

84-#658(k)-13356
03/89

REPORT ON
GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL SURVEY

CONDUCTED ON THE
LP 13, 14, 15 MINERAL CLAIMS
VERNON MINING DIVISION
BRITISH COLUMBIA
N.T.S. 82E/15E

Longitude 49° 52' N. Latitude 118° 33' W.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356

Owners of the Claims: Mohawk Oil Co. Ltd.
Operator: Mohawk Oil Co. Ltd.
Author: B. Callaghan, B. Sc.
Dated: August 15, 1984

PART 1 OF 5

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INTRODUCTION

Exploration work on LP 13, 14 and 15, Mineral Claims during the 1983 field season included follow-up geology, geochemistry and geophysics. Two helicopter days were spent on August 22nd and 23rd, in an effort to determine the source of gold geochemical anomalies determined from the 1981 reconnaissance programme conducted over the claims. Reference for a description of the 1981 programme history and results should be made to "Geological and Geochemical Report on the Lightning Peak Mineral Claim LP 2-19, 20F , 23F ,24F , 25", Vernon Mining Division. Geological mapping was done in conjunction with the geochemical follow-up survey and magnetic survey.

SUMMARY

Grassroots exploration in 1981 revealed anomalously high concentrations of gold from the geochemical soil sampling programme on Mineral Claims LP 13 and LP 14. A 1983 follow-up soil geochemical sampling programme was designed to define additional gold anomalies to those identified from 1981. Although a finite source of these anomalies was not determined, these areas have potential for economic mineralization and warrant further investigation. A programme of further geochemical sampling, prospecting and geological mapping is recommended followed up with trenching, to explore the potential for possible skarn-type mineralization as well as gold, silver mineralization in quartz associated with the intrusive rocks.

LOCATION AND ACCESS

The LP 13, 14, and 15 claims are located within the Monashee Mountains of Southern British Columbia, approximately 3 kilometres west and south of Lightning Peak, map sheet N.T.S. 82E/15E, latitude $49^{\circ} 52'N$ and longitude $118^{\circ} 33'N$.

Nearest access to the claims is via the Lightning Peak road which joins Highway 6 approximately 110 kilometres southwest of Vernon. Access can also be gained to Lightning Peak via a newly established extension of the K-50 logging access road which leaves the Kettle River logging road at 62 kilometre. The Kettle River road intersects Highway 6 at Spruce Grove about 52 kilometres southeast of Lumby. The claim block is situated to the west, 2 kilometres from the end of the access road that passes south of Lightning Peak, approximately 33 kilometres from Highway 6.



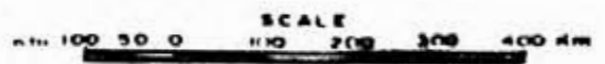
PROPERTY
LOCATION

MOHAWK OIL Co. LTD.

LP 13, 14, 15

LOCATION MAP

FIGURE 1



PHYSIOGRAPHY

Elevations range between 1600 and 1900 metres. The west and north portions of the claim are drained by westerly flowing tributaries into Rendell Creek.

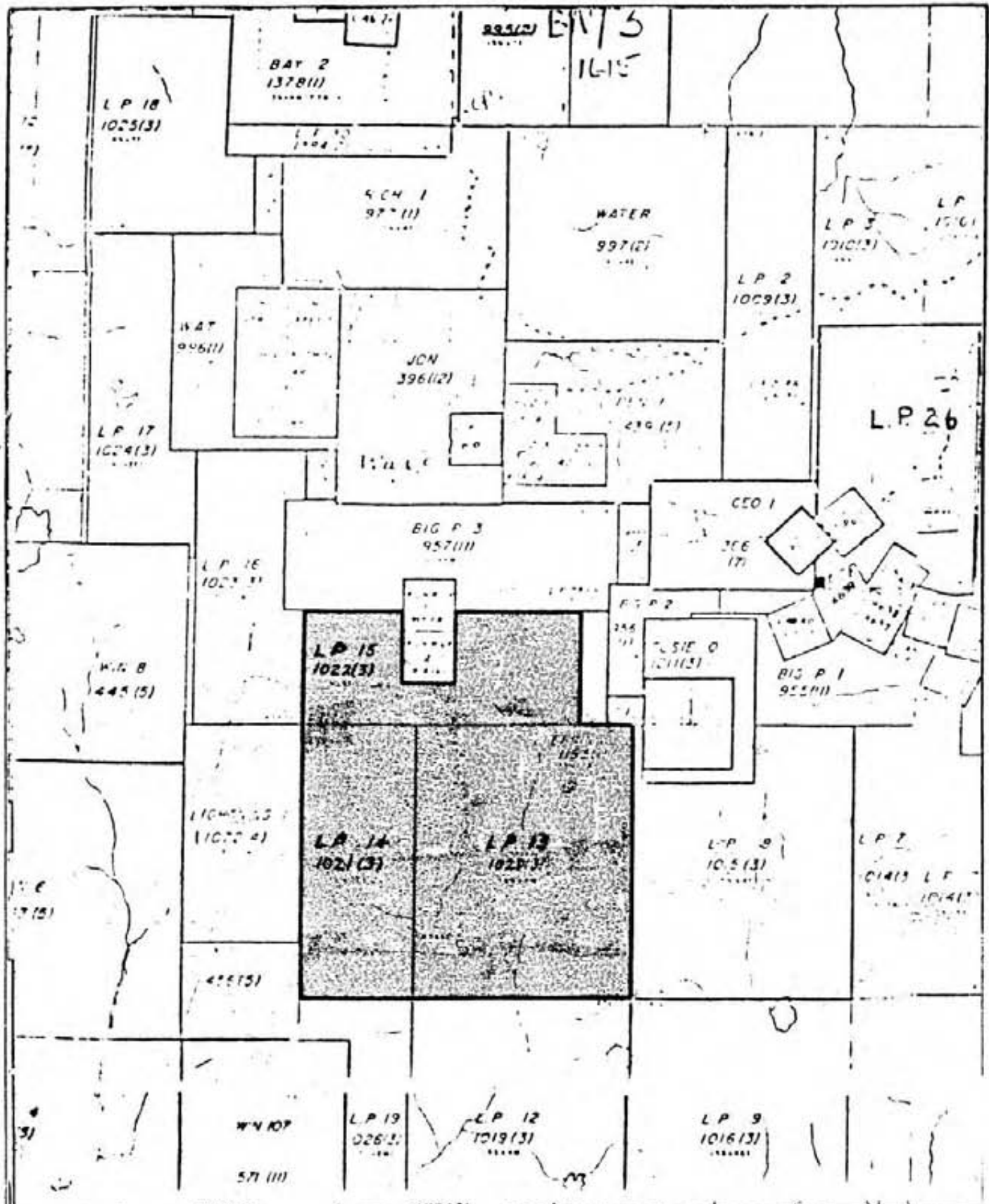
Best exposures of outcrop occur along the creek bottoms and sharply rising ridges. Talus slopes predominate along the western slopes of exposed outcrop areas in the west central area of the claim block. Overall, approximately 25% of the claim area is exposed as outcrop.

Forested areas include stands of Spruce, Jack Pine, Balsam, Alder and Poplar that are broken by clear areas of alpine meadows surrounded by outcrop exposures at higher elevations.

PROPERTY

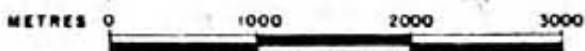
The LP 13, 14, and 15 claims are currently held by the owners, Mohawk Oil Co. Ltd. and include:

<u>Name Claim</u>	<u>No. Units</u>	<u>Record No.</u>	<u>Month of Record</u>
LP 13	20	1020	March
LP 14	10	1021	March
LP 15	10	1022	March



MOHAWK OIL CO LTD.

SCALE 1:50,000



CLAIMS MAP

DRAWN BY	DATE	DRAWING NO.
BC	APRIL, 84	FIG 2

GENERAL GEOLOGY

Geological mapping during the 1981 field season was done at a scale of 1:12000. Mapping control included line mapping between identifiable points and the use of B.C. Government air photos at a scale of 1:15840.

This preliminary mapping was followed up in 1983 by detailed line mapping in the areas of higher geochemical gold values (Drawing No. 1). The general geology of the area is described by Cairnes (1930) and Little (1957). The Permian (?) Anarchist Group rocks form a roof pendant in the Lightning Peak area and consist of greenstone, greywacke, tuffs, limestone and paragneiss. The roof pendant is surrounded and intruded by Cretaceous (?) Nelson Intrusions.

The Anarchist Group rocks host westerly striking silver, lead, zinc mineralization in the nearby Waterloo Mine which produced tonnages of high grade silver ore. Intrusive rocks in the northern and eastern portions of the claims are primarily granodiorite. Coarse grained, light grey to slightly pink diorite occurs in the south western portion of the 1983 grid area and is distinguished by large anhedral crystals of pyroxene with minor fresh biotite and accessory magnetite. The rest of the rock is composed of approximately 60% plagioclase which exhibits some local epidote alteration.

The intrusives are in contact with northeast trending Anarchist Group limestone and andesitic lava, tuffs and tuffaceous sediments. The banded limestone is generally fine to medium grained and varies in colour from white, grey, green to tan. Anarchist metavolcanics in the southeast portion of LP 13 and LP 14 consist of tuffs thought to be altered limy tuffs by Cairnes (1930) which are characterized by a dark green-grey, fine grained ground mass containing abundant hornblende porphyroblasts. Mineralization in these metavolcanic rocks consists of fine grained disseminated pyrite and hair-line fracture in fillings of pyrite.

STRUCTURAL GEOLOGY

The contact between Nelson Intrusives and northeast trending Anarchist Group rocks has been interpreted using aerial photography and airborne magnetic data in conjunction with the geological mapping. The contact zone is most noticeable in the centre of mineral claim LP 13 and the southeast corner of mineral claim LP 14. Other interpreted structural fractures include eastwest faulting in the centre of LP 15 and a northwest trending fault in the centre of mineral claim LP 14. Anomalous soil geochemical values in silver, zinc and lead occur on the southern end of lines 8+00E and 9+00E coincident with this fault.

ECONOMIC GEOLOGY

Pyrite mineralization hosted in quartz, sericite altered intrusives, on lines 1800W and 9+00N, occurred as fine to coarse grained disseminations with chlorite and pyrolusite occurring along fracture surfaces. Minor amounts of vuggy quartz float were also discovered in this area. A gold value of 20ppb occurred approximately 75 metres to the north of this mineralization.

Representative rock geochem. samples include 4296 - 4300 (see Table I). One grab sample, 4296, recorded values of 5ppb gold, 1.8ppm silver, 710ppm zinc, and 185ppm arsenic. These findings indicate that the intrusive rocks in this area may be mineralized.

Rock geochemistry samples were collected from the diorites located in the vicinity of a 220ppb soil geochem anomaly located during the 1981 survey. These samples 4377 - 4380 all returned 5ppb gold and 4378 returned 13.0ppm arsenic. The source of the gold recorded in the 1981 survey has yet to be determined.

There is a potential for skarn-type mineralization at or near the contact with Anarchist Group limestones and granitic intrusives in the southeast corner of the claim block that includes mineral claim LP 13. Pyrite mineralization hosted in metavolcanic andesites and tuffs was found in this northeast trending contact area. Mineralization consists of fine grained disseminations and fracture infillings. Copper

geochemical anomalies in this area determined from the 1981 reconnaissance programme are coincident with this northeast trending contact area.

A total of 18 rock samples were collected on the claims and rock geochem analyses performed for gold, silver, zinc, lead, copper, arsenic and antimony. These samples are identified on the geology map (Drawing no. 1). The results are illustrated on Table 1.

TABLE I
ROCK SAMPLE ASSAYS

<u>Sample No.</u>	<u>Type</u>	<u>Width</u>	<u>Location</u>	<u>Au. ppb</u>	<u>Ag. ppm</u>	<u>Pb. ppm</u>	<u>Zn. ppm</u>	<u>Cu. ppm</u>	<u>As. ppm</u>	<u>Sb. ppm</u>
4288	Float	-	LP 15	1.0	0.5	17	46	38	1.0	0.1
4289	Float	-	LP 15	1.0	0.4	13	115	55	1.0	0.1
4290	Float	-	LP 15	1.0	0.2	24	60	7	1.0	0.1
4291	Float	-	LP 15	1.0	0.4	18	40	3	1.0	0.1
4292	Float	-	LP 15	1.0	0.2	24	27	6	1.0	0.1
4293	Float	-	Lp 15	1.0	0.7	9	8	5	50.0	0.1
4294	Float	-	LP 15	1.0	0.5	14	51	6	1.0	0.1
4295	Float	-	LP 15	1.0	0.6	19	67	4	3.0	0.1
4296	Grab	-	LP 13	1.0	1.8	32	710	11	185.0	0.1
4297	Grab	-	LP 13	1.0	0.4	13	25	4	14.0	0.1
4298	Grab	-	LP 13	1.0	0.4	16	37	7	1.0	0.4
4299	Float	-	LP 13	1.0	2.0	22	275	6	14.0	0.6
4300	Grab	-	LP 13	1.0	1.4	25	59	15	5.0	0.1
4377	Grab	-	LP 14	5.0	0.6	20	69	10	1.0	0.2
4378	Grab	-	LP 14	5.0	0.6	44	42	12	13.0	0.1
4379	Grab	-	LP 14	5.0	0.9	21	65	16	1.0	0.1
4380	Grab	-	LP 14	5.0	0.8	30	82	18	1.0	0.1
4383	Grab	-	LP 15	5.0	1.2	49	85	35	1.0	0.1

GEOCHEMISTRY

A detailed follow-up geochemical survey was conducted on traverse lines placed on either side of a 1982 gold geochemically anomalous area situated on line LP 13 4W. A spacing of 100 metres was used for traverse lines and soil samples were taken along these flagged lines every 50 metres.

The 1983 assay data has been plotted with 1982 data from line LP 13 4W on single element maps at a scale of 1:12000 (see Drawings 2 - 8). A total of 78 soil samples were taken. In addition, 27 silt samples were collected from a southwest draining tributary of Rendell Creek situated on the LP 15 mineral claim. Silt samples were taken when possible, every 100 metres.

Soil samples were taken in the 'B' horizon whenever possible. Samples were taken from 'C' horizon if the 'B' horizon was not well developed.

The 'B' horizon was generally reddish to dark brown in colour and occurred at a depth of 5 cms - 30 cms and was approximately 15 cms 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 and silt samples were air dried and boxed for shipment to Kamloops for preparation and analysis by Kamloops Research and Assay Laboratories Ltd. The Lab. preparation included drying and screening to minus 80 mesh. A measured amount of the minus 80 mesh fraction was then digested in hot 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 run to determine parts per million for silver, copper, lead and zinc. Arsenic determination were done using a combination of nitric hydrochloric digestion and colourimetric. Acid extraction and AA hydride generation were used for Antimony.

The rock samples were crushed and pulverized prior to hot aqua regia digestion.

The data treatment has included contouring and definition of sub-anomalous, anomalous and second order anomalous values for the seven elements over the intrusive rocks. Table II illustrates the statistical data; contour intervals and sub-anomalous, anomalous and second order anomalous values for each element. Sub-anomalous values 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 deviations.

TABLE II
SOIL GEOCHEMICAL PARAMETERS
INTRUSIVE ROCKS (NELSON INTRUSIVES)

	<u>Year</u>	<u>Au</u> <u>ppb</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u> <u>ppm</u>	<u>Cu</u>	<u>Sb</u>
Mean	83	2.16	19.04	61.2	0.78	12.65	.18
	82	43.3					
Standard Deviation	83	2.87	3.88	13.2	0.17	4.97	0.16
	82	34.3					
Contour Internal	83	3	4	15	0.2	5	0.2
	82	25					
Sub Anomalous	83	6	24	75	1.0	18	0.3
	82	75					
Anomalous	83	9	28	90	1.2	23	0.5
	82	100					
2nd Order Anomalous	83	12	32	105	1.4	28	0.7
	82	125					

INTERPRETATION OF GEOCHEMISTRY

To date, anomalous geochemical values in gold, silver, zinc and lead appear confined to the area mapped as intrusives. Anomalous values of gold, silver zinc and lead on LP 14 appear coincident with a northwest trending air photo interpreted structure that cuts through the centre of LP 14 mineral claim. Gold, silver, sphalerite, galena mineralization hosted in intrusives may be related to this northwest trending structure.

The 1983 geochemical soil sampling programme did not define additional gold anomalies to those identified from the 1981 reconnaissance programme. The geochemical results are illustrated on Drawings 2 - 8.

GEOPHYSICS

A magnetometer survey was conducted on the LP 13 and LP 14 mineal claims during the 1983 field season using a Scintrix MP-2 Proton Precession magnetometer. The purpose of the survey was to determine magnetic structure directly or indirectly related to occurrences of gold geochemical anomalies determined from the 1981 reconnaissance survey. See Figure 3.

The magnetometer survey was conducted over the 1983 geochem. flagged lines and included a total of five north/south lines, 800 metres long. Four hundred readings were taken at 12.5 metre intervals over and on either side of traverse line LP 13 4W.

The grid area contains areas of high magnetic relief. Readings of 3000 gammas above background are located between 1900 W and 800E and from 2+00N to 6+00N. The source of the magnetism has been attributed to magnetite that has been identified in the diorites.

A peak value of 2000 gammas above background occurs in the northeast corner of the grid on line 1900W 10+00N. This anomaly may be related to a general north west trending magnetic high as mapped, using data from an airborne magnetic survey of the Damfino Creek area by Geotorex Ltd., from October 1969 to April 1972 (see Mag. sheet 82E/15, Damfino Creek at 49° 52'N, 118° 34'W).

The highest gold soil geochem. value of 220ppb from the 1981 reconnaissance programme occurs at or near the periphery of strongest magnetism within granodiorite - diorite rocks located on LP 13 4W 3+00N.

CONCLUSION AND RECOMMENDATIONS

The 1983 geochemical soil sampling survey did not define additional gold anomalies to those identified from the 1981 survey. Higher values in gold, silver, zinc and lead appear confined to the areas mapped as intrusives. These higher values occur in the south western portion of the claim block on LP 14 and may be related to a northwest trending structure mineralized with gold, silver, sphalerite and galena. Intrusive rocks on traverses 1800W and 1900W, 9+00N may be mineralized with gold, silver and zinc hosted in quartz veins. Both these areas warrant further investigation. Other significant areas with economic potential include a zone of anomalous copper values that occurs at or near the contact between granitic intrusives and Anarchist Group limestones and volcanics. Mineralization related to this northeast trending contact may be skarn-type.

It is recommended that :

1. Detailed mapping and prospecting of these three areas of potential mineralization be completed.
2. Extend geochem survey grid to the west with 100 metre spacings to tie in survey with LP 14 1E.
3. Extend geochem survey to the north of lines 1800W and 1900W to determine any geochemical response associated with significant zinc, silver and arsenic values in quartz sercite, pyrite altered intrusives.
4. VLF-EM be conducted across the geochemically anomalous northwest trending structure on mineral claim LP 14 in the south western part of the property.
5. The above work should be followed up with trenching if justifiable from the survey results.

AUTHOR'S QUALIFICATIONS

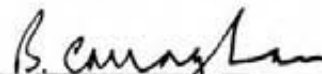
BRIAN CALLAGHAN

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 - October 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, supervision of geological, geochemical and geophysical surveys. |

August 15, 1983



Brian Callaghan

BIBLIOGRAPHY

1. B.C.M.M. Annual Reports: 1904, 1917-1921, 1924-1933, 1937, 1948 and 1949.
2. B.C.M.M. Assessment Reports: 1812, 2330, 7221, 7735, 6825.
3. Cairnes, C.E. (1930): Lightning Peak Area, Osoyoos District, B.C.
G.S.C. Annual Report 1930, Part A pages 79A - 115A.
4. Callaghan, B. Geological and Geochemical Report on the L.P. Mineral Claims, L.P. 2-19, 21, Fr. 23, Fr. 25. Vernon Mining Division, April 1982 Assessment Report.
5. Little, H.W.: Kettle River (East Half) Map Area, B.C.
G.S.C. Map 6 - 1957, Sheet 82E (East), Scale 1:253,440.

APPENDIX I

ITEMIZED COST STATEMENT - LP 13, 14, 15 MINERAL CLAIMS

APPENDIX I
ITEMIZED COST STATEMENT - LP 13, 14, 15 MINERAL CLAIMS

Personnel	<u>Duties Position</u>	<u>Days Worked</u>	<u>Pay Scale</u>	<u>Total Cost</u>
D. Newton	Geochem Geologist Tech.	2	\$85/day	\$ 170.00
S. Maltry	Geochem. Geologist Tech.	2	\$85/day	170.00
c. Nagatic	Geology/Geochem. Geologist	2	\$95/day	190.00
B. Callaghan	Projet Supervision Project Geologist	2	\$110/day	220.00
A. Gamp	Magnetometer/Sampling Geophysist	2	\$95/day	190.00
M. Waldner	Supervision Chief Geologist	1	\$225/day	<u>225.00</u>
			Total:	<u>\$1,165.00</u>

Field work performed between August 22 & 23, 1984.

Interpretation of results, map preparation and report preparation done between March 1/84 - May 14/84.

<u>ITEM</u>	<u>RATE</u>	<u>TASK COMPLETED</u>	<u>TOTAL</u>
Room/Board	\$55/man/day	11 man days	\$ 605.00
Magnetometer	\$25/day	1	25.00
Materials & Supplies	Exploration equipment	Drafting supplies	150.00
Portable Radios	@ \$15/day/raido	3 radios for 2 days	90.00
Helicopter	@\$415 + \$55/hr Fuel = \$470/hr	5.4 hrs.	2,538.00
Geochem Soil and silt samples	\$20.35/samples	Au, Ag, Pb, Zn, Cu, As, Sb determinations 105 samples	2,136.75
Rock Geochem samples	\$29.25/sample	Au, Ag, Pb, Zn, Cu, As, Sb determinations 18 samples	526.50
Freight charges			30.00
Drafting	\$12/hr.	17 1/2 hrs.	210.00
Map Preparation	(A. Gamp - 3 days @ \$95/day		285.00
Interpretation and	(B. Callaghan - 7 days @ \$110/day		770.00
Report Preparation	(K. Lyons - 5 days @ \$85/day		425.00
	(M. Waldner - 1 day @ \$225/day		225.00
Typing and copying			<u>350.00</u>
		Total:	\$8,366.25
		Wages	<u>1,165.00</u>
		Grand Total:	<u>\$9,531.25</u>

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

MAG. CORRECTIONS FOR LP 14

APPENDIX III

Date: October 2, 1983
 (Dated: August 23rd)

Mag Corrections for LP 14

Note: See line index below

<u>Stn.</u>	<u>Lp-13 4 W</u>	<u>800E</u>	<u>900E</u>	<u>1900W</u>	<u>1800W</u>	<u>Stn.</u>	<u>North Baseline</u>
0N	57866	835	57782	812	57871	200E	58680
	806	819	777	801	895		58983
	819	805	777	777	905		59659
	881	818	774	828	921		150E 60953
50N	811	802	807	860	927	100E	58387
	858	775	817	908	917		59272
	916	800	826	810	918		59174
	941	889	831	830	924		61629
100N	855	933	847	821	923	50E	58579
	881	908	891	780	916		814
	874	875	882	855	924		813
	978	893	885	895	915		620
150N	57902	933	915	893	922	0E	722
	58045	895	871	816	918		58282
	57895	888	57879	936	927		58040
	868	933	58013	57921	954		57862
200N	972	895	58053	58044	940	50W	857
	951	57994	362	58023	937		651
	57881	58016	555		977		682
	58017	020	59165	57982	57986		557
250N	57965	047	59319	58065	58016	100W	578
	58050	110	58839	58152	58005		584
	57995	133	186	58152	58005		584
	57966	219	098	58927	58025		611
300N	58270	58108	289	59241	58006	150W	584
	58184	58006	274	59461	58000		613
	421	214	302	58664	57968		555
	58227	599	413	58432	960		556
350N	57643	678	472	58670	952	200W	541
	786	746	409	58128	951		542
	997	557	200	58538	947		552
	57910	592	147	58869	930		507

<u>Stn.</u>	<u>Lp-13 4 W</u>	<u>800E</u>	<u>900E</u>	<u>1900W</u>	<u>1800W</u>	<u>Stn.</u>	<u>North Baseline</u>
400N	58199	309	425	60972	970		
	57970	208	58730	57862	975		
	58312	308	58162	57905	931		
	586	218	226	58240	876		
450N	512	341	502	57190	837		
	556	515	367	707	840		
	349	366	278	770	853		
	438	175	293	771	846		
500N	499	428	036	773	854		
	572	832	129	763	822		
	608	453	209	764	851		
	655	448	256	725	815		
550N	600	536	343	711	847		
	58887	290	248	733	823		
	57756	58307	58246	738	843		
	58355	57737	57746	709	834		
600N	58434	57775	58239	726	833		
	58487	58282	171	753	851		
	58098	58381	58436	808	860		
	57729	58016	58316	784	899		
650N	58310	700	57503	810	881		
	57638	637	405	760	862		
	57200	713	493	724	860		
	57510	658	495	755	874		
700N	56694	792	444	796	847		
	57305	57393	471	826	880		
	57557	56977	449	837	885		
	57570	57269	493	831	870		
750N	57562	196	572	781	877		
	57568	144	523	834	886		
	57523	174	543	704	900		
	57548	213	600	758	895		
800N	57519	268	554	764	902		
	57553	309	612	740	926		

<u>Stn.</u>	<u>Lp-13 4 W</u>	<u>800E</u>	<u>900E</u>	<u>1900W</u>	<u>1800W</u>	<u>Stn.</u>	<u>North Baseline</u>
	57474	324	570	779	930		
	554	337	558	750	955		
850N	588	383	583	773	922		
	564	400	600	753	57920		
	592	468	549	739	58011		
	632	429	599	755	58166		
900N	612	492	559	693	58433		
	657	465	602	665	58532		
	657	493	560	731	58925		
	649	505	606	734	5887		
950N	633	486	670	792	59491		
	606	487	527	57824	58548		
	666	556	620	58095			
	637	614	610	59115			
1000N	608	597	686	60111			
	597	57528	57626				
	603	57507					
	553						
1050N	793						
	620						
	685						
	671						
1100N	57862						

Line Index:

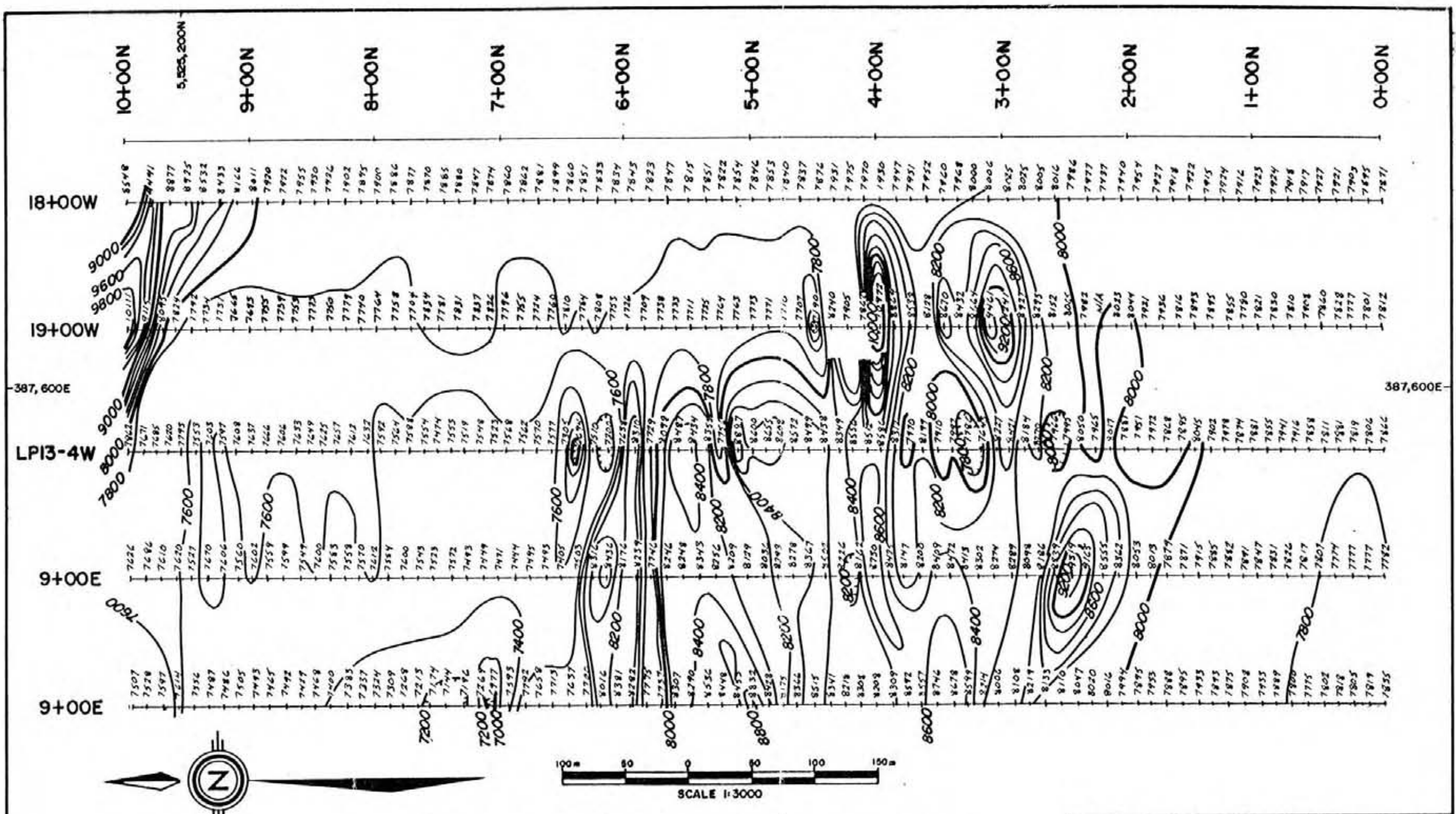
NOTE: all lines end/begin at 0+00N and begin/end and 10+00N.

Date (Mag from LP 13, 14 - August 23)

Date: October 2, 1983

Drift observations at Base station at LP 13 4W #860

<u>TIME</u>	<u> </u>	<u> </u>	<u> </u>
8:45	57866	0	0
12:38	709	-157	-157
1:34	670	-39	-196
3:45	750	+80	-116
5:02	756	+6	-110



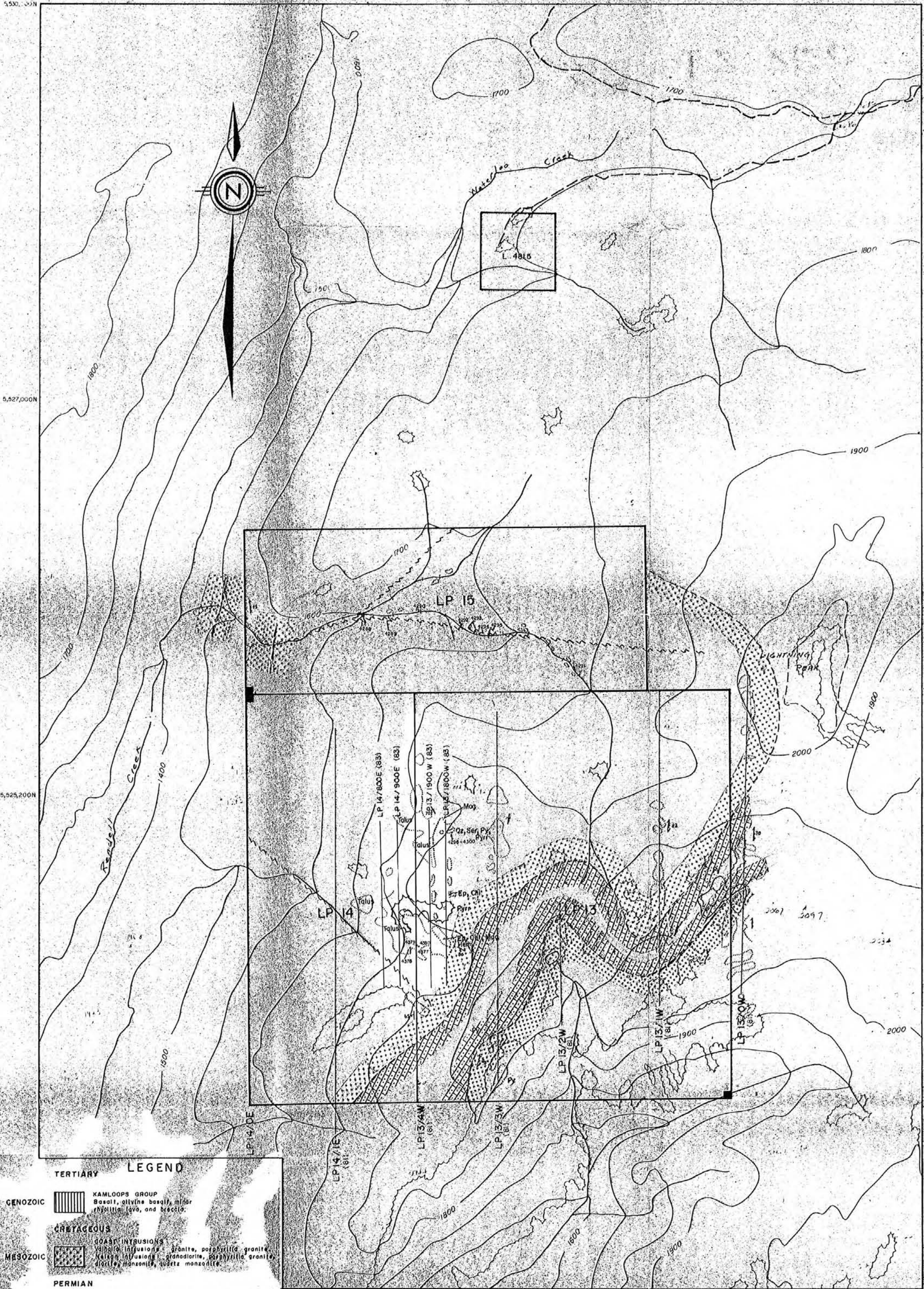
GEOLOGICAL BRANCH
 ANNUAL REPORT

13,356

PART
 1 OF 5

MOHAWK MINING CO. LTD.			
LP 13,14			
MAGNETIC SURVEY			
Base 50,000 (Total Field)			
M. LETILLY	1:3000	APRIL, 1984	FIGURE 3

5,525,200N

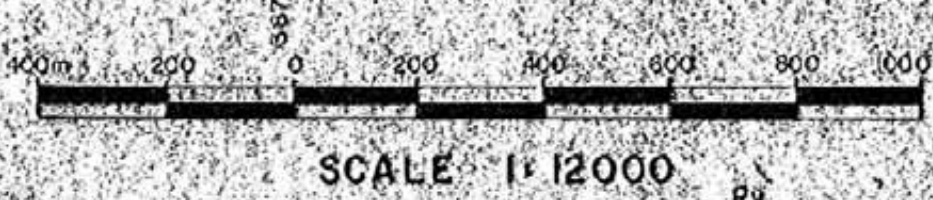


TERTIARY LEGEND

- GENOZOIC**
 - KAMLOOPS GROUP**
Basalt, olivine basalt, minor rhyolite lava, and breccia.
- CRETACEOUS**
 - COAST INTRUSIONS**
Vulcanic intrusions: granite, porphyritic granite.
- MESOZOIC**
 - KALKAN INTRUSIONS**
granodiorite, porphyritic granite, diorite monzonite, quartz monzonite.
- PERMIAN**
 - ANACHIST GROUP**
andesite, diorite, andesite lava, diorite, rhyolite, and tuff.
- PALEOZOIC**
 - Limestone**

- ROAD**
- NO VEGETATION**
- SLIDE AREA**
- GEOCHEM SOIL TRAVERSE**
- GEOCHEM SILT TRAVERSE**
- MARSH**
- ROCK GEOCHEM SAMPLE**
- DIRECTION OF GLACIATION**

- FAULT (approximate) (inferred)**
- CONTACT (approximate) (inferred)**
- BEDDING (Inclined, Vertical, Unknown)**
- FOLIATION (Inclined, Vertical, unknown)**
- FRACTURES (Inclined, Vertical, unknown)**
- TRENCH**
- PIT**
- OUTCROP**



- Py Pyrite
- Ser Sericite
- Qtz QUARTZ
- Peg PEGMATITE
- Grt GARNET
- Abt ABEITE
- Calc CALCITE
- Hem HEMATITE
- Mag MAGNETITE
- Pyrr PYRRHOTITE
- Sph SPHALERITE
- Ga GARNET
- Br BORNITE
- Chp CHALCOPYRITE
- Hbl HORNBLende
- Ep Epidote

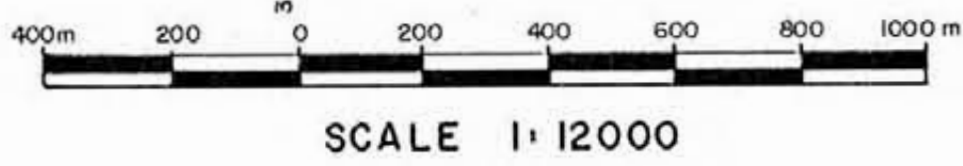
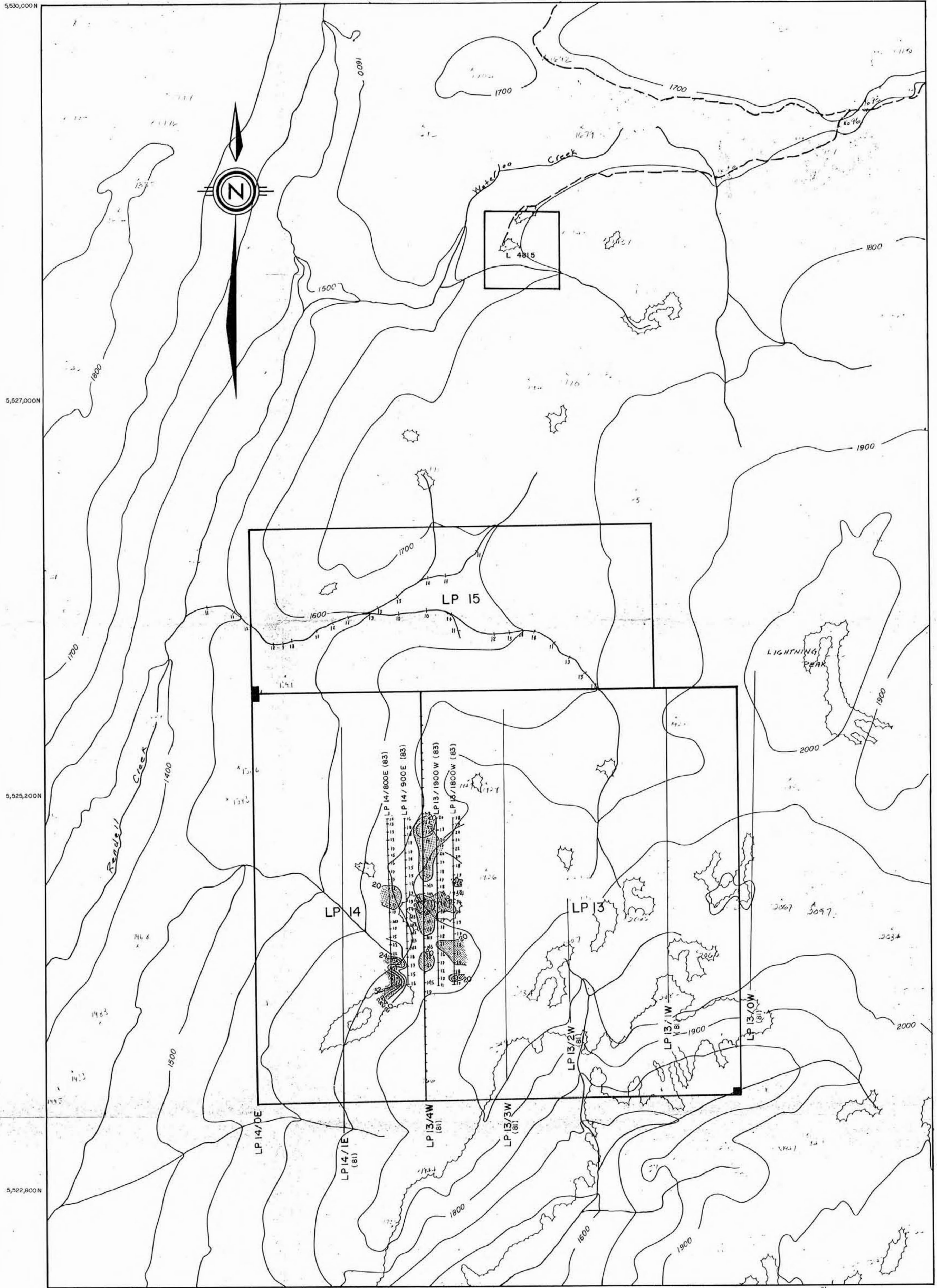
GEOLOGICAL BRANCH ASSESSMENT REPORT

13,356 PART 1 OF 5

MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA

LP 13, 14, 15
GEOLOGY

DRAWN BY	SCALE	DATE	DRAWING NO.
M. LITTLY	1:12000	MARCH, 1984	1



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
ASSESSMENT REPORT **PART**

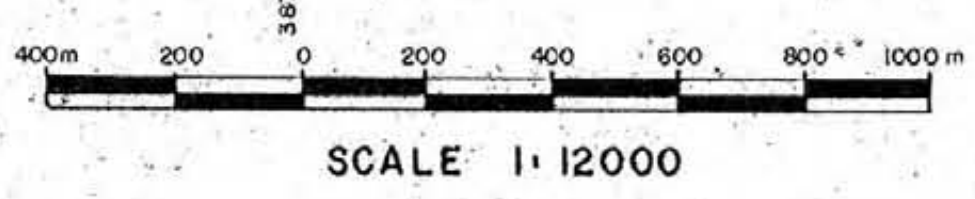
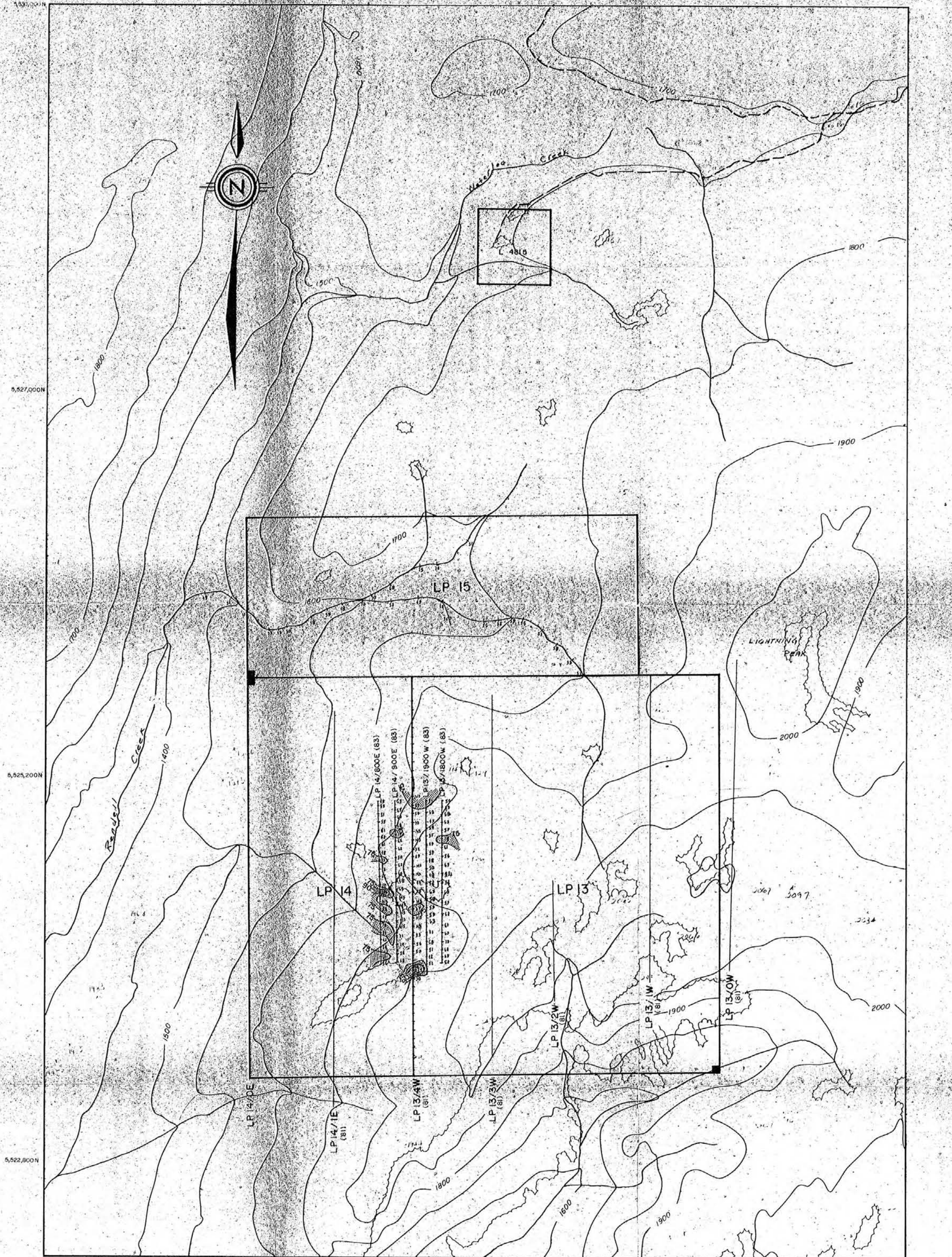
13,356 1 of 5

MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA

LP 13, 14, 15

LEAD SOIL & SILT GEOCHEMISTRY

DRAWN BY M. LETILLY	SCALE 1:12000	DATE MARCH, 1984	DRAWING NO. 2
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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
ASSESSMENT REPORT

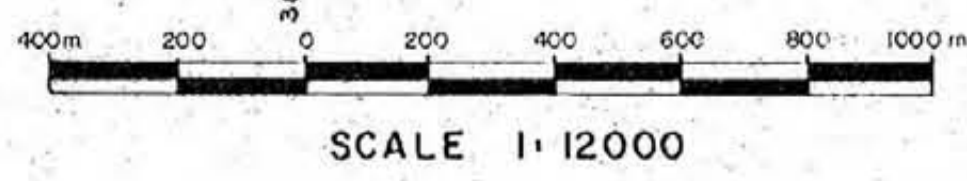
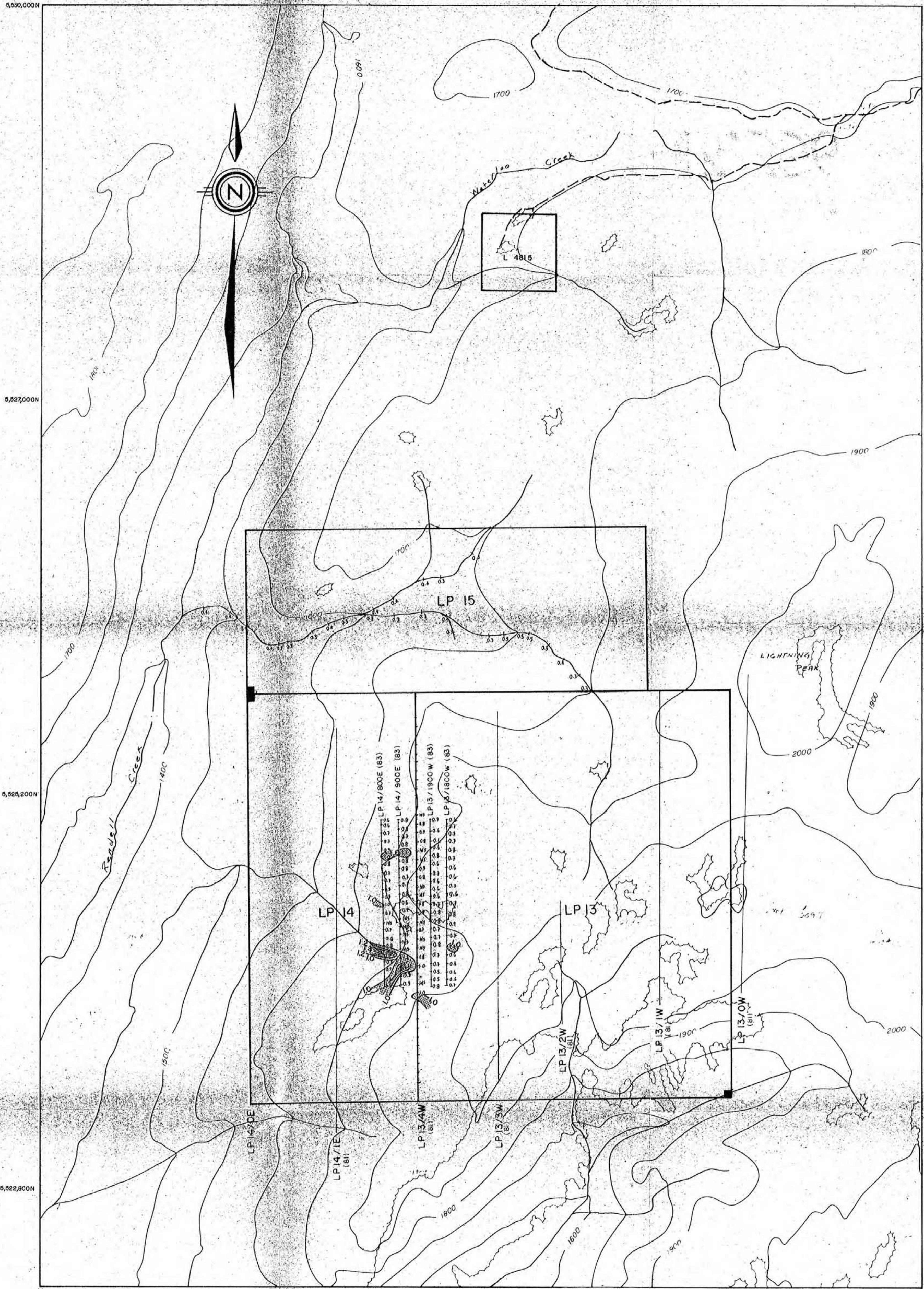
13,356 PART OF 5

MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA

LP 13, 14, 15

ZINC SOIL & SILT GEOCHEMISTRY

DRAWN BY	SCALE	DATE	DRAWING NO.
M. LEFILLY	1:12000	MARCH, 1984	3



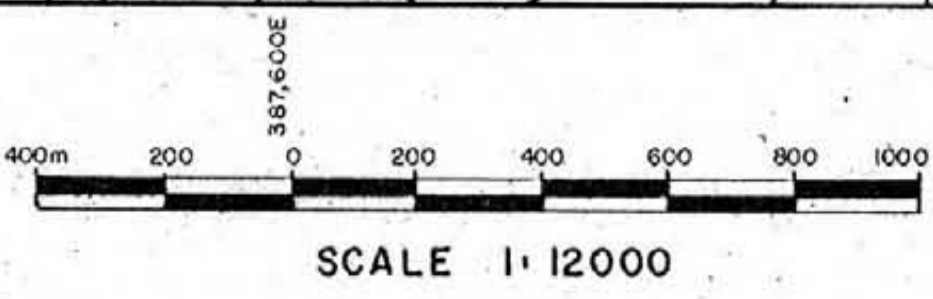
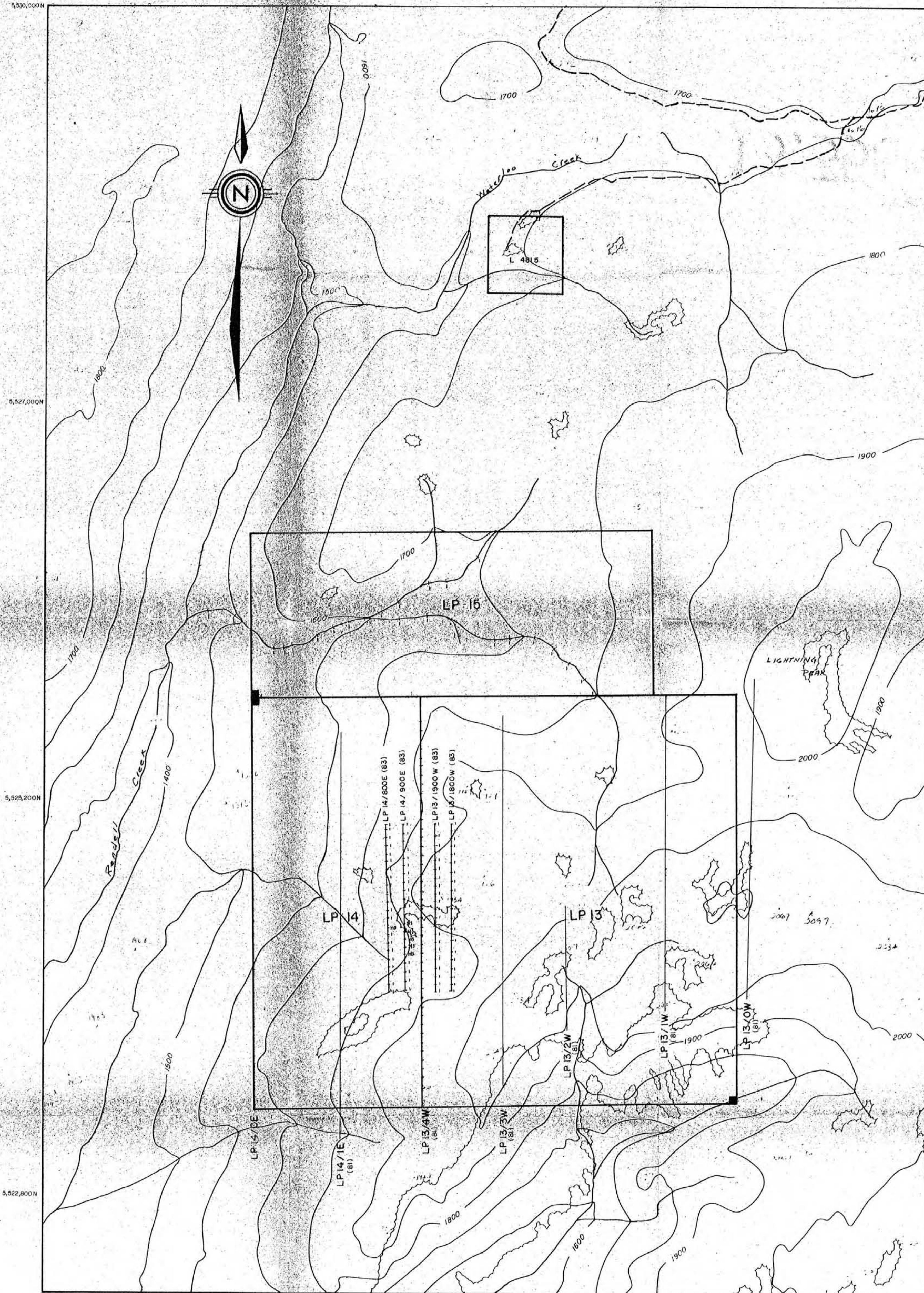
LEGEND

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

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356 PART 1 OF 5

MOHAWK OIL COMPANY LTD.			
LIGHTNING PEAK AREA			
LP 13, 14, 15			
SILVER SOIL & SILT GEOCHEMISTRY			
DATE	DRAWN BY	SCALE	DATE
MARCH, 1984	M. LETILLY	1:12000	4



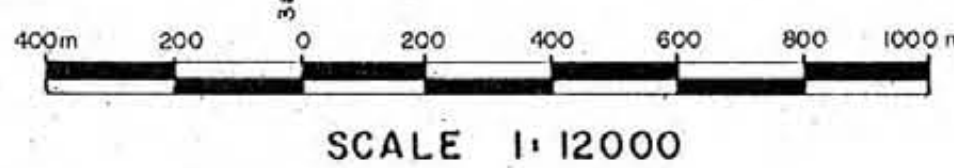
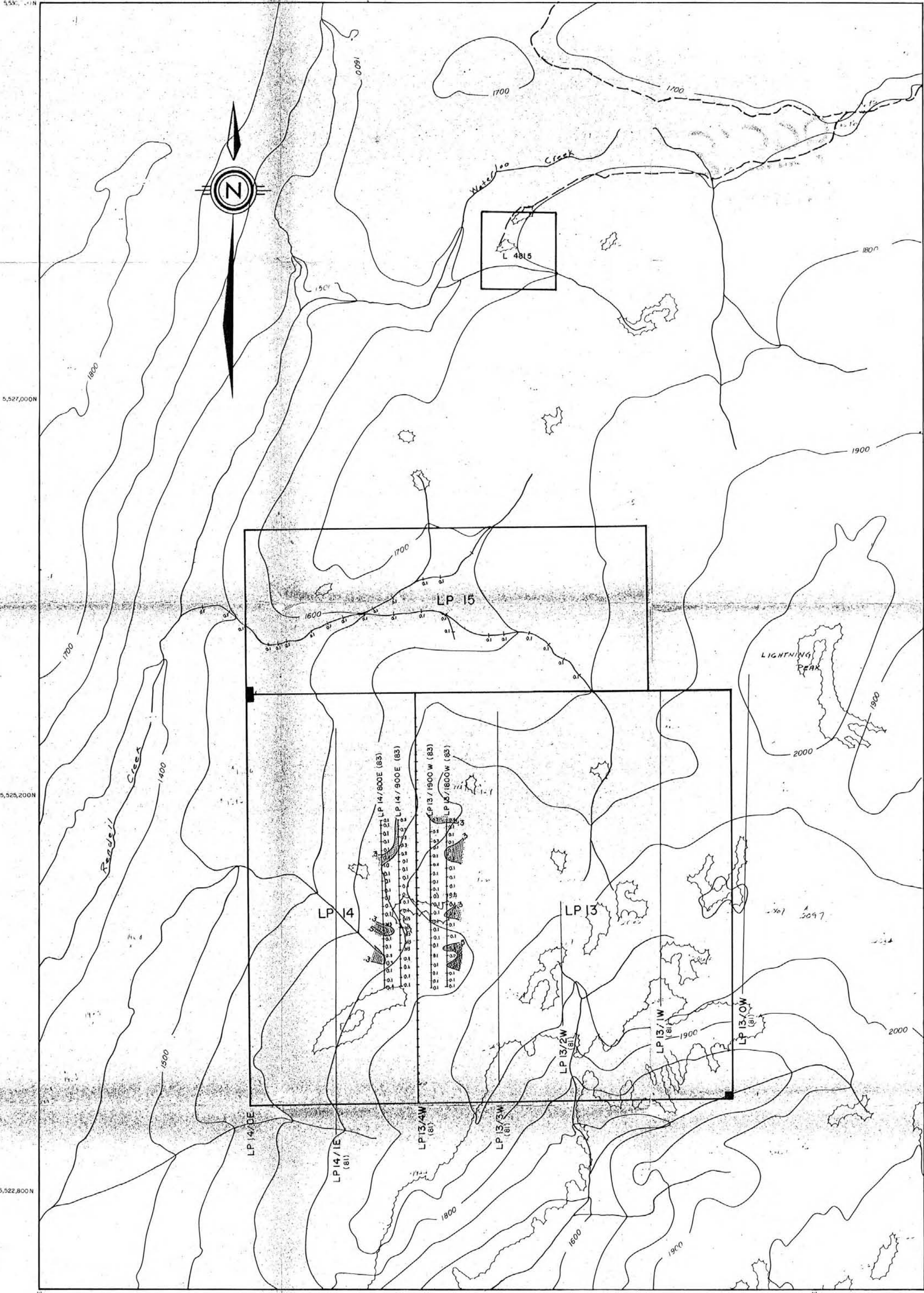
LEGEND

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

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,356 PART 1 OF 5

MOHAWK OIL COMPANY LTD.			
LIGHTNING PEAK AREA			
LP 13, 14, 15			
ARSENIC SOIL & SILT GEOCHEMISTRY			
DRAWN BY	SCALE	DATE	DRAWING NO
M LITLBY	1:12000	MARCH, 1984	5



GEOLOGICAL BRANCH
ASSESSMENT REPORT

PART
13,356 1 OF 5

MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA

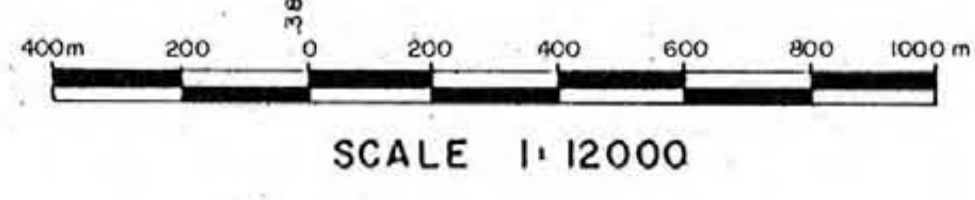
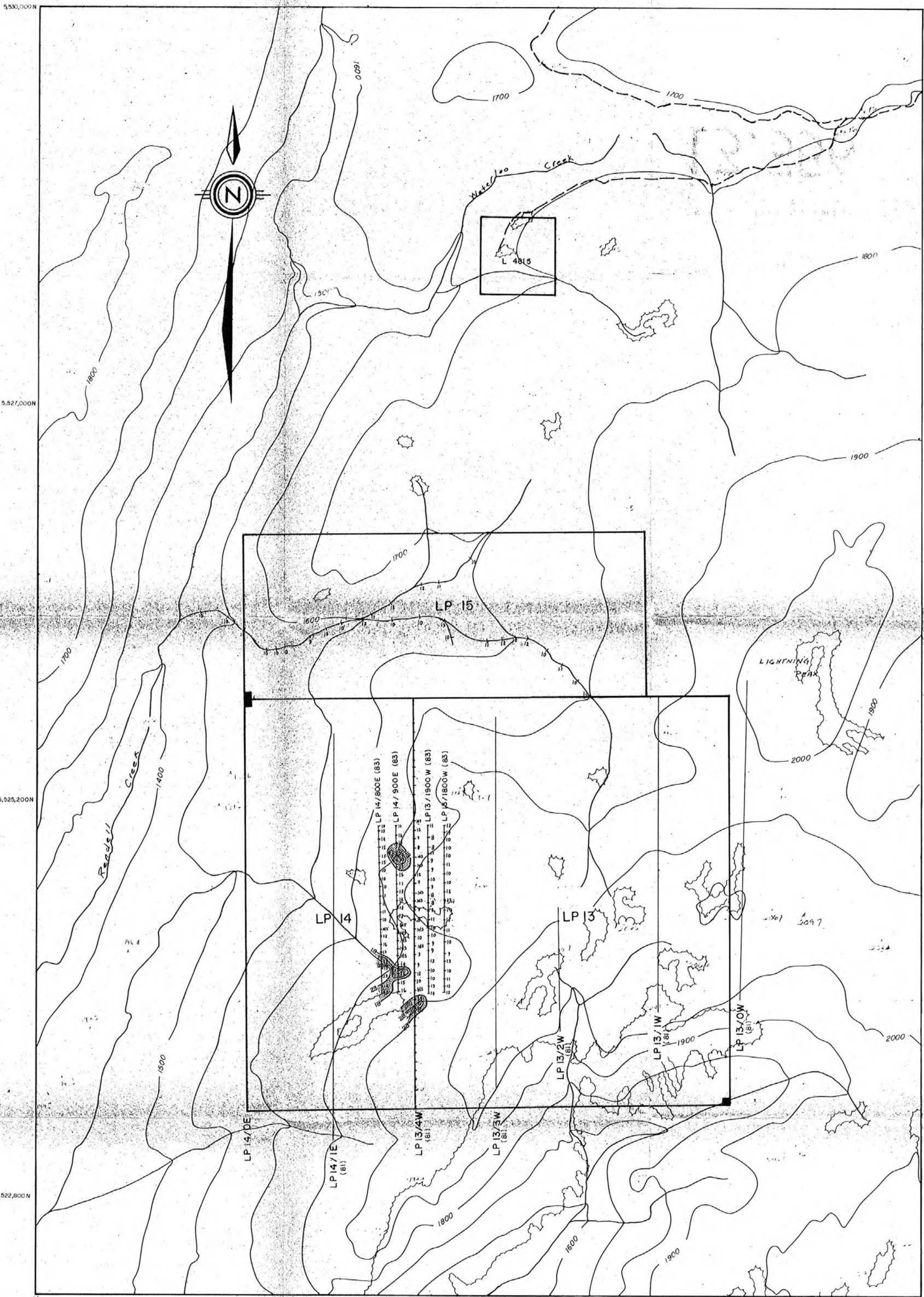
LP 13, 14, 15

ANTIMONY SOIL & SILT GEOCHEMISTRY

LEGEND

- | | | | | | |
|-------------------|--|----------------------------|---------------------------------------|--|----------|
| SUBANOMALOUS | | ANARCHIST GROUP INTRUSIVES | SOIL SAMPLE GRID LINE (values in ppm) | | 1 2 |
| ANOMALOUS | | ANARCHIST GROUP INTRUSIVES | CONTOUR LINE (ppm) | | — 60 — |
| 2ND ORDER ANOMALY | | ANARCHIST GROUP INTRUSIVES | TOPOGRAPHIC CONTOUR | | — 1620 — |
| | | | ROAD | | --- |

DRAWN BY	SCALE	DATE	DRAWING NO.
M. L'ETILLY	1:12000	MARCH, 1984	6



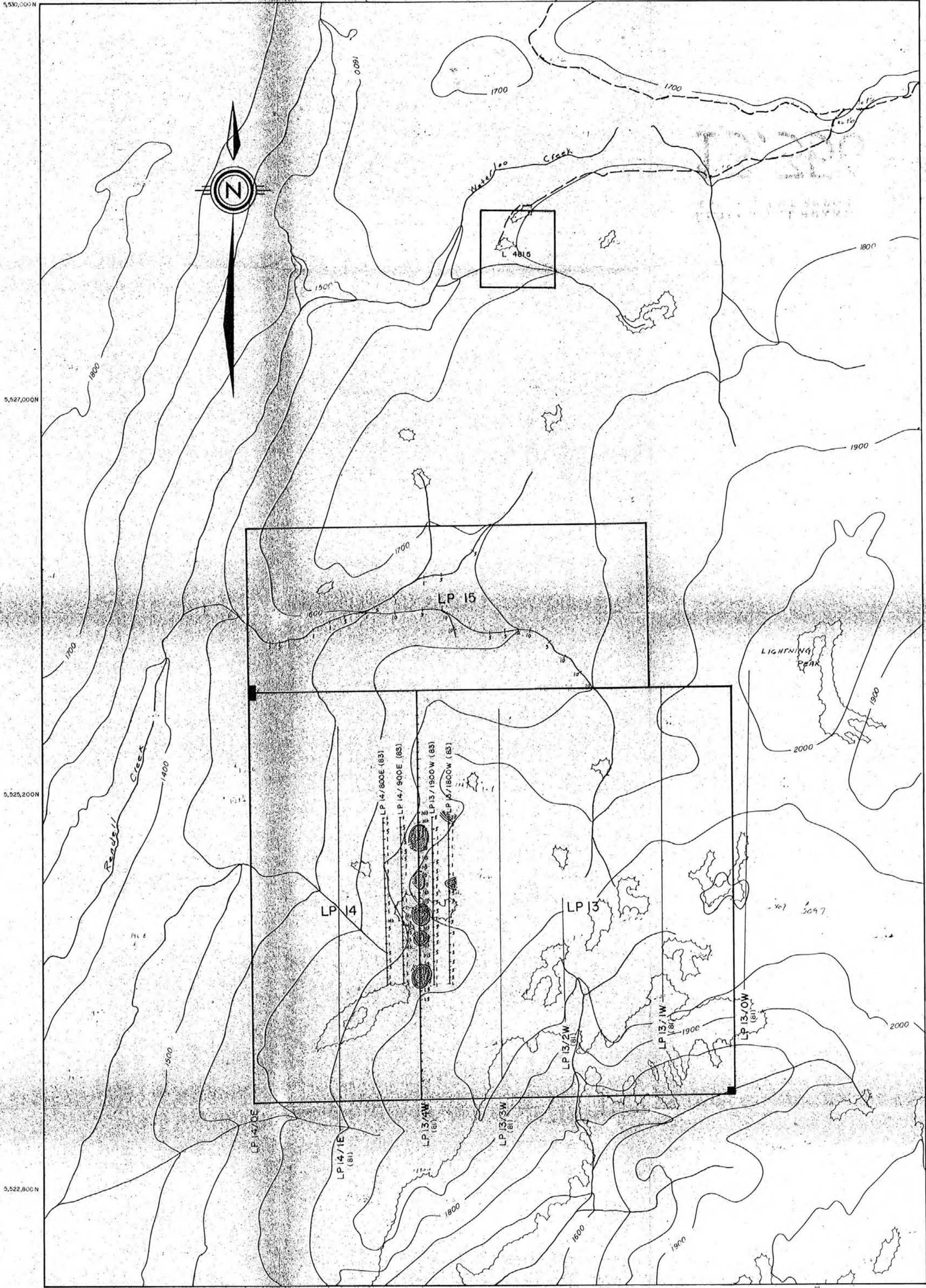
LEGEND

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

GEOLOGICAL BRANCH
ASSESSMENT REPORT **PART**
13,356 1 OF 5
MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA

LP 13, 14, 15
COPPER SOIL & SILT GEOCHEMISTRY

DRAWN BY M LETILLY	SCALE 1:12000	DATE MARCH, 1984	DRAWING NO 7
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LEGEND

- SUBANOMALOUS ANARCHIST GROUP INTRUSIVES
- ANOMALOUS ANARCHIST GROUP INTRUSIVES
- 2ND ORDER ANOMALY ANARCHIST GROUP INTRUSIVES

- SOIL SAMPLE GRID LINE (values in ppm)
- CONTOUR LINE (ppb)
- TOPOGRAPHIC CONTOUR
- ROAD

GEOLOGICAL BRANCH
ASSESSMENT REPORT

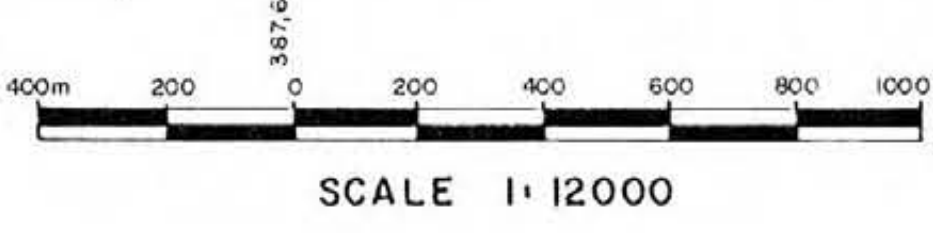
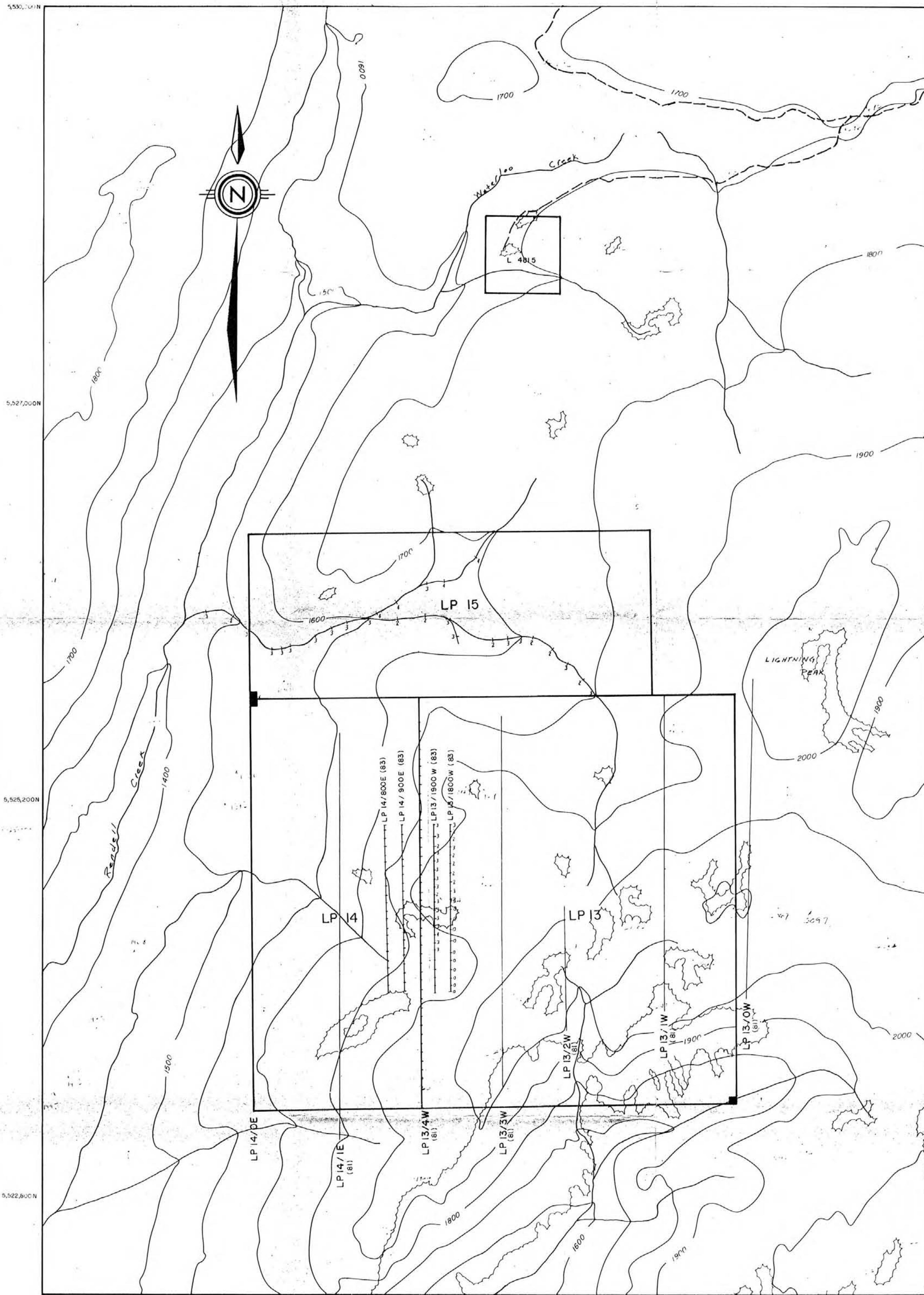
13,356 PART 1 OF 5

MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA

LP 13, 14, 15

GOLD SOIL & SILT GEOCHEMISTRY

DRAWN BY M. LETILLY	SCALE 1:12000	DATE MARCH, 1984	DRAWING NO 8
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LEGEND

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

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,356 PART 1 OF 5

**MOHAWK OIL COMPANY LTD.
LIGHTNING PEAK AREA**

LP 13, 14, 15

MOLY SOIL & SILT GEOCHEMISTRY

DRAWN BY M. LETILLY	SCALE 1:12000	DATE MARCH, 1984	DRAWING NO. 9
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