3 Trench is recommended in order to confirm drill target locations. Also, pursue indications of a northwest striking mineralized structure with sphalerite, pyrite and pyrrhotite using magnetics.

6. It is also recommended that exploration for a possible east/west structure mineralized with disseminated galena located on the access road to the quartz vein on Waterloo Creek be further prospected, backhoe, trenched, sampled and mapped.

7. Prospect and further trench the quartz vein showing on Waterloo Creek and an area to the north of the showing to determine possible related east/west shear zones extensions from the Waterloo vein on the west side of Waterloo Creek. Also, more detailed mapping and prospecting should be done in this area.

8. Detailed mapping and prospecting should be done in the area of anomalous silver in the he northeast quadrant on lines 1+50S - 7+50N. Also recommended additional geochemical follow-up for silver, lead and copper along 1983 VLF traverse lines. These elements may exist in the vicinity as evidenced by silver soil geochem anomalies. Detailed IP should also be done in this area.

9. Spot geochem anomalies on linees 1+00E and 0+00W in vicinity of Waterloo Creek should be resampled prospected and mapped.

10. Detailed mapping and prospecting is recommended between lines 5+00N and 9+00N and additional geochem follow-up for silver and lead to determine the correlation between crossover related to the silver and lead geochem anomalies.

AUTHOR'S QUALIFICATIONS

BRIAN CALLAGHAN

I graduated from Brandon University, Manitoba, in 1980 with a Bachelor of Science Degree in Geology.

The following is a synopsis of my employment experience:

June - Oct 1980	Esso Minerals, Canada Geological Assistant - exploration in Northern Manitoba, Northern Saskatchewan, MacKenzie, B.C. and various properties in the Stewart area of B.C. including the Grande Duc Mine.
February 1981 - Present	Mohawk Oil Co. Ltd. Exploration Geologist - responsible for geological exploration, report preparation, supervison of geological, geochemical and geophysical surveys in Southern British Columbia.

B. Callaghan.

Brian Callaghan

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APPENDIX I

VERY LOW FREQUENCY ELECTROMAGNETIC SURVEY -INSTRUMENTATION AND THEORY

APPENDIX I

Very Low Frequency Electromagnetic Survey - Instrumentation and Theory

A VLF-EM receiver, Model 27, manufactured by Sabre Electronics was used for the VLF-EM surveys. A transmitter located in Hawaii, U.S.A. and Annapolis, U.S.A. was used. The instrument measures the magnetic component of a very low frequency (VLF) electromagnetic (EM) field. The dip angles were measured on grid lines with the instrument oriented towards Hawaii and Annapolis. The VLF radio transmission from Hawaii and Annapolis produce an alternating magnetic field (primary). If a conductive mass such as a sulphide body or clay filled fault zone is within the magnetic field, a secondary alternating current is induced within it which in turn induces a secondary magnetic field that distorts the primary magnetic field. It is this distortion that the EM receiver measures. The VLF-EM uses a frequency range from 16 - 24 KHz. whereas most EM instruments use frequencies ranging from a few hundred to a few thousand KHz. Because of its relatively high frequency, the VLF-EM can pick up bodies of a much lower conductivity and therefore is more susceptible to clay beds, electrolyte-filling fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulphide bodies of too low a conductivity for other EM methods to pick up.

Consequently, the VLF-EM has additional uses in mapping structure and in detecting sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization (in places it can be used instead of IP). However, its susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to explain and, thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

Subsequent to the collection of dip angle measurements at each station on the grid lines the data is "Fraser Filtered". The dip angle measurements for Hawaii and Annapolis are treated separately. North to Northeast striking structures should respond better to the Hawaiian signal and West or Northwest striking structures should respond best to the Annapolis signal.

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low pass smoothing operator which reduces the inherent high frequency noise in the data. Therefore, the noisy non-contourable data are transformed into contourable data. Another advantage of this filter is that a

conductor that does not show up as a cross-over on the unfiltered data quite often will show up on the filtered data.

Profiles of the filter data were prepared for Hawaii and Annapolis separately. These plots were then analyzed and structures interpreted and possible zones of sulphide mineralization or clay alteration identified.

APPENDIX II

MAGNETIC SURVEYS -INSTRUMENTATION AND THEORY

APPENDIX II

Magnetic Surveys - Instrumentation and Theory

The instrument used to perform the magnetic surveys was a proton precession magnetometer, model MP-2 manufactured by Scintrex. This instrument measures the magnitude of the total magnetic field at any given point on the surface. The total field is the sum of the external field and the internal field within and surrounding the material being measured. The magnetometer sensor consists of a chamber filled with a proton rich fluid enclosed within two wire wound coils. When a current passes through these coils for a short period of time a magnetic field is set up which aligns the spinning protons. When this polarizing current is abruptly switched off, the protons begin to precess around the earth's magnetic field and eventually re-align with it. This precession induces a small, exponentially decaying, AC signal in the sensor coils whose frequency is proportional to the flux of the ambient magnetic field. This frequency is measured, converted to gammas and presented on the digital display of the instrument.

The surveys consist of measuring accurately the resultant magnetic field of the earth's magnetism acting on rock formations having different magnetic properties and configurations. The resultant field is the vector sum of induced and remanent magnetism.

Thus there are three factors, excluding geometrical factors, which determine the magnetic field at any particular locality. These are the strength of the earth's magnetic field, the magnetic susceptibility of the rocks present and their remanent magnetism.

Magnetic surveys are useful in conjunction with geological mapping and for exploration for magnetically susceptible minerals. Interpretation of magnetic profiles and maps can assist in interpretation of rock type distribution and the locations of structural features. Often magnetic minerals such as magnetite, pyrrhotite or ilmenite are associated with the mineral deposits which are sought or there may be a depletion of such minerals. Either case can assist in mineral exploration.

APPENDIX III

SELF POTENTIAL SURVEY - INSTRUMENTATION AND THEORY

APPENDIX III

Self Potential Survey - Instrumentaiton and Theory

S.P. stands for Self Potential or Spontaneous Potential. A millivoltmeter - potentiometer is used to take S.P. readings. Well insulated, strong, light, thin wire is connected to the copper electrode which protrude above the foward (positive) pot cap. The millivoltmeter and rear (negative) pot are set up at a single control station. Tying into the control station for traverse balancing is desirable. Two porcelain ceramic pots with porous bottoms are used in the survey. Copper electrodes are suspended down into the pots from the caps. A saturated copper sulphate solution is used as the medium to connect the porous pot contact with the ground, which establishes a mediated electrical contact with the copper electrodes suspended in solution. By convention the forward advancing pot should be linked to the positive or far millivoltmeter connection and the stationary or rear control station pot should be linked to the negative, rear connection. With the positive pot moving "ahead", anomalies are negative after the traditional Carl Barus method which is the currently accepted convention.

S.P. is a potential caused either by Background Potential or Mineralization Potential. Background potentials are caused by biochemical and geochemical action such as bioelectric activity in vegetation and fluid streaming as well as varying electrolytic concentrations in the ground. Their amplitudes vary but are generally less than 100mV and their potentials add up to zero over a long distance because they are as likely to be positive as well as negative.

Mineralization Potentials are of main interest when prospecting and are associated with metal sulphides, graphite,and sometimes oxides such as magnetite. The most common mineralization potentials are caused by pyrite, chalocpyrite, pyrrhotite, sphalerite, galena and graphite. These potentials are negative.

The mechanism for S.P. In mineralization zones is not completely understood, although a number of theories have been developed that try to explain it. The theories generally consider a massive sulfide body, which acts as an electrochemical cell because part of the body is in a state of oxidation. The oxidation potential causes a flow of electrons within and outside the body causing a spontaneous potential at the surface of the earth. The most common weaknesses in the theory are that S.P.

responses have been observed over bodies which were well below the water table in the area. Also S.P. responses in excess of the theoretical values have been observed for graphite. In other instances potentials measured along the surface were about the same magnitude as those measured in drill holes drilled through the presumable sources, when clearly the surface measurements should be less.

Although Self potential has played a minor role in geophysics, it is a fast and cheap method that is useful for base metal exploration when combined with other geophysics, geochemistry and geology.

Treatment of Data

The Data acquired was found to vary differently in different areas. The standard deviation varies from one area to another. This, of course, may be due to one area having stronger sources of S.P. than the other, but other factors such as a conductive overburden cover in one area may also be a factor. Given similar sources of S.P. in two areas, one of which has a conductive overburden cover, the other having regular "B" and "C" horizons, the area with the conductive overburden will show much less S.P. activity due to the "flattening" effect of the overburden cover. By doing statistics on each different area some control is obtained in determining what is anomalous and what isn't for each area. It should be noted that the statistical method gives a quantative guideline to what is anomalous, however, in most circumstances this should be intuitively obvious, but having the statistics will provide better justificaiton for decisions made resulting from the S.P. measurements.

Field Procedure and treatment of Data

The Method used to acquire the Data was the Base (fixed electrode) station method. An arbitarary point along a line was chose to be the base. All measurements on that line were taken with respect to the base. The bases were then tied together so that the entire grids potentials are given with respect to one of the base stations.

Statistical Analysis was applied to the Data in order to determine the contour interval. The actual value of the data is arbitrary; the relative changes of the self potential over the grid area being more important. The contour interval was determined in the following way:

1. values one standard deviation below the means were considered subanomalous values.
2. standard deviations below the mean were considered anomalous and values
3. standard deviations or more below the mean were considered strongly anomalous.

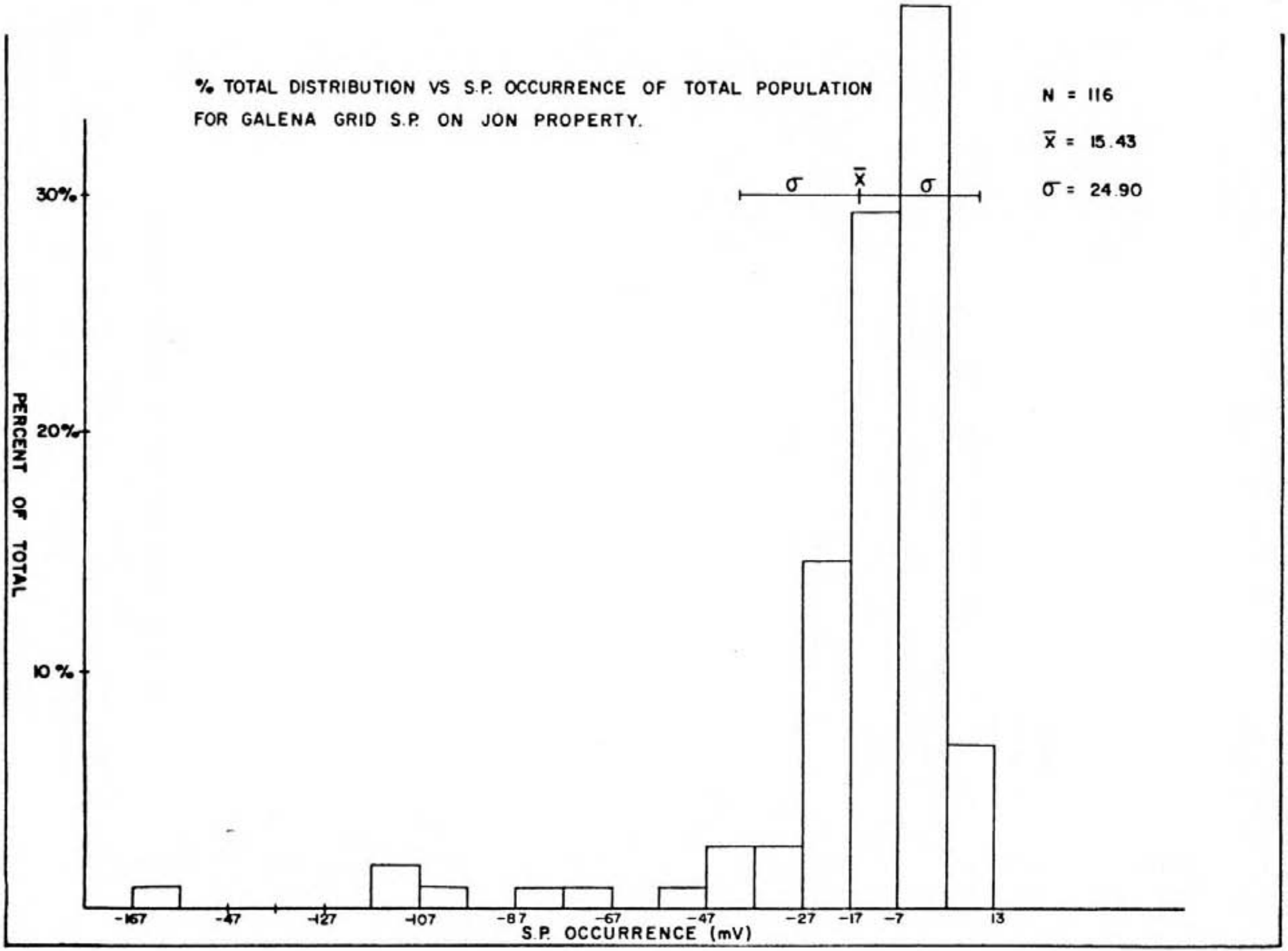
In order where a few large anomalous values were encountered, much larger standard deviations were calculated. This presented a special problem in those areas because of the large standard deviations generated by a few very large data. The large standard deviations sets a contour interval such that small values (which could become subanomalous trends in the absence of the large data) are wiped out. Thus a dynamic range problem exists: smaller anomalies are "wiped out" when a few large values are present.

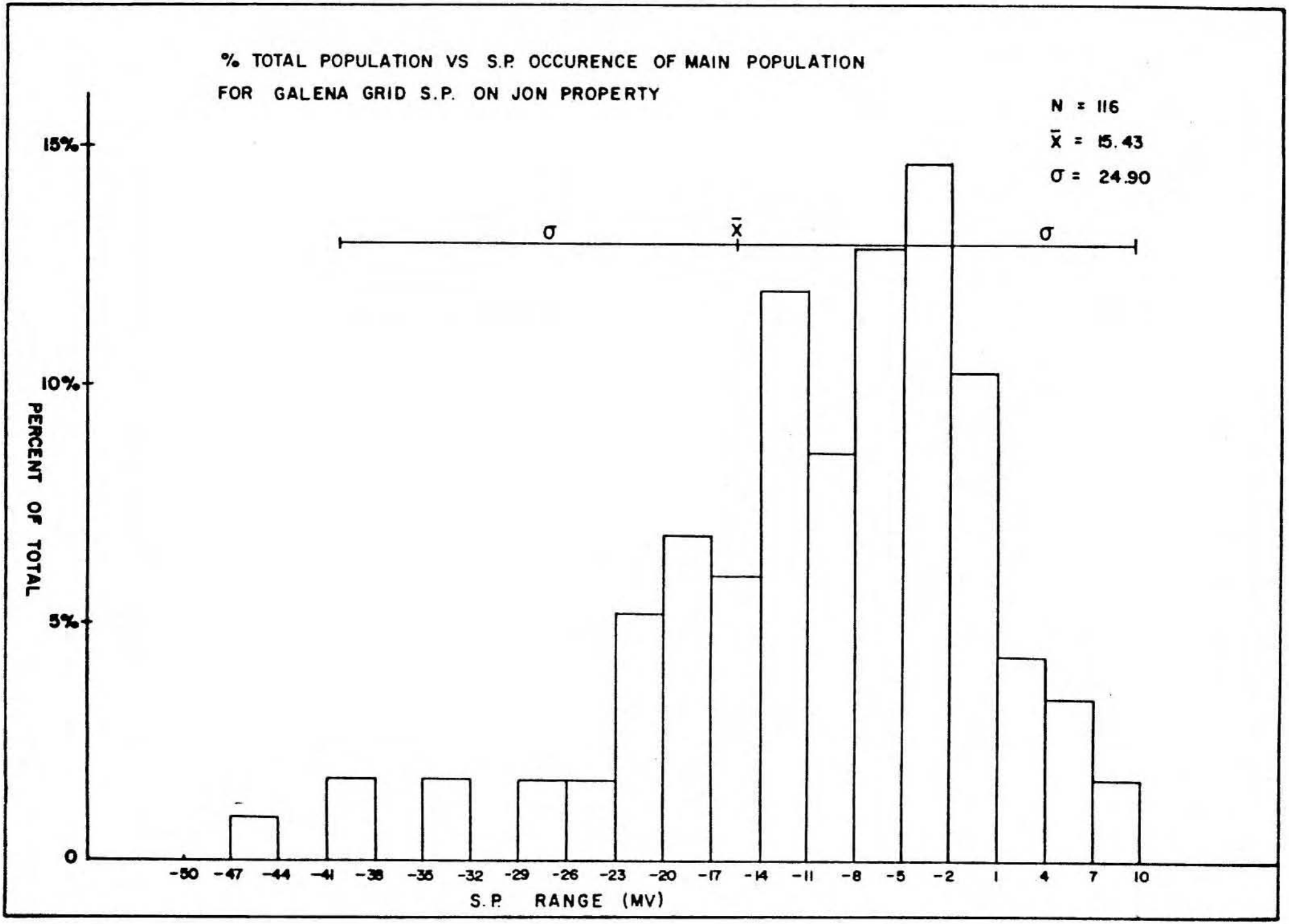
A method developed to deal with the above problem is proposed in the following way: The standard deviation and the mean of the entire population were computed. All values of two or more standard deviations below the mean were discarded from the population. The remaining Population was re-computed for a new mean and standard deviations. The general result was a drastically reduced standard deviation (as much as 50% less) and also a higher background value (mean). The new standard deviations were generally more representative of areas which did not contain huge S.P. values.

Error and Uncertainty in S.P.

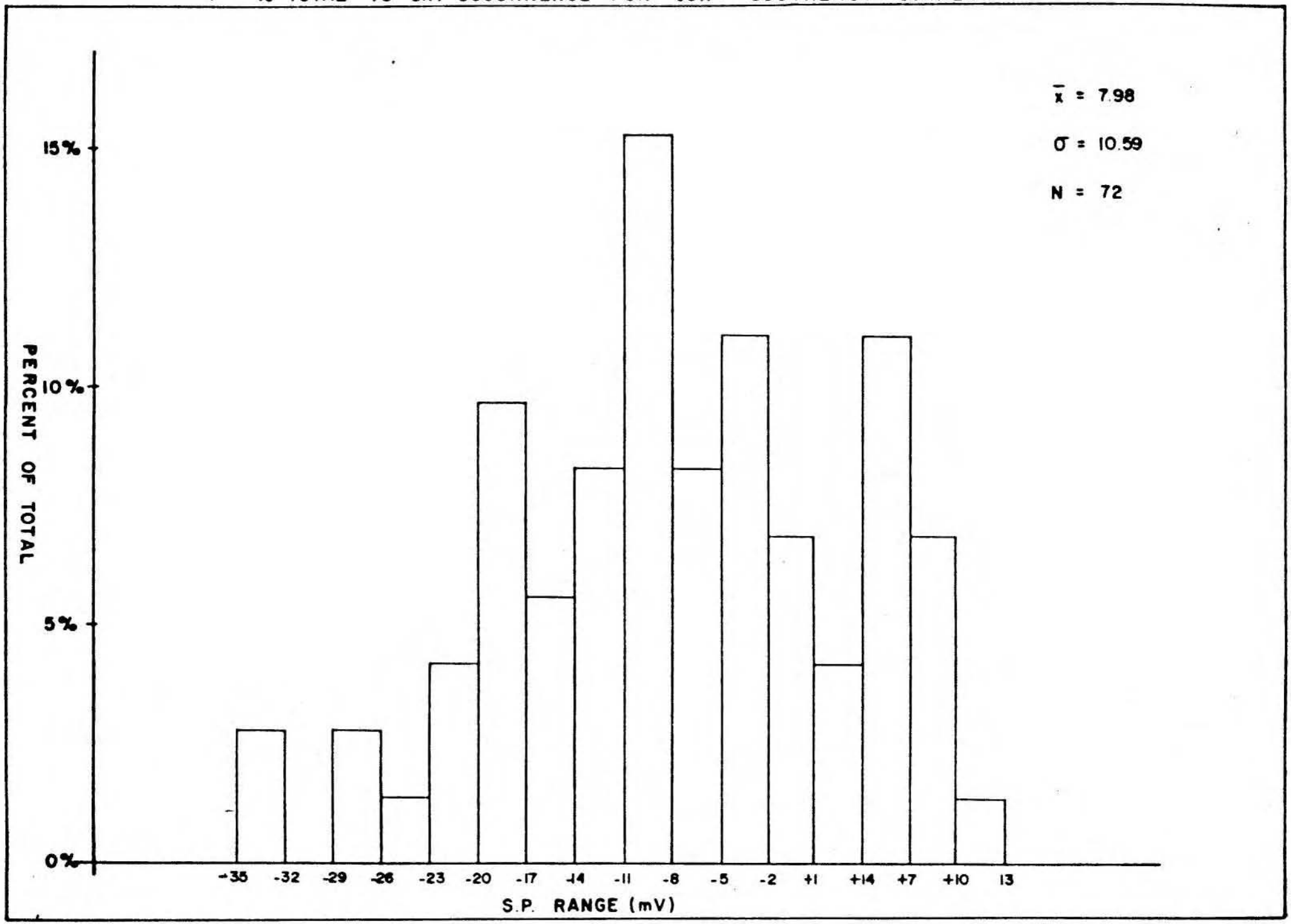
There are a number errors associated with each S.P. measurement. One error is due to a difference in potentials between the pots when they are placed in the same hole. The error is less than 2mV (if the error is greater than 2mV, the pots are cleaned and recharged with a fresh solution of copper sulfate). This error is a systematic one and thus is common to all readings if the base pot is always used as a base pot. There is reason to believe that there is a much larger random error associated with each reading, the cause of which cannot fully be explained. Part of this may be time dependent because measurements taken on different days of the same station produce difference in the readings. The error is in the order of 5 - 10 mV. Some possible causes are differing ground moisture conditions groundwater flow, the amount of water added to the pot hole, telluric currents associated with solar activity and others. Instrument measurement errors are minimal and are estimated to be $\pm$ 1mV at the most.

% TOTAL DISTRIBUTION VS S.P. OCCURRENCE OF TOTAL POPULATION FOR GALENA GRID S.P. ON JON PROPERTY.




% TOTAL POPULATION VS S.P. OCCURENCE OF MAIN POPULATION
FOR GALENA GRID S.P. ON JON PROPERTY
N = 116
$\bar{X}$ = 15.43
σ = 24.90
σ
$\bar{X}$
σ
15%
10%
5%
0
PERCENT OF TOTAL
-50 -47 -44 -41 -38 -35 -32 -29 -26 -23 -20 -17 -14 -11 -8 -5 -2 1 4 7 10
S.P. RANGE (MV)

% TOTAL VS S.P. OCCURRENCE FOR JON : SOUTHEAST CORNER



APPENDIX IV

ITEMIZED COST STATEMENT

APPENDIX IV

ITEMIZED COST STATEMENT - JON CLAIM

PERSONNEL	DUTIES/ POSITION	DAYS WORKED	PAY SCALE	TOTAL COST
C. Nagati	Geology Geologist	13.5	$95/day	$ 1,282.50
A. Gamp	VLF-EM, Magnetometer Self Potential Geophysist	25.5	$95/day	2,422.50
S. Maltby	Geochem & Surveying/ Geological Tech	7	$90/day	630.00
D. Newton	Geochem & Surveying/ Geologist Tech.	13	$90/day	1,170.00
B. Callaghan	Project Supervision/ Project Geologist	29	$110/day	3,190.00
M. Waldner	Supervision/ Chief Geologist	5	$225/day	1,125.00
W. Gillick	Geophysics Assistant for S.P.	5	$150/day	250.00
L. King	Choker, Swamper	184 hrs.	$5/hr.	920.00
R. Kew	Bucking Choker	59 hrs.	$8/hr.	472.00
			Total	$11,462.00

ITEM	RATE	TASK COMPLETED	TOTAL
Room, Board	$55/man/day	193 days	$10,615.00
D-6 Bulldozer and operator	$69/hr.	261 hrs.	18,009.00
FL9 Backhoe and operator	$55/hr.	92 hrs.	5,060.00
Materials & Supplies	Exploration Equipment, Drafting Supplies		625.00
VLF-EM	$15/day	14 days	210.00
Magnetometer	$25/day	4.5 days	112.50
Self Potential	$15/day	11 days	165.00
4 X 4 Crewcabs	$46/day	72 days	3,312.00
4 x 4 Pickup	$43/day	19 days	817.00
Geochem Soil & Samples	$20.35/sample	Au, Ag, Pb, Zn, Ag, Cu, As, Sb, determinations 71	1,444.85
Geochm Silt Samples	$20.35/sample	Au, Ag, Pb, Zn, Cu, As, Sb determinations 41	834.35
Rock Geochem Samples	$29.35/sample	Au, Ag, Pb, Zn, Cu, As, Sb determination 79	2,310.75
Assaying	$25.75/sample	Ag, Pb, Zn x 4	103.00
	$33.75/sample	Au, Ab, Pb, Cu x 1	33.75
	$29.25/sample	Au, Ag, Pb, Zn x 2	58.50
	$18.75/sample	Au, Pb x 1	18.75
Freight charges		shipping rock & soil samples	100.00
Drafting	$12/day	101 hrs.	1,212.00
Radios	$15/day	96 days	1,440.00
Map Preparation	(B. Callaghan - 30 days @ $110/day		3,300.00
Interpretation &	(M. Waldner - 3 days @ $225/day		675.00
Report Prep	(A. gamp - 22days @ $95/day		2,090.00
Typing and Copying			450.00
		Total	52,996.45
		Grand Total	$63,755.35

Field work performed between July 22nd and October 19, 1983

Interpretation of results, map preparation and report preparation done between December 1st - April 1, 1984.

387,600 E

5,528,800 N

10+00N
9+00N
10+00N-B
7+00N
6+00N
5+00N
4+00N
3+00N
2+00N
1+00N
1+00N-B
0+00N-B
0+00N/S

8+25W 8+00W 7+50W 7+00W 6+50W 6+00W 5+50W 5+00W 4+50W 4+00W 3-50W-F 3+00W 3+00W-F 2+00W 1+50W-F 1+00W 1+00W-B 0+00W 1+00E 2+00E 2+50E 3+00E 3+50E 4+00E 4+50E 5+00E 5+50E 6+00E

DICTATOR RD.

RENDELL CK

WATERLOO CK

L1 L2 L3 L4 L5 L6 L7

SCALE 1:3000

100m 50 0 50 100 150 200 250m

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356
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TERTIARY

CENOZOIC — KAMLOOPS GROUP
Basalt, olivine basalt, minor rhyolitic lava, and breccia.

CRETACEOUS

MESOZOIC — COAST INTRUSIONS
Valhalla intrusions: granite, porphyritic granite.
Nelson intrusions: granodiorite, porphyritic granite, diorite, monzonite, quartz monzonite.

PERMIAN

PALEOZOIC — ANACHIST GROUP
Greenstone, greywacke, paragneiss, andesitic lava, breccia, recrystallized tuffy tuffs.

Limestone.

ROAD
NO VEGETATION
SLIDE AREA
GEOCHEM SOIL TRAVERSE 10+00N
GEOCHEM SILT TRAVERSE
MARSH
ROCK GEOCHEM. SAMPLE .9999
DIRECTION OF GLACIATION
SPHALERITE, GALENA FLOAT

FAULT (approximate) (inferred)
CONTACT (approximate) (inferred)
BEDDING (inclined, vertical, unknown)
FOLIATION (inclined, vertical, unknown)
FRACTURES (inclined, vertical, unknown)
TRENCH
PIT
OUTCROP

Qz	QUARTZ
Peg	PEGMATITE
Grt	GARNET
Apl	APLITE
Calc	CALCITE
Hem	HEMATITE
Mag	MAGNETITE
Pyrr	PYRRHOTITE
Sph	SPHALERITE
Ga	GALENA
Br	BORNITE
Cpy	CHALCOPYRITE
Chl	CHLORITE
Chal	Chalcedony

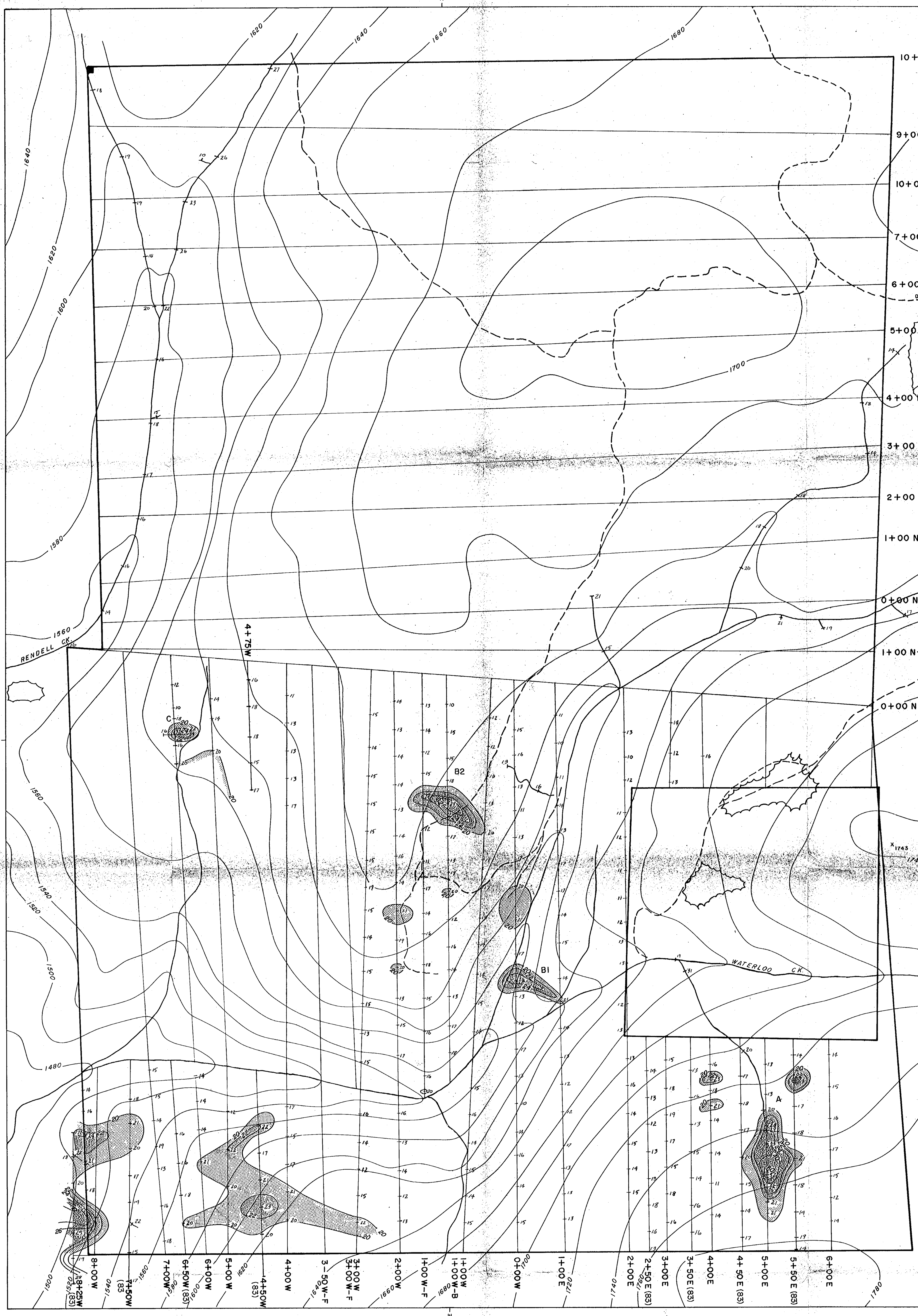
MOHAWK OIL COMPANY LTD.

LIGHTNING PEAK AREA

JON

GEOLOGY

DRAWN BY	SCALE	DATE	DRAWING NO
M. LETILLY	1:3000	MARCH, 1984	1



SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

SUBANOMALOUS	ANARCHIST GROUP INTRUSIVES	SOIL SAMPLE GRID LINE (values in ppm)	6 9 2
ANOMALOUS	ANARCHIST GROUP INTRUSIVES	CONTOUR LINE (ppm)	60
SECOND ORDER ANOMALY	ANARCHIST GROUP INTRUSIVES	TOPOGRAPHIC CONTOUR	1620
		ROAD	- - - - -

MOHAWK OIL COMPANY LTD.

LIGHTNING PEAK AREA

JON

LEAD SOIL & SILT GEOCHEMISTRY

DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	2

387,600 E

5,528,800 N

10+00N
9+00N
10+00N-B
7+00N
6+00N
DICTATOR RD.
5+00N
4+00N
3+00N
2+00N
1+00N
0+00N-B
1+00N-B
0+00N/S

4+75W

RENDELL CK.

WATERLOO C.K.

X 1679

X 1743

A
B
B1
B2
C

8+00W
8+25W (83)
7+50W (83)
7+00W
6+50W (83)
6+00W
5+00W
4+50W (83)
4+00W
3-50W-F
3+00W-F
2+00W
1+00W-F
1+00W-B
0+00W
1+00E
2+00E
2+50E (83)
3+00E
3+50E (83)
4+00E
4+50E (83)
5+00E
5+50E (83)
6+00E

387,600 E

SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

SUBANOMALOUS — ANARCHIST GROUP INTRUSIVES

ANOMALOUS — ANARCHIST GROUP INTRUSIVES

2ND ORDER ANOMALY — ANARCHIST GROUP INTRUSIVES

SOIL SAMPLE GRID LINE (values in ppm)

CONTOUR LINE (ppm) —60—

TOPOGRAPHIC CONTOUR —1620—

ROAD

GEOLOGICAL BRANCH
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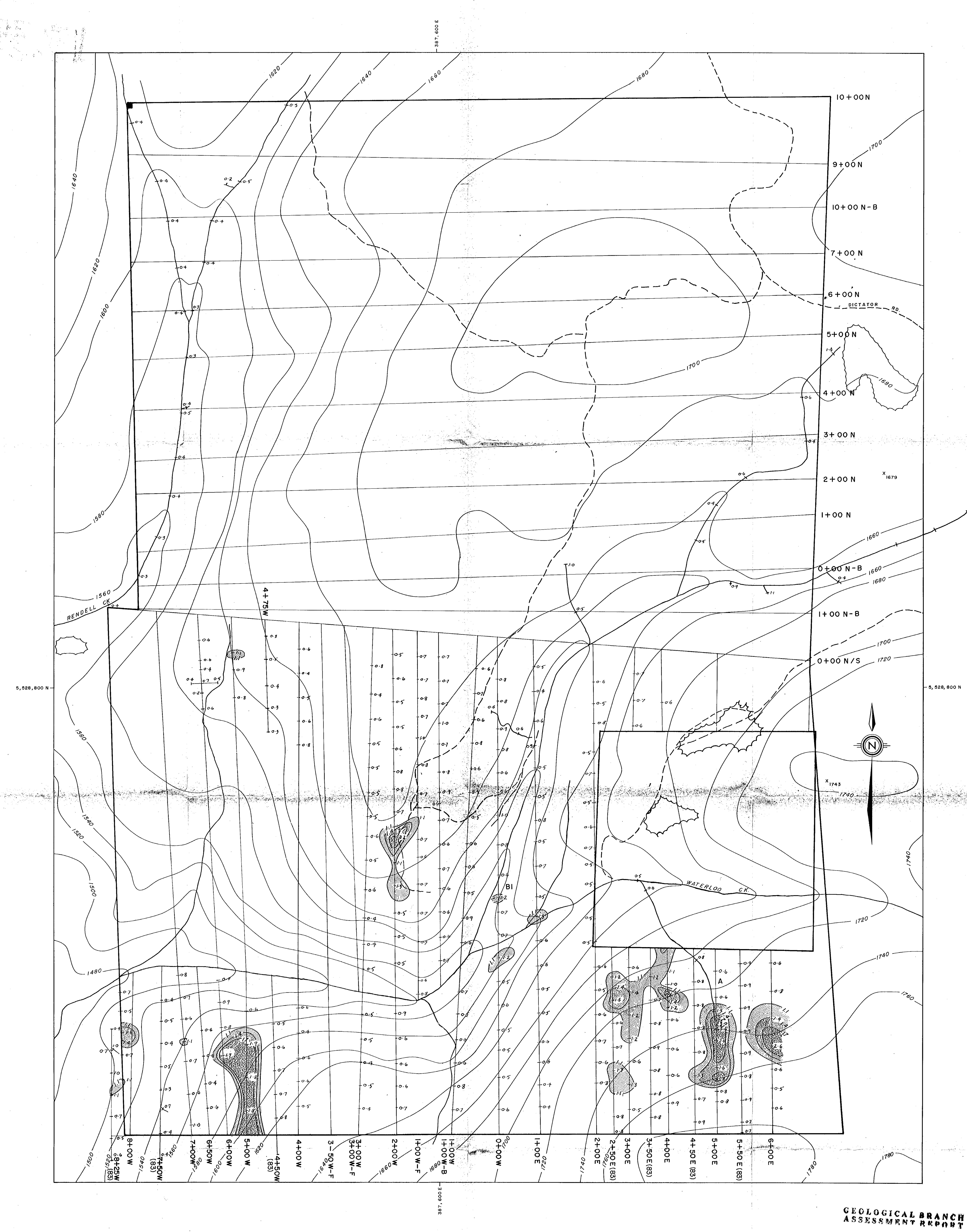
MOHAWK OIL COMPANY LTD.

LIGHTNING PEAK AREA

JON

ZINC SOIL & SILT GEOCHEMISTRY

DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	3



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356

PART 5 OF 5

SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

SUBANOMALOUS	ANARCHIST GROUP INTRUSIVES		SOIL SAMPLE GRID LINE (values in ppm)	6 9 2
ANOMALOUS	ANARCHIST GROUP INTRUSIVES		CONTOUR LINE (ppm)	—60—
2ND ORDER ANOMALY	ANARCHIST GROUP INTRUSIVES		TOPOGRAPHIC CONTOUR	—1620—
			ROAD	– – – – –

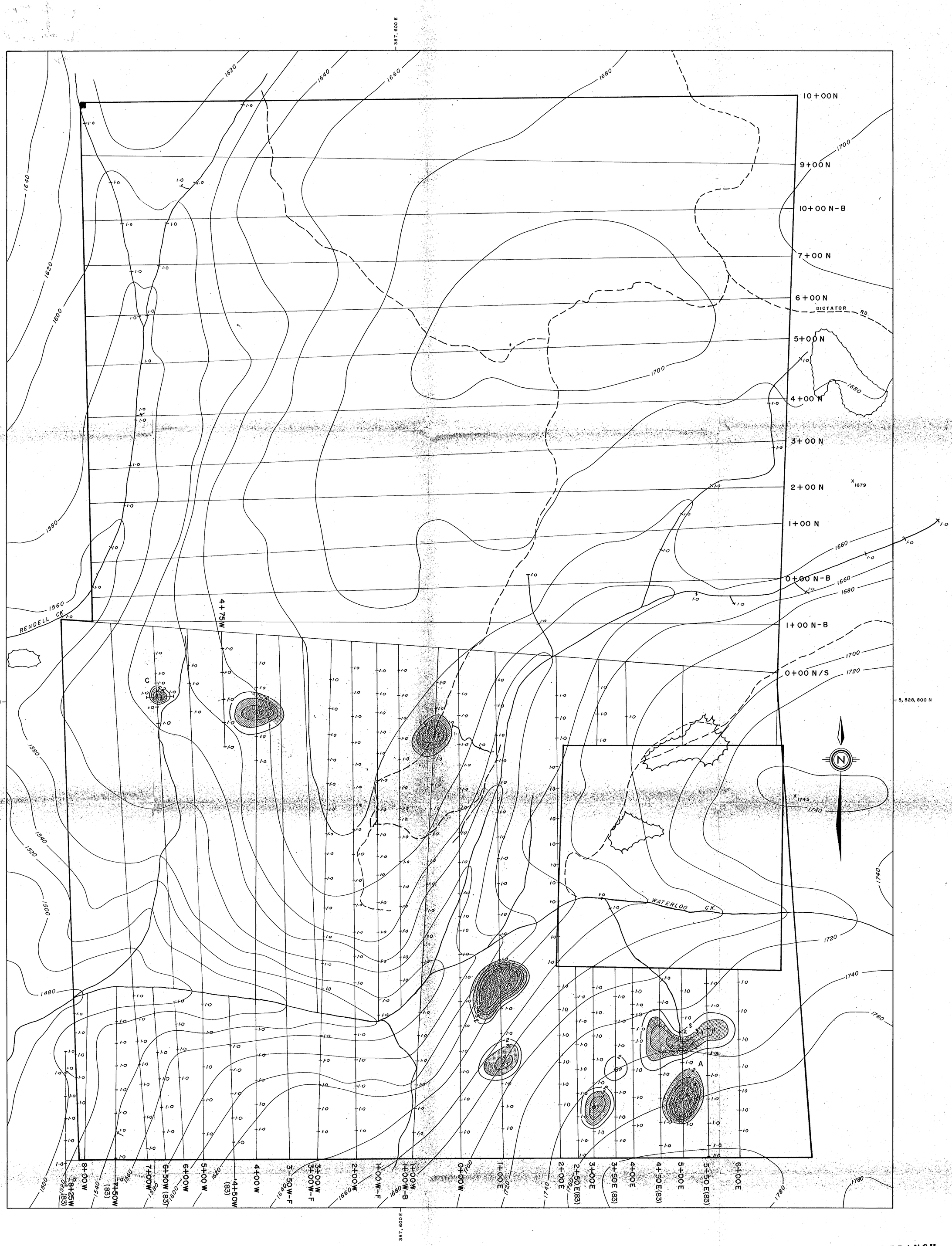
MOHAWK OIL COMPANY LTD.

LIGHTNING PEAK AREA

JON

SILVER SOIL & SILT GEOCHEMISTRY

DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	4



SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

SUBANOMALOUS — ANARCHIST GROUP INTRUSIVES

ANOMALOUS — ANARCHIST GROUP INTRUSIVES

2ND ORDER ANOMALY — ANARCHIST GROUP INTRUSIVES

SOIL SAMPLE GRID LINE (values in ppm) 6 9 2

CONTOUR LINE (ppm) —60—

TOPOGRAPHIC CONTOUR —1620—

ROAD

GEOLOGICAL BRANCH
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MOHAWK OIL COMPANY LTD.			
LIGHTNING PEAK AREA			
JON ARSENIC SOIL & SILT GEOCHEMISTRY			
DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	5

387,600 E

5,528,800 N

10+00N
9+00N
10+00N-B
7+00N
6+00N
DICTATOR RD.
5+00N
4+00N
3+00N
2+00N
1+00N
1+00N-B
0+00N-B
0+00N/S

4+75W

RENDELL CK

WATERLOO CK

X 1679

X 1743

8+00W
7+50W (83)
7+00W
6+50W (83)
6+00W
5+00W
4+50W (83)
4+00W
3-50W-F
3+00W
3+00W-F
2+00W
1+00W-F
1+00W-B
0+00W
1+00E
2+00E
2+50E (83)
3+00E
3+50E (83)
4+00E
4+50E (83)
5+00E
5+50E (83)
6+00E
8+25W (83)

3,609,783

SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

SUBANOMALOUS — ANARCHIST GROUP INTRUSIVES

ANOMALOUS — ANARCHIST GROUP INTRUSIVES

2ND ORDER ANOMALY — ANARCHIST GROUP INTRUSIVES

SOIL SAMPLE GRID LINE (values in ppm) — 6 9 2

CONTOUR LINE (ppm) — 60

TOPOGRAPHIC CONTOUR — 1620

ROAD

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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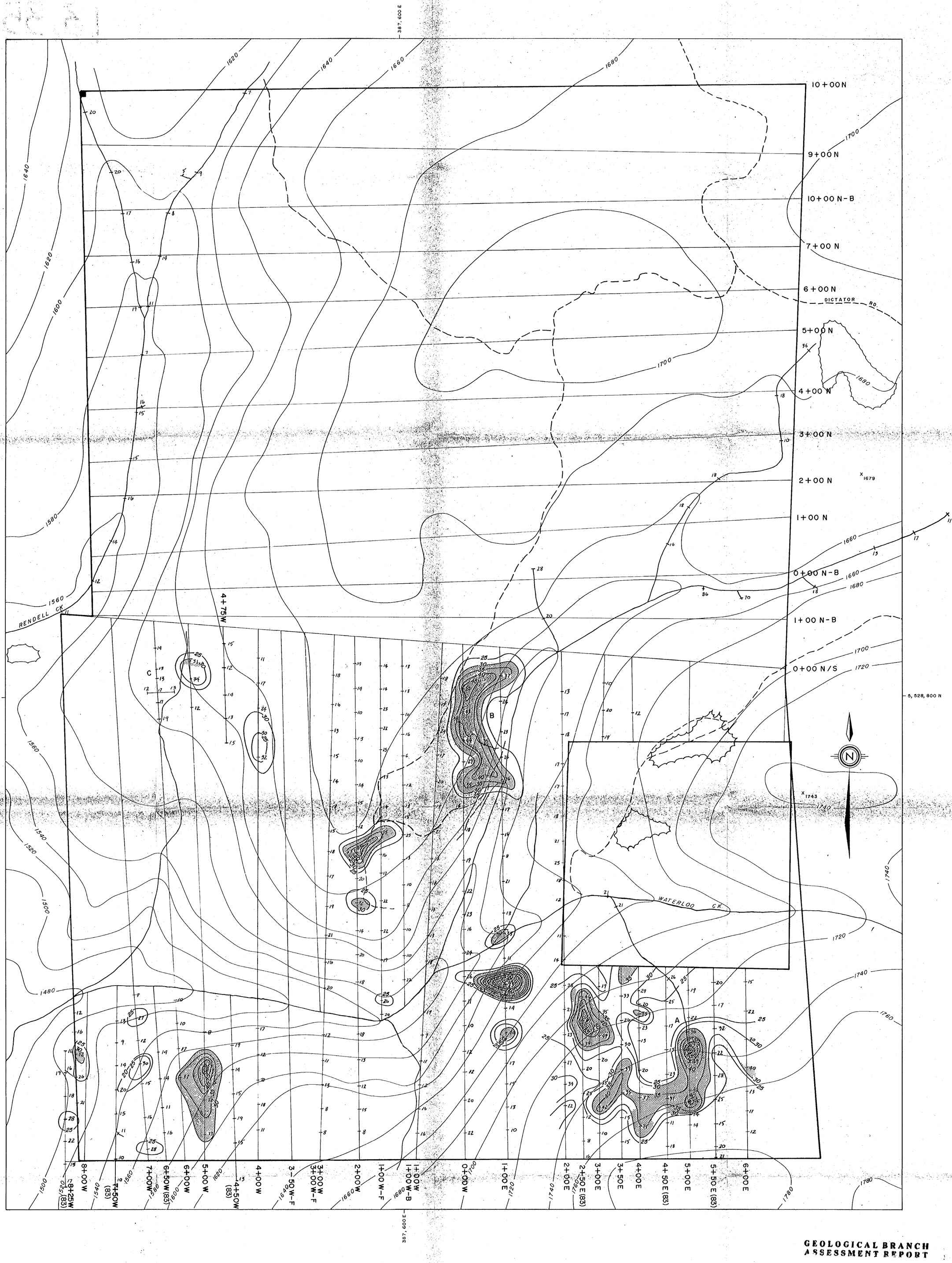
PART 5 OF 5

MOHAWK OIL COMPANY LTD.			
LIGHTNING PEAK AREA			
JON ANTIMONY SOIL & SILT GEOCHEMISTRY			
DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	6



SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

- SUBANOMALOUS — ANARCHIST GROUP INTRUSIVES
- ANOMALOUS — ANARCHIST GROUP INTRUSIVES
- 2ND ORDER ANOMALY — ANARCHIST GROUP INTRUSIVES
- SOIL SAMPLE GRID LINE (values in ppm)
- CONTOUR LINE (ppm)
- TOPOGRAPHIC CONTOUR
- ROAD

GEOLOGICAL BRANCH
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MOHAWK OIL COMPANY LTD.			
LIGHTNING PEAK AREA			
JON COPPER SOIL & SILT GEOCHEMISTRY			
DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	7

387,600 E

5,528,800 N

10+00N
9+00N
10+00N-B
7+00N
6+00N
DICTATOR RD.
5+00N
4+00N
3+00N
2+00N
1+00N
0+00N-B
1+00N-B
0+00N/S
4+75W
RENDELL CK
WATERLOO C.K.
X 1679
X 1743
N

8+00W 7+50W 7+00W 6+50W 6+00W 5+00W 4+50W 4+00W 3+50W-F 3+00W 3+00W-F 2+00W 1+00W-F 1+00W-B 1+00W 0+00W 1+00E 2+00E 2+50E 3+00E 3+50E 4+00E 4+50E 5+00E 5+50E 6+00E

(83)

387,600 E

SCALE 1:3000

100m 50 0 50 100 150 200 250m

LEGEND

SUBANOMALOUS — ANARCHIST GROUP INTRUSIVES

ANOMALOUS — ANARCHIST GROUP INTRUSIVES

2ND ORDER ANOMALY — ANARCHIST GROUP INTRUSIVES

SOIL SAMPLE GRID LINE (values in ppm) 6 9 2

CONTOUR LINE (ppb) —60—

TOPOGRAPHIC CONTOUR —1620—

ROAD

GEOLOGICAL BRANCH
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MOHAWK OIL COMPANY LTD.			
LIGHTNING PEAK AREA			
JON GOLD SOIL & SILT GEOCHEMISTRY			
DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1:3000	MARCH, 1984	8

East West traverses contoured.

RENDELL CK.

WATERLOO CK.

1+50 W
1+00 W
0+50 W — 387,600E
0+00 E/W
0+50 E

9+50 N
8+50N
7+50N

HAWAII (23.4 KHz)

1983 SURVEY

7+50 N
6+50 N
5+50 N
4+50 N
3+50 N
2+50 N
1+50 N

ANNAPOLIS

1983 SURVEY

5,528,800N

5,528,800 N

1+30 W
Mini Quartz Grid
0+20 E
0+50N
0+50S
200 E (82)

HAWAII (23.4 KHz)

Fine Grid

0+00 N/S Baseline

Mini SP Grid

0+50E ('83)
0+50E ('82)
1+50E ('83)

WATERLOO CK.

HAWAII (23.4 KHz)

1+50W ('83)
1+00W ('83)
0+50 ('83)
0+00 E/W ('83)

387,600E

2+50E ('83)
3+00E ('82)
3+50E ('83)
4+00E ('82)
4+50E ('83)
5+00E ('82)
5+50E ('83)
6+00E ('82)

SCALE 1:3000

100m 50 0 50 100 150 200 250m

GEOLOGICAL BRANCH
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MOHAWK OIL COMPANY LTD.

LIGHTNING PEAK AREA

JON

VLF-EM DIP ANGLES

ANNAPOLIS AND HAWAII

CONTOUR INT 4°

DRAWN BY	SCALE	DATE	DRAWING NO
M LETILLY	1 3000	MARCH, 1984	9

FINE GRID
SCALE 1:500

MINI QUARTZ GRID
SCALE 1:400

SCALE 1:400

MOHAWK OIL COMPANY LTD.

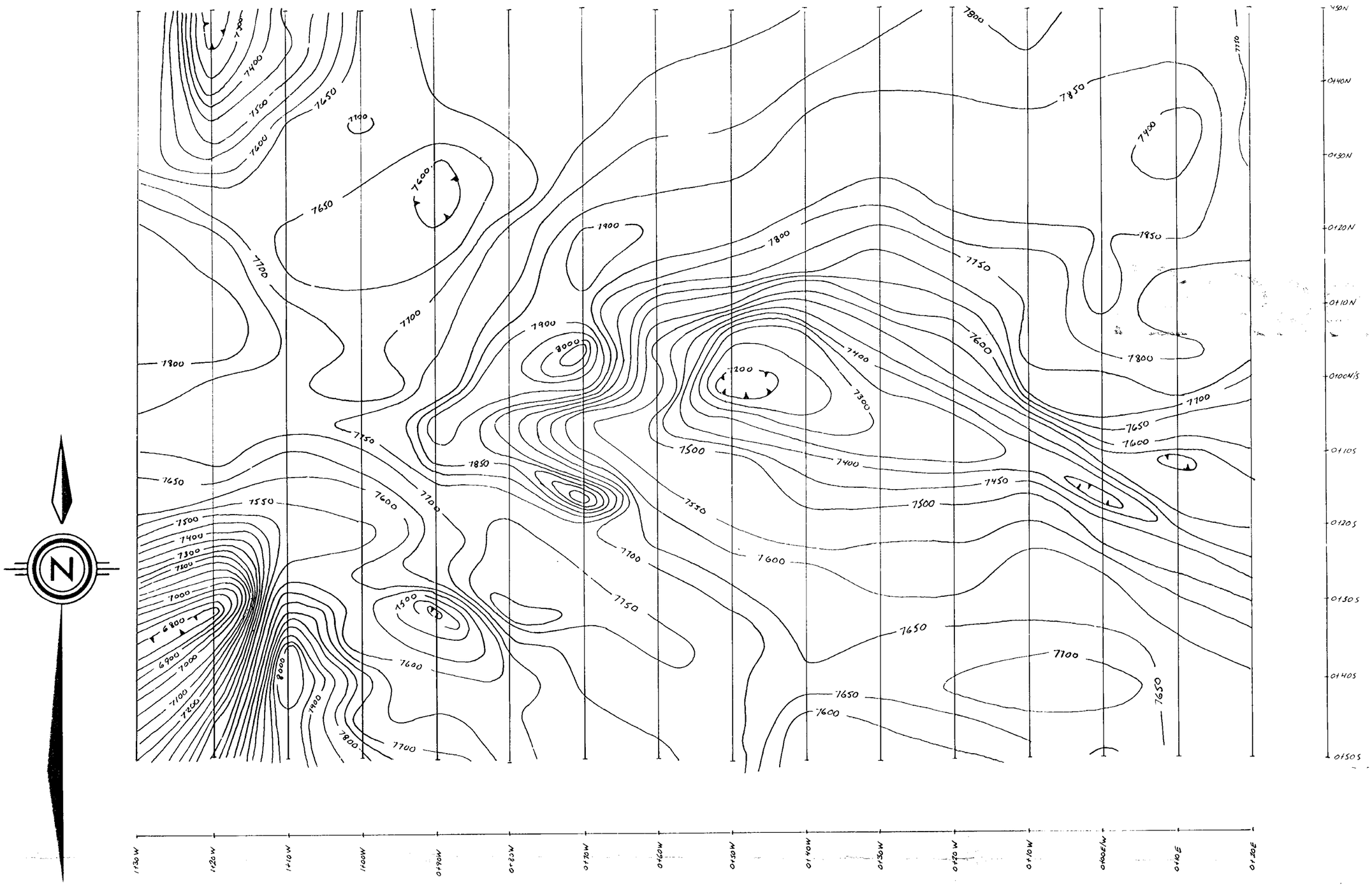
LIGHTNING PEAK AREA

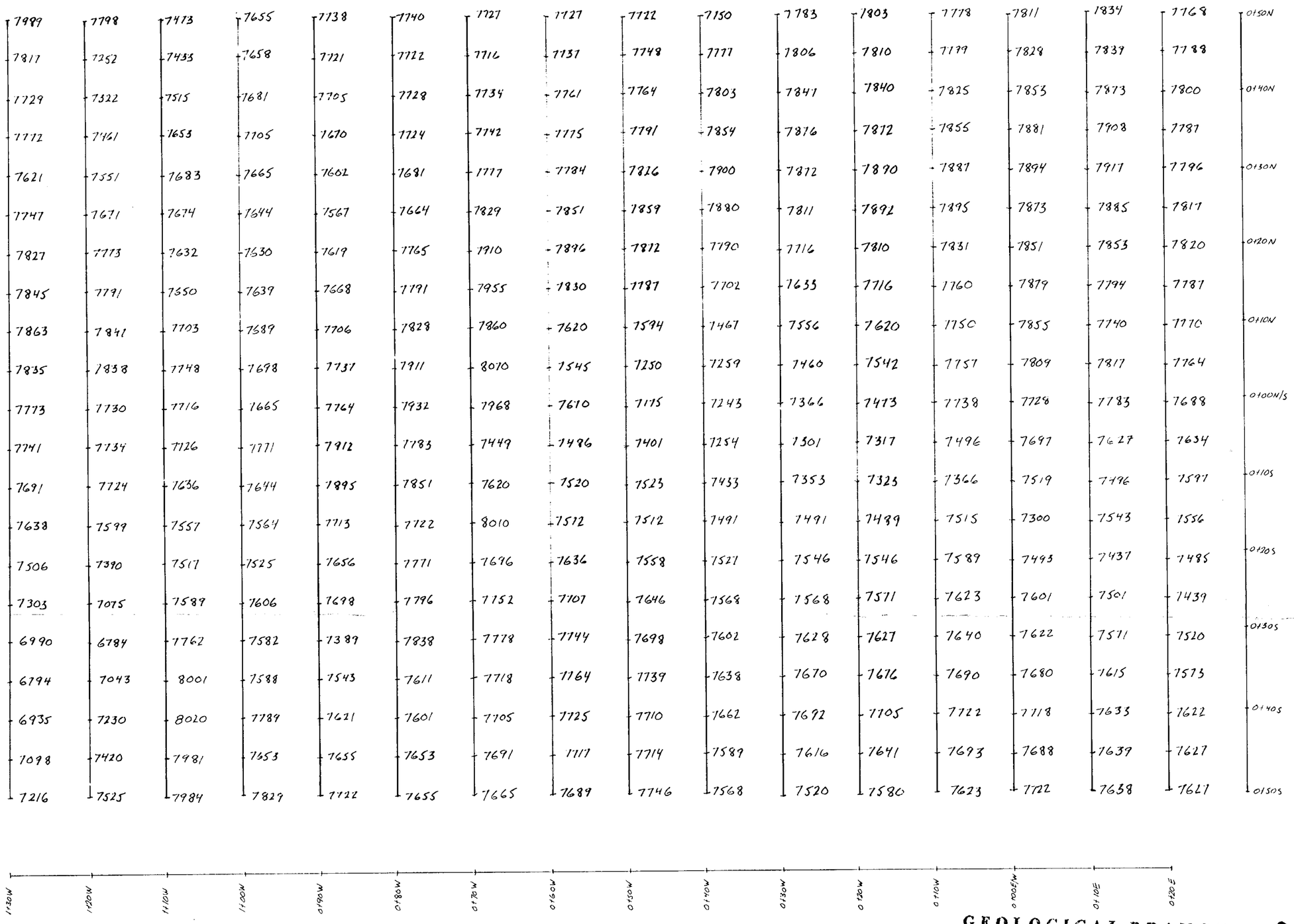
JON

VLF - EM DIP ANGLES
ANNAPOLIS

FRAZER FILTERED (21.4 KH_z)
CONTOUR INTERVAL 1°

DRAWN BY	SCALE	DATE	DRAWING NO.
M. LETILLY	1: 400	MARCH, 1984	10





GEOLOGICAL BRANCH
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MOHAWK OIL COMPANY LTD.

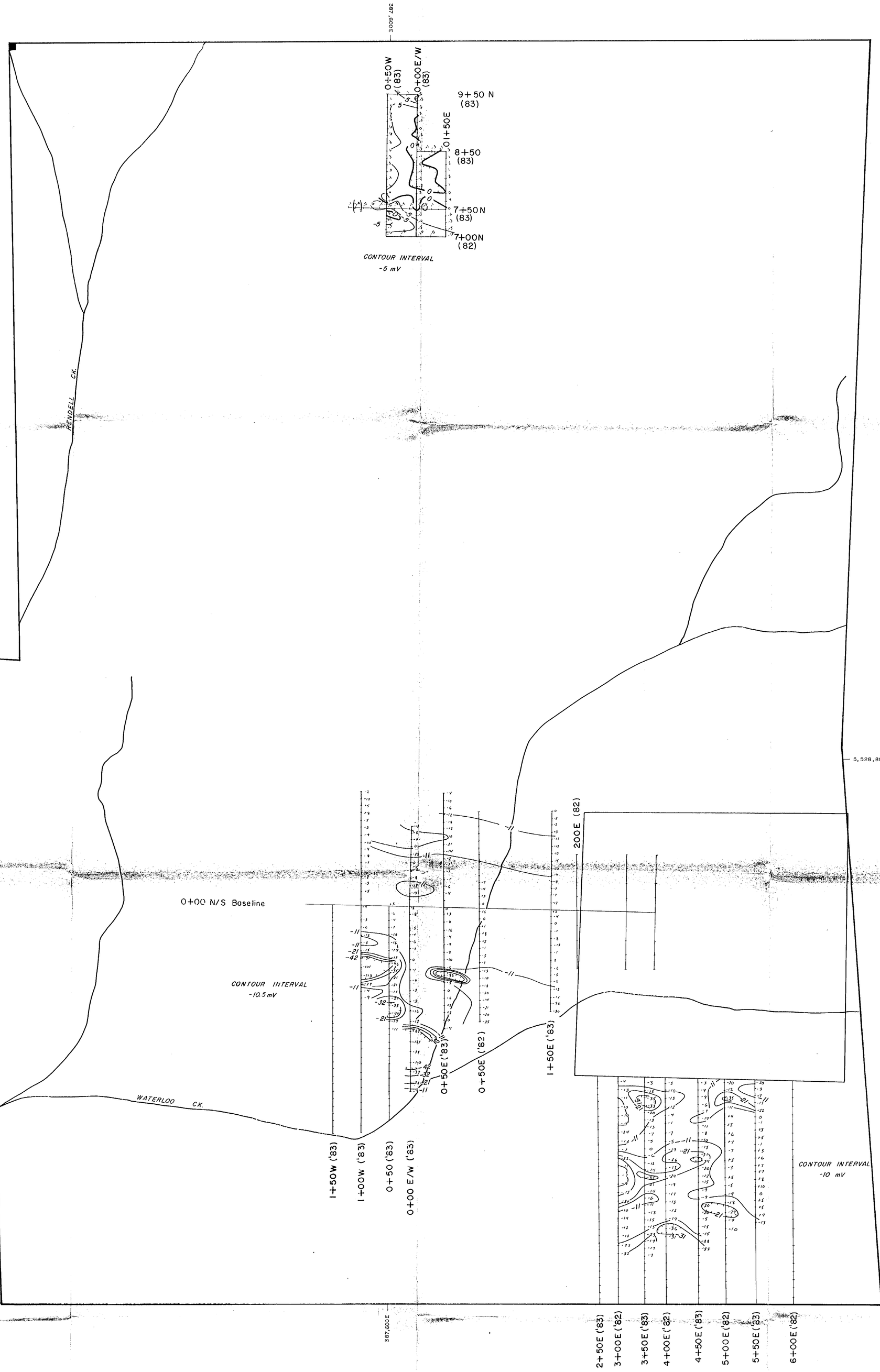
LIGHTNING PEAK AREA

JON

MAGNETIC SURVEY

QTZ SHOWING
BASE 50,000δ
CONTOUR INT. 100δ

DRAWN BY	SCALE	DATE	DRAWING NO
M. LETILLY	1 400	MARCH, 1984	12



SCALE 1:3000

100m 50 0 50 100 150 200 250m

GEOLOGICAL BRANCH
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MOHAWK OIL COMPANY LTD.

LIGHTNING PEAK AREA

JON

SELF POTENTIAL

Contour Interval As Indicated

DRAWN BY	SCALE	DATE	DRAWING NO.
M LETILLY	1:3000	MARCH, 1984	15

TRENCH L1
Galena Fine Grid
Ground Level
Gentle Downslope
Porphyritic Granodiorite.
K-spar Phenocrysts Make Up 5% of The Rock
To the SE:
Feldspars slightly Altered to Clay and Mafics are Altering to Chlorite
Minor Iron Stain and Pyrolusite on Fracture Surfaces
Topsoil
Base of Trench Relative to Ground Level
Unoxidized Hardpan
Rises In the Base of the Trench Due To Immovable Boulders.
27°
TRENCH L2
DOWNSLOPE
ALTERED INTRUSIVE - PROBABLY (PORPHYRITIC) GRANODIORITE.
MEDIUM TO COARSE GRAINED
FELDSPARS → CLAY WITH TRACE HEMATITE STAINING
MAFICS → CHLORITE, CLAY
ABUNDANT QUARTZ AT NORTH END
MINOR LIMONITE
GENERALLY QUITE INCOMPETENT; AT LOCATIONS MARKED 'A' THE ROCK IS MORE COMPETENT
TOPSOIL OVERLYING UNOXIDIZED HARDPAN
GROUND LEVEL
BASE OF TRENCH RELATIVE TO GROUND LEVEL
INTRUSIVE WEATHERED INTO A SOIL. WEATHERED CRYSTALS OF MICA ABUNDANT
ALTERED INTRUSIVE HERE HAS LESS QUARTZ, ONLY TRACE LIMONITE, MORE BIOTITE. THE ROCK COMPOSITION APPEARS TO BE NEAR THE DIORITE / GRANODIORITE BOUNDARY. THE ROCK IS MEDIUM GRAINED. FIND LARGE BLOCKS OF COMPETENT MATERIAL INTER-MIXED WITH INCOMPETENT MATERIAL
BEAR DUE NORTH FROM THE NORTH END OF THE TRENCH FOR SIX METERS TO HIT THE WEST END OF TRENCH C3 (L5)
TRENCH L3
ALTERED INTRUSIVE - PROBABLY (PORPHYRITIC) GRANODIORITE
FINE TO MEDIUM GRAINED, SEMI-COMPETENT
FELDSPARS → CLAY, SERICITE WITH TRACE HEMATITE STAINING
MAFICS → CHLORITE, CLAYS
QUARTZ ~ 10%
MINOR LIMONITE STAINING THROUGHOUT
BLACK OXIDATION PRODUCTS ON SOME SURFACES
TOPSOIL OVERLYING UNOXIDIZED HARDPAN
DOWNSLOPE
SIMILAR TO THE OTHER OUTCROP IN THE TRENCH. LOCALLY THE FELDSPAR IS MORE ABUNDANT AND OF LARGER GRAIN SIZE. THE ROCK HERE LACKS THE LIMONITE AND HEMATITE STAINING. THE ROCK IS LOCALLY COMPETENT AND THEN RAPIDLY BECOMES INCOMPETENT.
BEAR 135° FROM THE NORTH END OF THE TRENCH FOR TWENTY METERS TO REACH THE WEST END OF TRENCH C3 (L5)
LEGEND
FAULT (approximate) (inferred)
CONTACT (approximate) (inferred)
BEDDING (inclined, vertical, unknown)
FOLIATION (inclined, vertical, unknown)
FRACTURES (inclined, vertical, unknown)
OUTCROP
ROAD
GEOCHEM SOIL TRAVERSE 10+00N
ROCK GEOCHEM SAMPLE 9999
Qz QUARTZ
Peg PEGMATITE
Grt GARNET
Apl APLITE
Calc CALCITE
Hem HEMATITE
Mag MAGNETITE
Pyr PYRRHOTITE
Sph SPHALERITE
Ga GALENA
Br BORNITE
Cpy CHALCOPYRITE
Di DIORITE
DATE SYM REVISION RECORD AUTH DR CK
GEOLOGICAL BRANCH ASSESSMENT REPORT
13,356
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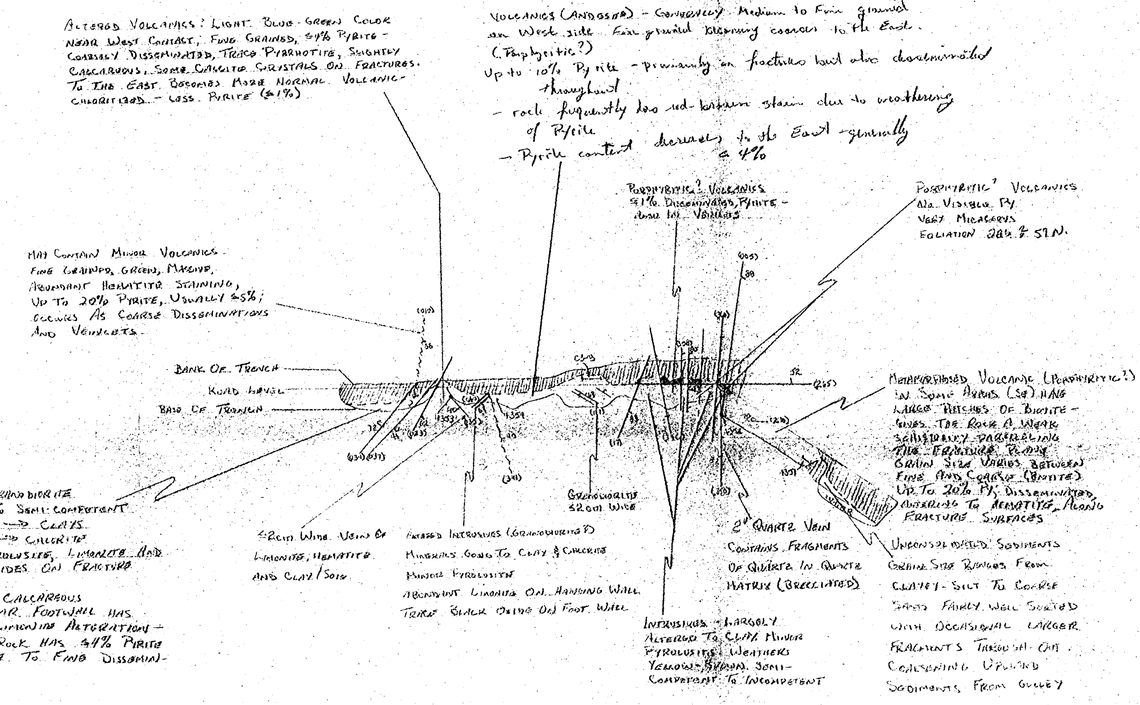
SCALE 1:200
MOHAWK OIL CO LTD.
JON CLAIM
SCALE 1:200
DRAWN BY CN
APPROVED BY B. CALLAGHAN
TITLE
TRENCHS L1, L2, L3
DATE SEPT., 1983
DRAWING NUMBER 17
K+E CRYSTALENE ENGINEERS STANDARD FORM
MADE IN U.S.A.

DATE	BY	REVISION RECORD	AUTH	DR.	CH.

OVERBURDEN

Limestone - medium to coarse grained
- white with hematite stain
- unmineralized except for the western most exposure which contains - trace Py, garnet and Diopside?



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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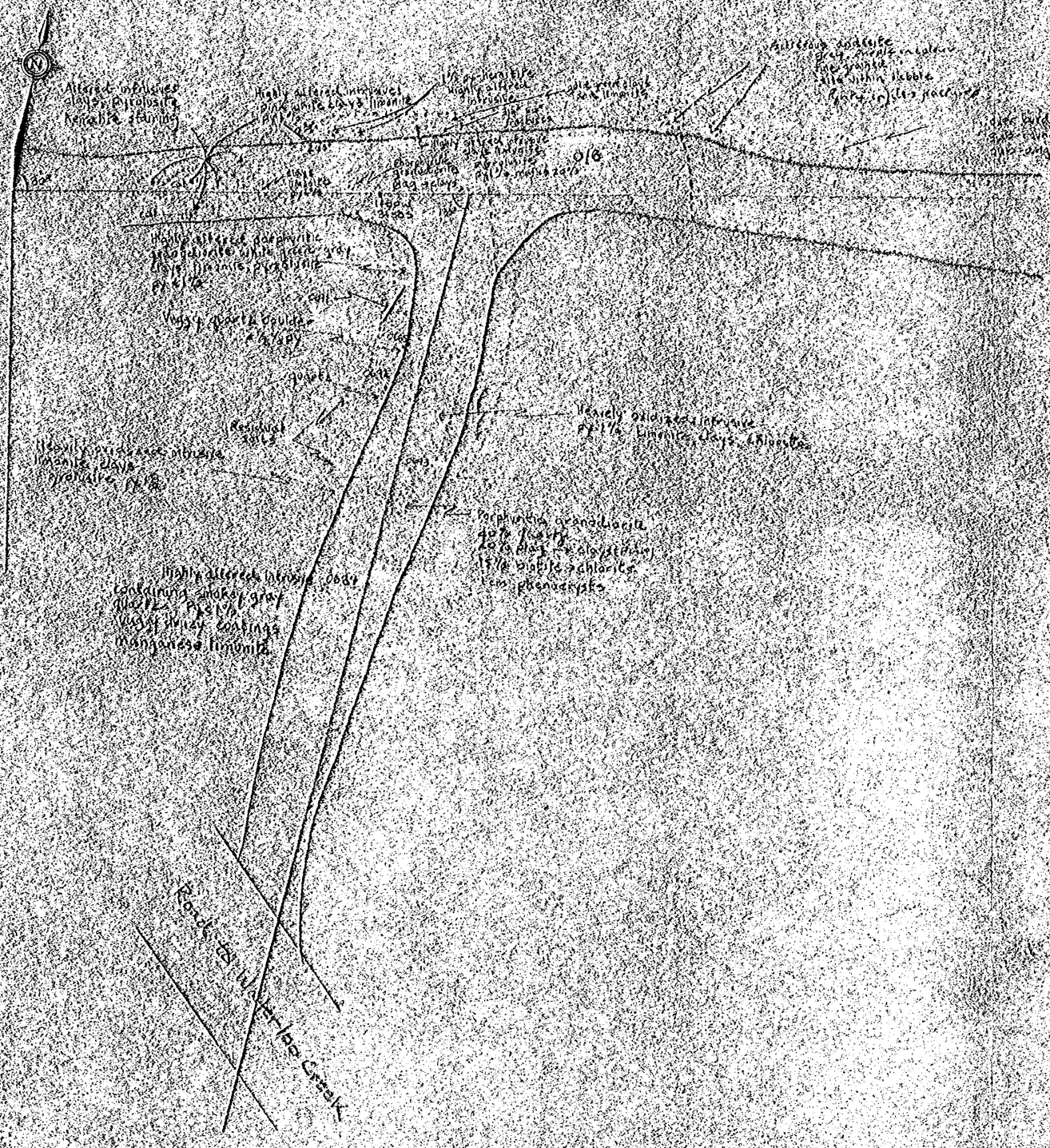
SCALE 1:200

Refer to Map No. 1 for legend.

MOHAWK OIL CO. LTD.		
SCALE: 1:200	APPROVED BY: B. CALLAGHAN	DRAWN BY: CN.
DATE: OCT. 1983		REVISED
TRENCH C3 (CROSS SECTION)		
JON CLAIM		DRAWING NUMBER 18

KOE CRYSTALINE 3 22216
ENGINEERS' STANDARD FORM



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356
PART 5 OF 5

SCALE 1:200

Refer to map No. 1 for legend.

MOHAWK OIL CO. LTD.		
SCALE 1:200	APPROVED BY: B. CALLAGHAN	DRAWN BY: D.M.
DATE: SEPT. 1988		REVISED
TRENCH C2 (PLAN VIEW)		
JON CLAIM		DRAWING NUMBER 19

4176 Andesite? or Altered rock - silicified V.F.G. Pyrrh 1 (arsenopyrite) ≈ 15% of rock

4177 Quartz vein 5cm wide strikes N40°E / 32W ≈ 5% tetrahedrite ± arsenopyrite? + py = 2%

4178 Very fine grained altered intrusive? foliated V.F.G disseminated pyrrhotite? tetrahedrite? ± sphalerite ± (py)

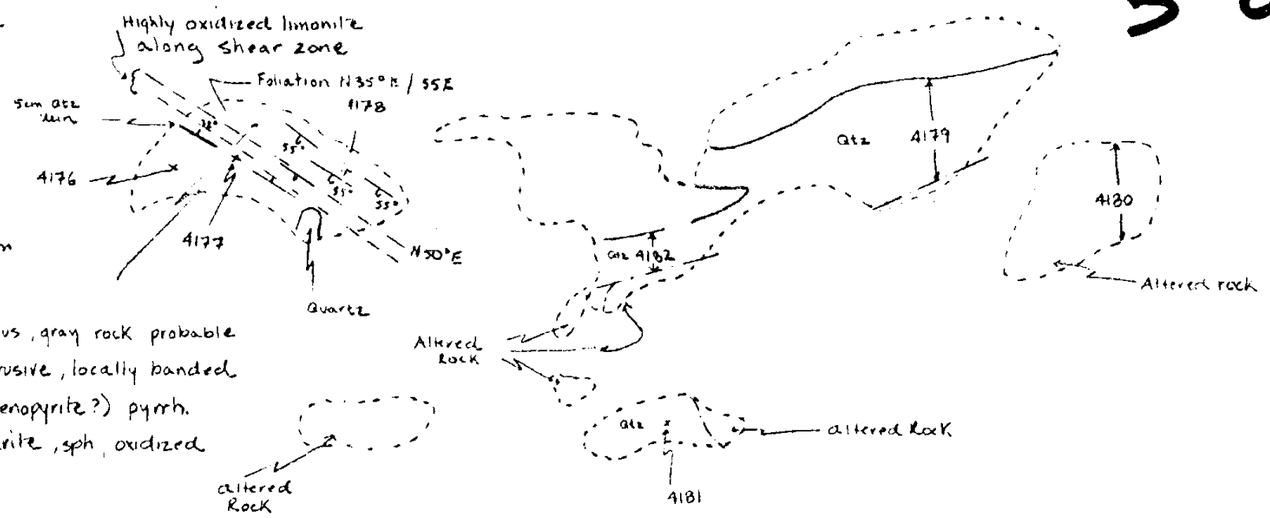
4179 Quartz vein mineralized with Pyrrh., tetra., (sph), (py) Sample over 1.5 m

4180 Altered host rock mineralized with pyrrh (py) sample over 1.75m

4181 Quartz Vein

4182 Quartz vein over 1m

Quartz vein fractured white to cloudy gray mineralized locally with pyrrh., tetra?, (± sph.) (py) oxidized (limonite)



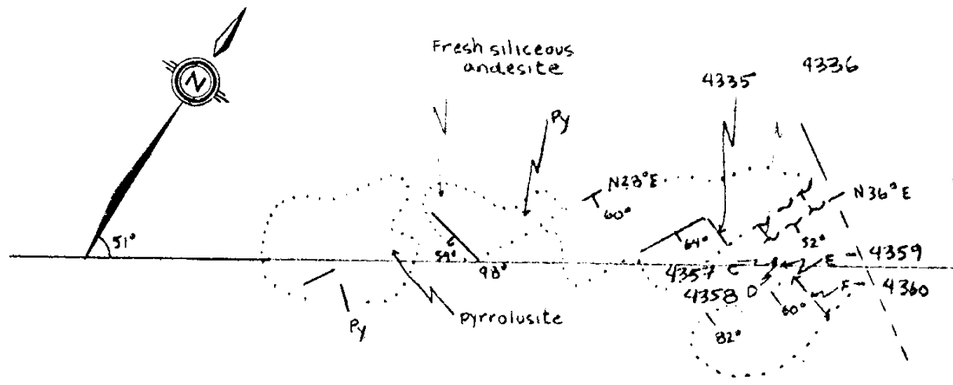
5m 0 5 10m
SCALE 1:200

Waterloo Creek

Legend.
Refer to map No 1.
Plan View

MOHAWK OIL CO. LTD.		
SCALE: 1:100	APPROVED BY: B. Callaghan.	DRAWN BY S.M.
DATE:		REVISED
TRENCH B1		
JON CLAIM		DRAWING NUMBER 20

13,356
PART 5 OF 5



4355 N14°E 62°E foot wall 28" tough breaking (conchoidal fr) siliceous andesite grey; green-sugary, minor-calcite flooding. Mostly pyrrhotite 3-4% py 1%

4356 Fault 14" N36°E 52°SE Mostly pink hematite stained clays no visible sulphides

4357 Hanging Wall 29" Exterior pink orange clays. massive gray cherty quartz rock. py 2% dessiminated and veinlets.

4358 9" Massive (conchoidal fracture) volcanic, lenses of chert or quartz similiar to 4357 but more quartz. Py 1% associated with quartz in volcanics Exterior limonite stained clays, quartz limy grey dense colour.

4359 Pink, orange limonitic clays and sand size particles no visible sulphides

4360 36" Schistose meta-volcanic mostly muscovite along fracture surfaces. Volcanics grey, blue, green and easy to break along planer surfaces.

Py - arsenopyrite? Hematite, pyrolusite along fractures schistocity N206° 36°W

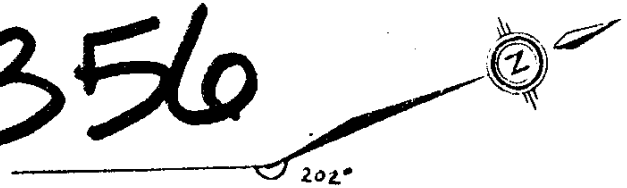
5m 0 5 10m
SCALE 1:200

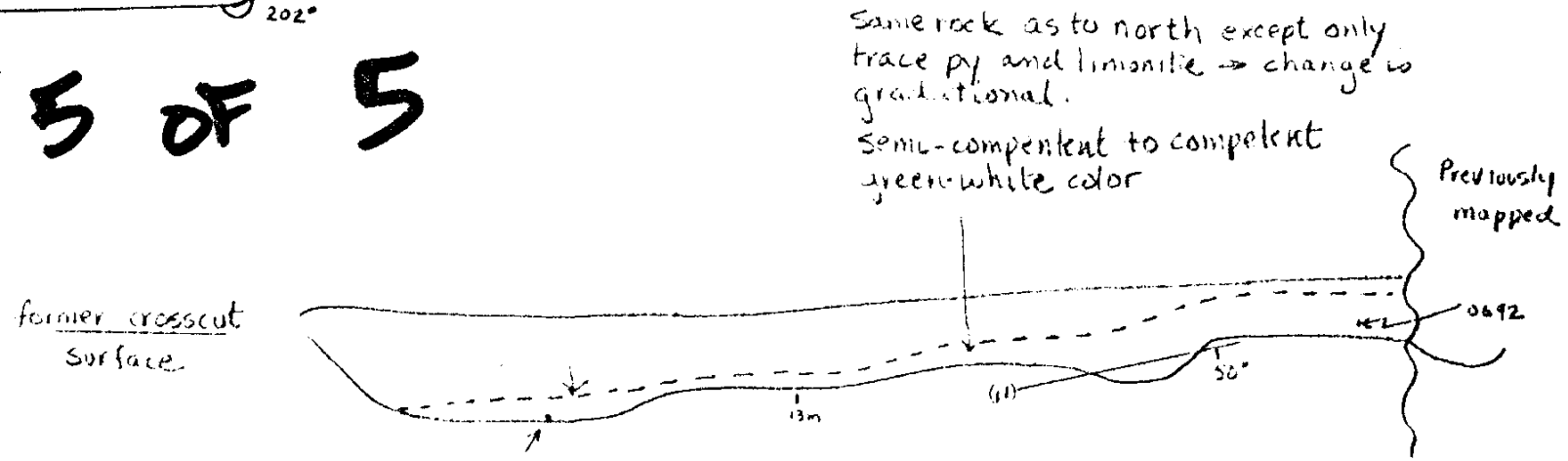
Refer to map. No1. for legend.

MOHAWK OIL CO. LTD.		
SCALE: 1:200	APPROVED BY: B. CALLAGHAN	DRAWN BY SM
DATE: OCT., 1983		REVISED
TRENCH L7 (PLAN VIEW)		
JON CLAIM		DRAWING NUMBER 21

13,356

PART 5 OF 5





As you head south from 13m the rock becomes slightly more competent and a little less altered
ie plag is as completely altered to clay as to the north
- locally abundant chlorite & minor schistosity
- Fe stain on surfaces
- at 13m the rock looks like porphyritic granodiorite
non-magnetic

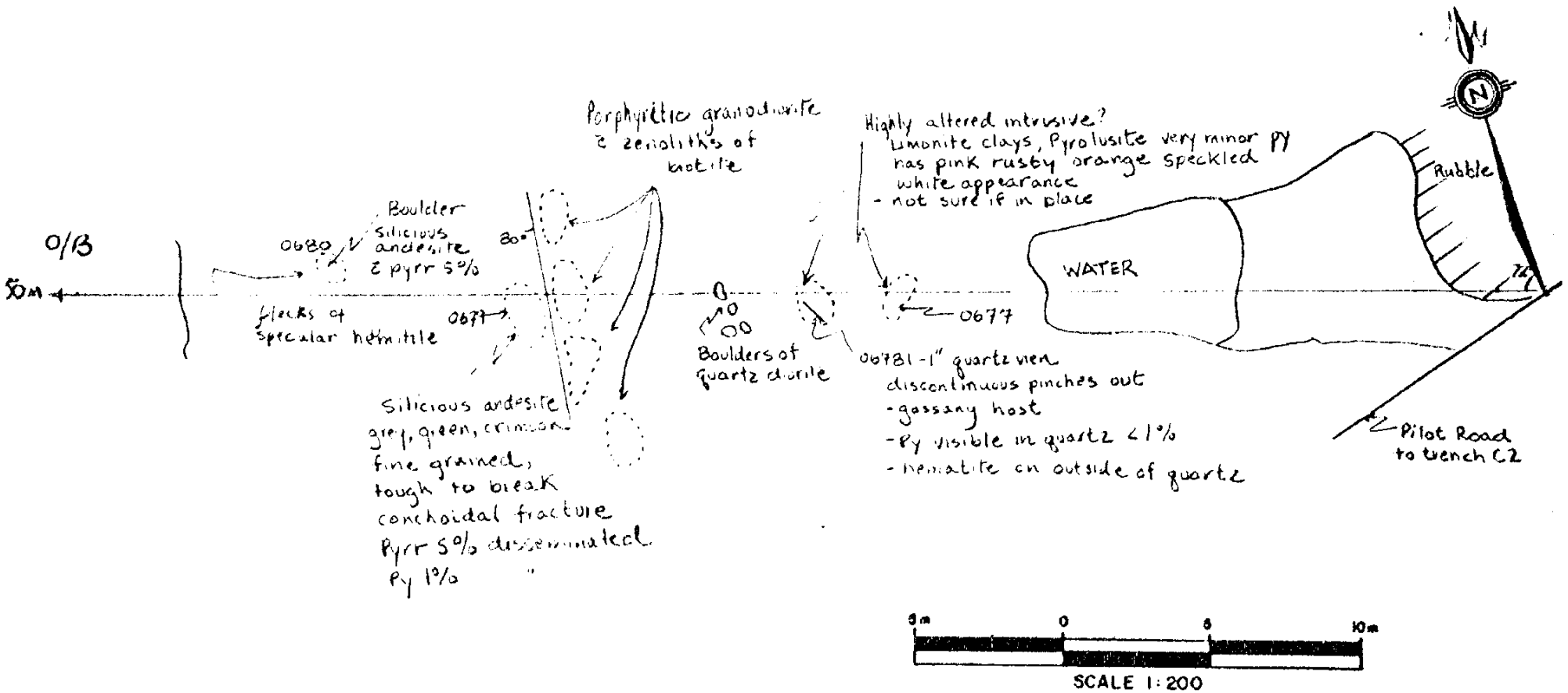
Possible trend of structure (fault) 11° ∠50°E
rock has a mottled orange and white color
non-magnetic

Refer to map No 1. for legend.

Sample 4273 - slightly altered intrusive
- float
- contains abundant quartz

5m 0 5 10m
SCALE 1:200

MOHAWK OIL CO. LTD.		
SCALE: 1:200	APPROVED BY: B. CALLAGHAN	DRAWN BY SM
DATE: OCT. 1983		REVISED
TRENCH C2 CROSS SECTION		
JON CLAIM		DRAWING NUMBER 22



Refer to map No. 1 for legend.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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PART 5 OF 5

MOHAWK OIL CO. LTD.

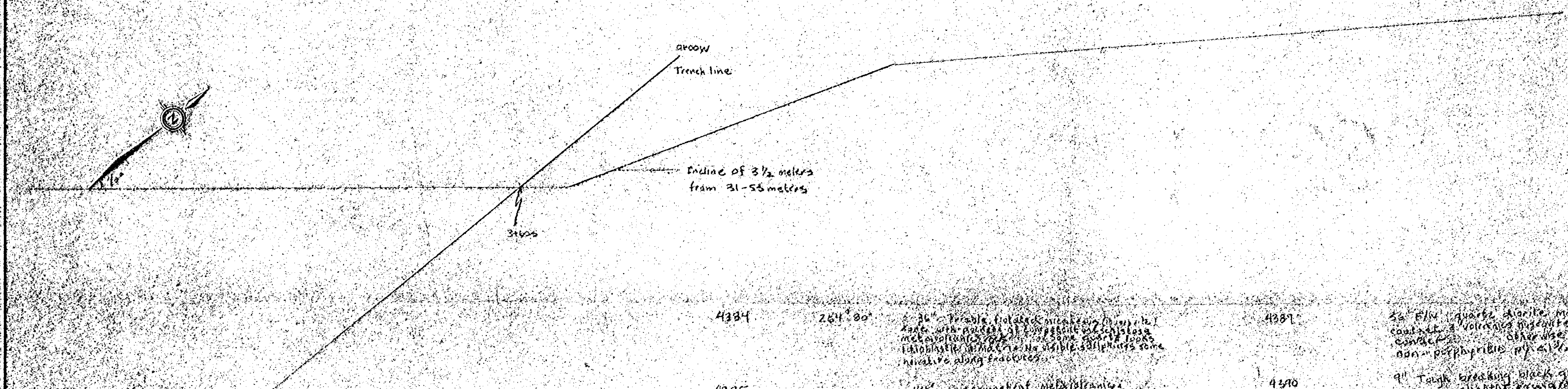
SCALE: 1:200	APPROVED BY: B. CALLAGHAN	DRAWN BY SM
DATE: OCT., 1983		REVISED

TRENCH C1 PLAN VIEW

JON CLAIM

DRAWING NUMBER 23

8½X11 PRINTED ON NO. 1000H CLEARPRINT



4384	264° 80°	36" Friable foliated mica schist ... zone with nodules of competent & schistose metavolcanics rock ... some quartz looks idioblastic ... No visible sulphides some ... along fractures
4385		44" incompetent metavolcanics cavities along fractures infilled c quartz py clays. Black sooty sulphide surrounds py ... tetrahedrite ... py 1% in more siliceous ... trace chalcopyrite
4386		22" same as 4385 near and in contact c gneissic sugary volcanic yellow staining may be greenockite
4387		13" metavolcanic, massive gneissic ... 30% quartz, Hornblende ..., Biotite 15% plagioclase 21% ... pegmatitic veinlets
4388		grab Brecciated galena sphalerite ore sample from float located here. galena lenses fine grained disseminated 1% sphalerite fine grained disseminated 3%
4389		3' E/W quartz diorite more basic at contact c volcanics muscovite along contact. otherwise fresh non-porphyritic py <1%
4390		9" Tough breaking black green metavolcanic slightly ... granular py 2% cp trace pyrrhotite 1%
4391		8' fresher, fine grained sugary metavolcanic pyrr 2% py <1% + limonite and pyrolusite along fractures, some minor ... veinlets, quartz ...

GEOLOGICAL BRANCH
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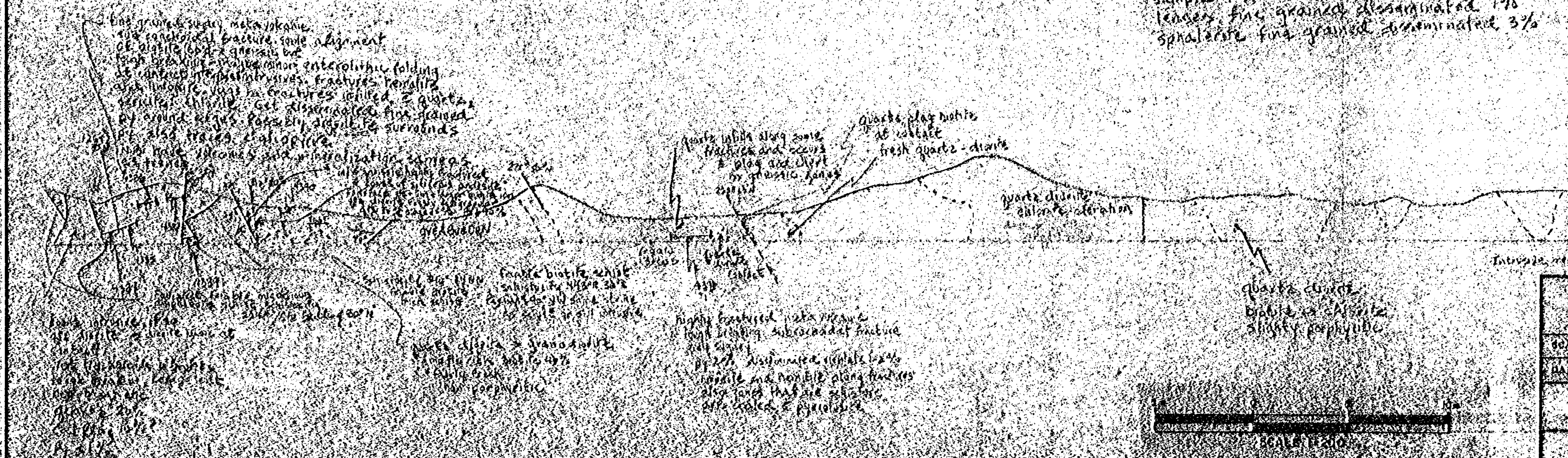
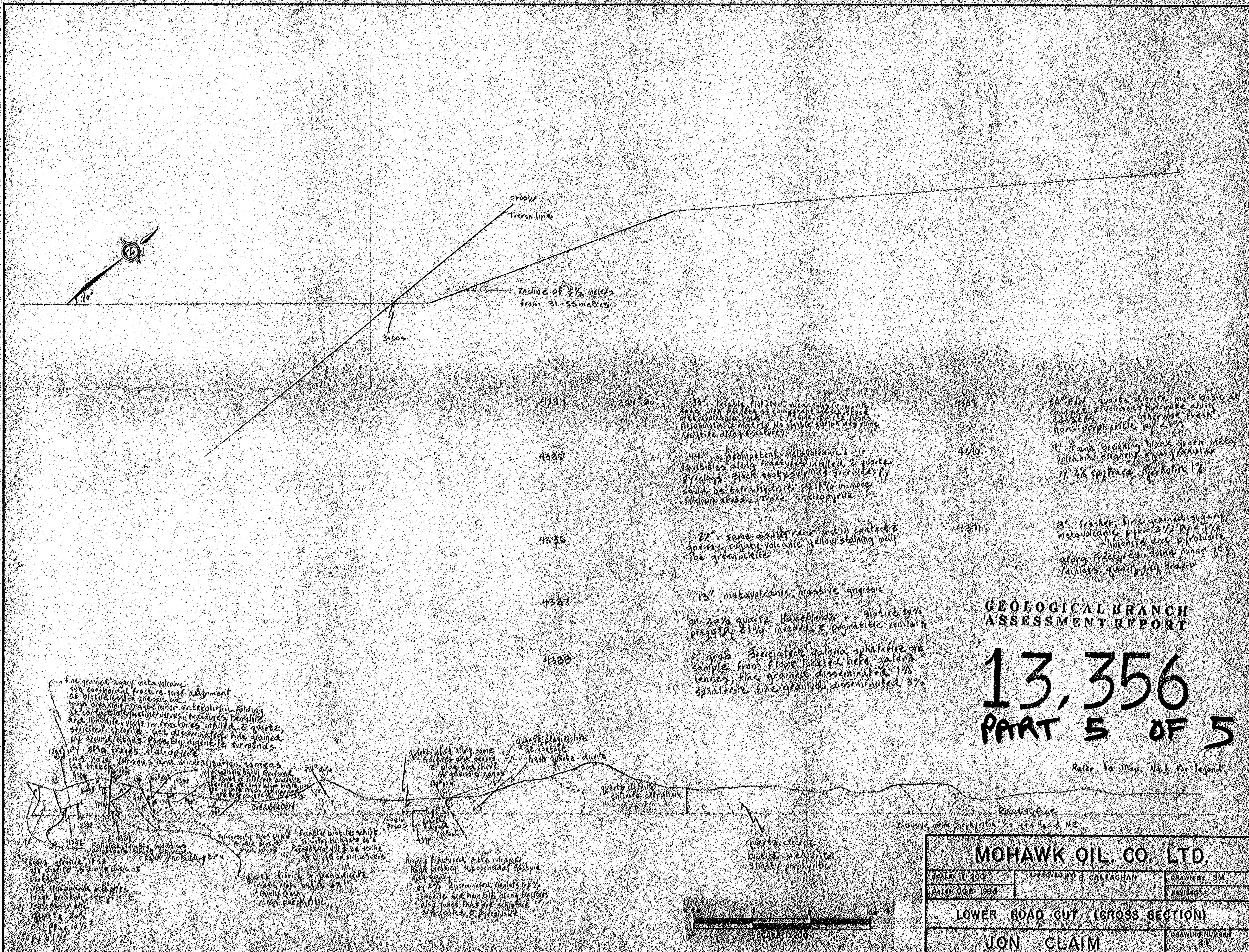


Refer to Map No. 1 for legend.

Intrusive, more porphyritic as you head NE.

MOHAWK OIL CO. LTD.		
SCALE: 1:200 DATE: OCT. 1983	APPROVED BY: B. CALLAGHAN	DRAWN BY: SM REVISED:
LOWER ROAD CUT (CROSS SECTION)		
JON CLAIM		DRAWING NUMBER 21



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356
PART 5 OF 5

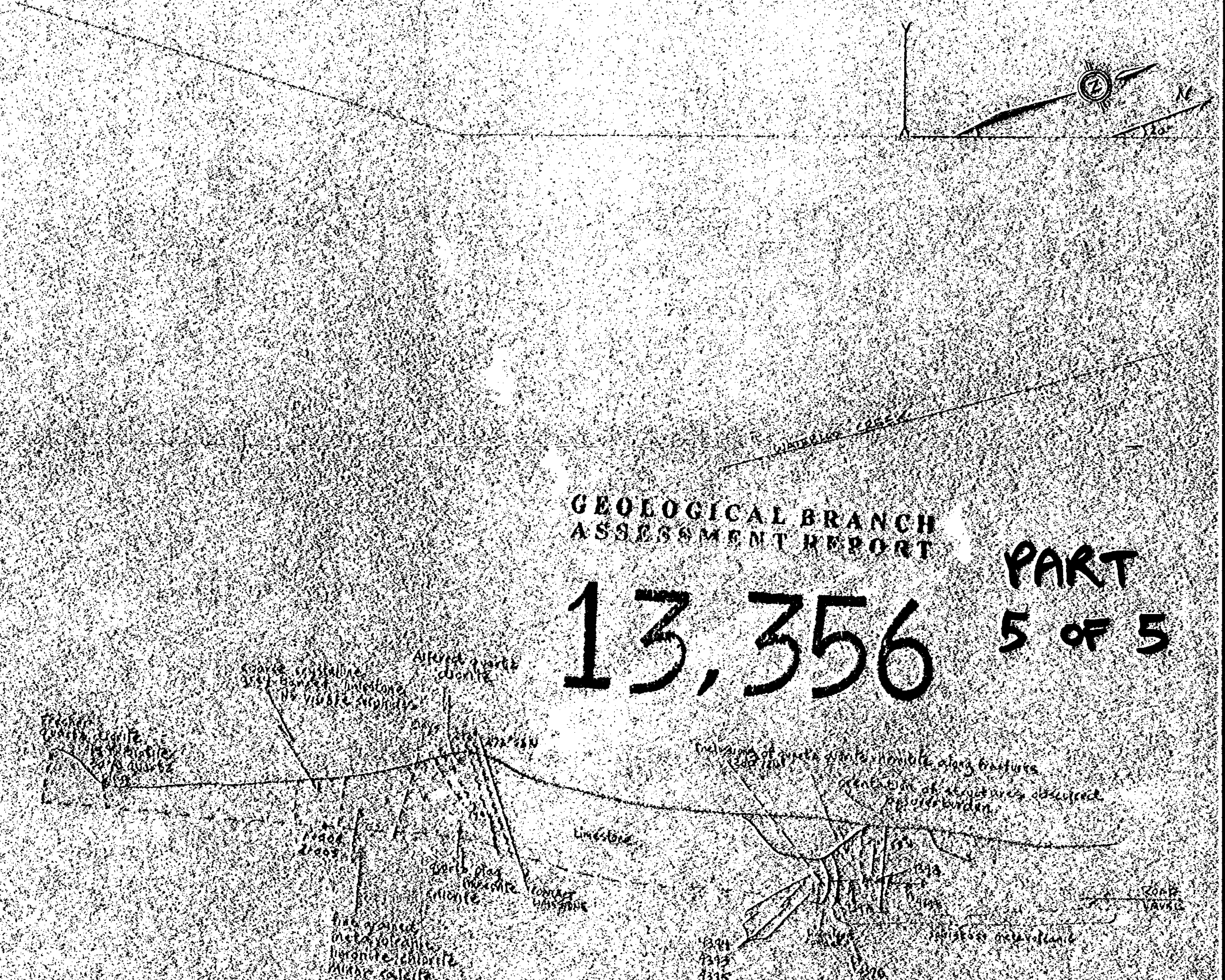
MOHAWK OIL. CO. LTD.		
SCALE 1:200 / DATE: OCT 1983	APPROVED BY: B. CALLAGHAN	DRAWN BY: SM / REVISED:
LOWER ROAD CUT (CROSS SECTION)		
JON CLAIM		DRAWING NUMBER 24

4396 16' Highly altered possibly quartz diorite
in contact c limestone alteration
includes quartz → plag → clays
chlorite ox 41%

4397 5' Gossany altered metavolcanic original
structures obliterated
hematite stained clays muscovite some
minor quartz

4398 5½' Gossany highly altered metavolcanic original
textures obliterated limanite and hematite
stained clays muscovite

4399 5' Gossany metavolcanic, fresher surfaces are
blue grey similar to C3 volcanics
Py 2% black metallic sulfide surrounds
Py(chalcosum), Cpy(trace)



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356 PART 5 OF 5

SCALE 1:200

Refer to map No. 1 for legend.

MOHAWK OIL CO LTD.

SCALE: 1:200	APPROVED BY: B. CALLAGHAN	DRAWN BY: SM
DATE: SEPT. 1983		REVISED:

MAIN RD. CUT I : WATERLOO CK. X SECTION

JON CLAIM — DRAWING NUMBER 2B