

R. H. SERAPHIM ENGINEERING LIMITED
GEOLOGICAL ENGINEERING

316 - 470 GRANVILLE STREET
VANCOUVER, B.C. V6C1V5

RADIOMETRIC & GEOCHEMICAL REPORT
ON THE

I.R.A., I.R.A. 2, I.R.A. 3 MINERAL CLAIMS

ATLIN MINING DIVISION

N.T.S. 104N-14E; 104N-14W

Lat. 59°47.5'

Long. 133°15'

WORK COMPLETED: AUGUST 31, 1979

OWNER: MALABAR MINES LTD.
OPERATOR: R.H. SERAPHIM
ENGINEERING LTD.

BY
T.E. LISLE, P.ENG.

October 5, 1979

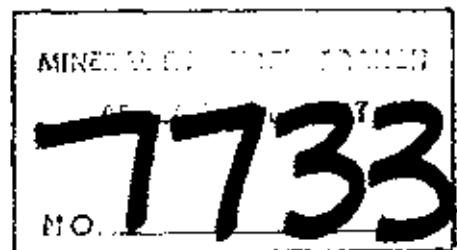


TABLE OF CONTENTS

SUMMARY & CONCLUSIONS.....	1
INTRODUCTION.....	2
LOCATION AND ACCESS.....	2
CLAIMS.....	3
HISTORY.....	3
WORK PROGRAM.....	4
GENERAL GEOLOGY.....	4
GRID GEOLOGY.....	5
GEOCHEMICAL SURVEY.....	6
GEOCHEMICAL RESULTS.....	7
RADIOMETRICS.....	8

MAPS

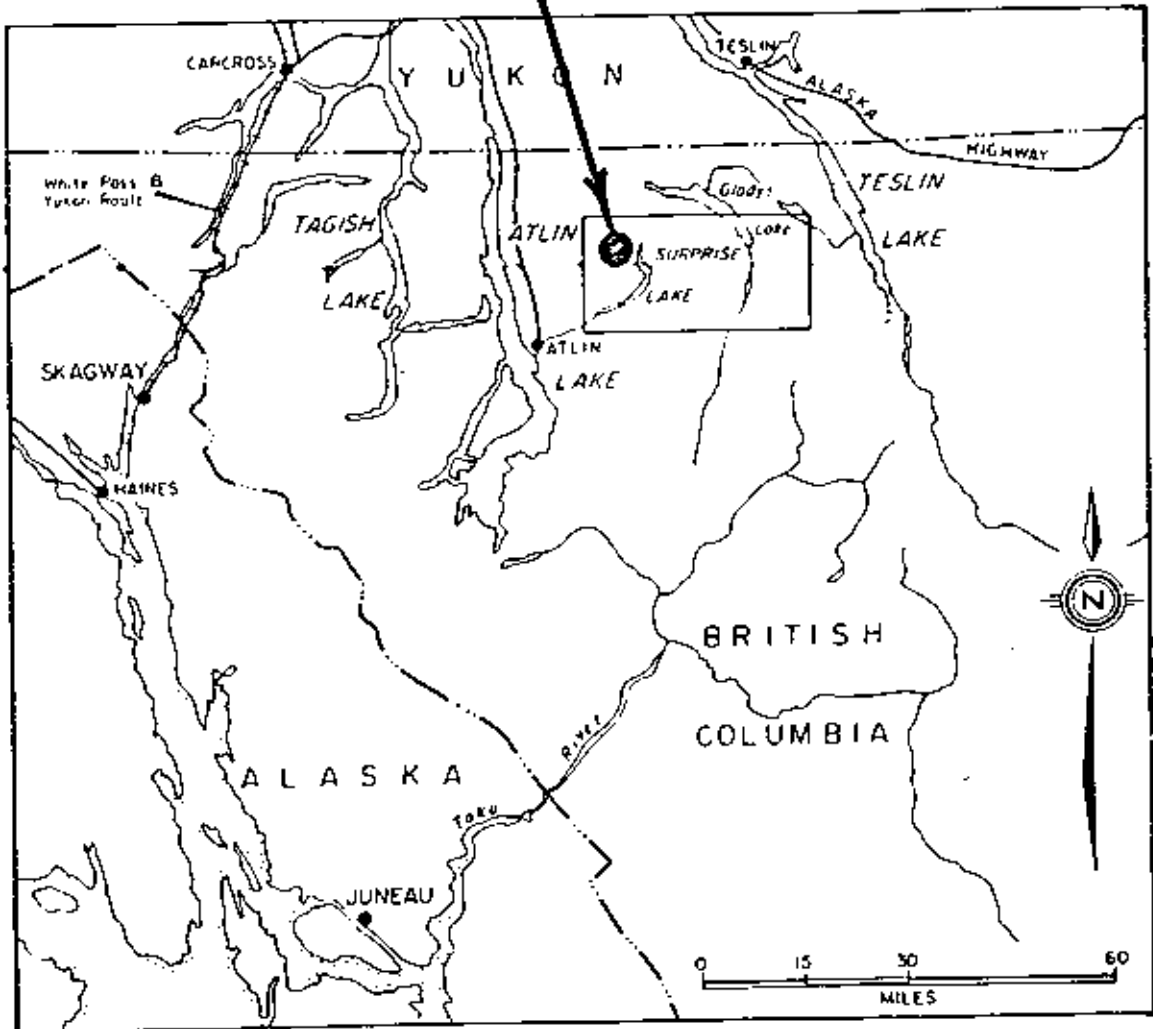
1. LOCATION MAP
2. INDEX MAP
- 3a. I.R.A. GRID URANIUM GEOCHEMISTRY - 1:5,000
- 3b. I.R.A. GRID RADIOMETRICS - 1:5,000

APPENDICES

- APPENDIX 1 - STATEMENT OF EXPENSES
- APPENDIX 2 - GEOCHEMICAL ASSAYS
- APPENDIX 3 - QUALIFICATIONS

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I.R.A. PROSPECT



R.H. SERAPHIM ENGINEERING LTD.
LOCATION MAP, I.R.A. PROSPECT
ATLIN MINING DIVISION, NTS 104N

Map 1

October, 1979

SUMMARY AND CONCLUSIONS

The Uranium Reconnaissance Program sponsored by the federal and provincial governments released multi element geochemical data on Map Sheet NTS 104N on June 15, 1978. This data showed, among other things, that the creeks draining the Mt. Edmund area towards the north end of Surprise Lake carried anomalous values for uranium and fluorine in water and uranium in silt.

In response to these values, R.H. Seraphim Engineering Ltd. undertook a reconnaissance geological and geochemical program in the Mt. Edmund area. The company also optioned the I.R.A. prospect, as radioactivity had been noted on the claims by previous operators. Follow-up work consisted of detailed grids for geochemical and geological surveys.

The I.R.A. prospect is situated near the western margins of the Surprise Lake alaskite batholith. The claims are underlain mainly by alaskite although remnants of Cache Creek volcanic and sedimentary rocks occur near the western margins. Some late quartz porphyry, quartz-feldspar porphyry, and green andesitic dikes are also evident.

The geology is marked by prominent north-easterly sheeting, widespread northwesterly fracturing and shearing, and by narrow lineaments commonly aligned a few degrees east of north.

The radiometric data collected from the 1978 and 1979 grids showed, with few exceptions, a narrow range of counts for total count, U & Th and Th.

The geochemical work revealed three anomalous

areas which should be examined in greater detail by geochemical, radiometric and geological surveys.

INTRODUCTION

R.H. Seraphim optioned the I.R.A. group of mineral claims in 1978. During August and September, 1978, the claims were prospected, and partial geochemical and geological surveys completed.

In August, 1979, the survey work was extended to give better coverage of the area surveyed in 1978.

The results of this work, combined with the 1978 results, are shown on the enclosed maps and described in this report.

LOCATION AND ACCESS

The I.R.A. prospect is situated to the west of the north end of Surprise Lake some 34 Km northeast of Atlin. The claims are centered roughly on Lat. $59^{\circ} 47.5'$; Long. $133^{\circ} 15'$ and are in NTS 104N, 14E and 14W. Access is presently by helicopter from Atlin, B.C.

Elevations range from approximately 1,000 to greater than 1,800 meters above sea level. The terrain is generally subdued however the eastern slopes of Mt. Edmund are steep and precipitous.

CLAIMS

The prospect is comprised of six I.R.A. claims in the Atlin Mining Division. Pertinent data is as follows:

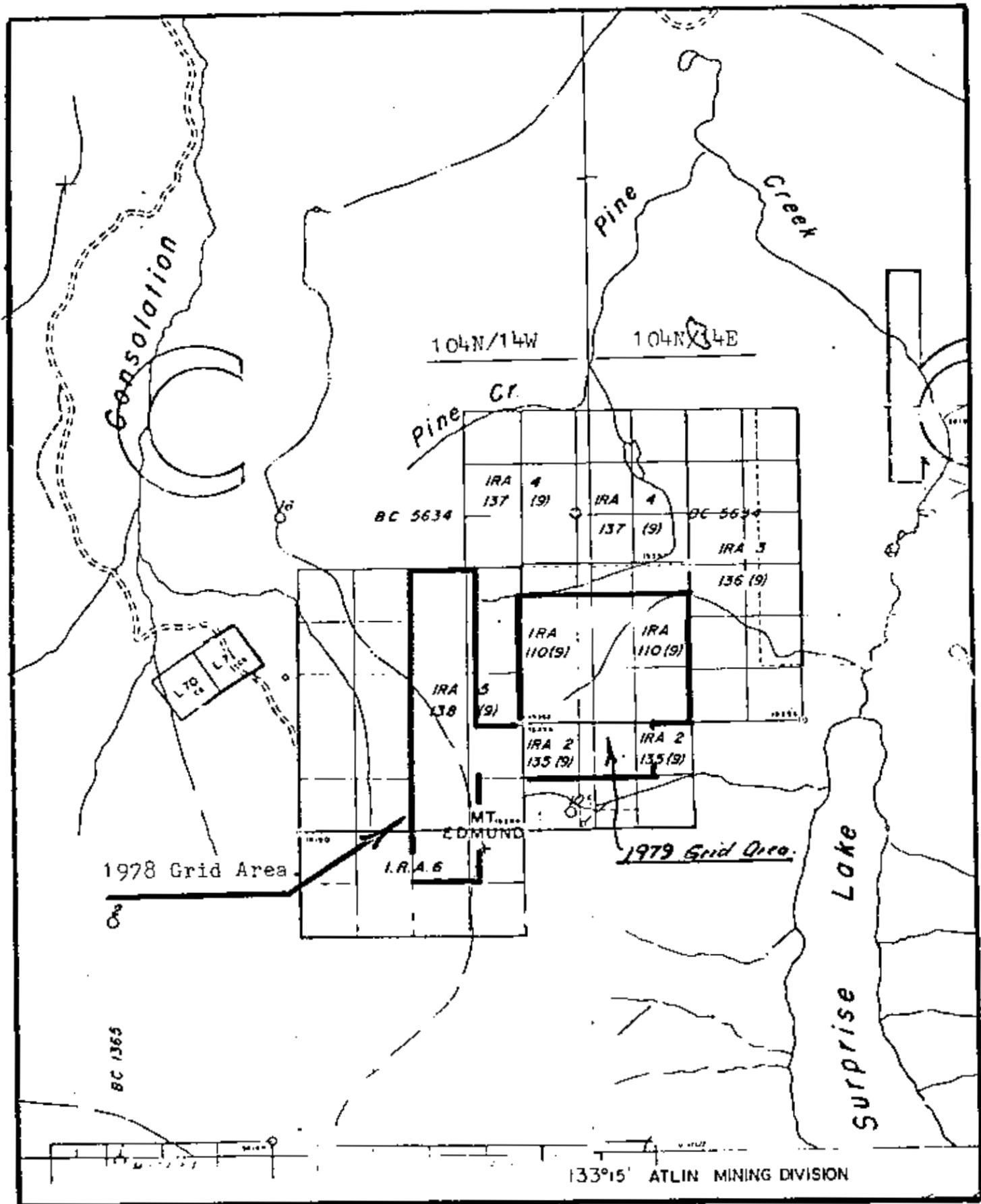
<u>Name</u>	<u>Record</u>	<u>No. Units</u>	<u>Group</u>	<u>Anniversary</u>
IRA	110 [9]	9	IRA East	Sept. 7, 1980
IRA 2	135 [9]	6	"	Sept. 17, 1980
IRA 3	136 [9]	12	"	Sept. 17, 1980
IRA 4	137 [9]	12	"	Sept. 17, 1980
IRA 5	138 [9]	20	IRA West	Sept. 17, 1980
IRA 6	158 [10]	8	"	Oct. 8, 1980

HISTORY

Claim post evidence indicates that the claim area was staked in the 1954-55 and 1967-69 periods. The ground was possibly investigated respectively for uranium and molybdenum as those periods coincide with exploration activity for those metals in the area.

In 1976 Malabar Mines Ltd. acquired the current property on the strength of geochemistry and investigated it for silver, lead and uranium by radiometrics, limited trenching, and further geochemical surveys.

Seraphim Engineering optioned the property in the summer of 1978 and undertook geological and geochemical surveys. In 1979, geochemical surveys were extended, and radiometric data collected from the same grid.



MAP 2

I.R.A. PROSPECT- INDEX MAP.
 R.H.SERAPHIM ENGINEERING LTD.
 SCALE, 1:50,000 Oct. 1979

WORK PROGRAM

The work program consisted of fill-in geochemical surveys and radiometric surveys within the grid established in 1978. Additional grid lines were put in by belt chain and compass and stations marked at 50 meter centers on lines running east from the base line.

189 soil samples were collected from the grid with a grub hoe and radiometric readings were taken over most lines. These results are shown plotted on maps 3a and 3b

GENERAL GEOLOGY

The I.R.A. prospect is situated near the western margins of the Surprise Lake alaskite batholith. This intrusion is Cretaceous ? in age, is elongate east-west and is locally disjointed by northeasterly trending faults.

The alaskite is 'phasey' with textures varying from fine to coarse grain in porphyritic and non-porphyritic rocks. It contains a low mafic content, mainly biotite; has abundant smoky quartz, minor amounts of muscovite, fluorite, apatite, beryl, and rare topaz and allanite. Narrow zones of simple pegmatite and quartz veining are also evident. The intrusion is locally limonitic due, in part, to the weathering of minor pyrite, chalcopryrite, arseno-pyrite and magnetite, and also to the mafic breakdown.

The intrusion is of interest in that it contains

anomalous values in zinc, lead, fluorite, tungsten, molybdenum and uranium [Open File 517]. Because of this it has been intensively explored in the past. The large Adanac porphyry molybdenum deposit was recently outlined in a younger ? Tertiary aged alaskite stock a few kilometers southwest of the I.R.A. prospect.

GEOLOGY, I.R.A. GRID

The I.R.A. prospect is underlain almost entirely by alaskite, and by a few late porphyry and basaltic dikes. The claims cover Mt. Edmund and adjacent areas which are locally marked by weak to strong gossans.

Fine grained alaskite usually has a recognizable groundmass of quartz, feldspar and biotite. It may contain 5 to 10% quartz phenocrysts to 1 cm., or feldspar phenocrysts to 2 cm., or a combination of both. The coarse alaskite on the other hand commonly forms a crowded mosaic of quartz, feldspar [to 3 cm.] and up to 5%, but commonly less biotite. Textures may be porphyritic or non-porphyritic and the quartz is often smoky. Contacts between the fine and coarser alaskite may be gradational over narrow widths or relatively sharp. In the latter case the fine grained alaskite is intrusive into the coarser material.

Quartz porphyry, quartz feldspar porphyry and basaltic dikes up to a few meters wide have been mapped within the grid. The porphyry dikes are recognizable by the prominent quartz or quartz and feldspar phenocrysts set in a fine grain aphanitic groundmass. Contacts are not often exposed but field evidence suggests an east-northeasterly strike.

Most outcrops show evidence of strong north-easterly sheeting. Fractures are commonly 0.1 to 0.5 meters apart and strike in the 50 to 70 degree range with moderate to steep dips to the southeast. These structures appear to be superimposed on a widely developed northwesterly trending [N25W] shear and fracture system, although in one or two instances the north-easterly fractures are apparently offset by the latter.

A number of N10 to 25E fractures, local shears, and topographic lineaments are also evident in the eastern section of the grid. These structures may be later than the stronger sets noted above, however direct evidence supporting this is lacking.

Large limonitic areas found in the cirque and to a lesser extent on the lower eastern slopes remain to be further evaluated. Some magnetite-quartz vein material has been noted in both areas and is likely responsible in part for the gossans.

Uranium mineralization has been noted in three locations during the investigation. Zeunerite was found in the general vicinity of the I.R.A. 6 claim associated with fine grained alaskite. Kasolite was noted in the cirque area with fluorite and quartz veins, and an unidentified uranium mineral associated with fluorite occurs in a trench on the I.R.A. claim excavated by previous operators. The significance of any of these showings remains to be determined.

GEOCHEMICAL SURVEY

Silt and soil samples were collected from the areas indicated on Map 3.

Distinct soil horizons are not well developed on the upland glaciated terrain. A typical profile might consist of 1 to 2 cm of organic surface material underlain by brown fine to coarse grained sandy [alaskitic] soil containing abundant large fragments. In some places large areas are strewn with rounded boulders [felsenmeer], and in other areas large outcrops preclude soil sampling.

All samples were packed in standard kraft soil envelopes and shipped to Chemex laboratory in North Vancouver. At Chemex the samples are dried and screened. The -80 mesh fraction is weighed, ashed and digested in hot nitric acid, and evaporated to dryness. The residue is leached with a known volume of dilute nitric acid. It is then mixed, and a small aliquot pipetted into a platinum dish for evaporation and fusion with a carbonate-fluoride flux for measurement of uranium fluorescence. The detection limit is 0.5 ppm. In some instances, as shown on the certificate of analysis, the detection limit varied due to fluorescence quenching caused by high concentration of interfering metals.

GEOCHEMICAL RESULTS:

The geochemical data contoured arbitrarily at 20 ppm U show three areas that should be examined in more detail. These are:

- 1) The zone in the northeast corner of the I.R.A. 2 claim which is partly coincident with a broad limonitic zone. Previous work has indicated the presence of kasolite and fluorite with quartz veins in the cirque area on the I.R.A. 5 claim to the southwest, and detailed work may show these zones to be related.

2) A large anomalous zone in the northwest corner of the grid on the I.R.A. claim is partly coincident with an area, previously trenched, which showed minor fluorite with some uranium mineralization.

The zone is open and may be related to higher geochemical assays noted on the I.R.A. 5 claim to the southwest. Detailed geochemical work in sections of this area in 1977 also indicated anomalous conditions.

3) A number of small scattered anomalous zones (2 - 4 stations) are clustered around the headwaters of a northeasterly flowing creek on the I.R.A. claim. A number of the samples appear to be from dark organic rich soils. There is very little outcrop in this area and therefore the anomalous stations should be rechecked both geochemically and radiometrically.

RADIOMETRICS G154 Spectrometer

The radiometric data shown on Map 3b was collected by placing the calibrated instrument on the ground at each station. Three sets of readings were taken and those shown are the average for the 10 second count.

Readings taken on outcrop yielded a slightly higher response than those taken on overburden. Some of the readings taken in draws (lineaments) also showed higher responses and are locally associated with dark organic rich soils.

Because of the generally narrow range of counts, the data has not been contoured.

APPENDIX 1

STATEMENT OF EXPENSES

I.R.A. EAST
1979 -- EXPLORATION EXPENSES

WAGES:

D. Fennings - August 22-31 incl.	\$60.00/day	\$ 600.00
J. Taylor - August 22-31 incl.	\$60.00/day	600.00
T. Lisle, Geologist August 28		
	$\frac{1}{2}$ x \$150.00/day	<u>75.00</u>
		<u>\$1,275.00</u>

CAMP COSTS:

20 @ \$20.00		<u>\$ 400.00</u>
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HELICOPTER SUPPORT - HUGHES 400:

August 22		308.00
August 26		215.00
August 28		154.00
August 31		<u>308.00</u>
		<u>\$ 985.00</u>

TRUCK RENTAL:

August 22, 23, 24, 25, 31	\$35.00/day	<u>\$ 175.00</u>
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GEOCHEMICAL ANALYSIS:

190 @ \$3.00		<u>\$ 570.00</u>
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REPORT:

October 1-5 -- T.E. Lisle		<u>\$ 500.00</u>
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OVERHEAD:

		<u>\$ 50.00</u>
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TOTAL

		<u>\$3,955.00</u>
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APPENDIX 2

GEOCHEMICAL ASSAYS



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J2C1
 TELEPHONE: 984-0221
 AREA CODE: 804
 TELEX: 04-352587

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 50379

TO: R.H. Seraphim Engineering Ltd.
 316 - 470 Granville St.
 Vancouver, B.C. V6C 1V5

INVOICE NO. 32631

RECEIVED Sept. 1/79

ANALYSED Sept. 17/79

ATTN: PROJECT: IRA

SAMPLE NO. :	PPM U	Depth cm	Horiz	
0+50 S 0+00E ✓	6.5	15	C	Lt beige mud/sand.
0+50 ✓	21.0	25	C	Med. brown coarse sandy soil.
1+00 ✓	4.5	25	C	Rusty " " mud soil.
1+50 ✓	17.0	20	A+C	Lt. beige V coarse " "
2+00 ✓	6.5	20	C	" " " " " "
2+50 ✓	6.5	25	A+C	Lt " - Med. " mud soil
3+00 ✓	12.5	25	A+C	" " - Coarse " "
3+50 ✓	6.5	23	A+C	" " - V " " "
4+00 ✓	6.5	25	A+C	" " " " " "
4+50 ✓	4.5	25	A+C	" " " " " "
5+00 ✓	5.0	25	A+C	Rusty brown " " " "
5+50 ✓	7.5	25	A+C	DK brown coarse sandy/mud
0+50 S 6+00E ✓	21.0	28	A+C	Black cement mud - from gutter.
1+50 S 0+00E	20.5	30	C	Lt brown V fine mud soil
0+50	28	20	C	Med. " V coarse " "
1+00	20	25	C	" " V fine " "
1+50	26	25	A+C	Lt " Coarse sandy soil
2+00	65	20	A+C	Lt " " mud "
2+50	30	25	C	Dry silty.
3+00	6.0	30	A+C	Lt beige coarse mud soil
3+50	4.5	28	C	" brown, fine muddy, soil.
4+00	4.5	25	A+C	DK brown, coarse sandy "
4+50	2.5		A+C	
5+00	3.0			
5+50	3.5			
1+50 S 6+00E ✓	8.0			
2+00 S 0+00E	17.5	20	A+C	Lt brown med med soil.
0+50	26	15	A+C	" " " " " "
1+00	25	30	C	Med. " " " " "
1+50	6.5	25	A+C	" " Coarse sand/mud "
2+00	3.5	25	A+C	" " " mud soil
2+50	8.5	25	A+C	" " " sand/mud soil
3+00	38	20	A+C	DK " V " " soil (gutter)
3+50	3.5	20	C	Med " " " mud "
4+00	3.5	25	A+C	Med beige fine " "
4+50	2.5	25	C	Bright rusty med sand/mud soil.
5+00	6.0	25	C	Rusty brown fine mud soil
5+50	2.5	9	C	Med brown med " "
6+00	3.5	8	A+C	Lt " " " "
2+00 S 6+50E	2.5	30	A+C	Rust " coarse sand/mud "



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY:

Hart Biele



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352587

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CERTIFICATE OF ANALYSIS

TO: R.H. Seraphim Engineering Ltd.
 316 - 470 Granville St.
 Vancouver, B.C. V6C 1V5

CERTIFICATE NO. 50380

INVOICE NO. 32631

RECEIVED Sept. 1/79

ATTN: PROJECT: IRA

ANALYSED Sept. 17/79

SAMPLE NO. :	PPM U			
2+00 S 7+00E	3.0	26	C	Med brown - v coarse sandy soil.
7+50	1.5	25	A+C	Lt " " med soil.
8+00	2.0	20	C	Weathered alaskite. on slope.
8+50	2.0	25	A+C	Med brown coarse sandy soil.
9+00	3.0	23	A+C	" " sandy/mud soil
9+50	6.5	30	C	Lt beige v coarse (weathered alaskite).
10+00	3.5	30	A+C	Lt brown coarse med soil.
10+50	3.5	20	A+C	" beige fine " "
11+00	3.0	15	A+C	" " " " "
11+50	2.0	20	A+C	" " " " "
2+00 SI2+00E ✓	2.0	25	A+C	Rusty brown. med/sandy "
0+50 N 0+00E	3.5	15	C	Weathered Rock
0+50	19.5	15	A+C	Med brown - v coarse sand.
1+00	7.5	15	C	Lt. " " " "
1+50	4.0	25	C	limonitic - v fine sandy soil
2+00	3.5	23	C	very light fine " "
2+50	4.5	25	C	Lt brown " " "
3+00	8.5	25	C	" " " " "
3+50	5.0	23	C	Light coloured - coarse rocky soil.
4+00	4.5	16	C	" " " " "
4+50	11.5	18	A+C	Brown sandy med soil.
5+00	4.0	20	A+C	" very-coarse sandy soil.
5+50	2.5	25	C	Very light - medium " "
0+50 N 6+00E ✓	4.0	20	C	light brown - coarse " "
2+00 N 0+00E	69	15	C	Med " - coarse med.
0+50	2.5	16	C	Lt brown-rusty
1+00	12.5	18	C	Rusty coarse sandy soil
1+50	8.5	30	C	Lt brown coarse " "
2+50	3.0	30	C	Very light fine silty soil.
3+50	51	20	A+C	Dk brown - very coarse med soil.
4+00	2.5	25	A+C	light - fine sandy soil.
4+50	2.5	20	C	" - coarse " "
2+00 N 5+00E	1.0	?	C	Rusty - medium " "
2+00 N 6+00E A	2.5	?		
2+00 N 6+00E B	2.5	?		
2+00 N 6+50E	31	25	C	v. light fine med soil.
7+00	6.5	20	C	Dark coarse sandy soil.
7+50	6.5	25 -	A+C	Lt tan fine med-sand
8+00	15.0	25	C	Lt brown - very coarse sandy soil.
2+00 N 8+50E ✓	18.0	20	C	Lt grey coarse sandy soil.



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CHEMEX LABS LTD.

212 BROOKSBANK AVE.
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TO: R.H. Seraphim Engineering Ltd.
 316 - 470 Granville St.
 Vancouver, B.C. V6C 1V5

CERTIFICATE NO. 50381

INVOICE NO. 32631

RECEIVED Sept. 1/79

ATTN: PROJECT: IRA

ANALYSED Sept. 17/79

SAMPLE NO. :	PPM U	DEPTH		REMARKS.
		(D)	(HORIZ.)	
2+00 N 9+00E	20.5	25	A+C	Lt grey coarse sandy soil.
9+50	220	25	A+B	Black organic rich mud.
10+00	7.0	20	C	Med brown coarse sandy soil.
2+00 N 11+00E	3.5	18	C	" " sandy mud "
4+00 N 0+00E	57	Silt.		organic
0+50	14.5	25	A+C	Lt brown very coarse sand soil
1+00	23.0	25	A+C	DK " " " "
1+50	12.0	23	A+C	Med " " " "
2+00	12.0	20	A+C	Lt " " " "
2+50	22.0	15	A+C	" " med " " mud.
3+00	231	Fine D&S silt.		
3+50	17.5	18	A+B	Black organic rich mud soil. Pool.
4+50	2.5	25	C	Lt tan fine sandy soil.
5+00	195	30	A	Black organic mud - in Gully.
5+50	4.5	25	A+B+C	DK brown fine mud Pool sample
6+00	4.0	30	C	Med " coarse mud/sand.
7+00	2.5	20	A+C	Lt. grey " sandy soil
7+50	5.0	15	A+C	DK brown fine mud "
8+00	12.5	15	A+C	Med " coarse " "
8+50	9.0	20	A+B	Black organic v fine mud soil.
9+50	4.5	15	C	Med brown v coarse sandy soil.
10+00	3.0	18	C	Light tan - fine sandy soil.
10+50	10.2	18	C	Med brown - coarse sandy soil.
11+00	5.5	15	C	Lt. brown - " " "
4+00 N 12+00E	2.5	25	C	Lt " - fine sandy mud
6+00 N 0+00E	24.0	18	A+C	Med. brn - coarse sandy soil.
0+50	6.0	20	C	Lt. brown - fine muddy soil.
1+00	6.5	25	C	" " " " "
1+50	9.5	20	C	" beige - medium " "
2+00	4.0	20	C	" " coarse " "
2+50	8.5	25	C	limonitic - coarse sandy "
3+00	19.0	STREAM BANK.		
3+50	4.0	30	A+C	DK. brown - Fine muddy soil.
4+00	9.5	20	A+C	Lt Beige - Medium muddy soil.
4+50	62	Coarse organic silt.		
5+00	6.5	20	A+C	Lt beige - mixed sand - mud.
5+50	16.0	23	A+B+C	Lt brown - coarse sandy soil - in gully.
6+00	4.0	25	A+C	Dark brown - Organic muddy soil.
6+50	130	25	A	Black organic muddy soil.
6+00 N 7+00E	2.5	15	A+C	Lt grey - coarse sandy soil



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CERTIFIED BY:

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CHEMEX LABS LTD.

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CERTIFICATE OF ANALYSIS

TO: R.H. Seraphim Engineering Ltd.
 316 - 470 Granville St.
 Vancouver, B.C. V6C 1V5

CERTIFICATE NO. 50382

INVOICE NO. 32631

RECEIVED Sept. 1/79

ATTN: PROJECT: IRA

ANALYSED Sept. 17/79

SAMPLE NO. :	PPM U	DEPTH - Horiz cm		
6+00 N 7+50E	5.0	15	C	Med. Brown - very coarse mud/sand.
8+00	13.0	15	A+C	Lt. Brown - Fine mud soil.
8+50	2.5	18	C	V. Lt. Brown - fine "
9+00	118	20	A	Black organic mud - from gutter.
10+50	3.5	18	C	Lt. brown medium soil (muddy)
6+00 N 12+00E	28	25	A+B	Lt grey - fine - 13 horizon
8+00 N 0+00E	12.5	15	A+C	Brown - coarse sandy soil -
0+50	6.5	15	C	Lt. brown medium "
1+00	10.0	15	C	Lt. " fine mud-soil.
1+50	7.0	18	C	Lt. " medium sandy soil.
2+00	11.5	18	C	Lt. " " " "
2+50	9.5	20	C	Lt. brown sandy mud-soil
3+00	6.0	20	A+C	Med. brown coarse sandy soil.
3+50	12.0	25	C	Very light brown fine sandy soil
4+00	5.0	20	C	Light brown - coarse sandy soil w mud.
4+50	6.5	20	C	Lt grey med sandy soil.
5+00	55	25	A+C	Medium brown - medium muddy soil.
5+50	110	Wet silt.		from bank (Coarse)
6+00	100	25	A+C	Grey & Black mud-soil (fine)
6+50	5.5	25	A+B	Lt. brown medium mud-soil.
7+00	200	25	A-	Black organic soil (mud)
8+00	45	10	A+C	Coarse sandy soil.
8+50	14.0	20	A+B	Very light grey fine soil.
9+00	1.5	15	A+C	Grey - coarse sandy soil.
10+00	0.5	15	A+C	Grey - Coarse sandy soil.
10+50	0.5	15	A+C	Grey - coarse sandy soil.
8+00 N 11+00E	5.5	25	A	Black organic mud.
8+00 N 11+50E	20.5	15cm	C	Med. brown fine muddy soil.
10+00 N 0+00E	30	15	A+C	Dark brown coarse sandy soil.
0+50	55	15	A+C	" " medium sandy/mud soil
1+00	13.0	18	C	Medium " coarse mud-soil
1+50	5.5	20	C	" " " sandy soil.
2+00	4.0	25	A+C	Lt. brown - fine mud soil.
2+50	62	25	A+C	" " - coarse " "
3+00	19.5	20	C	Med " - Very " sandy soil.
3+50	23.0	15	C	Lt. " - fine sandy-mud soil
4+00	3.5	18	A+C	Lt. grey - Med mud soil.
4+50	13.0	25	C	Lt. brown - Very coarse mud-soil.
5+00	4.5	20	A+C	V. Lt. grey/brown - Fine sandy soil.
5+00 5+50	3.0	25	C	V. Lt. grey - " " mud "
10+00 N 6+00E	42	28	A+C	Lt. grey - coarse muddy soil.



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY:

Hart Bielle



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352587

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: R.H. Seraphim Engineering Ltd.
 316 - 470 Granville St.
 Vancouver, B.C. V6C 1V5

CERTIFICATE NO. 50383

INVOICE NO. 32631

RECEIVED Sept. 1/79

ANALYSED Sept. 17/79

ATTN: PROJECT: IRA

SAMPLE NO. :	PPM U	Depth - Horiz	
10+00 N 6+50E	3.5	25	A+B+C Lt. grey very fine silty soil.
7+00	5.5	20	A Black fine muddy soil.
7+50	5.8	20	A+B Dark grey fine muddy soil.
8+00	2.5	25	A+B+C Med " " " " " "
8+50	63	25	A+B+C Dark grey fine mud soil - Poor.
9+00	3.5	30	C Rusty brown fine mud soil.
9+50	1.5	30	C " " med/fine " " "
10+00 N10+00E	1.5	30	B+C " " fine " " "
11+00 N 0+00E	42	20	A+C Dark brown coarse sand soil.
0+50	20.5	25	A+C " " " " " "
1+00	90	25	A+C " " " " " "
1+50	30	23	A+C Lt " v coarse " " "
2+00	33	25	A+C " " Med mud soil.
2+50	112	20	A+C Med " coarse mud soil.
3+00	80	20	A+C Dark brown v coarse mud/soil.
3+50	13.5	20	A+C Med. " mud soil.
4+00	13.0	25	A+C Lt brown fine sandy soil.
4+50	105	25	A+C DK brown coarse mud soil.
5+00	22.5	23	A+C " " " " " "
5+50	11.5	20	A+C Lt beige med mud soil.
6+00	6.0	25	A+B+C Med brown sandy mud soil. (Poor)
6+50	7.0	20	A+C Lt brown fine muddy soil.
7+00	39	20	A+C Lt brown (organic) sandy soil.
7+50	2.5	20	A+C Lt brown fine mud soil.
8+00	3.0	15	C Grey - coarse sandy soil.
8+50	20.0	25	A+C Med brown mud soil.
9+00	45	23	A+B+C DK brown fine organic mud soil.
9+50	9.5	20	A+C Med brown coarse sandy soil.
11+00 N10+00E	16.5	30	A+B+C Good sample - DK brown (s) white fine (B)



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY:

Hart Biddle

CERTIFICATE OF QUALIFICATION

I, T.E. Lisle of 145 West Rockland Road,
North Vancouver, B.C. declare that:

1. The work described in this report was carried out by me and by the personnel listed in Appendix 2 under my supervision between August 21 and 31st 1979.
2. I am a graduate of the University of British Columbia with a B.Sc. 1964.
3. I have worked intermittently in exploration geology for several years prior to 1964, and have worked continuously in the same field since that date.
4. I am a member of the following organizations:
 - [a] Canadian Institute of mining & Metallurgy
 - [b] Geological Association of Canada
 - [c] Association of Professional Engineers of B.C.



T.E. Lisle, P.Eng.
October 2, 1978

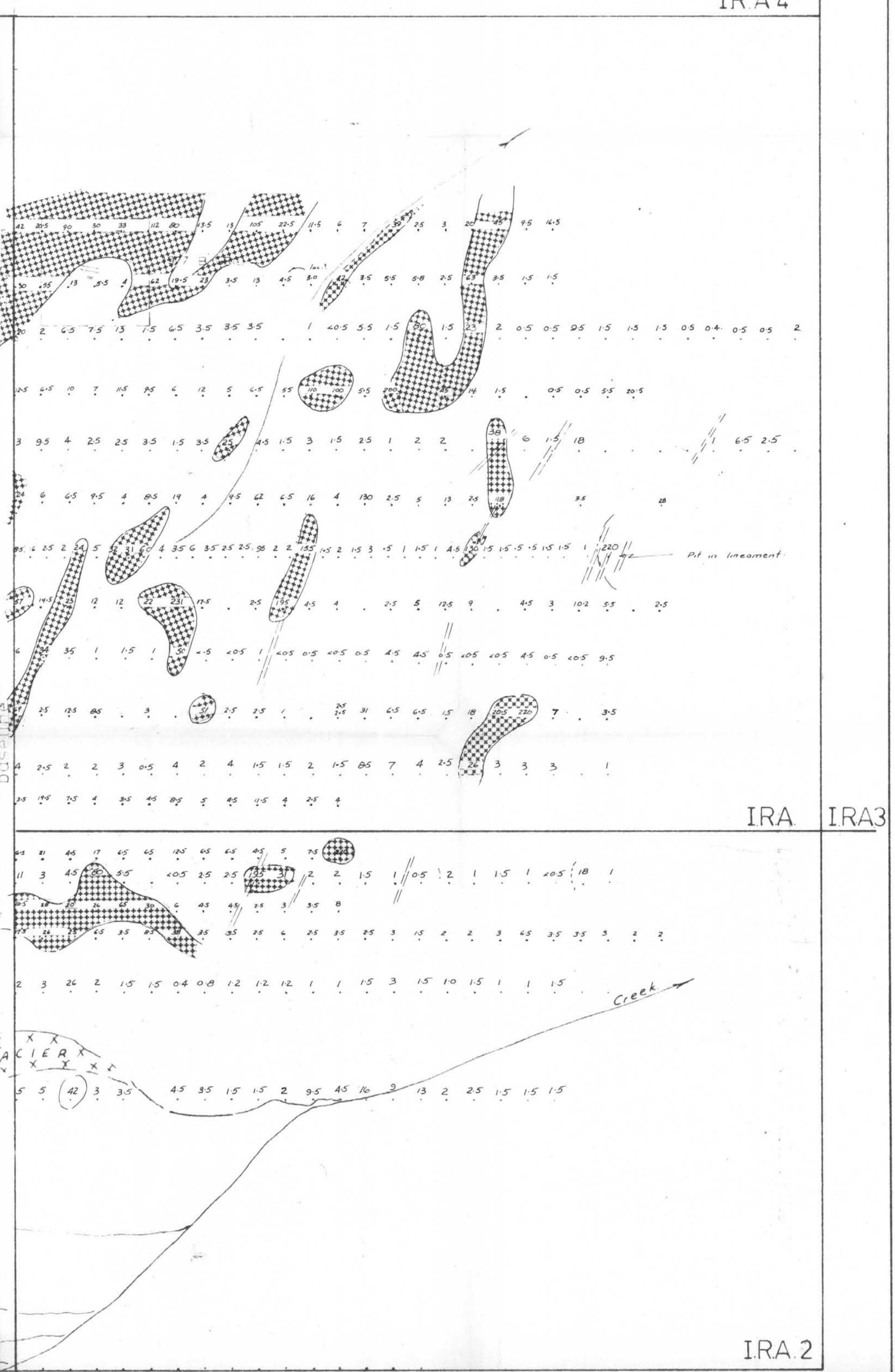
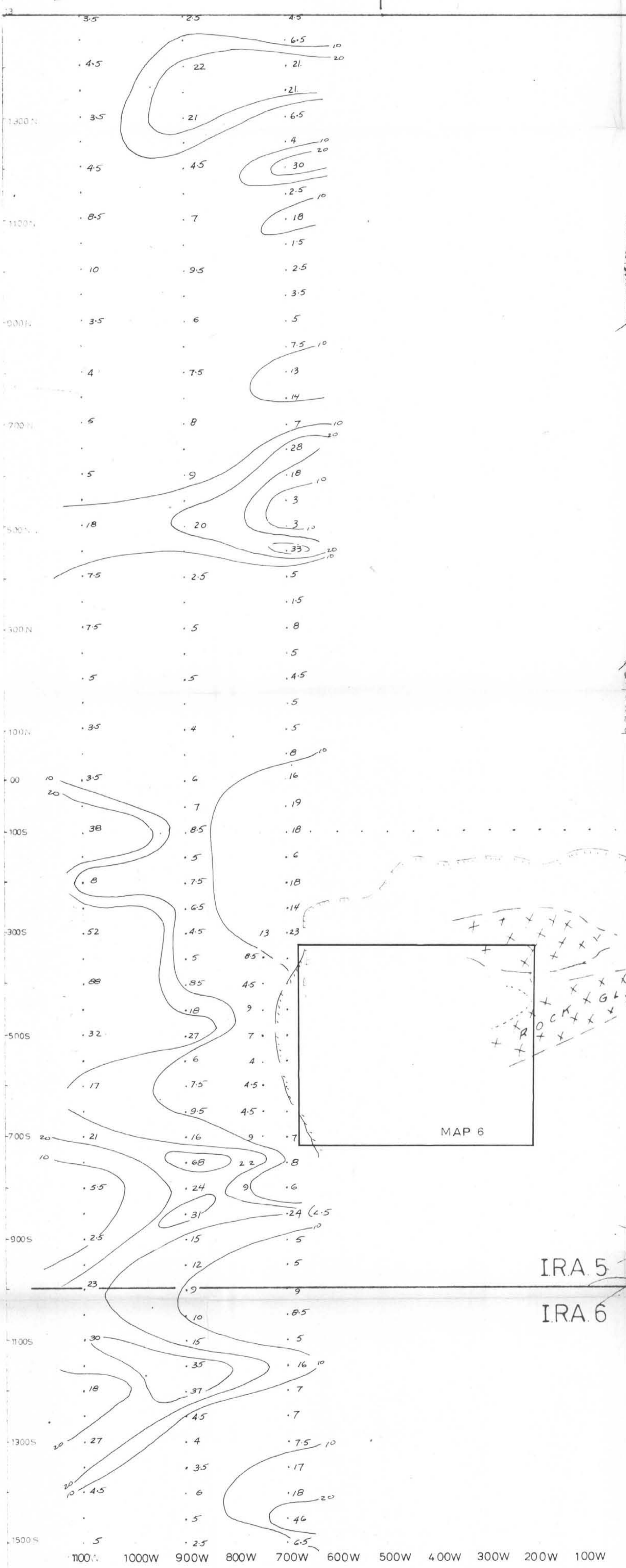
IRA 4

IRA 3

IRA 2

IRA 5

IRA 6



100E 200E 300E 400E 500E 600E 700E 800E 900E 1000E 1100E 1200E 1300E 1400E 1500E

1000W 1000W 900W 800W 700W 600W 500W 400W 300W 200W 100W

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7733

J.E. Fule



= 20PPM U

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URANIUM GEOCHEMISTRY
Scale: 1:5000 Sept./78

MAP 5

REVISED OCT/79

IRA.4

1300 N
1100 N
900 N
700 N
500 N
300 N
100 N
00
100 S
300 S
500 S
700 S
900 S
1100 S
1300 S
1500 S

1977 B GRID

3262	3263	3264	3265	3266	3267	3268	3269	3270	3271	3272	3273	3274	3275	3276	3277	3278	3279	3280	3281	3282	3283	3284	3285	3286	3287	3288	3289	3290	3291	3292	3293	3294	3295	3296	3297	3298	3299	3300	
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3327 3328 3329 3330 3331 3332 3333 3334 3335 3336 3337 3338 3339 3340 3341 3342 3343 3344 3345 3346 3347 3348 3349 3350 3351 3352 3353 3354 3355 3356 3357 3358 3359 3360 3361 3362 3363 3364 3365 3366 3367 3368 3369 3370

3426 3427 3428 3429 3430 3431 3432 3433 3434 3435 3436 3437 3438 3439 3440 3441 3442 3443 3444 3445 3446 3447 3448 3449 3450 3451 3452 3453 3454 3455 3456 3457 3458 3459 3460 3461 3462 3463 3464 3465 3466 3467 3468 3469 3470

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3672 3673 3674 3675 3676 3677 3678 3679 3680 3681 3682 3683 3684 3685 3686 3687 3688 3689 3690 3691 3692 3693 3694 3695 3696 3697 3698 3699 3700 3701 3702 3703 3704 3705 3706 3707 3708 3709 3710 3711 3712 3713 3714 3715 3716 3717 3718 3719 3720

3807 3808 3809 3810 3811 3812 3813 3814 3815 3816 3817 3818 3819 3820 3821 3822 3823 3824 3825 3826 3827 3828 3829 3830 3831 3832 3833 3834 3835 3836 3837 3838 3839 3840 3841 3842 3843 3844 3845 3846 3847 3848 3849 3850 3851 3852 3853 3854 3855 3856 3857 3858 3859 3860 3861 3862 3863 3864 3865 3866 3867 3868 3869 3870

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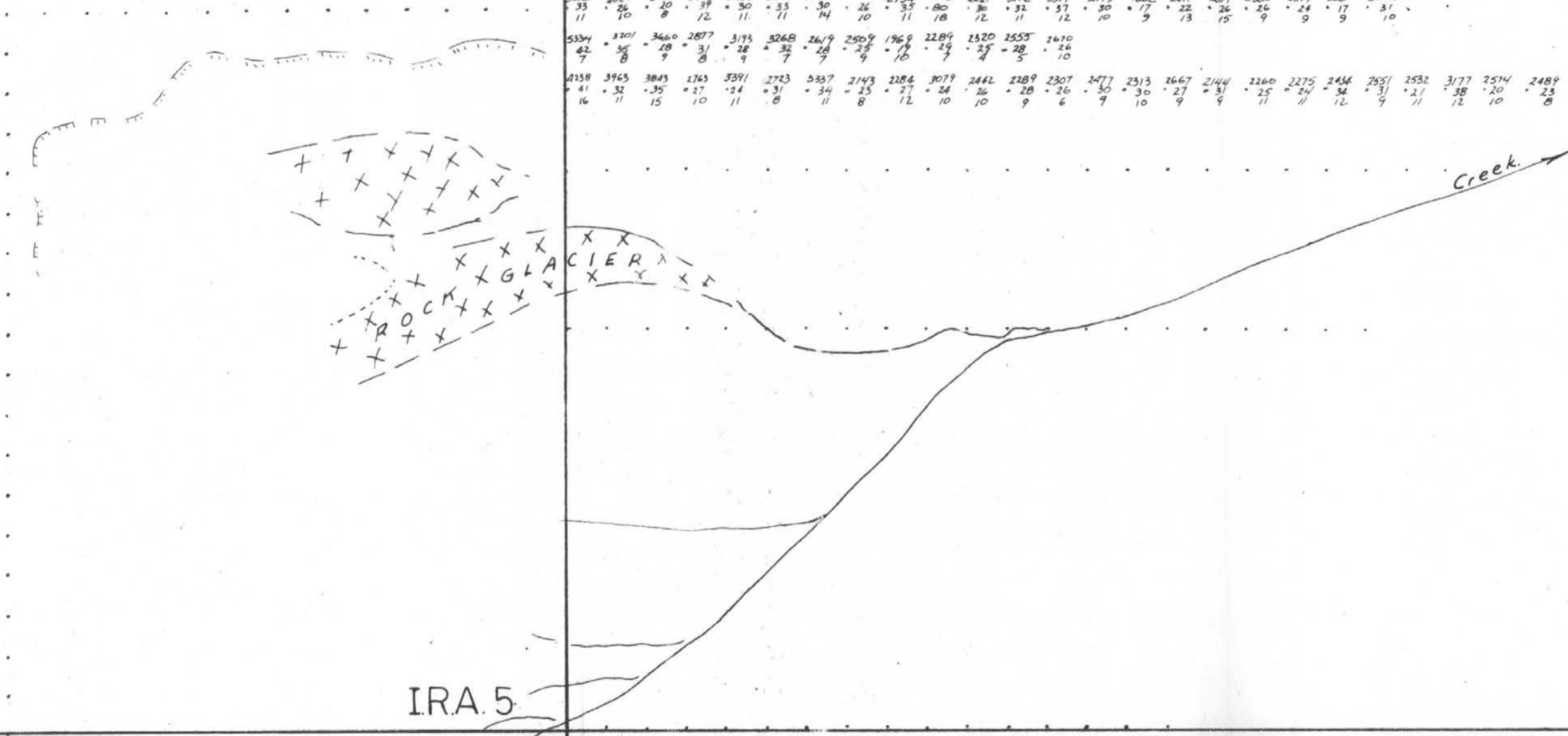
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4617 4618 4619 4620 4621 4622 4623 4624 4625 4626 4627 4628 4629 4630 4631 4632 4633 4634 4635 4636 4637 4638 4639 4640 4641 4642 4643 4644 4645 4646 4647 4648 4649 4650 4651 4652 4653 4654 4655 4656 4657 4658 4659 4660 4661 4662 4663 4664 4665 4666 4667 4668 4669 4670

4778 4779 4780 4781 4782 4783 4784 4785 4786 4787 4788 4789 4790 4791 4792 4793 4794 4795 4796 4797 4798 4799 4800 4801 4802 4803 4804 4805 4806 4807 4808 4809 4810 4811 4812 4813 4814 4815 4816 4817 4818 4819 4820 4821 4822 4823 4824 4825 4826 4827 4828 4829 4830 4831 4832 4833 4834 4835 4836 4837 4838 4839 4840

4939 4940 4941 4942 4943 4944 4945 4946 4947 4948 4949 4950 4951 4952 4953 4954 4955 4956 4957 4958 4959 4960 4961 4962 4963 4964 4965 4966 4967 4968 4969 4970 4971 4972 4973 4974 4975 4976 4977 4978 4979 4980 4981 4982 4983 4984 4985 4986 4987 4988 4989 4990 4991 4992 4993 4994 4995 4996 4997 4998 4999 5000

baseline



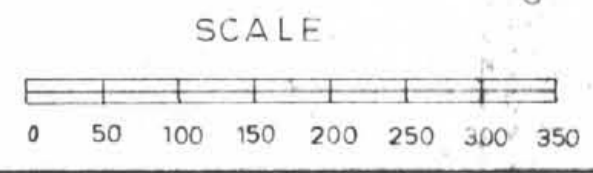
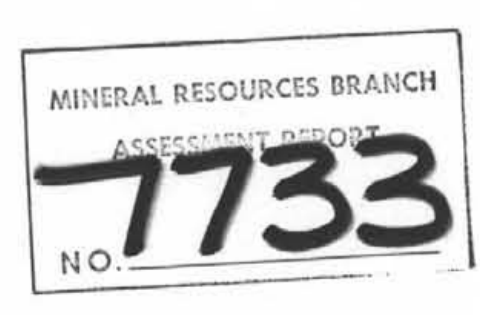
IRA.5
IRA.6

IRA IRA3

IRA.2

100E 200E 300E 400E 500E 600E 700E 800E 900E 1000E 1100E 1200E 1300E 1400E 1500E

1100W 1000W 900W 800W 700W 600W 500W 400W 300W 200W 100W



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I.R.A. PROSPECT.
RADIOMETRICS
Scale: 1:5000 Sept./78

GIS 4 SPECTROMETER SERIAL No 702107
3456 TOTAL COUNT }
23 U+TH } 10 Second count, Average 3 Counts
7 TH }