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MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
No. <u>6398</u>

RADIO-METRIC SURVEY REPORT
ON
COMMERCE CLAIMS
Fort Steele Mining Division
49° 11' N, 114° 22' W
Owned & Operated By
KINTLA EXPLORATIONS LIMITED
231 - 8th Avenue West, Cardston,
Alberta
July 7th, 1977

1977 RADIO-METRIC SURVEY REPORT
COMMERCE CLAIMS - BRITISH COLUMBIA
KINTLA EXPLORATIONS LIMITED

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INTRODUCTION

This report outlines the Radio-Metric Survey conducted on the Commerce Claims during the field season of 1976, from July 20th to September 30th, 1976, by personnel of Kintla Explorations Limited.

The Commerce Claim blocks comprise 54 full claims (11 full claims and 3 fractional claims were dropped in 1977). The claims are centred upon Latitude $49^{\circ} 11' N$ and $114^{\circ} 22' W$, approximately 2 miles northeast of Commerce Peak on the east side of the Flathead Valley of southeastern British Columbia in the Fort Steele Mining Division. (see Figure 1 for location map of the Commerce Claims).

Access to within 3 miles of the eastern portion of the claim blocks is good via logging roads from the Flathead Valley up the Sage Creek logging road to Roche Creek and thence up the Roche Creek logging road. The road built by Kintla in 1973 from the end of the Roche Creek logging road has been washed out in several places, and access to the claims is possible only by foot or horse travel. Access to the west and northwest portions of the claim blocks is possible via a logging road that extends part way up Commerce Creek. A seismic road that extends from the end of the logging road into the claim block is at present impassable for vehicles. Access to the southeastern and central portions of the claim blocks is very difficult. The claims surrounding No-name Lake in No-name Valley can only be reached by climbing over the north spur of Sunkist Ridge. Hidden Valley and Hanging Valley can be reached with some difficulty through the entrances to the valleys by foot travel.

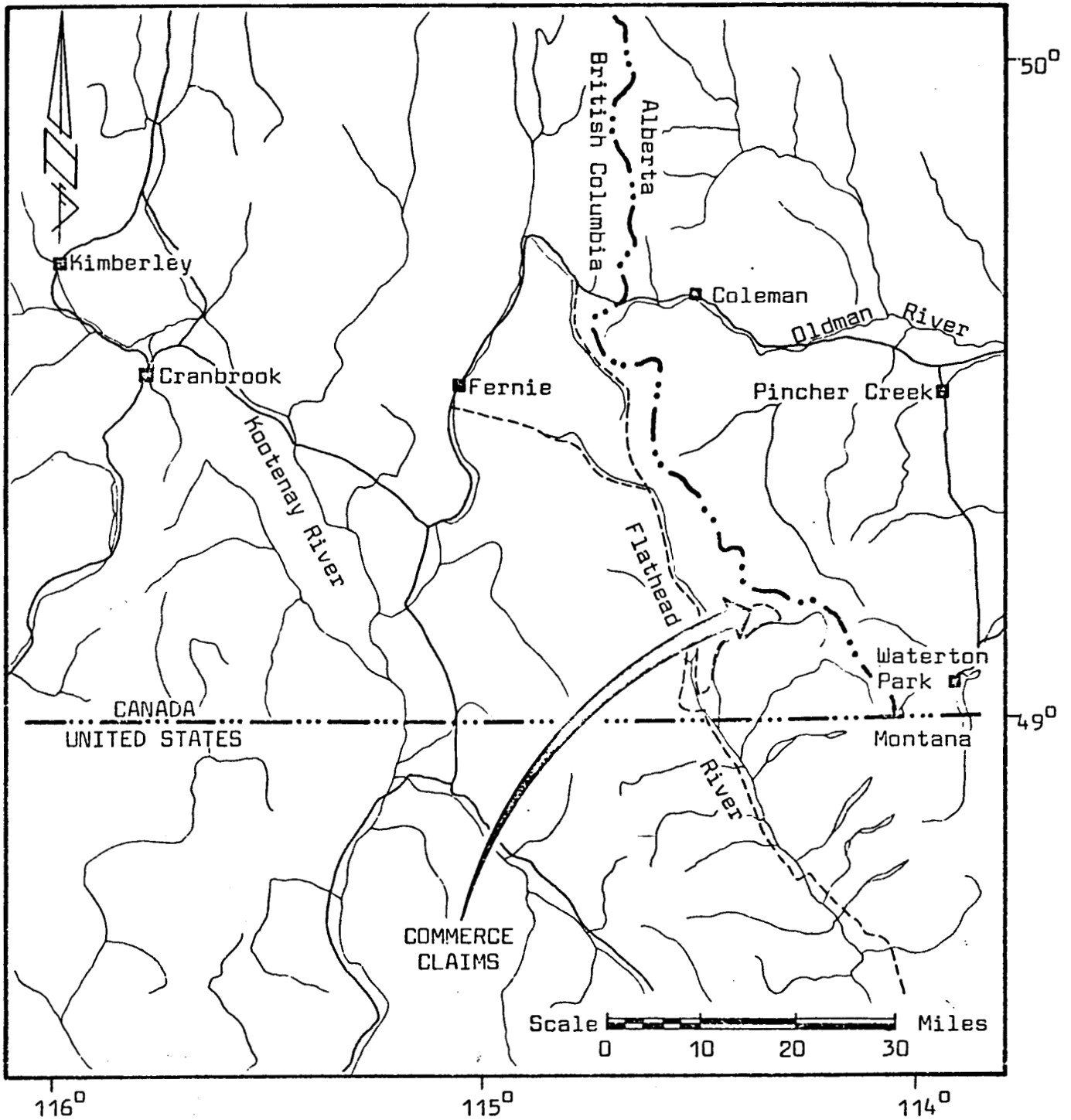


FIGURE 1: LOCATION MAP OF COMMERCE CLAIM BLOCKS.

FORMATION		LITHOLOGY	THICKNESS (feet)	
PHILLIPS		Buff shales with calcareous and arenaceous horizons.	>50	
GATEWAY		Red silts and shales with sandstone lenses. Salt casts, ripple marks, sun cracks and mud-flake conglomerates.	~300	
SHEPPARD	Upper	Buff limestones and calcareous shales with good stromatolitic horizons (hemispheroid-continuous linkage), ripple marks and sun cracks.	250	350
	Middle	Massive chloritized andesite flow with up to 50% chlorite-quartz filled vesicles in top 5'.	30	
	Lower	Interbedded green shales and buff, calcareous shales with three distinctive 2' thick quartz grit beds, containing fragments of green shale and chloritized andesite.	70	
PURCELL LAVA	Upper	Thin, highly vesicular flows.	50	200-400
	Middle	Massive flows with vesicular flow tops. Thins to north.	100-250	
	Lower	Pillowed flows with vesicular and variolitic horizons. Thins to north.	50-100	
SIYEH	Upper	Interbedded flaggy green and grey fissile shales, silts and sandstones.	200-250	2100-2150
	Middle	Interbedded pale sandstones and dolomites. A 30' stromatolitic dolomite (parallel to hemispheroid-continuous linkage) near the top. Dolomites contain 'heiroglyph' and 'molar tooth' patches of limestone.	~400	
	Lower	Buff weathering, black-grey dolomites, shales and calcareous shales. Well-bedded, with sparse sandstone units near the base, containing pyrite micronodules.	~1500	
GRINNELL	Upper	Interbedded red silts and sandstones with silt clasts. 50% sandstones in 6" to 3' beds.	500	1500-2000
	Middle	Interbedded red and green silts and marls and sandstones, with silt clasts. 30% sandstones in 1" to 12" beds.	500-750	
	Lower	Red marls and silts with sparse green silts and 1" to 6" sandstone beds.	500-750	
APPEKUNNY	Upper	Green shales and interbedded sandstones, with the proportion of sandstone increasing toward the top.	~2000	
	Lower	Interbedded fissile black and green shales, silts and occasional flags. The base is taken at the lower of two 50' distinctive white sandstone beds, ~100' apart.		
ALTYN		Buff and green shales and dolomites.	>1000	

- 12 -

TABLE 1: STRATIGRAPHIC COLUMN - COMMERCE CLAIM BLOCKS

(after BADHAM, 1972).

PERIOD OR EPOCH	GROUP FORMATION	LITHOLOGY	THICKNESS (feet)
	EROSIONAL UNCONFORMITY		
PURCELL	MOVIE INTRUSIONS	Diorite sills and dykes.	
PURCELL (LEWIS)	ROOSVILLE FORMATION	Green argillite, siltstone, sandstone, stromatolitic dolomite.	3500 ±
	PHILLIPS FORMATION	Red sandstone, siltstone, argillite.	500 - 700
	GATEWAY FORMATION	Argillite, argillaceous siltstone, dolomite, dolomitic sandstone, and argillite.	1150 - 3000
	SHEPPARD FORMATION	Quartzitic & dolomitic sandstone, dolomite, oolitic dolomite, argillite, siltstone, pillowed andesite.	150 - 900
	EROSIONAL UNCONFORMITY IN PART		
	PURCELL LAVA	Chloritized andesite, & amygdaloidal andesite, pillowed andesite.	00 - 600
	SIYEH FORMATION	Limestone, dolomite, argillite & sandy limestone & dolomite, argillite, stromatolitic limestone.	1130 - 3000
	GRINNELL FORMATION	Red argillite, sandstone & siltstone; white, green & red quartzite.	350 - 1700
	APPEKUNNY FORMATION	Green argillite, white, grey & green quartzite; sandy argillaceous dolomite & dolomitic argillite; siltstone.	1500 - 2000
	ALTYN FORMATION	Argillaceous limestone & dolomite; sandy dolomite, argillite, & stromatolitic dolomite.	500 - 4000
	WATERTON FORMATION	Limestone & dolomite, argillite, & argillaceous dolomite.	1500 +

FIGURE 4: STRATIGRAPHIC SUCCESSION - LEWIS SERIES

(after PRICE, 1962).

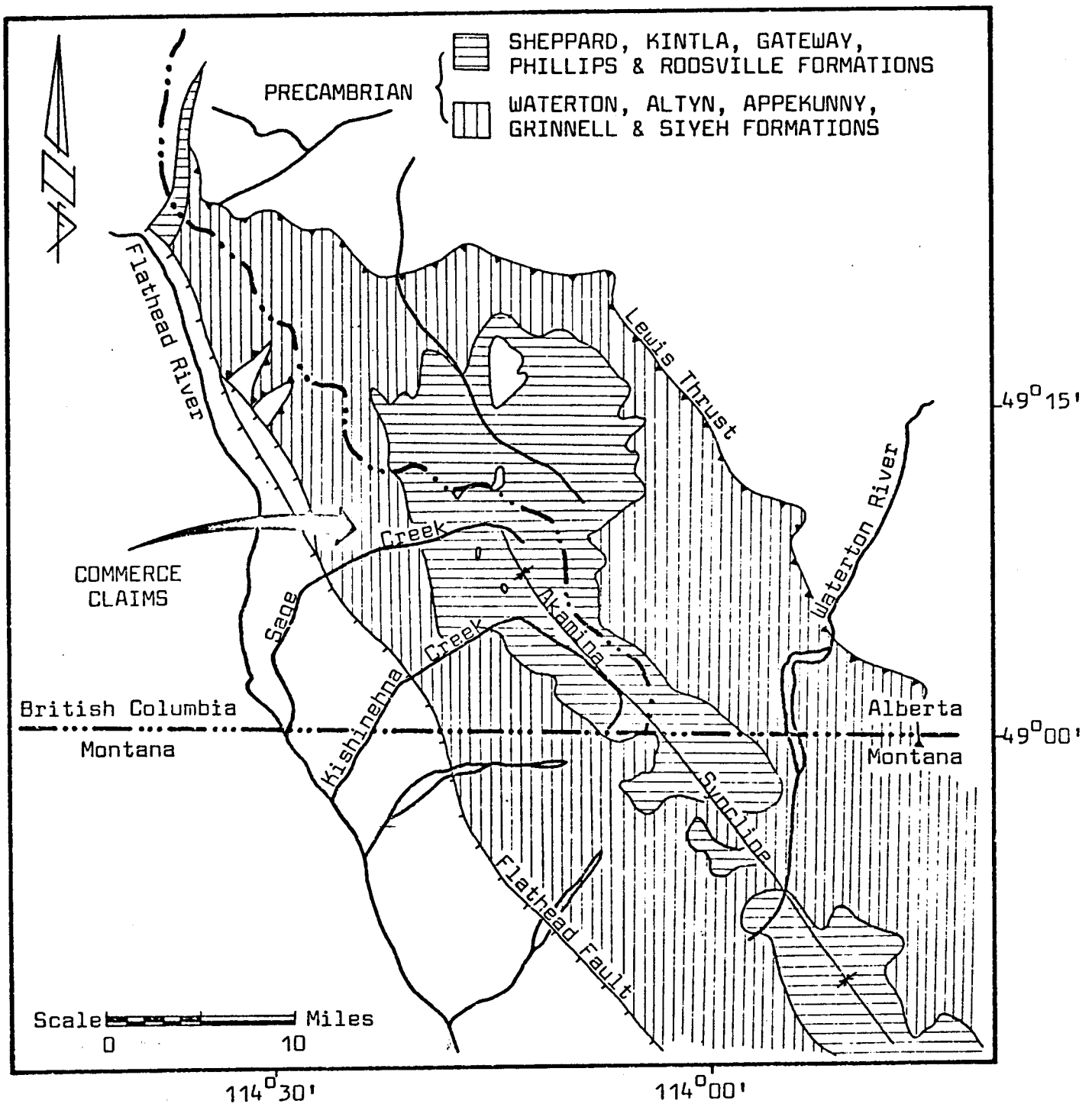
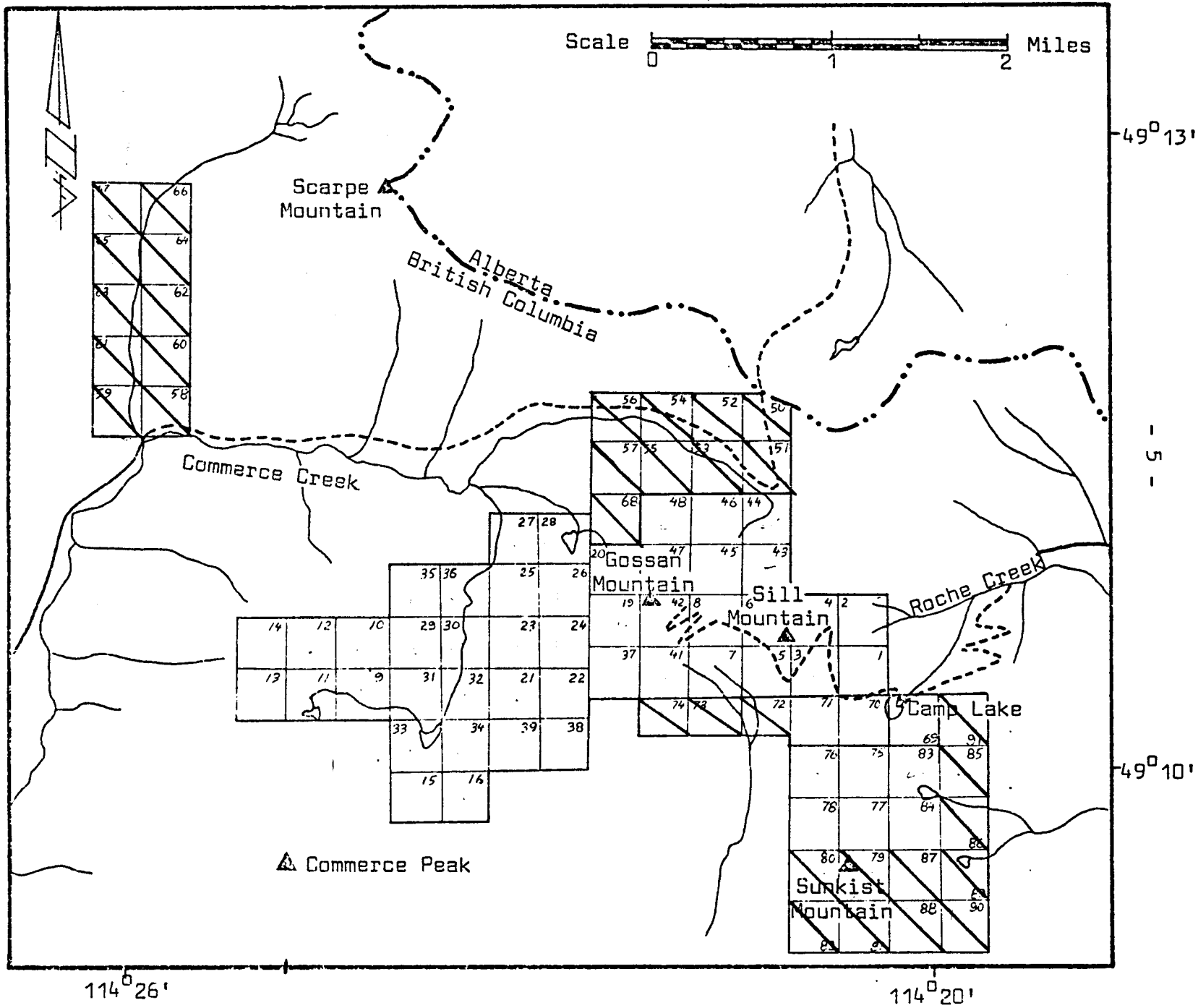


FIGURE 3: GEOLOGY OF LEWIS THRUST SHEET
(after PRICE, 1965).

FIGURE 2: CLAIM BOUNDARIES - COMMERCE CLAIM BLOCKS.



URANIUM EXPLORATION

Exploration for Uranium on the Commerce Mountain claim blocks was begun early in the field season of 1976, following the discovery of uranium in the rocks of the Grinnel Formation. A short prospecting program was undertaken, and when results were encouraging, a radio-metric survey was conducted over a portion of the claim blocks. The survey indicated that there were several areas of interest, and the months of July, August, and September were spent on the property.

The areas of primary interest were in the Grinnel Formation, but it was decided that the entire group of claims should be surveyed. However, it was not possible because of the rough terrain, to cover all the claims. Three blocks were selected, in addition to the areas surveyed on the initial radio-metric survey. These blocks were designated as Block 1, Block 2, and Block 3.

Radio-Metric Survey, Block 1., Commerce Claims:

Block No. 1 comprises Commerce Claims No.'s 21, 23, 25, 29 - 36, and 38 - 39, an area roughly 1 mile by 1½ miles. Line miles totalled approximately 21.5 miles. Readings were taken at 100 foot intervals on the north-south lines of the grid, with the east-west spacing of the grid lines at 300 foot intervals. Where an anomaly was encountered, readings were taken at much closer intervals. The terrain is very rough around the sides of the hanging valley, with steep cliffs where access was difficult.

Several interesting anomalies were located, mainly in Claims 35 and 29. The uranium mineralization, although it occurs in all the red and green argillites, is highest in the lower Grinnel Quartzites and Sandstones, where there is a good grade of copper. Readings ran from 160 CPS to 390 CPS (background of 60 CPS subtracted). The beds were traced out to the limits of their exposure, dipping into the overburden. Beds were thin, varying from 4 inches to 12 inches.

Crew: 2 geologists, 2 assistants.

RADIO-METRIC SURVEY, BLOCK 2, Commerce Claims:

Block 2 of the survey comprises Claims 43 to 48, with an area totalling approximately 9.9 miles on the grid lines. Area of the block of claims is roughly 1 mile by 3/4 of a mile. Readings were taken at 100 foot intervals on the north-south grid lines, with the east-west spacing of the grid lines 300 feet. The Block area comprises most of the head of the Commerce Valley. The valley floor is covered with overburden. Rock exposure is good in the walls surrounding the valley, with the west side of the valley being mostly limestones and dolomites of the Siyeh Formation. The Purcell Lava flow cuts diagonally from the southwest corner of the valley to the provincial boundary on the north side. The dolomites and limestones are barren, giving just the background readings on the Scintillometer. Purpose of the survey was to determine if any of the many intrusives which cut the south, southwest, and west walls of the valley were radio-active. Apparently none are. Some increase in radiation was noted at the east end of the block, however this was found to be a result of rubble having drifted down from the Philips Formation which lies at the top of the wall. One spot of increased radio-activity was also noted near the upper central part of the Block, at 8 north, 1 east, but this again was caused by rubble. The background count of 50 - 60 CPS was not subtracted from the readings as shown on the accompanying map. Samples were not taken.

Radio-Metric Survey, Block 3, Commerce Claims:

Block 3 of the survey consists of Commerce Claims No.'s 69, 70; 83, 84; 75-77. approximately 4800 feet by 3000 feet. Distance covered by the grid lines was approximately 10.5 miles. Readings were taken at 100 foot intervals on the east-west grid lines, and the north-south spacing of the grid lines was at 300 foot intervals. The Block was divided into 2 grids because of the high, steep ridge separating the two sections. Readings were difficult to obtain on the north facing slope of the ridge because of the precipitous nature of the mountain. The formation is part of the Philips Formation, and the section in No-name Valley is a dip slope of the same formation. The red argillites are anomalous, but the dolomite bed found near the top of the west ridge and dipping down into the valley towards No-name Lake, although it carries a good grade of copper, is completely barren of uranium. Background readings in the valley and on the Block were generally high because of the pollution caused by the red argillites of the Philips Formation having drifted down the slopes to the valley floors. Background, 60 to 80 CPS, was not subtracted from the readings as plotted on the accompanying map. Samples were not taken.

RADIO-METRIC SURVEY, Commerce Claims:

CONCLUSION:

It had been hoped at the beginning of the survey that an area of enrichment might be located, with the zone somewhat thicker than those that had been found in the earlier survey. One area showed 4 beds in an overall thickness of some 30 feet, with the total thickness of the 4 beds some 18 inches, and with a good grade of copper as well as the uranium. This section might be economically feasible to mine, provided some length can be shown. The beds were traced out until they dipped into the overburden, and more time should be spent on the zone.

Another zone that is interesting and might possibly prove economic is the one found on the initial survey, on Claim 13 on the crest of the ridge. This bed is high in copper, with some silver and some molybdenite, and with the uranium added, has good possibilities, although the tonnage is low. The bed varies from a thickness of 4 to 12 inches, and is a partial dip slope bed, dipping gently to the north along the crest of the ridge.

In view of the area of the anomalous zone located on the claims, further work should be done. This should perhaps be another more detailed radio-metric survey, with readings taken at intervals of 20 feet, and all anomalous beds traced out to their full extent. Access is difficult to the large hanging valley that is the most interesting, and perhaps the camp should be moved in by Helicopter in 1970.

CERTIFICATE

I hereby certify that:

- 1- I am a graduate of the University of Alberta (1969) with the degree of Bachelor of Science, in Geology.
- 2- I am a member in good standing in the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.
- 3- The appended schedule of costs is a true and accurate statement of expenditures undertaken in the described program.
- 4- I personally carried out and supervised the program.
- 5- I have an interest in the property.

Certified at the hamlet of
Waterton Park in the Province
of Alberta this ^{20th} 19th day of
July, 1978⁵⁷

E.O. Goble

E.O. Goble,
Geologist.



RADIO-METRIC SURVEY, Commerce Claims:

SUMMARY OF COSTS:

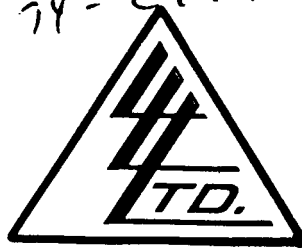
Wages:

2 geologists, (E. Goble, F. Goble), July 20th to September 30th, 2 1/3 months @ \$1,800.00 per month each	\$ 8,400.00
2 assistants, (L. Goble, F.J. Goble), July 20th to September 30th, 2 1/3 months @ \$1,000.00 per month each	\$ 4,666.66
Food	\$ 1,680.70
Supplies	\$ 80.00
Scintillometer rentals, 2 Scintrex @ \$ 200.00 per month 2 1/3 months	\$ 1,066.00
Power saw rental, 2 1/3 months @ \$ 1.50 per day	\$ 105.00
Travel	\$ 430.00
Assays, Au - 3, Cu - 27, MoS ₂ - 10, Ag - 27, U ₃ O ₈ - 36	\$ 650.00
	<hr/>
	\$17,078.36
Administrative overhead	\$ 853.90
	<hr/>
TOTAL COST	\$17,932.26

74-2777

To: KIN LA EXPLORATIONS LTD.,
#7, 8540-109th Street,
Edmonton, Alta.

File No. 8925
Date October 9, 1976
Samples Chip



Certificate of
ASSAY of

LORING LABORATORIES LTD.

SAMPLE No.	OZ./TON GOLD	% MoS2	CHEMICAL % U3O8
10251-A	-	.158	1.28% <i>↑ 5-8 ft</i>
10252-A	-	.064	0.54% <i>~ 8</i>
10253-A	.020	-	1.30% <i>↓ 15-18</i>
10254-A	-	1.635	-
10255-A	-	.011	-
10256-A	-	1.001	-
10257-A	-	12.30	-
10258-A	.010	.045	-

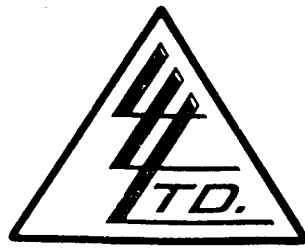
*S Mo
3 u.*

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

is Retained one month.
Pulps Retained one month
unless specific arrangements
made in advance.

[Signature]
Licensed Assayer of British Columbia

KINTLA EXPLORATIONS LTD.
P.O. Box 763
CARDSTON, Alberta



File No. 11788
Date August 6, 1976
Samples Chip

Certificate of
ASSAY
LORING LABORATORIES LTD.

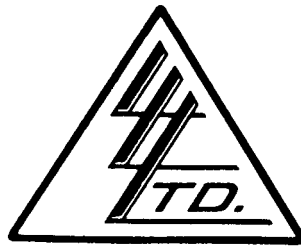
SAMPLE No.	OZ./TON SILVER	Chemical U308 PPM	% Cu	% MoS2
<u>"Chip Samples"</u>				
10437	-	71.3	.01	-
10438	Trace	89.5	.01	-
10439	.04	35.3	.69	-
10440	-	42.7		-
10441	Trace	23.2	.01	-
10442	Trace	49.5	.25	.013
10443	.24	61.1	.91	-
10444	Trace	55.4	.08	-
10445	.34	34.2	3.14	.108
10446	Trace	43.8	1.09	.034
29052	-	51.5	-	-
29053	-	29.9	-	-
29054	-	40.2	-	-

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

As Retained one month.
Pulps Retained one month
unless specific arrangements
made in advance.

A. J. J. J. J. J.
Licensed Assayer of British Columbia

KINTLA EXPLORATIONS LTD.
 P.O. Box 763
 CARDSTON, Alberta



File No. 11784
 Date August 5, 1976
 Samples Chip

Certificate of
ASSAY OF
LORING LABORATORIES LTD.

SAMPLE No.	OZ./TON SILVER	Chemical U308 PPM	% Cu	% Ni	% Co
<u>"Chip Samples"</u>					
10402	.88	101.0	1.32	-	-
10403	.74	103.0	1.30	-	-
10404	.02	13.6	.45	-	-
10405	Trace	10.0	.07	.01	Trace
10447	.50	239.0	2.51	-	-
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10450	Trace	265.0	.45	-	-

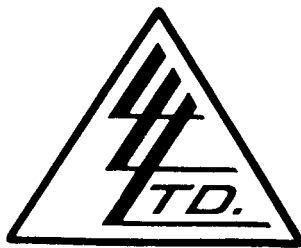
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Retained one month.
 Pulps Retained one month
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[Signature]

Licensed Assayer of British Columbia

KINTLA EXPLORATIONS LTD.
 P.O. Box 763
 CARDSTON, Alberta



File No. 11705
 Date July 27, 1976
 Samples Chip

ATTN: Dr. Rusty Evans

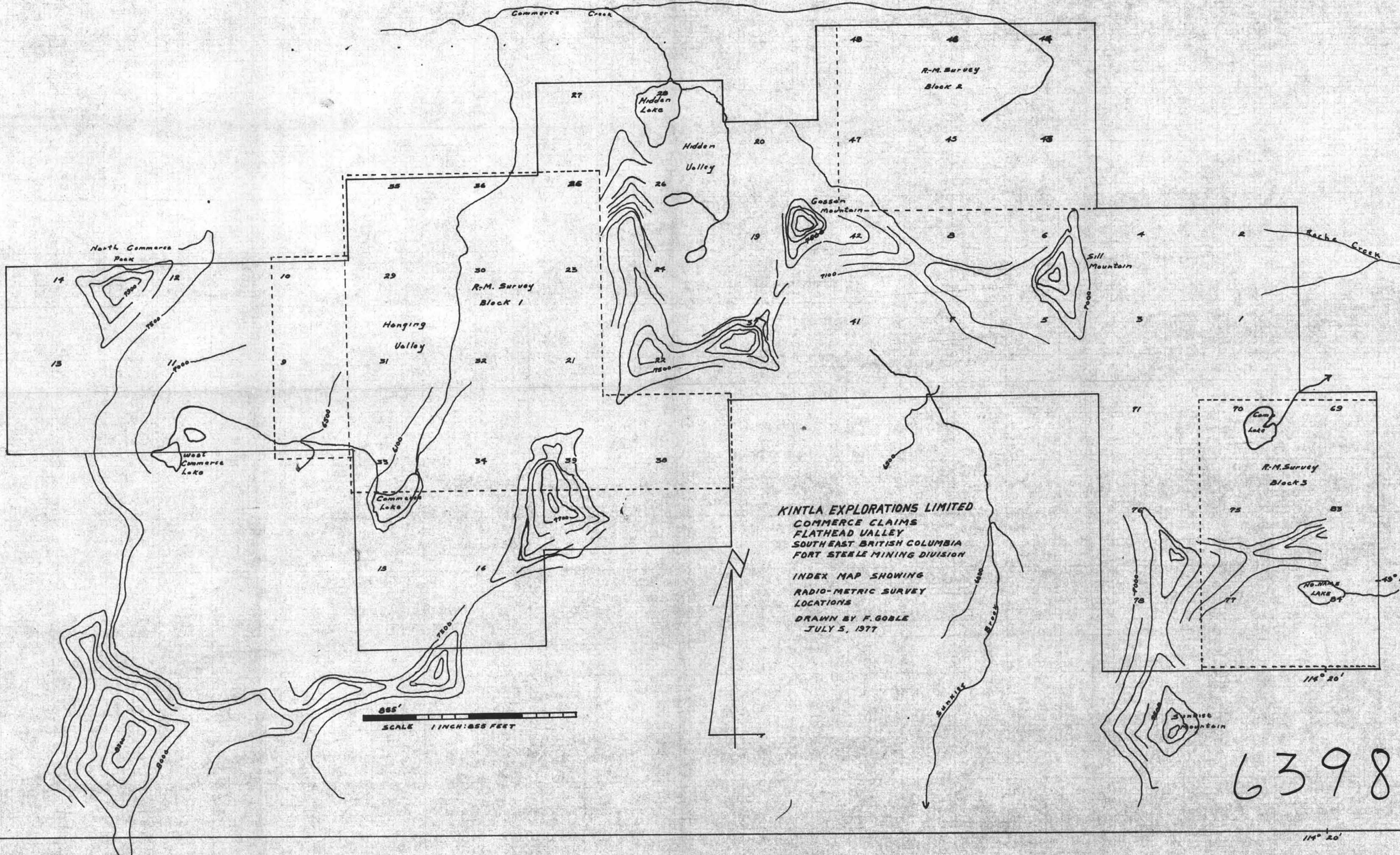
Certificate of
ASSAY OF
LORING LABORATORIES LTD.

SAMPLE No.	OZ./TON GOLD	OZ./TON SILVER	Chemical % U308	% Cu
<u>"CHIP SAMPLES"</u>				
10426-A	-	Trace	750 (.005)	0.20
10427-A	-	Trace	350 (.006)	0.02
10428-A	Trace	3.98	860 (.074)	0.07
10429-A	-	.46	.018	1.37
10430-A	-	.65	.003	2.41
10431-A	-	1.02	.005	5.80
10432-A	-	1.30	.006	6.51
10433-A	-	Trace	.001	0.07
10434-A	-	.08	.006	0.69
10435-A	-	.66	.001	1.05
10436-A	-	1.14	.004	3.14

I **Hereby Certify** THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.

[Signature]
 Licensed Assayer of British Columbia

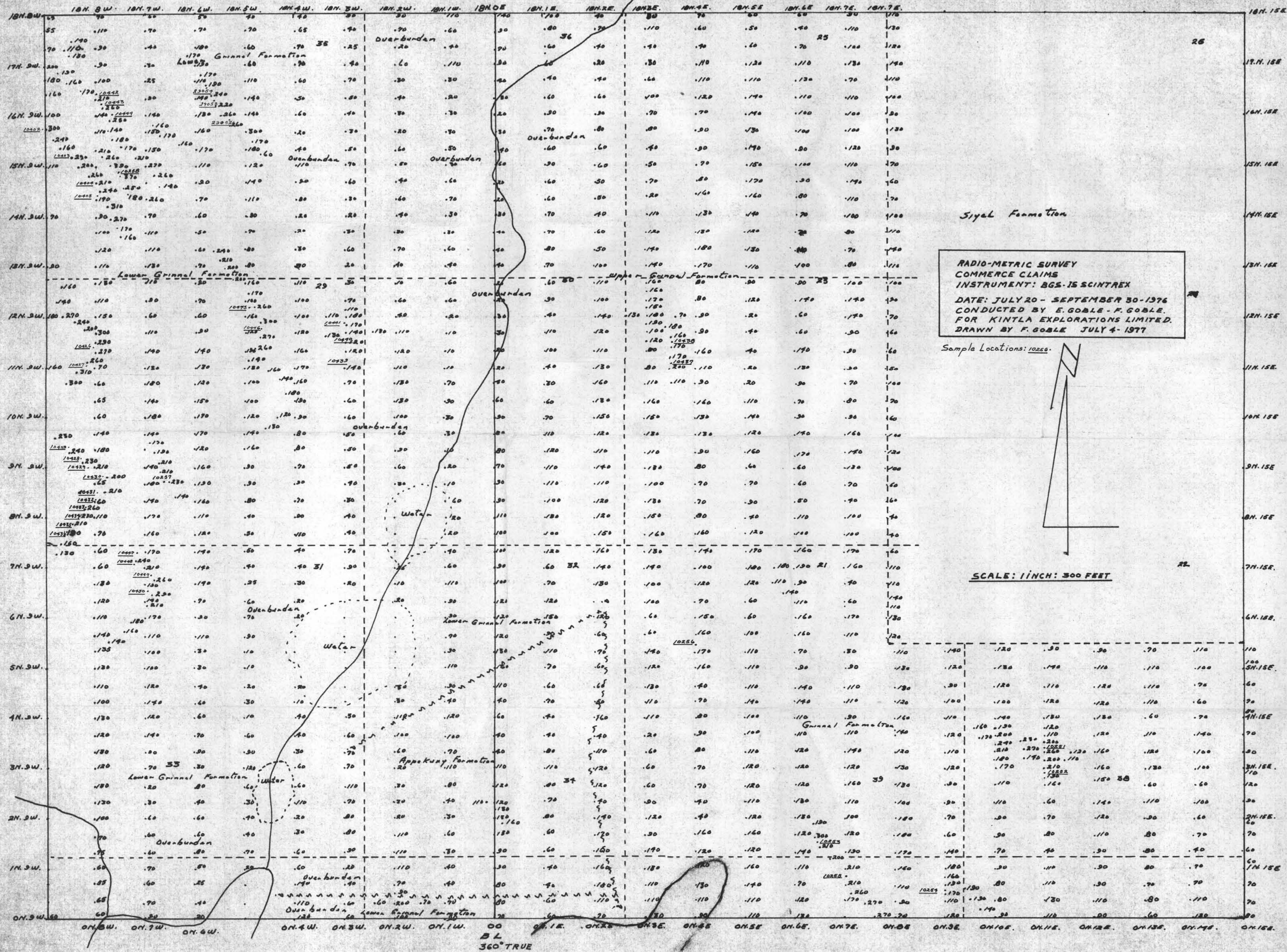


KINTLA EXPLORATIONS LIMITED
COMMERCE CLAIMS
FLATHEAD VALLEY
SOUTHEAST BRITISH COLUMBIA
FORT STEELE MINING DIVISION
 INDEX MAP SHOWING
 RADIO-METRIC SURVEY
 LOCATIONS
 DRAWN BY F. GOBLE
 JULY 5, 1977

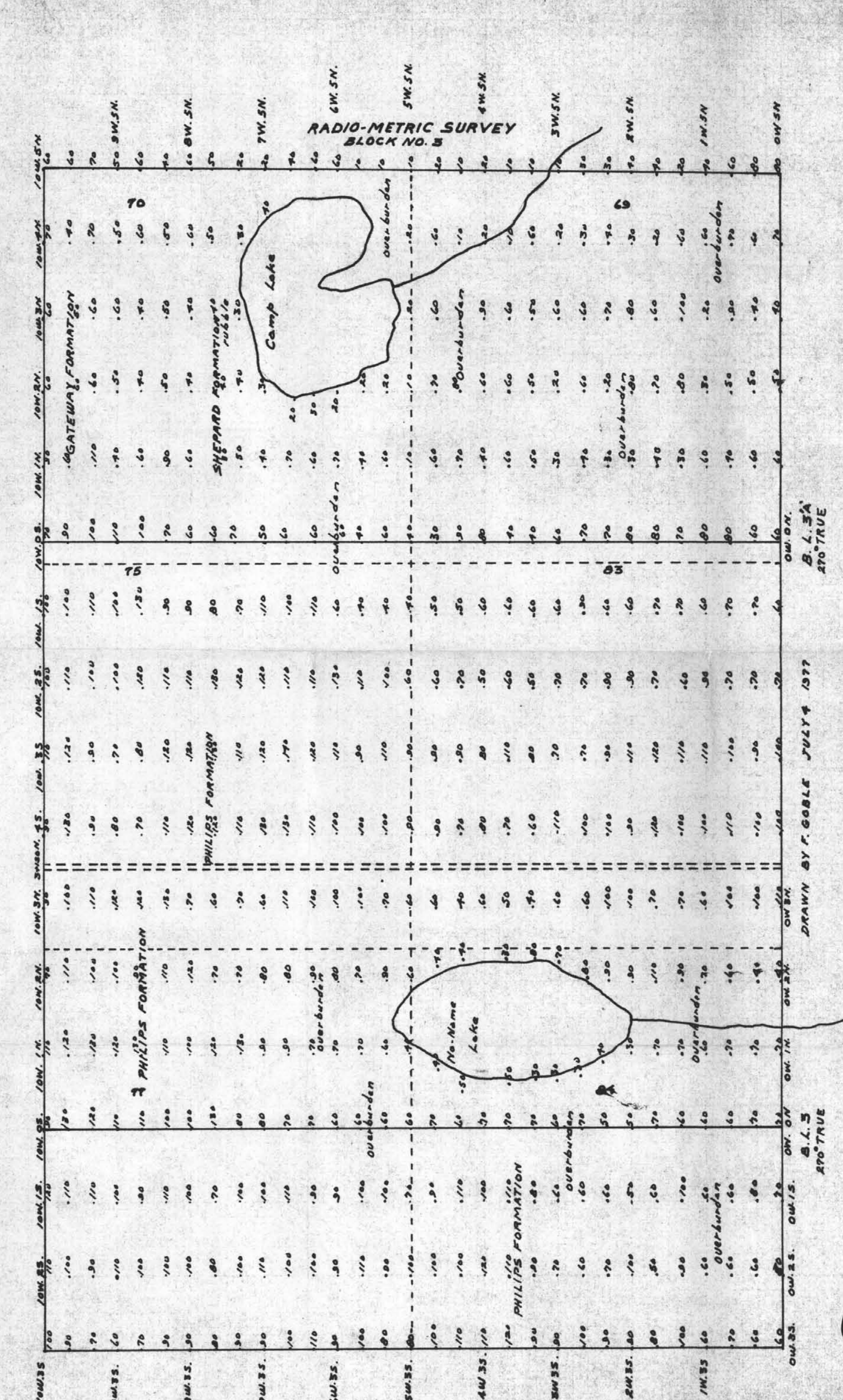
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114° 20'

RADIO-METRIC SURVEY
BLOCK NO. 1



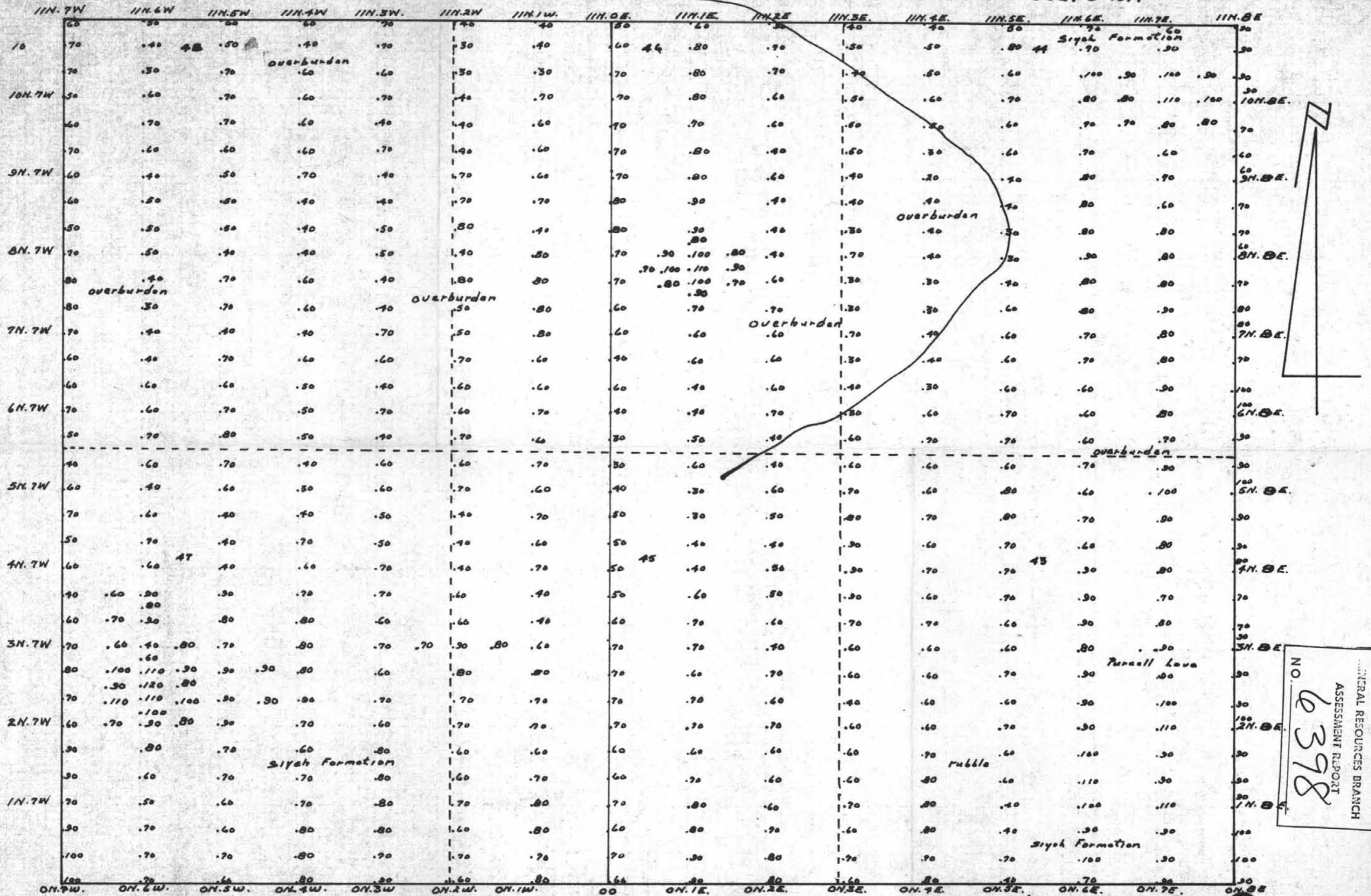
RADIO-METRIC SURVEY
BLOCK NO. 2



6398

RADIO-METRIC SURVEY
BLOCK NO. 2
KINTLA EXPLORATIONS LIMITED

DRAWN BY F. GOBLE JULY 5 1977



B.L. 2
360° True

GENERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6398

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