MAR 19690036: NORTHEASTERN ALBERTA

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PACCA HOLDINGS LTD.

EDMONTON, ALBERTA.

Summary of Initial Exploration

Permit 113, 138

Claims 162 - 169

Northeastern Alberta

November 1969

700122

INDEXING DOCUMENT NOS 700175

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FIGURES

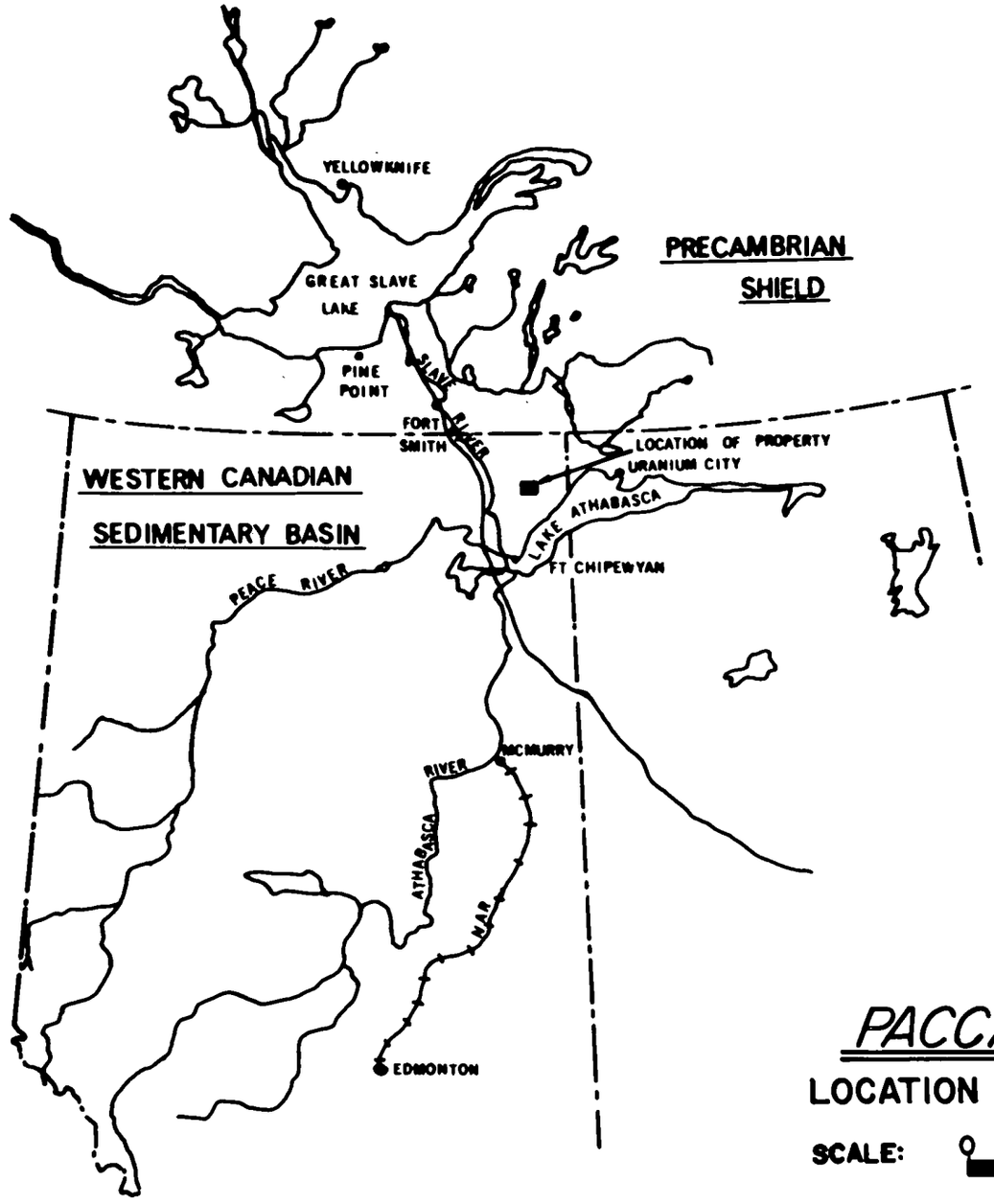
INTRODUCTION

Quartz Mineral Exploration Permits 113, 138 and mineral claims 162 - 169 comprise an area of approximately 31,000 acres in north eastern Alberta. This property acquired by Pacca Holdings Ltd. during the periods 1968 and 1969 was as a direct result of favorable radioactive showings and geological structure which were determined during a reconnaissance survey in 1968. (Reference Preliminary Geological Compilation on Permit No. 113 and Claims No's 162 to 169 inclusive by Dr. K.W. Geiger 1968).

The exploration program during 1969 was directed toward detailing the favorable areas of the 1968 program and in performing further reconnaissance surveys on the unexplored areas. This program was carried out during the summer of 1969 under the direction of a mining Engineer. Details of this survey are documented in Appendix II.

Locations of the properties presently held by Pacca Holdings are shown in figure 1 and figure 2.

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
40.	500	600	100-150	Granite knoll
41.	900		150	Granite outcrop
42.	750 500	700 500	100	Fractured granite knoll
43.	1200	1400	150-200	Fractured granite
44.	500		100	Granite outcrop
45.	500		100	Granite outcrop
46.	500		100	Massive granite
47.	2600		100-150	Altered granite
48.	600	500	100	Altered granite
49.	2500	500	150	Granite outcrop - 40 yds. north of No. 48
50.	1000	1200	500 500-600	Highly altered brick red granite, zone 10' x 5' in size
51.	600		100	Fractured granite outcrop
52.	750 500 400 600 750 750	750 1000 1000 1500 500 600	400-500	Well fractured and altered granite outcrop - zone 100' by 200' in dimension.



PACCA HOLDINGS LTD

LOCATION OF MINERAL PROPERTY NO.1

SCALE: 0 100 200 miles

FIG. 1

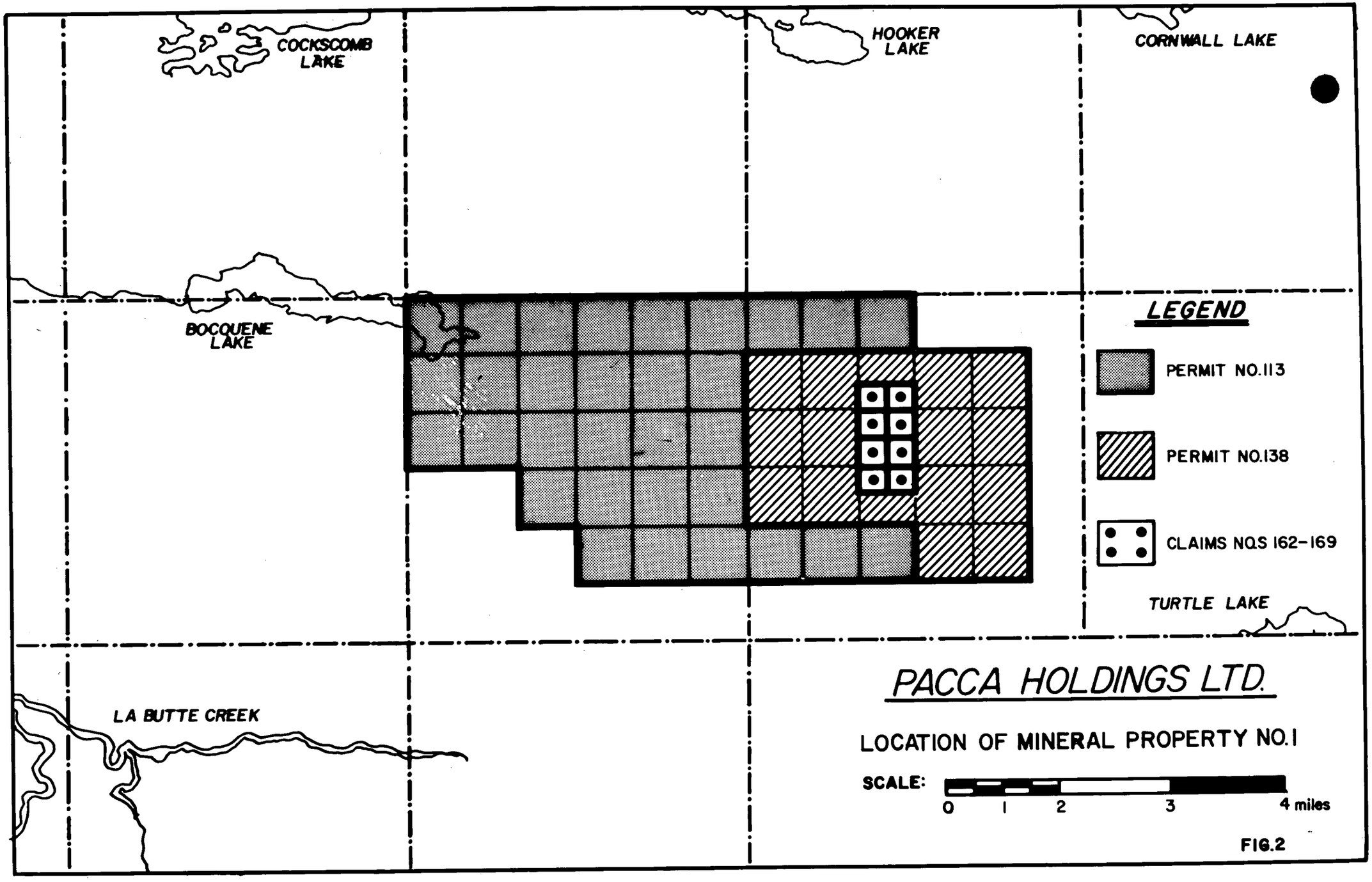

COCKSCOMB LAKE
HOOKER LAKE
CORNWALL LAKE
BOCQUENE LAKE
LEGEND
PERMIT NO.113
PERMIT NO.138
CLAIMS NOS 162-169
TURTLE LAKE
LA BUTTE CREEK
PACCA HOLDINGS LTD.
LOCATION OF MINERAL PROPERTY NO.1
SCALE:
0 1 2 3 4 miles

FIG.2

SUMMARY OF RESULTS

The 1969 exploration program was directed to 4 zones. These zones were chosen on the basis of results obtained during the 1968 exploration program, structural features based on Godfrey (Reference #3) and accessability to water transportation.

Zone I, figure 4, located due north of Disappointment Lake consists of an anomalous radioactive belt approximately 6000 ft. long and 2000 ft. wide. This zone extends north westerly from the centre of Disappointment Lake, and appears to be associated with a major valley (possibly a fault). Along the south easterly part of the zone there exist bands of amphibolite in granites. These bands show numerous offsets (presumably by cross faulting). In addition some associated bands of quartzite also occur. In general the over-all structure appears to be complex in nature. Radioactive anomalies were found concentrated between the contact of the amphibolite and granitic rocks. The radioactivity as measured using a SPP2 scintillometer indicated readings from 500 c.p.s. to readings in excess of 15,000 c.p.s. Analysis of grab samples assayed 0.13% U_3O_8

The northwesterly part of the zone which is separated from the south easterly part by a swamp, is composed of massive granites containing two parallel bands of basic rock. These bands which contain radioactive contact areas appear to be the extension of

the bands noted in the south easterly part of the zone.

Radioactive anomalies were indicated primarily in the granites in areas where tension cracks were indicated.

Zone 2, figure 5, located south of Disappointment Lake was subject to a reconnaissance survey only. This zone is composed of massive granite ridges, with some quartz veins and amphibolite bands present. Some of the granites contained areas that were well fractured. The presence of quartz veins and basic rock indicates that this zone is a continuation of the anomalous area in zone 1, but offset to the west.

Radioactivity was found primarily associated with the fractured granite. Readings up to 2500 c.p.s. on the SPP2 were located.

Zone 3, figure 6, located northwest of zone 1, was the subject of reconnaissance survey only. This is composed of pink fractured granite and granite quartzite to the south interlaced with narrow bands of basic rock. Toward the north, this rocky type gradually changed to massive bands of basic rock and bands of quartzite. This zone is associated with a paralled depression (probable fault) in the north-south direction which is covered with overburden. This area indicated a high background radioactivity 500 c.p.s. as compared 100-200 for other areas in the vicinity.

Radioactive anomalies with readings up to 2500 c.p.s. were located in association with the quartzite bands.

Zone 4, figure 7, located 6 miles west of zone 3 and on the east end of Bocquene Lake was subject only to a reconnaissance survey. This zone consisted of massive granite ridges some of which were well fractured. Some quartz veins were noticed throughout. Much of the area indicates a high radioactive background 500 c.p.s. on the SPP2. Some areas in the fracture zones had readings of up to 2000 c.p.s.

FIGURE #3

Showing Claim Block 162 to 169 inclusive and Permit No. 113 and 138.

Explored Areas Area 2 (Zone 1)	Detailed Exploration.
Areas 1,3,4 (Zone 2,3,4)	Reconnaissance surveys.
Scale	1 inch. = 1 mile
Underlay	Airphoto Mosaic taken from Department of Lands and Forests Map #74 $\frac{M}{7}$ and $\frac{M}{6}$.
First Overlay	Structural features of the area. Taken from Godfrey. (Reference #2)
Second Overlay	Aeromagnetic map taken from Map #2885G and #2886G of Geophysics Paper Turtle Lake and La Butte Creek, Alberta.

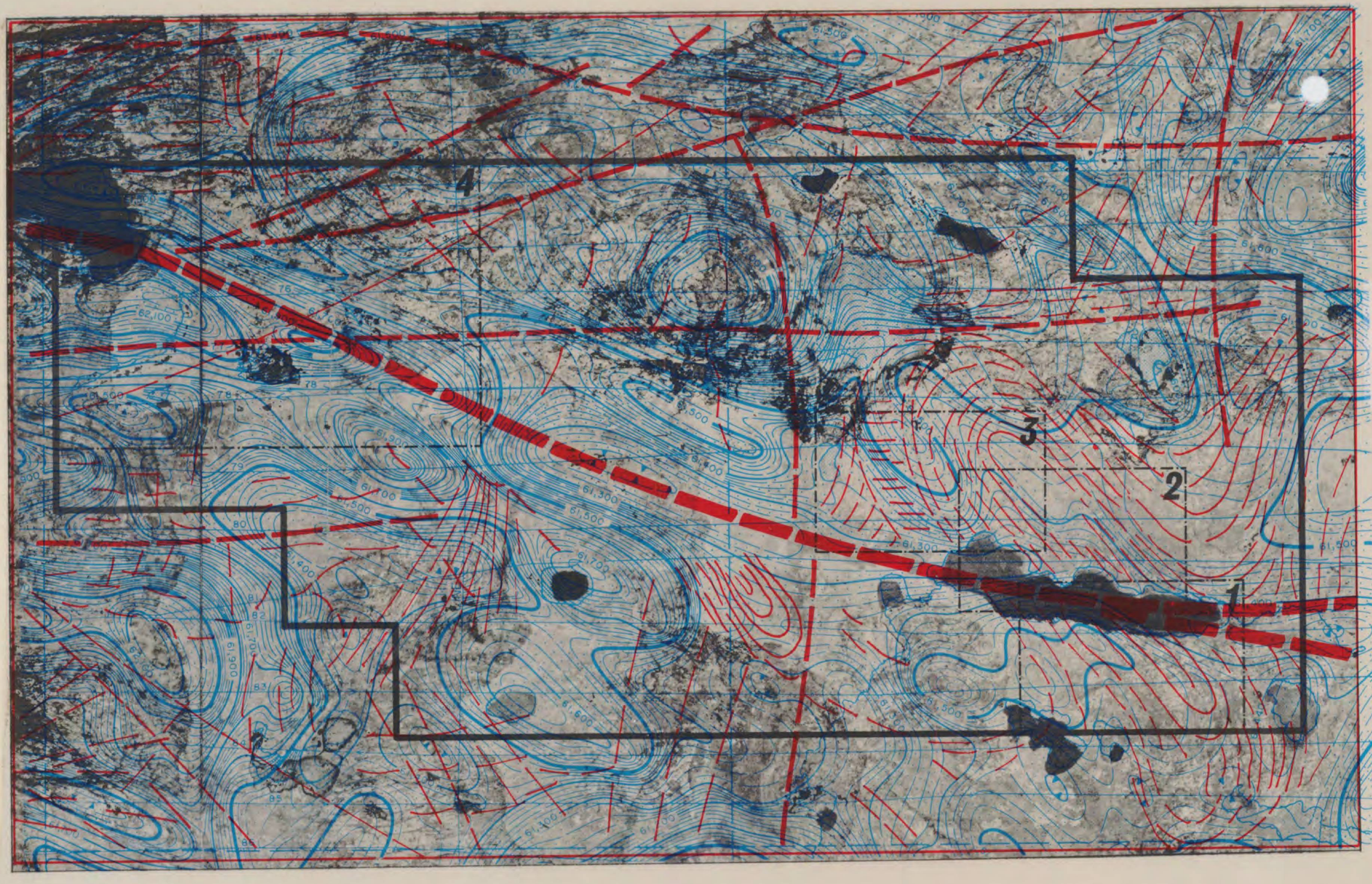

4
3
2
1

FIGURE #4

Area Map 2 showing Zone 1

Scale	1 inch. = 1000 feet
Underlay	Department of Lands and Forests Airphoto
Overlay	Location of Radioactive Anomalies as tabulated in Appendix II, Zone 1 section.


59
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66
74
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72
53
57
32
52
83
84
33
23
81
80
20
22
21
18
19
1
43
44
10
9
17
16
15
78
2
3
45
42
47
48
14
11
13
41
50
87
12
39
46
49
38
40
85
86
8
7
4
37
5
6
36
35
34

FIGURE #5

Area Map 1 Showing Zone 2

Scale	1 inch = 1000 feet
Underlay	Department of Lands and Forests Airphoto
Overlay	Location of Radioactive Anomalies as tabulated in Appendix II Zone 2 section.


S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15

FIGURE #6

Area Map 3 Showing Zone 3

Scale	1 inch. = 1000 feet.
Underlay	Department of Lands and Forests Airphoto.
Overlay	Location of Radioactive Anomalies as tabulated in Appendix II, Zone 3 section.

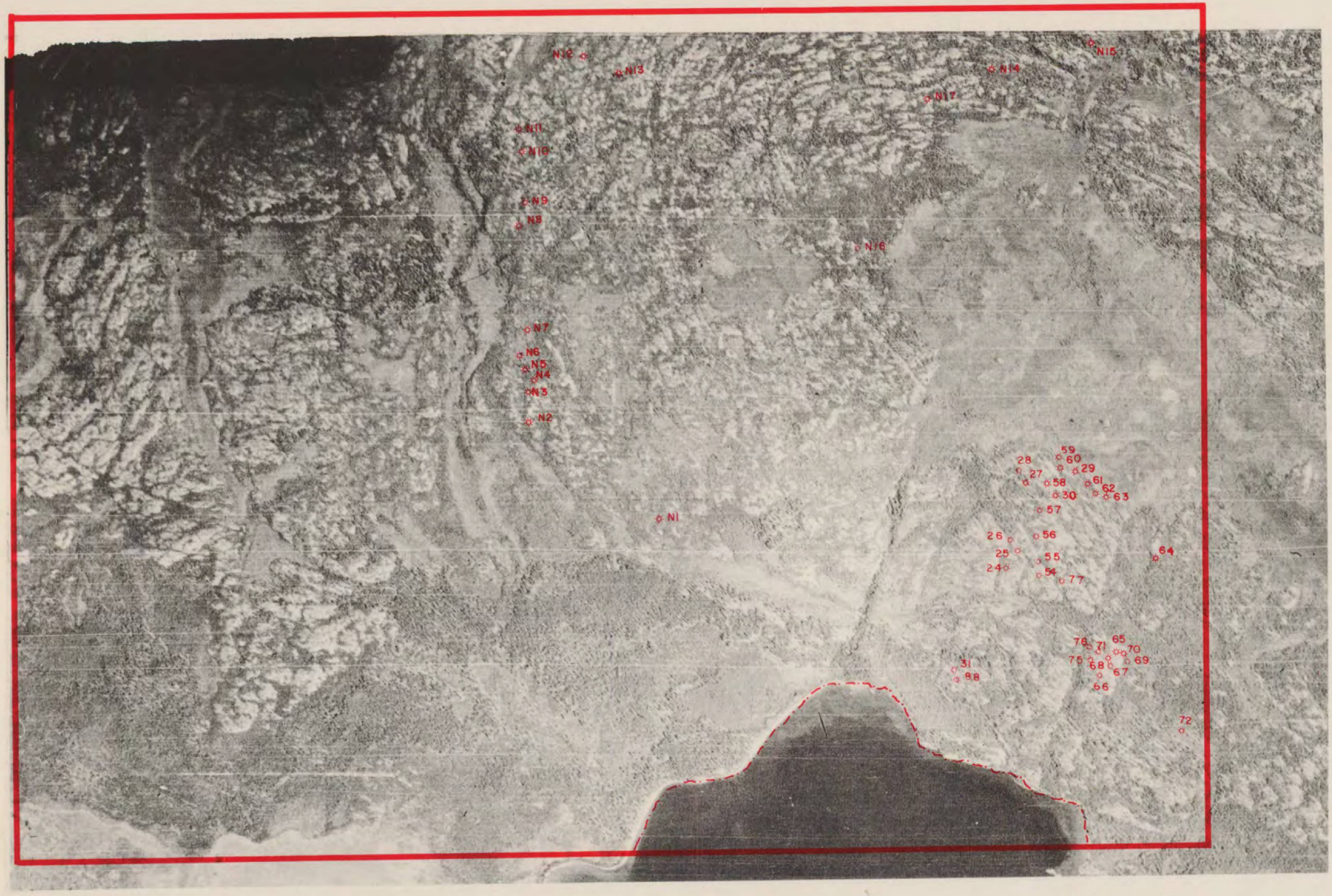
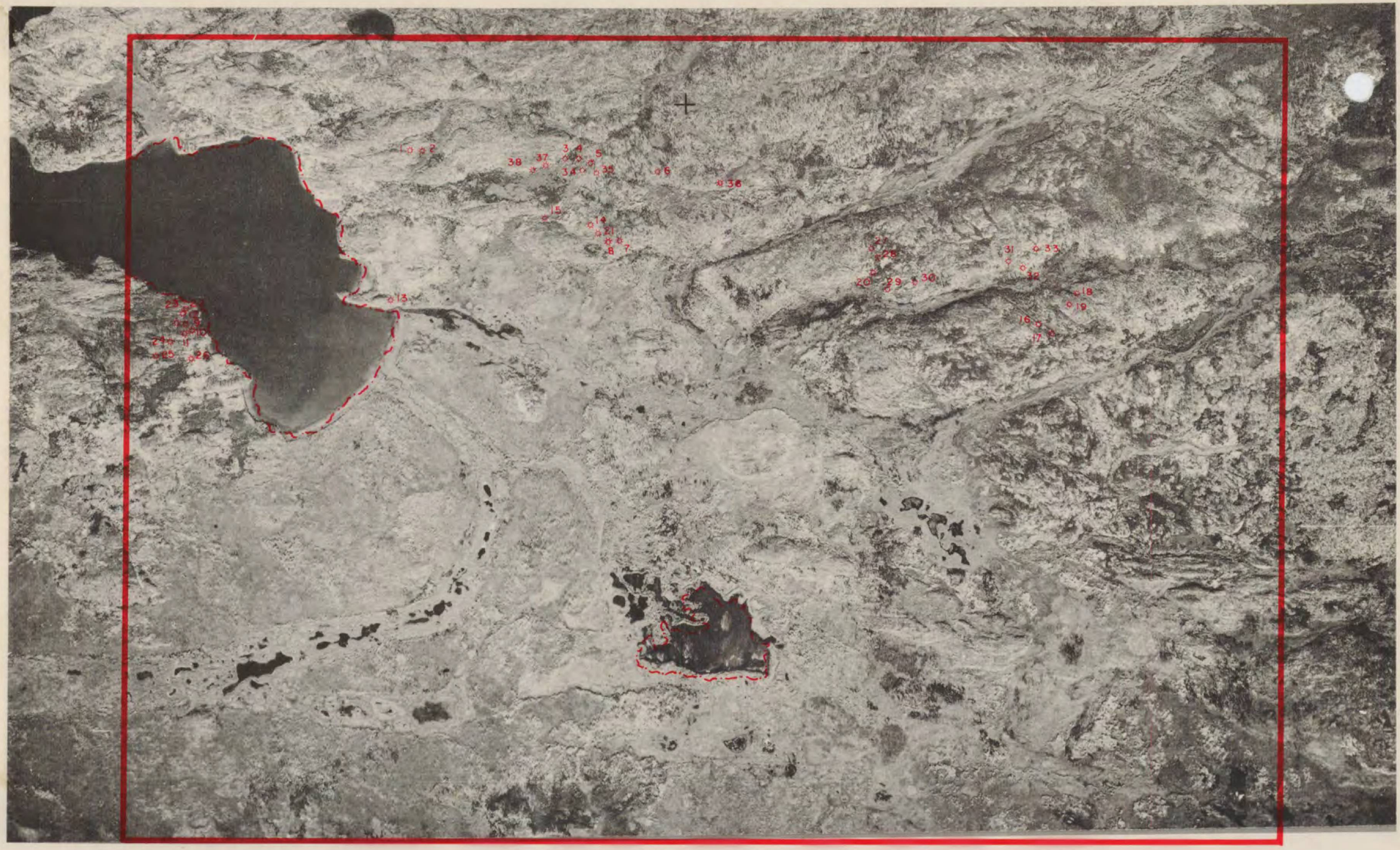

N12
N13
N14
N15
N17
N11
N10
N9
N8
N16
N7
N6
N5
N4
N3
N2
N1
59
60
28
29
27
61
58
62
30
63
57
26
56
64
25
55
24
54
77
76
71
65
70
75
68
69
31
67
98
66
72

FIGURE #7

Area Map 4 Showing Zone 4

Scale	1 inch = 2000 feet.
Underlay	Department of Lands and Forests Airphoto.
Overlay	Location of Radioactive Anomalies as tabulated in Appendix II, Zone 4 section.


1
2
38
37
3
4
5
34
35
6
36
15
14
21
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8
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23
24
11
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16
17

CONCLUSIONS

Four areas of significant dimensions which contain radioactive anomalies were outlined. These areas appear to have a relationship to the over-all fault structure of the region between Disappointment Lake and Boquene Lake. Consequently the area between Disappointment Lake and Boquene Lake, where closer proximity to the large fault can be realized, is a prime target for future exploration.

Zone 1, north of Disappointment Lake was found to be a complex structure containing areas of high radioactivity which can be associated with the major fault structure of the area.

Future exploration should be of a reconnaissance nature and should include an airborne scintillometer survey. In addition more detailed geological interpretation and ground exploration is warranted on the existing anomalous areas.

APPENDIX I

ANALYSIS OF AREA

Beck (1967) in his report on the uranium deposits in the Athabaska Region of Saskatchewan divides the country into two basic types of area; "stable blocks", which exhibit only minor faulting and little or no mylonitization of the bedrock and "linear belts" characterized by tight and isoclinal folding, intense faulting, brecciation and mylonitization. The linear belts consist of a higher proportion of metasedimentary and metavolcanic rocks than the stable blocks, which are largely underlain by granitic and migmatitic rocks.

Distribution of uranium deposits, Beck states, is controlled by regional structure. On comparing the distribution of the known radioactive deposits in the Athabasca area and the structural map of the region, Beck suggests that both the pitchblende and uraninite deposits are virtually restricted to the linear belts (fig. 8).

Using the regional aeromagnetic maps as a rough guide to the general location of the linear belts, Beck's work in Saskatchewan can be extrapolated into northeastern Alberta immediately to the west. The properties in question, Permit 113 and 138 and claims 162 to 169, appear to be favorably located in the centre of a major linear belt in Alberta (fig. 9).

FIGURE #8

Showing the Uranium City area of North Western Saskatchewan

Scale	1 inch. = 20.7 miles
Underlay	Aeromagnetic map taken from Aeromagnetic Map #7020G Tazin Lake Saskatchewan.
Overlay	Shows structural features and approximate locations of known mineral showings. Taken from Beck (1967) (Reference #2)
	The stable blocks are indicated by the absence of major faulting and by the gradual geomagnetic contours. (light appearance on the Aeromagnetic map).

FIGURE #9

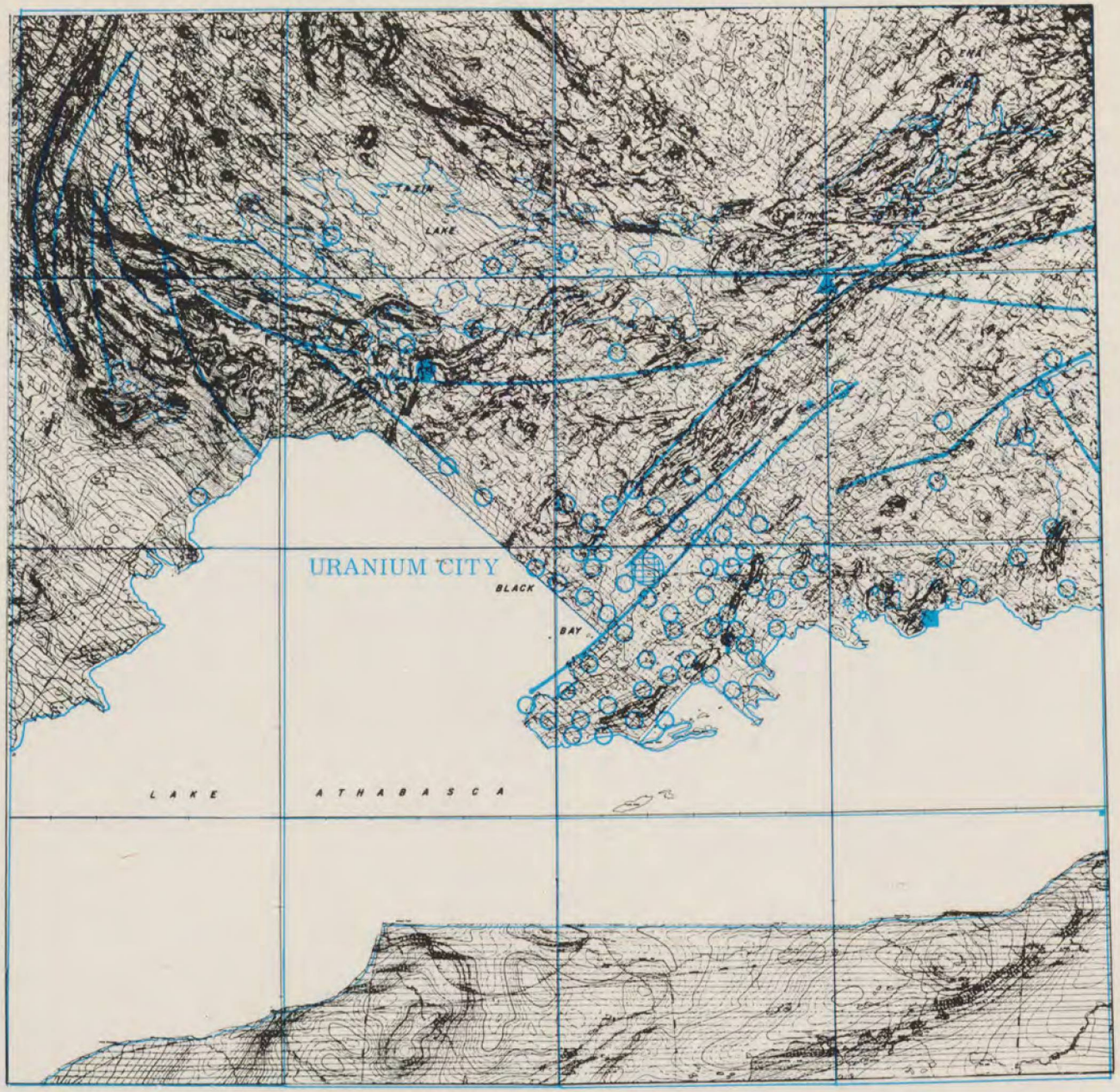
Shows the Precambrian Region of North Eastern Alberta

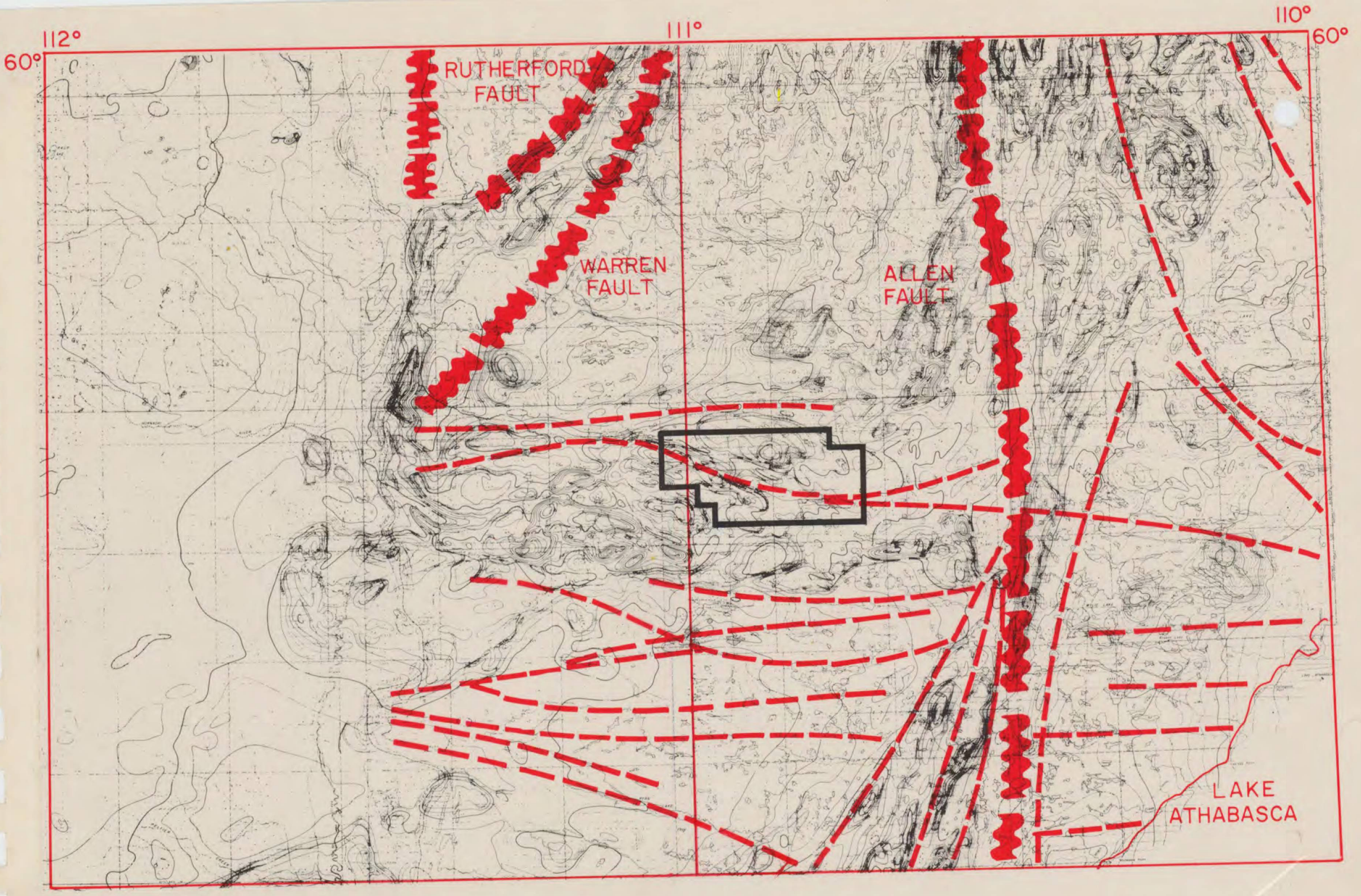
Scale 1 inch. = 6.4 miles

Underlay Aeromagnetic Map taken from Aeromagnetic Map #7161G Fitzgerald Alberta.

Overlay Shows structural features of North Eastern Alberta. Taken from Godfrey (Reference #3)

The stable blocks are indicated by the absence of major and minor faulting and by the gradual geomagnetic contours (light appearing areas) to the North, South and to the North West of the linear belt across the center of the area.


TAZIN
LAKE
URANIUM CITY
BLACK
BAY
LAKE
ATHABASCA


112°
111°
110°
60°
60°
RUTHERFORD
FAULT
WARREN
FAULT
ALLEN
FAULT
LAKE
ATHABASCA

A structural interpretation of Northeastern Alberta by Godfrey (1958) shows several faults cutting the area. The presence of faulting and other structural deformation such as major folding is substantiated by air photo interpretation and the distributionn of magnetic anomalies as indicated in figure 3.

APPENDIX II

EXPLORATION PROGRAM

Pacca Holdings property consists of some 31,000 acres of land in north eastern Alberta comprising of permits 113, 138 and claims 162 - 169 inclusive.

Access

This property is readily accessible by float equipped aircraft from either Uranium City, Saskatchewan or Fort Smith, N.W.T. Uranium City was used as a jump off point in this case.

PROGRAM

Scope

The program consisted of two parts, one being an extension of the 1968 program which involved the additional detailing of some areas where anomalies were found; and three reconnaissance type surveys into unexplored areas. The zones selected for the reconnaissance surveys were based on geological structure from examination of airphotos, analysis of fault structures from previous reports (i.e. Godfrey Report) and accessibility to water transportation.

Airphoto Interpretation

Airphoto interpretation of Disappointment Lake - Bocquene Lake area indicates a major fault structure through the centre of Disappointment Lake continuing along through Bocquene Lake. Associated with this major fault structure are numerous cross-faults and offsets. Additionally there occurs numerous rock folds, particularily north of Disappointment Lake. These structural features are indication for possible mineralization and therefore preliminary exploration was directed to this end.

Equipment

The basic exploration equipment used was a S.R.A.T. (Societe De Recherches et D'Applications Technique) SPP2, NF type scintillometer used to measure gamma radiation in counts per second (c.p.s.). This instrument has the following characteristics.

(a) The accuracy between $20^{o}F$ and $120^{o}F$ and radiation energy of 50 K_eV is ± 10% . Variation due to temperature $0^{o}F$ and $140^{o}F$ is ± 20%

(b) Sensitivity corresponds with a constant value based on 1/3 of the fluctuation ratio.

Sensitivity range of integrol Constant Fluctuation on the scale

0	- 15000		0.06	4.1%
0	- 5000		0.06	5.9
0	- 1500		0.04	5
0	- 500		0.6	7
0	- 150	Fast	0.6	13
0	- 150	Slow	4	5

A second scintillometer, used as a back-up was a W.I.T. make which gave similiar readings to the SPP2 and has similiar characteristics.

Crew

The field crew consisted of 2 men and 3 men at times, under the general supervision of a mining engineer. In addition a consulting geologist was retained for special interpretations of any findings.

A final review of the property was made by a professional geologist and professional engineer on the property.

FIELD DATA

All radioactive anomalies were flagged with tape indicating the counts per second readings on the SPP2. Landmarks were also generally flagged in the area of anomalous readings.

ANOMALIES IN ZONE I (Area Map 2)

Anomaly	Radioactive Anomalies c.p.s.	Background Radiation c.p.s.	Remarks
1.	500	100	Massive granite
2.	900	150	Massive granite
3.	1700 2200	200-500	Altered brick red granite in fracture.
4.	500	100-200	Massive granite
5.	600 600	100	Massive granite
6.	500 - 700	100-200	Red altered granite - small zone
7.	500	100-150	Massive granite
8.	500	100	Massive granite
9.	500	100	Granite knoll - partly altered
10.	1200 800 800 750 750 750	200-250	Knoll of granite gneiss, zone bearing 80° 200 ft. by 100 ft. Number of readings 500 - 700 NOT RECORDED
11.	500	150-200	Altered granite with large amount of basic rock in area - number of 500 c.p.s. - high background
12.	15,000 +	1000	Highly altered contact zone of granite and basic rock - contact zone is under the basic outcrop
13.	500 600 700	100-150	Altered granite knoll to east of No. 12 approx. 200 ft.

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
14.	2500			Under overburden - zone of altered granite with basic rock close to east.
15.	2000		150	At contact zone between basic and granite.
16.	2500		200	
17.	500	500	100	Close to No. 16
18.	500	500		Basic rock
19.	750		200	Granite knoll
20.	3000	500	100-150	Altered granite knoll
21.	1000 500	500 500	100-150	Altered granite
22.	2500 700	2100	150	Altered brick red granite
23.	750 750 500	750 900 500	100	Fractured granite
24.	600		150-300-400	Granite knoll - well fractured
25.	3000 900	700 500	100-150	Altered granite knoll bearing 130° approx 100' long.
26.	500 900	1000 650	100	Same knoll as No. 25
27.	1400		150-200	Granite ridge

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
28.	600	600	150	Granite Ridge
29.	500		200-250	Granite outcrop at edge of swamp.
30.	2500		150-200	Fractured granite ridge
31.	750 600	700 600		Massive granite knoll
32.	3000	600	150	Altered granite - some quartz veins and large quantity of basic rock in area.
33.	2500		250	Altered granite
34.	500		300-400	Edge of big granite knoll
35.	1000 750 500	600 800 600	400-500	Basic instrusions and altered granite approx. 40 yds. from 34 zone extends approx 75' up hill-side and approx 75' long.
36.	1000		100-150 300-400	Fractured granite outcrop edge of swamp
37.	500	500	100-300	Massive granite ridge - well fractured ridge bearing 135°
38.	600 1250	500 2000	100-150 300-500	Granite ridge bearing 135°
39.	1000 500 750	1600 600	400	Granite ridge bearing 135°

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
53.	1000 1200 600	600 750 750	400-600	Altered granite outcrop
54.	500 2000	600	100-150	Well fractured granite
55.	400 550	750	200	Granite outcrop - many 400 cps recorded
56.	900		150	Massive granite outcrop
57.	1000	750	150	Granite ridge
58.	600	800	200-250	Fractured granite outcrop
59.	600 1000 1000	750 750	150-200	Well fractured altered granite ridge bearing 130° high background
60.	600 1100	1500 2500	200-300	Altered granite
61.	500		100	Altered granite
62.	1800 2600	2000 800	200	Massive basic rock at edge of swamp highly altered contact zone between pink granite and basic rock - much overburden.
63.	4500 600	500 650	200-300	Contact zone of granite and basic rock at swamp edge 40 yeds. east of no. 62

Anomaly	Radioactive Anomalies c.p.s.	Background Radiation c.p.s.	Remarks
64.	900 600 750 3000 2000 2000 2500	150-200	Granite outcrop - well fractured and altered.
65.	8000 900 4000 2000 2000 5000 7500	500	Large massive granite knoll containing zone - highly fractured and altered. Numerous 300-700 readings.
66.	1400	200	Granite ridge
67.	500 850 1500 in fractures	200	Large massive outcrop
68.	500 500	100	Close to No. 67 - massive granite
69.	7000 750 5000 9000 4000 1500	500-1000	Fractured altered granite on edge of large massive granite knoll
70.	500 1000	100-200	Fractured altered zone - close to No. 69.
71.	3500 700 2800	200	Fractured granite zones in massive granite ridge - 50 yds. west of No. 69 and 70
72.	400	50-100	Altered granite outcrop in swamp, weathered and fractured.
73.	500 800 1000	50-100	Altered granite outcrop in swamp
74.	600	100	Granite outcrop

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
75.	500 600	2000	100	Zone of fractured and altered granite
76.	900 3000 750	500 750	100-200	Fractured granite, close to No. 75
77.	600		100	Granite outcrop
78.	15000 500 2700	500 1700 1000	100-200	Granite outcrop
79.	750 1000	500	100-200	Altered zones in areas of contact between basic rock and granite
80.	1000 500	500	100	In areas of contact between granite and basic rock north west
81.	500 1250	750 1100	100	Further N.W. of 80 - contact area
82.	4000 750 650	5100 750	200-300	Altered granite in basic massive rock
83.	650 1000 1000	1700 1250	150-200	Granite basic contacts along ridges bearing 135°
84.	1500 1000 4500	650 2300	150-200	Granite basic contacts along ridges bearing 135°
85.	2500	1250		Altered granite in overburden area, S.E. end of ridge, dig through overburden

Anomaly	Radioactive Anomalies c.p.s.			Background Radiation c.p.s.	Remarks
86.		1250	500		S.E. of ridge - dig through overburden
87.	6000	21000	500		Anomalies located in 1968 are scattered over an area about 600'x 200' on either side of an over-burden filled linear depressions
	5000	950	1300		
	2000	2500	750		
	1200	500	850		
	3700	1150	6500		
	1000	900	500		
	750	1000	1000		
	700	500	3000		
	550	1350	500		
	550	500	850		
	850	630	500		
	2000	1300	700		
		1600	700		
		2800	600		
		1900	500		
88.		800	550	100	Anomalies in massive fractured granite some basic rock bearing 100° Recorded 1968
		500			

ANOMALIES SOUTH OF LAKE DISAPPOINTMENT - ZONE 2

(Area Map 1)

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
1.	1000	1000	100	Massive granite ridge bearing 130°
2.	400		150	Massive granite ridge bearing 130°
3.	500	500	200-250	Granite ridge bearing 130°
4.	800	500	100-200	Granite ridge bearing 130°
5.	1250 500	700	100	Granite ridge - close to No. 4
6.			50	Massive granite ridge bearing 130° Magnetic anomaly - compass disrupted
7.	500		100	Fractured granite ridge
8.	500 600	500 600	200	Quartz veins in fractured granite
10.	500 550	500	150-400	Well fractured granite - some basic rock near by
11.	2500		150-200	Well fractured granite
12.	500		100	Fractured granite - 6 feet long
13.	750		100	Fractured granite
14.	700 700 500	700 600	200	Fractured granite - many 200 - 500
15.	600 -	700	500	Long fracture in weathered granite Approx. 40 yds. long

ZONE ALONG N.S. DEPRESSION - ZONE 3

(Area Map 3)

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
1.			250	Massive granite ridge bearing 130° Some basic strips and granite gneiss
2.	950 1200	900 650	High Background 150-200	Altered granite with basic intrusions
3.	500	500	100-150	Red altered granite
4.	750	500	150	Altered granite - much basic rock
5.	600 600	600	High Background 150	Basic rock and red altered granite
6.	1500	2500	200	Basic rock, red altered granite and large quartz veins
7.	900 750	1500	200	Quartz strips in red altered granite Basic rock present
8.	750	1200	150	Much basic rock and quartz strips in red altered granite
9.	600	500	150	Close to No. 8 - anomalies mainly in basic rock
10.	500		100	Altered granite with quartz veins
11.	750		100	Altered granite with quartz veins
12.	1000		150	Altered granite with quartz veins and some basic rock present

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
13.	600		100	Fractured granite
14.	450		100	Altered granite - much basic rock
15.	500 600	500 1000	High Background 150	Massive granite - fractured - quartz veins
16.	1600		150	Anomaly from 1968 on granite outcrop
17.	2300	2000	150	Anomalous zone encountered in 1968 survey - granite outcropings with basic rock - trending 145°

ANOMALIES IN BOCQUENE LAKE AREA - ZONE 4 (Area Map 4)

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
1.	500		200	Massive granite ridge
2.	1000	500	150-200	Massive granite
3.	500		100	Massive granite - well fractured
4.	500		100	Massive granite
5.	500 600 500 500	500 600 500	100-150	Massive granite - well fractured
6.	600	1250	150	Well fractured altered granite Quartzite veins
7.	750	600	100	Altered granite ridge
8.	500		100	Brick red granite
9.	1000 500 500 600	500 500 2000	150-200	Massive granite, well fractured Brick red altered, small quartz veins
10.	800 750 650 500 2000	650 750 600 500	150-200	Altered granite - well fractured, some quartz veins, brick red alterations
11.	600		100	Fractured granite
12.	400		100	Granite outcrop - numerous reading

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
13.	500		300-400	Massive granite ridge - well fractured, some quartz veins
14.	500		100	Massive granite
15.	500 750 550	500 500 600	100-150	Massive granite - well fractured
16.	750 900	600	300-500	Altered pink granite - pink quartz veins, 50' by 150' area
17.	500		300	Gneissic granite - background high over large area
18.	500 500 600	500 600	100-200	Massive granite - well fractured
19.	1000	750	150	Massive granite - altered and fractured in places
20.	500 600	600	100	Massive granite - well fractured
21.	500 400	300	100	Brick red altered granite - well fractured
22.	500		100	Massive granite
23.	1250 500	700	150	Fractured altered granite
24.	500		100-150	Altered granite

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
25.	500 1000	600	150	Well fractured - granite ridge.
26.	400		100	Brick red altered granite
27.	600 750 700 500 600 600 700 600	500 600 700 600 500 500 650	300-400	Massive pink granite, some red alteration much 400-500 c.p.s.
28.	600 500 700 550 700 600	600 600 650 600 600 750	200-300	Massive granite, some red alterations
29.	600	500	150	Altered granite, quartz veins
30.	500 700 750	600 500 500	300	Brick red altered granite, well fractured
31.	500		300	Massive pink granite
32.	500 500 600	1000 500	150	Massive granite knoll, well fractured
33.	750 750 500	500 500 750	250-300	Massive granite knoll

Anomaly	Radioactive Anomalies c.p.s.		Background Radiation c.p.s.	Remarks
34.	500		250	Massive pink granite
35.	500		100	Massive fractured granite
36.	500	500	150	Fractured granite, some altered
37.	700 500 600 600 600	750 600 600 650	200	Granite ridge, brick red alterations, well fractured, some quartz present
38.	600	750	150	Brick red altered granite, extent 150' by 20' in area

APPENDIX III

Geological Evaluation of Work and Property

Submitted By

Dr. K.W. Geiger, Ph.D., P. Geol.,
Consulting Geologist,
42 Glenmore Crescent,
St. Albert, Alberta.

GEOLOGIC OVERVIEW OF THE

PACCA HOLDINGS PROPERTY

As a result of two short visits to the property in 1968 and 1969 and a review of the results of the work to date I feel:

1. The limited amount of prospecting to date has established the presence of interesting numbers of radioactive anomalies in four areas.
2. The extension of the zones found, led in most cases to adjacent overburden-covered structural valleys.
3. The localization of the radioactive mineralization found to date on the property is similar in its structural and lithologic setting to that found in other parts of northeastern Alberta and in the Uranium City area of Saskatchewan.

Before extensive followup work in the form of trenching and diamond drilling is justified the whole property should be systematically and thoroughly prospected by one of the two following combinations:

a) Airborne radiometric survey with ground prospecting followup of anomalous areas.

b) Thorough and systematic ground prospecting of the whole property.

Edmonton, Dec. 12, 1969

[redacted]

K. Warren Geiger, Ph. D., P. Geol.
Consulting Geologist

APPENDIX IV

Schedule of Properties Held by Pacca Holdings Ltd.

in Permit 112, Claims 162 - 169 Inclusive and

Permit 138

QUARTZ MINERAL CLAIMS 162 - 169 INCLUSIVE

Claim #162, N.E. quarter, Section 16, Township 120, Range 5 West of 4 Mer.

Claim #162, N.W. quarter, Section 16, Township 120, Range 5 West of 4 Mer.

Claim #164, N.E. quarter, Section 21, Township 120, Range 5, West of 4 Mer.

Claim #165, N.W. quarter, Section 21, Township 120, Range 5, West of 4 Mer.

Claim #166, S.W. quarter, Section 21, Township 120, Range 5, West of 4 Mer.

Claim #167, S.E. quarter, Section 21, Township 120, Range 5, West of 4 Mer.

Claim #168, S.W. quarter, Section 28, Township 120, Range 5, West of 4 Mer.

Claim #169, S.E. quarter, Section 28, Township 120, Range 5, West of 4 Mer.

QUARTZ MINERAL EXPLORATION PERMIT NO. 113

IN TOWNSHIP ONE HUNDRED AND TWENTY (120), RANGE FIVE (5),
WEST OF THE FOURTH (4) MERIDIAN:

Sections 7, 8, 9, 31, 32, and 33;

IN TOWNSHIP ONE HUNDRED AND TWENTY (120), RANGE SIX (6),
WEST OF THE FOURTH (4) MERIDIAN;

Sections 10 to 16 inclusive and
Sections 19 to 36 inclusive

containing an area of Nineteen Thousand, Eight Hundred
and Forty (19,840) acres, more or less.

QUARTZ MINERAL EXPLORATION PERMIT NO. 138.

IN TOWNSHIP ONE HUNDRED AND TWENTY (120), RANGE FIVE (5),
WEST OF THE FOURTH (4) MERIDIAN:

Sections 10, 11, 14, 15, South ½
of 16, 17, 18, 19, 20, 22, 23, 26,
27, North ½ of 28, 29, 30

containing an area of Nine Thousand, Six Hundred
(9,600) acres, more or less

APPENDIX V

REFERENCES

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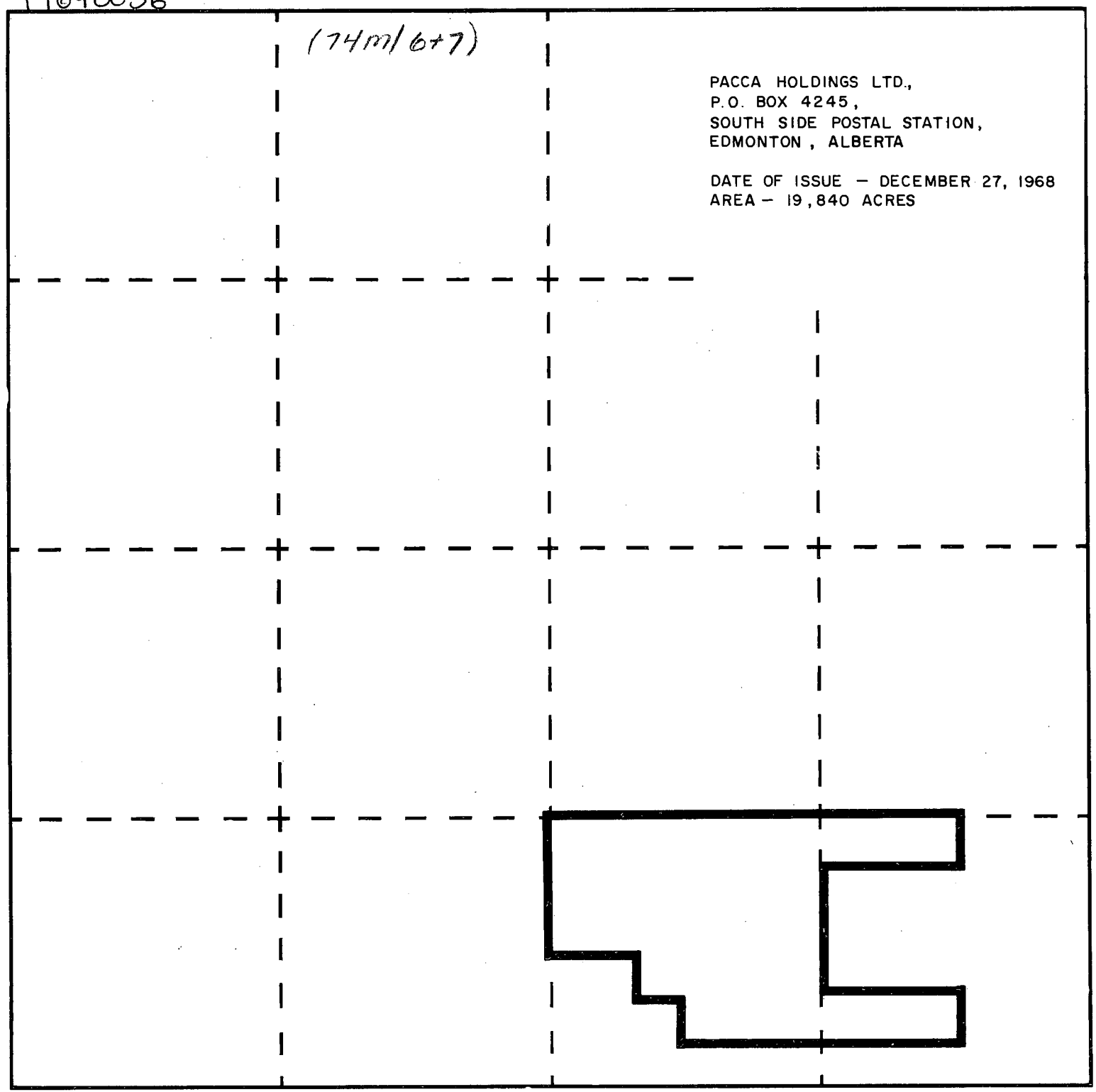
QUARTZ MINERAL EXPLORATION PERMIT No. 113

19690036

(74m/6+7)

PACCA HOLDINGS LTD.,
P.O. BOX 4245,
SOUTH SIDE POSTAL STATION,
EDMONTON, ALBERTA

DATE OF ISSUE – DECEMBER 27, 1968
AREA – 19,840 ACRES



TP. 120

R. 6

R. 5 W. 4 M.

QUARTZ MINERAL EXPLORATION PERMIT No. 138

19690036

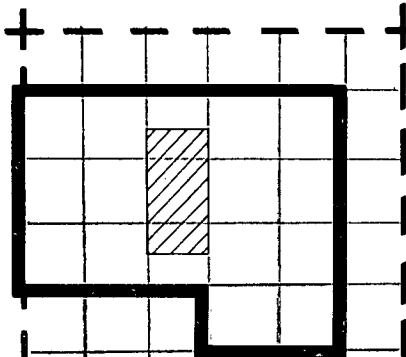
(74m/7)

PACCA HOLDINGS LTD.,
P.O. BOX 4245,
S.S. POSTAL STATION,
EDMONTON, ALBERTA

Part of report with Permit 113

DATE OF ISSUE - JUNE 16, 1969
AREA — 9,600 ACRES
//// - NOT IN PERMIT

Cancelled July 1971



TP. 120

TP. 119

R. 5

R. 4 W. 4 M.