MAR 19710001: ANDREW LAKE

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Hudson's Bay Oil and Gas Company Limited
Minerals Exploration Department
Calgary, Alberta

ANDREW LAKE PROJECT

ALBERTA QUARTZ MINERAL PERMITS 24, 25 & 26

NTS 74 M

REVIEW OF WORK COMPLETED DURING

3-YEAR PERMIT PERIOD

Under Supervision of

E. C. Burgan, P. Eng.

C O N T E N T S

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INTRODUCTION

During the 1970 field season a ground check of airborne radiometric and electromagnetic anomalies was carried out on Quartz Mineral Permits 24, 25 and 26 in northeastern Alberta. A third airborne radiometric survey was performed to evaluate the somewhat doubtful results of two previous surveys. The work was carried out in three phases:

Phase 1:

Preliminary ground check of anomalies detected by the two earlier radiometric surveys, and examination of radioactive occurrences noted by Godfrey in his mapping of the area for the Alberta Research Council.

Phase 2:

(a) Closely supervised airborne radiometric survey followed by a ground check of the resulting anomalies by detailed scintillometer surveys. In addition, trenching and assay sampling were done on zones found to be of prime interest.

(b) Ground check of airborne EM anomalies by vertical loop, horizontal loop and magnetometer with some geochemical sampling, followed by trenching and assay sampling zones of interest.

Phase 3:

Mapping, detailed scintillometer surveying, trenching and chip sampling on the Carrot Lake Zone.

PROPERTY

The propety consists of three Quartz Mineral Permits numbers 24, 25 and 26, comprising a total of 114,400 acres.

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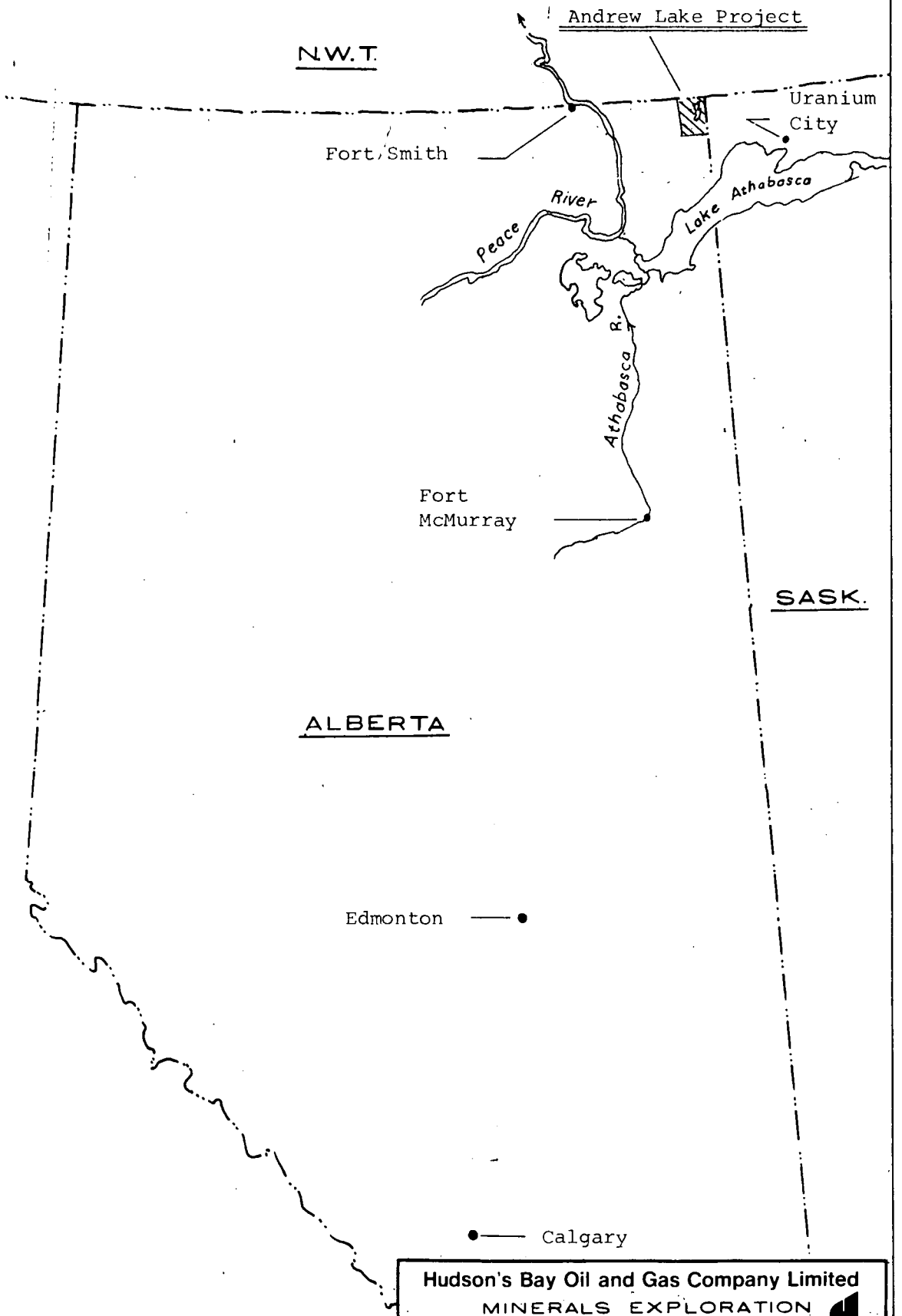

Hudson's Bay Oil and Gas Company Limited				
MINERALS EXPLORATION CALGARY ALBERTA				
ANDREW LAKE PROJECT LOCATION MAP				
MAP	DATE JAN. 1971	BY P. LASSILA	SCALE 1" = 80 mi.	NTS 74M/16

FIGURE 1

Location

The permits are situated in the northeastern corner of Alberta surrounding Andrew Lake, and are bounded by latitudes 60°00' and 60°40' and longitudes 110°00' and 110°30', in NTS block 74 M (Figure 1).

Access

The property may be reached from Uranium City or Fort Smith by float equipped aircraft; distances are 58 miles west and 60 miles east respectively.

GENERAL GEOLOGY

Generally, the permit areas are underlain by granitic rocks, some of a gneissic character, with long, infolded belts of metasediments, frequently intruded by pegmatite masses and lenses. The regional strike is almost north-south, and dips are steeply inclined, generally to the west. Two major fault systems prevail: one striking north-south and the other northwest-southeast. Both systems have associated areas of crush mylonitization and subsidiary faulting.

For greater geologic detail the reader is referred to Godfrey's reports on the area for the Alberta Research Council (1963).

AIRBORNE GEOPHYSICAL SURVEYS

Since acquisition of the property, three airborne geophysical surveys have been carried out in order to locate target areas for uranium and base metal exploration.

1. The first was a radiometric survey carried out by Federal Resources Corporation of Salt Lake City. This survey recorded only total count and no provision was made for elevation controls. For these two reasons the survey was considered to be of limited value.

2. The second was a combined radiometric, magnetic and electromagnetic survey carried out by Canadian Aero Services Ltd. The property was surveyed using 1/8-mile line spacing at a mean terrain clearance of 150 feet. Equipment included an Exploranium four-window spectrometer (DGRS 1000, three 4" x 6" crystals), a Canso in-phase out-of-phase electromagnetic system and a fluxgate magnetometer. Due to technical problems with the spectrometer, the radiometric data recovered from this survey were considered to be largely invalid. For further information the reader is referred to the Canadian Aero Services' report which accompanies this report.

3. The third survey was flown by Geo-X Surveys Ltd. at 1/4-mile line spacing and 100' to 150' mean terrain clearance with an Exploranium four-window spectrometer (DGRS 2000, three 4" x 6" crystals). This survey, which was closely supervised by HBOG staff, proved to be of high quality (Plate 1. For survey specifications see Appendix 1).

GROUND FOLLOW-UP

Radiometrics

Method: Ground follow-up of radiometric anomalies and showing were broken down into three phases.

Phase 1 involved ground checking anomalies located by the first two aerial surveys and showings located by the Alberta Research Council during their mapping of the area. Zones of interest such as radiometric showings, coincident anomalies, and anomalies with a linear extent of over two or more flight lines, were chosen for ground check. Using fixed-wing aircraft for support and 1/4-mile mosaics for control, these zones were traversed by taking continuous readings along single blazed lines with a McPhar TV-5 scintillometer. All traverses and locations of interest were well marked on the ground and plotted on mosaics: all outcrops in anomalous zones were checked and the readings in locations of high radioactivity were recorded (Plate 2).

Phase 2 consisted of a detailed ground survey of airborne anomalies picked from the Geo-X survey. Picks were based on the magnitude, intensity and linear extent of the bismuth peaks (Plate 1 & Appendix 1). Since these data were considered to be much more reliable than that of the two previous surveys, it warranted a more detailed approach. Therefore at least three traverses across each anomaly were run at 500 foot intervals using a McPhar TV-5 scintillometer. Readings were recorded every 100 feet. Outcrops between the lines were also thoroughly prospected with a scintillometer (Plate 2).

Phase 3 was carried out upon completion of the first two phases. This work was designed to obtain detailed geological and radiometric information on discovered zones of high radioactivity and uranium mineralization. It was carried out primarily in the Carrot Lake Area (Plates 6, 7 (a, b & c)). The work included cutting a picket line system, detailed geological mapping, detailed scintillometer prospecting, and extensive trenching and chip sampling

for assay. For further information the reader is referred to the section of this report on the Carrot Lake Area.

Results: The results of the ground follow-up work with the exception of the Carrot Lake Zone, were largely of a discouraging nature. The findings are divided into three groups.

Group 1: Airborne anomalies which had no ground expression apart from slightly higher than background radioactivity occurring in granitic rocks outcropping over large areas and usually at higher than normal elevation. Anomalies of this type proved to be the most numerous.

Group 2: Airborne anomalies over rock exposures containing a few small fractures and/or shears containing high radioactivity with low uranium to thorium ratios.

Group 3: Several anomalous zones which exhibited radioactivity of a more interesting nature; high uranium to thorium ratios, usually accompanied by varying degrees of yellow staining. Of these, the Carrot Lake Zone, on which primary uranium mineralization was discovered, was the only one considered worthy of further work.

Conclusions: All significant airborne radiometric anomalies were checked. A few of these had some outcrops showing minor patches of yellowish staining apparently due to minute quantities of U_3O_8 mineralization. These small patches tend to be sporadically distributed over a wide area in granitic rocks. The only notable mineralization discovered was that of the Carrot Lake Zone.

Recommendations: Apart from the Carrot Lake Zone and its immediate area, no further work is recommended on the permits.

Electromagnetics

Method: All accessible definite (Grade 2), probable (Grade 3), and three doubtful (Grade X) airborne conductors were ground checked by VL (vertical loop) traverses using a McPhar M-660 VHEM instrument (Plate 3). These traverses were run on well-blazed or cut lines perpendicularly across the strike of the airborne conductor. The VL broadside technique was used with a 200 foot to 300 foot separation between transmitter and receiver. Upon locating a VL crossover, the conductor was traced out by the VL standard technique with instrument separations of 200 feet, 250 feet, or 300 feet.

If the cause of the conducting material was not found in outcrop along the conductor trace, HL (horizontal loop) and magnetometer traverses were run across the conductor on chained cut lines, spaced at 400 foot intervals along the length of the conductor.

Soil samples were taken at 100 foot intervals on the HL lines over two conductors (anomalies #6 & #11).

Rock trenching was done at four locations on the south end of anomaly #1 where the conductor was traced across a gossan zone. These trenches were chip sampled and assayed for Cu, Ni, Au and Ag. The most extensive work, which was done off VL-d (trench #2 area), is detailed on Plate 5.

Results: A total of 12 airborne anomalies were ground checked (Plate 3). The one "definite" (part of anomaly #1) and six of the eight

"probable" anomalies were located on the ground. None of the three doubtful (Grade X) anomalies checked were found.

Anomalies #7 (in a swamp), #8 and #8X (in a lake) were not ground-checked due to inaccessibility. Anomalies #5 and #10, which are mainly under water, were checked along the shore but no ground conductors were located, although some graphite was noted on the west shore off anomaly #5.

Anomalies #9 (in swamp) and #12 (partly on a small island) were field checked but not located.

The following is a summary of the anomalies located by ground follow-up VHEM:

Anomaly #1 EAST WAUGH LAKE.

This is a long (4 miles) northerly-striking airborne anomaly that occurs in a belt of metasediments (Plate 4). The north section is completely under overburden. The central section outcrops at several locations. Here the conductive material was found to be graphite with no associated sulphide mineralization.

In the south section a graphitic conductor cuts through a magnetically high gossan containing considerable sulphides (pyrite and pyrrhotite) in phyllitic schist (Plate 5). Minor chalcopyrite was noted in most trenches and arsenopyrite in one. Assays of chip samples from the trenches were low, the best combined value being: 0.002% Cu, 0.017% Ni, 0.01 oz./T Au and 0.60 oz./T Ag over 5 feet. The best copper value was 0.01% Cu in a composite chip sample of several

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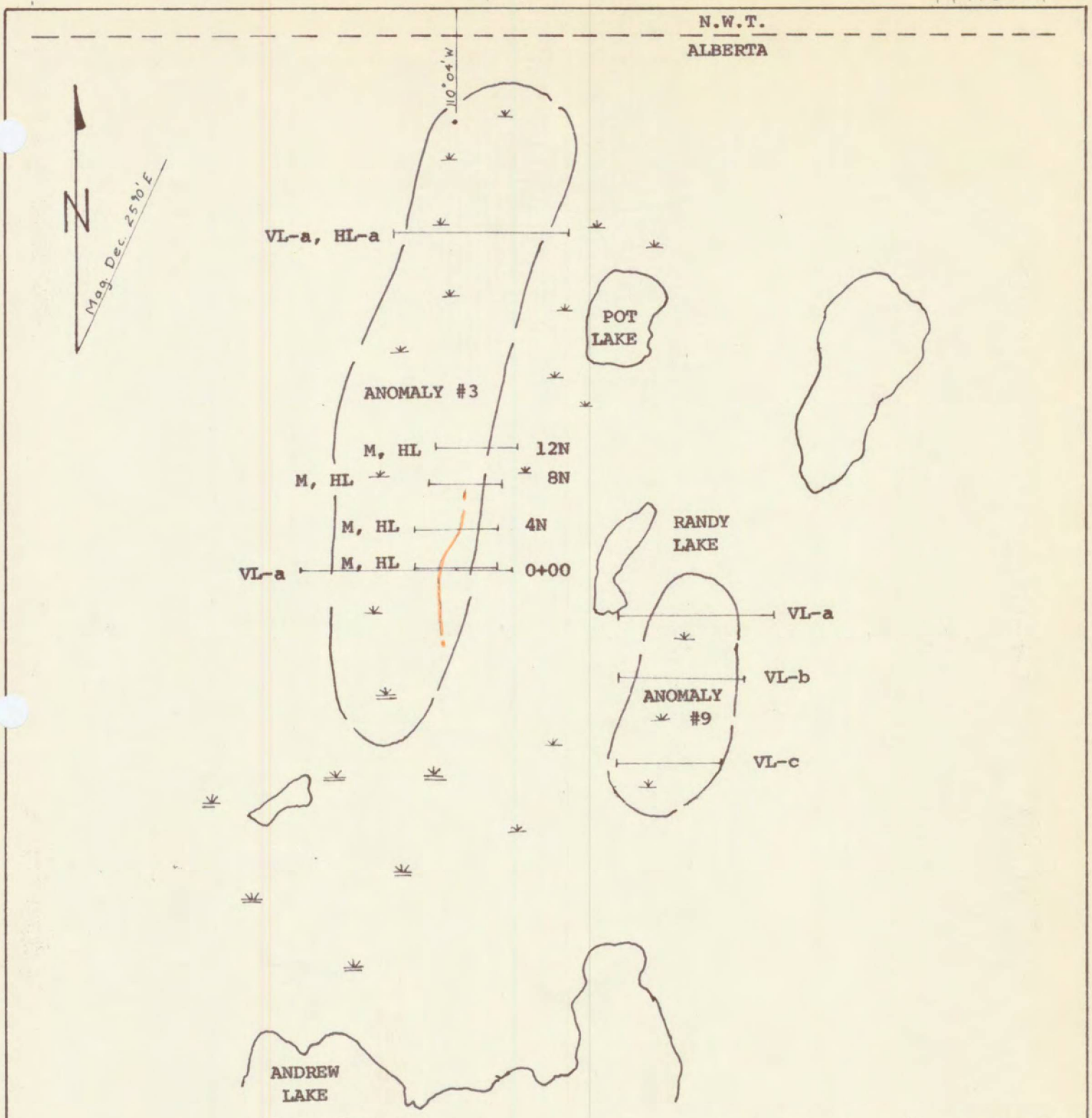

LEGEND

0+00 { VLa Vertical loop broadside traverse; HL Horizontal loop traverse; M Magnetometer traverse

EM Anomaly trace

Zone of airborne EM anomaly

Provincial Boundary (Alberta-NWT)

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
(Anomalies No.s 3 & 9)
EM AND MAGNETOMETER SURVEY PLAN MAP

MAP	DATE	BY	SCALE	NTS
	JAN.1971	P. LASSILA	1" = 1/4 mi	74M/16

FIGURE 2

trenches and pits over a combined length of 61 feet (Plate 5 and Appendix 4).

Anomaly #2

Graphite (in metasediments) was found on the conductor (Plate 4).

Anomaly #3

VL and HL indicate a very weak, low-grade, buried conductor in swamp; no magnetic correlation was found with the conductor (Figure 2).

Anomaly #4

Two conductors, 4400 feet and 6200 feet long respectively, were located mainly in swampy ground. Graphitic schist was noted at two places on one conductor and a few gossan zones were found in nearby outcrop (Plate 4).

Anomaly #6

One 3800-foot long conductor was located completely buried in swamp (Figure 3). A low grade magnetic high parallels both sides of the conductor. A few specks of chalcopyrite and graphite and some gossan were noted in a few outcrops near the conductor. Soil samples along and across conductive zone gave negative results (Appendix 2).

Anomaly #11

VL and HL traverses delineated a 2250-foot long moderate-intensity conductor of poor conductivity (Figure 4). It occurs in biotite granite gneiss along the east contact of a magnetically high

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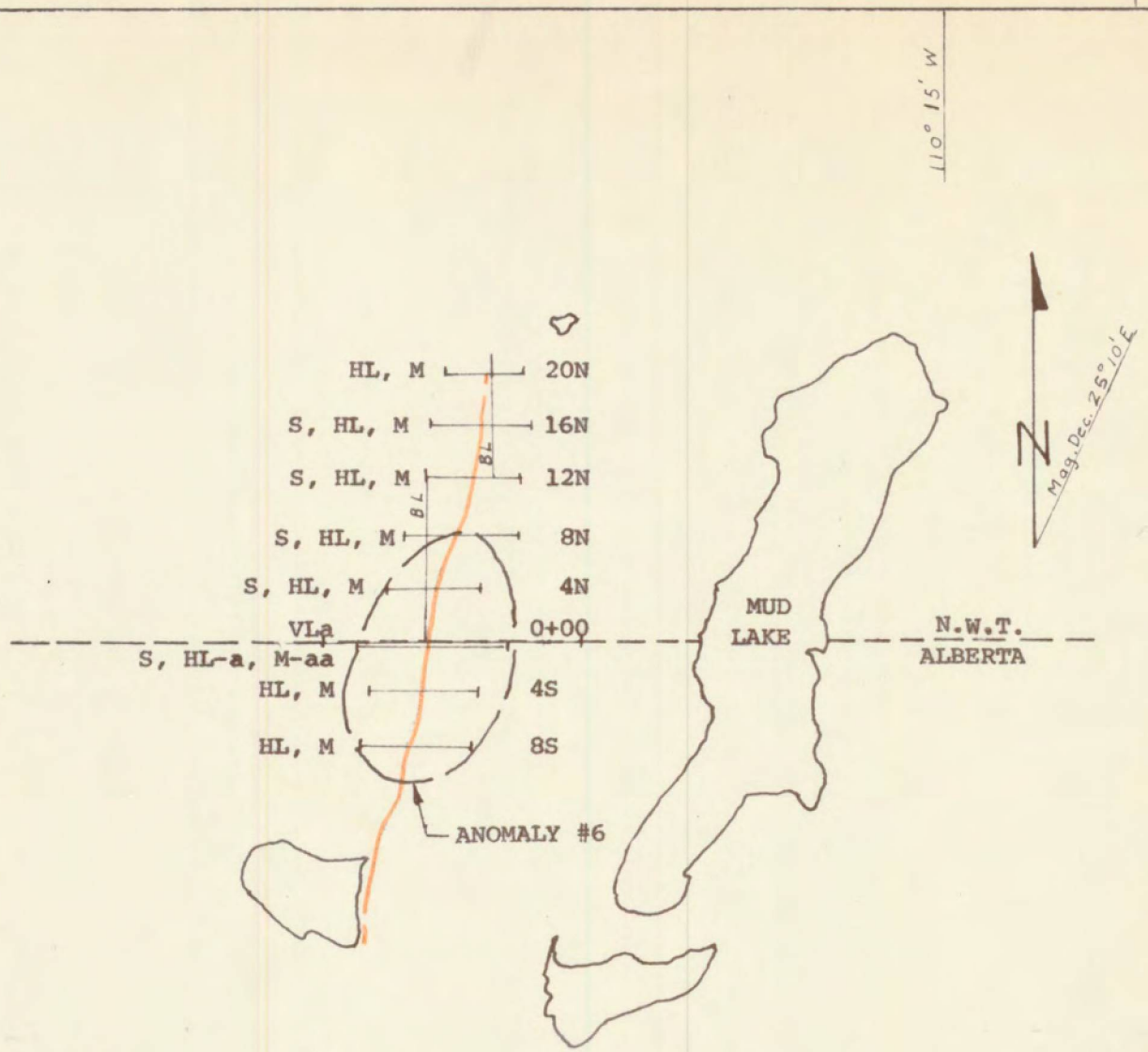

LEGEND

0+00 — VLa Vertical loop broadside traverse; HL Horizontal loop traverse; M Magnetometer traverse; S Soil samples taken

EM Anomaly trace

Zone of airborne EM anomaly

Provincial Boundary (Alberta-NWT)

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
(Anomaly No. 6)

EM AND MAGNETOMETER SURVEY PLAN MAP

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	P. LASSILA	1" = 1/4 mi	74M/16

FIGURE 3

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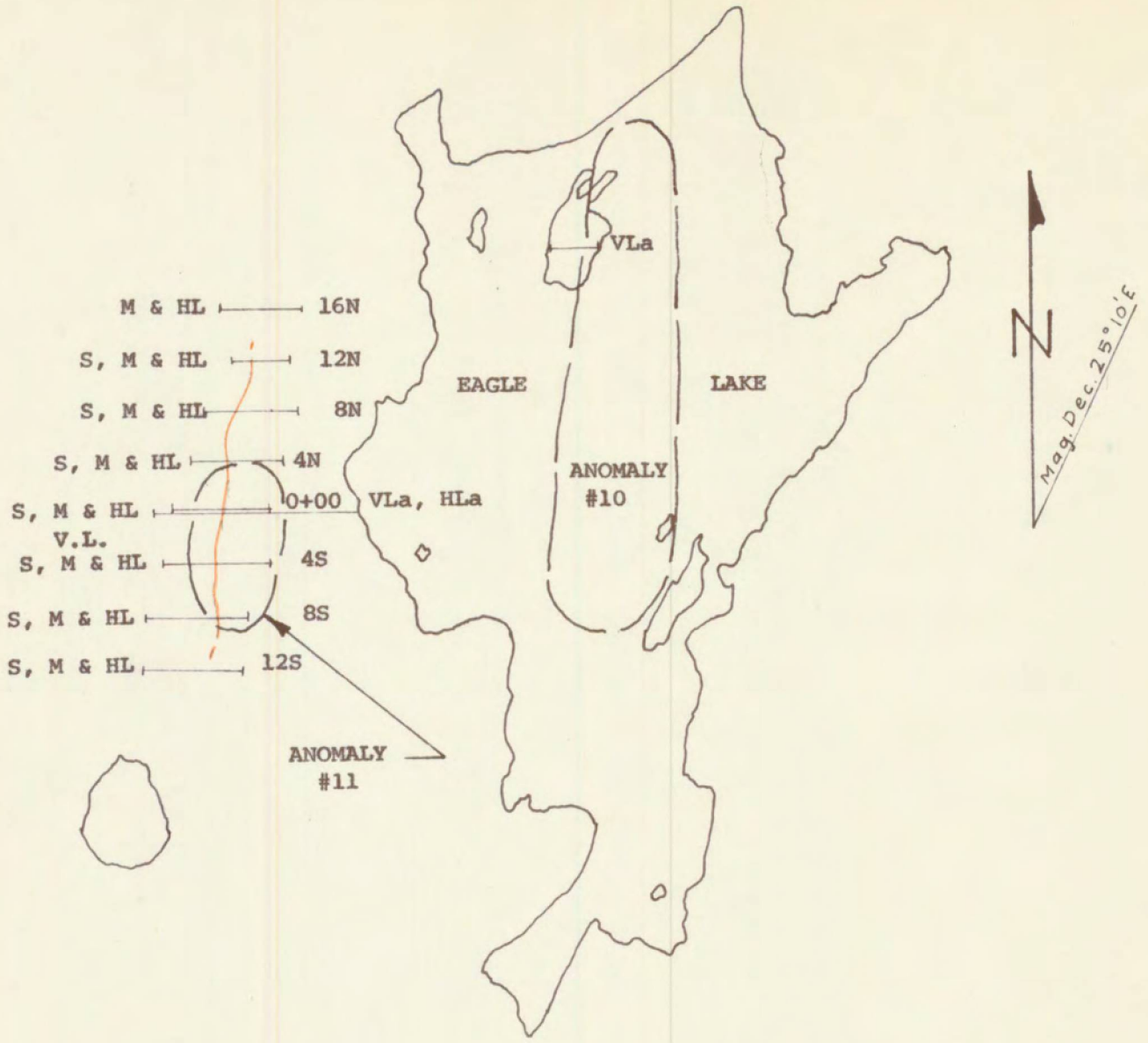

LEGEND

16N

- VLa — Vertical loop broadside traverse
- HL — Horizontal loop traverse
- M — Magnetometer traverse
- S — Soil samples taken

EM Anomaly trace

Zone of airborne EM anomaly

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
(Anomalies No.s 10 & 11)

EM AND MAGNETOMETER SURVEY PLAN MAP

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	P. LASSILA	1"=1/4mi.	74M/16

FIGURE 4

amphibolite dike. No visible sulphides or graphite were noted along the conductor. Soil sampling across the conductive zone gave negative results (Appendix 2).

Conclusions: Graphite was found on all the anomalies that were exposed in outcrop or trenching. Several conductors have gossan zones associated with or near the anomaly trace. The south portion of anomaly #1 has the best gossan zone; it consists primarily of phyllitic schist with pyrite and pyrrhotite mineralization, very minor chalcopyrite and some arsenopyrite (at one location). A strong magnetic high is associated with the sulphide mineralization. Chip samples taken from several trenches in this zone gave very low values of Cu, Ni, Ag and Au (Plate 5, Appendix 4).

None of the anomalies appear to be of economic significance.

Recommendations: Some additional work is recommended for anomaly #1.

CARROT LAKE ZONE

The Carrot Lake Zone (Figure 5) was discovered during routine ground checking of airborne radiometric anomalies (Plates 1 & 2). Subsequently a picket-line system was established which was used as a base for detailed radiometric surveying and geological mapping of the zone (Plates 6 & 7 (a, b & c)).

Radiometrics

A detailed radiometric survey utilizing a McPhar TV-5 gamma ray spectrometer established the presence of the Carrot Lake Zone. The zone

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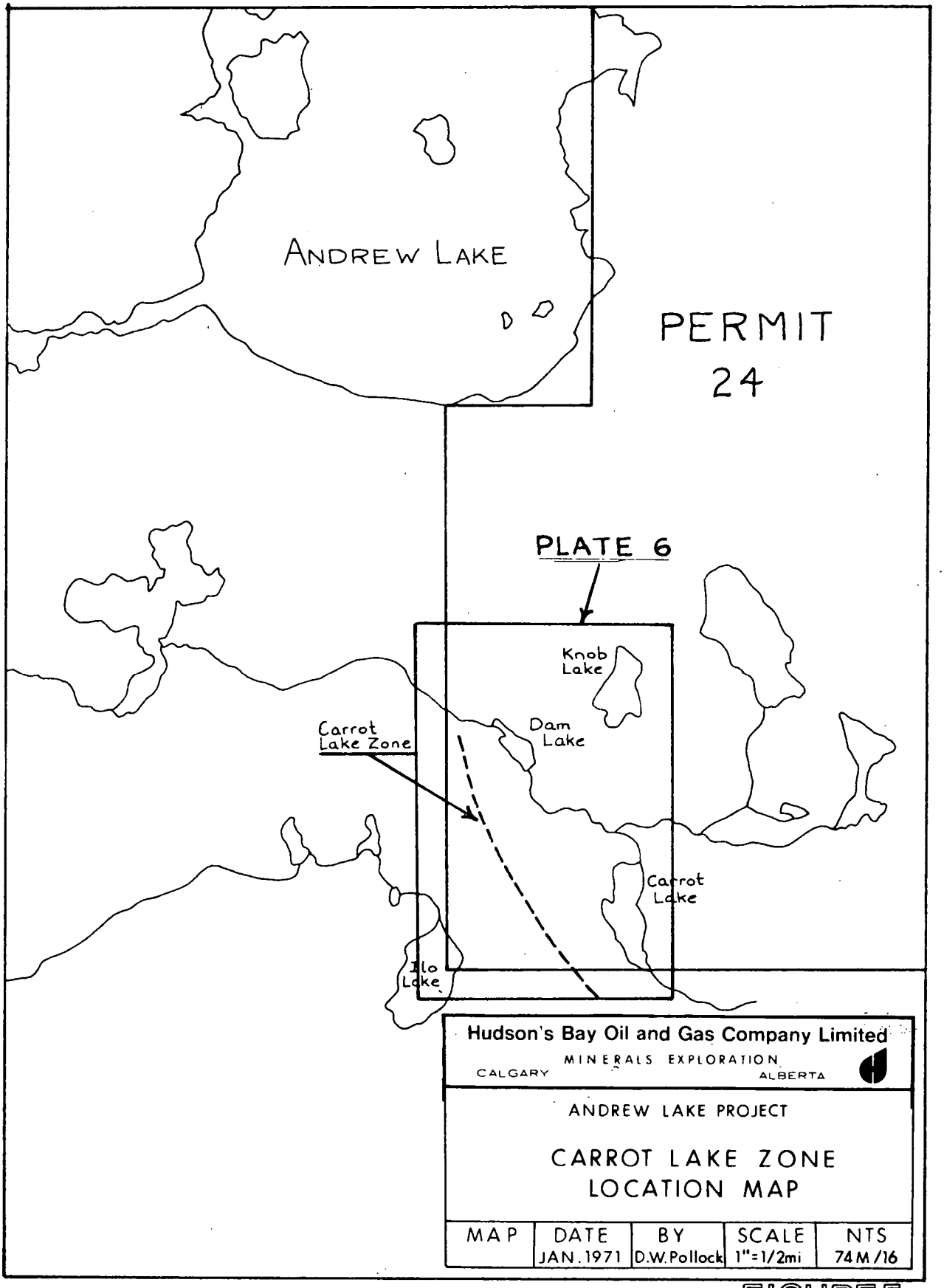


FIGURE 5

consists of numerous radioactive occurrences in which total count exceeded 10,000 cpm (background over outcrop ranged from 2,000 to 5,000 cpm). The zone is approximately 400 feet wide and extends for about one mile in a N25°E direction (Plate 6).

Several of the higher and more continuous zones of radioactivity were stripped and/or trenched, radiometrically mapped on five-foot centers and geologically mapped and chip sampled. Chip samples in trenches were taken where the T_2 count (U+Th threshold) exceeded 1,000 cpm as determined with a lead shielded McPhar TV-1 scintillometer. Trench data and assay data are presented on Plate 6 and the trench geology is incorporated on Plate 7 (a, b & c).

Geology

The geology of the Carrot Lake Zone was mapped on a scale of 1" = 50' and is presented on Plate 7 (a, b & c).

The geology is extremely complex in detail and the divisions shown represent a simplification and grouping which provide a reasonable picture.

The predominant rock types are pink and grey granites and granitic gneisses with lesser amounts of pegmatite, migmatized schists, metasediments and amphibolite. The textures and structures of individual rock types change over a few feet and as a consequence there is much gradation between lithologic units. In a broad sense pink granites and foliated granites bound the western part of the Carrot Lake Zone. These are bordered on the east by a complex of pink and grey migmatites and gneisses, porphyroblastic gneisses and pegmatites

with an increasing content of biotite schist to the north and east. The bulk of the schists and metasediments occupy the more eastern part of the zone.

In the southern part of the zone, foliation trends about N10°-20°E and dips at an average of 70° to the west. In the northern part of the zone, where schists are more abundant, the strike of foliation tends to be more variable but generally assumes a more northerly trend. Dips range, with a few exceptions, from 80°W to vertical with some steep easterly dips recorded. Shearing, flow-folding and jointing are common minor structures throughout the Zone.

Mineralization

A total of 33 trenches and pits were excavated from bedrock across zones of radioactive interest. Uranium enrichment was verified by use of a TV-5 scintillometer. The uranium is present in a number of modes, and occurs in most rock units. At several locations it was noted cutting across the main rock trend. The mineralization appears to be mainly controlled by structures such as fractures and shear planes.

The following types of occurrences were noted (for more detail, the reader is referred to Appendix 3).

1. Discontinuous, narrow, short, isolated veinlets and irregular pods bearing pitchblende and/or thucolite.

2. Thin, long (up to 100') biotitic selvages in granite and granite gneiss in which the uranium-bearing mineral is unknown.

3. Yellow stains of secondary autunite (?) on fracture surfaces.

4. Biotite concentrations in grey to pink pegmatites (uraninite?).

5. Biotite concentrations in grey, coarse-grained porphyroblastic quartz-biotite feldspar gneiss (uraninite?).

6. Biotite-rich shear zones in 5.

7. Biotite-rich shear zones in metasediments.

Results

Forty-three chip samples were taken from 17 trenches. Assay results are shown in the insets of Plate 6 and in Appendices 3 & 4. The best results are from trenches 27+80N, 22+00N and 21+00N (in the northern part of the zone west and southwest of Dam Lake) where assays as high as 0.180% U_3O_8 were recorded. Values from the northernmost trench and from all of the trenches in the south part of the zone are sub-economic.

Conclusions

No deposits of an economic nature were discovered in the Carrot Lake Zone. In general, the showings are best in the northern part. The most promising area occurs in some low outcrop bordering the extensive wooded swamp that lies in the valley joining Carrot and Dam Lakes (trenches 22+00N and 21+00N).

Recommendations

Future exploration on the Carrot Lake Zone should concentrate on the flat swampy and bouldery valley that extends south of and through Dam Lake and borders trenches 22+00N and 21+00N. There is little work other than drilling that can be done in this area, but quarter-mile mapping of the

surrounding region including the area directly west of the Carrot Lake Zone and some detailed magnetometer work both over the mineralized areas and the adjacent swamp might provide some guidance to spotting drill targets.

January, 1971

Signed: [redacted]

D. W. Pollock

[redacted]

D. C. Mitchell

[redacted]

E. C. Burgan, P. Eng., B.C.

APPENDIX 1

SPECIFICATIONS OF GEO-X EQUIPMENT, SURVEY AND ANOMALY SELECTION

APPENDIX 1

SPECIFICATIONS OF GEO-X EQUIPMENT, SURVEY AND ANOMALY SELECTION

EQUIPMENT

Aircraft: Excalibur 800 (modified Beechcraft Twin Bonanza)

Power: Two 400 HP Lycomings 10-720-A14 Engines

Useful Load: 2,600 pounds

Camera: Neyhard Automax 35 m.m. Pulse Camera, Model G2

Lenses: a) 17 m.m. F/14 Super-Takumur Fish-eye

b) 35 m.m. F/2.0 Super-Takumur

Data Box: 24 Hour Accutron Clock

Frame Counter

Altimeter: Bonzer

Gamma Spectrometer: Exploranium Digital "DIGRS 2000"

Crystals: Three 6" x 4" NaI (Tl)

Window Setting:

K^{40}	1.3 - 1.6 MeV
Bi^{214}	1.6 - 1.95 MeV
Tl^{208}	2.4 - 2.9 MeV
Total Count	0.8 - 2.9 MeV

Compton "Stripping Ratios":

$Tl^{208} \rightarrow Bi^{214}$	~ 0.9	$Tl^{208} \rightarrow$ Total Count	~ 10
$Tl^{208} \rightarrow K^{40}$	~ 0.7	$Bi^{214} \rightarrow$ Total Count	~ 9
$Bi^{214} \rightarrow K^{40}$	~ 0.7	$K^{40} \rightarrow$ Total Count	~ 6

Spectrum Stabilization:

Ce^{137} (662 KeV) Internal Standard

Resolution: ~8.3% for Ce^{137} Photopeak

Recorder: Two Hewlet-Packard 7100B Dual Channel (Tl^{208}, Bi^{214} + K^{40} Total)

Instrument Checking Procedure: Window position, Compton "Stripping Ratios" values and PM Tube Balancing (overall system resolution) were checked as a matter of course at least twice a day, using samples of natural ores of U, Th and about 10 pounds of KCl and measuring energy position and resolution of Ce^{137} photopeak.

Altimeter was checked by comparing barometric altimeter with Bonzer above a large lake, once a day.

Spectral and total attenuation curves were established experimentally flying in altitudes from 50' to 500' in 50' increments, prior to commencing the survey.

SURVEY SPECIFICATION

Line Spacing: Standard 1/4 mile

Areas with numerous low scattered questionable anomalies (northern portion) and preselected individual anomalies were reflown (filled in) to

1/8 mile spacing. One tie line was flown in a N-S direction.

Mean Altitude: 100-150'

Flight Lines Direction: E-W

Aircraft Speed: 110-120 Knots

Flight Path Recovery: Standard (comparing on board camera record fully covering the flight line with government photos ~1" = 1/4 mile).

PERSONNEL

Pilot: Hugh Clark, 627 Hornby Street, Vancouver 1, B.C.

Operator: R. Schultze, 627 Hornby Street, Vancouver 1, B.C.

Navigator: Dave Clegg, 203 - 8938 Montcalm Street, Vancouver 14, B.C.

All of them on the regular staff of Geo-X Surveys, Vancouver, B.C.

Geophysicist: J. Panenka, Hudson's Bay Oil and Gas Company Limited, Minerals Exploration Department, #7, 2130 Cliff Street S.W., Calgary 3, Alberta

DATA ANALYSIS

Using individual profiles, redrawn in the same direction and set together, a rough "profile map" was compiled. By visual scanning, considering

Compton corrected ratios of Bi^{214}/Tl^{208}, Bi^{214}/K^{40} and Bi^{214}/Total Count, as well as anomaly to background ratio, width and cross-correlation with adjacent profiles, the anomalies were selected. Statistical anomalies were eliminated by cross-correlation of Bi^{214} with total and K^{40} window count. Because of very low flight altitude and interpretation based on ratios rather than on actual anomaly magnitude, altitude correction was considered unnecessary. For low level survey, variations caused by different air attenuation coefficients of K^{40}, Bi^{214} and Tl^{208} are negligible. Using ratios, one can largely eliminate the effect of variable altitude, attenuation conditions (like vegetation, soil cover, etc.), target size and shape and target-detector geometry as well.

No really good anomaly was detected. Selected anomalies were divided into 3 groups:

A) Medium - Bi^{214} + corresponding total count anomaly, 1.5-2.5 x Bckg, Bi/Tl $\sim$ > 2

B) Weak - Bi^{214} + corresponding total count anomaly, 1-1.5 x Bckg, Bi/Tl $\sim$1-2

C) Questionable - Weak Bi^{214} anomaly, no corresponding total count anomaly, Bi/Tl < 1, anomaly magnitude comparable with higher statistic fluctuations.

Approximate background values of net window counts:

	Rocks	Water		Rocks	Water
Tl^{208}:	6-15 CPS	1-2 CPS	K^{40}:	30-50 CPS	$\sim$3-4 CPS
Bi^{214}:	4-10 CPS	2-3 CPS	Total:	$\sim$250-400 CPS	$\sim$120 CPS

Water count represents the instrumental background value for each particular window.

APPENDIX 2

RESULTS OF GEOCHEMICAL SOIL SAMPLING IN EM ANOMALIES 6 & 11

Geochem Results
Andrew Lake
EM Anom

Company: Hudson's Bay Oil & Gas Company Limited

CORE LABORATORIES-CANADA LTD.
CALGARY ALBERTA

FILE CAL-2-2535

Filtered Geochemical Samples

Recd 18 Aug 70

EM Anomaly # 11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
1	8+00N	2+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.G.	N W E S	1	3	TR
2	8+00N	1+00N	Leach Gy	6"	July 10/70	Soil	Clay	Mix.G.	N W E S	3	4	TR
3	8+00N	0+00	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	6	8	TR
4	8+00N	1+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	5	9	TR
5	8+00N	2+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.G.	N W E S	2	1	ND
6	8+00N	3+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	4	7	4
7	8+00N	4+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	6	1	TR
8	4+00N	3+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	4	10	4

E.M. ANOMALY # 11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
9	4+00N	2+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B	N W E S	3	7	7
10	4+00N	1+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	3	7	TR
10 +	4+00N	1+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	3	6	TR
11	4+00N	0+00	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	5	10	7
12	4+00N	1+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.Bl.	N W E S	7	1	TR
13	4+00N	2+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.Red	N W E S	8	10	13
14	4+00N	2+50E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	3	5	9
15	0+00	4+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.Bl.	N W E S	3	2	11
16	0+00	2+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	5	6	4
17	0+00	1+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	3	9	5

E.M. Anomaly # 11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
18	0+00	OBL	Leach Gy	6"	July 10/70	Soil	Clay	Mix.G.	N W E S	3	10	ND
19	0+00	3+00W	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	2	7	TR
20	0+00	1+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	9	14	TR
20 +	0+00	1+00E	Leach Gy	6"	July 10/70	Soil	Clay	Mix.B.	N W E S	10	14	TR
21	0+00	2+00E	Org. part Bulk Leach Gy	6"	July 10/70	Soil	Humic	D.B.	N W E S	8	13	13
22	4+00S	5+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	10	5
23	4+00S	4+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	3	6	3
24	4+00S	3+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	4	27	7
25	4+00S	2+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	6	13	8
26	4+00S	1+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	3	8	5

E.M. Anomaly # 11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
27	4+00S	0+00	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	4	9	4
28	4+00S	1+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	10	9
29	4+00S	2+00E	Oxid Fe	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	10	26	18
30	4+00S	3+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	8	5
30 +	4+00S	3+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	9	4
31	12+00S	3+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	5	5	TR
32	12+00S	4+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	3	4	TR
33	12+00S	2+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	2	5	TR
34	12+00S	1+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	3	6	TR
35	12+00S	0+00	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	11	TR

EM Anomaly #11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
36	12+00S	2+00N	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W ← E S	4	7	TR
37	12+00S	5+00N	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	9	9
38	12+00S	1+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	10	9
39	12+00W	0+00	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W → E S	3	3	TR
40	12+00N	2+00E	Org. Blk.	1"	July 12/70	Soil	Humic	Mix.G.	N W E S	10	25	TR
40 +	12+00N	2+00E	Org. Blk.	1"	July 12/70	Soil	Humic	Mix.G.	N W E S	No duplicate.		
41	12+00N	4+00E	Org. Blk.	6"	July 12/70	Soil	Humic	D.B.	N W E S	9	7	61
42	16+00N	6+00E	Leach Gy	6"	July 12/70	Soil	Clay	L.B.	N W E S	5	11	8
43	16+00N	4+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W ← E S	4	12	9
44	16+00N	3+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W ← E S	3	3	8

E.M. Anomaly No. 11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
45	16+00N	2+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.G.	N W E S	4	11	9
46	16+ooN	1+00E	Leach Gy	6"	July 12/70	Soil	Clay	D.B.	N W E S	7	11	13
47	16+00N	0+00	Leach Gy	6"	July 12/70	Soil	Clay	M.B.	N W E S	4	10	16
48	16+00N	8+00E	Leach Gy	6"	July 12/70	Soil	Clay	M.B.	N W E S	4	14	12
49	16+00N	7+00E	Leach Gy	6"	July 12/70	Soil	Clay	M.B.	N W E S	3	6	17
50	16+00N	5+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	4	7	8
50 +	16+00N	5+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	4	6	8
52	8+00S	5+00W	Leach Gy	6"	July 12/70	Soil	Sand	Mix.B.	N W E S	5	20	18
53	8+00S	4+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	11	8
54	8+00S	3+00W	Leach Gy	6"	July 12/70	Soil	Clay	L.G.	N W E S	2	4	7

E.M. Anomaly # 3

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
51	4+00S	0+00	Org. Blk.		July 12/70	Soil	Humic	R.B.	N W E S	8	11	24

EM Anomaly # 11

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
55	8+00S	2+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	4	7	11
56	8+00S	1+00W	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	4	6	8
57	8+00S	0+00	Leach Gy	6"	July 12/70	Soil	Clay	M.B.	N W E S	4	36	9
58	8+00S	1+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	10	13
59	8+00S	2+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	7	11
60	8+00S	3+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	5	9	17
60 +	8+00S	3+00E	Leach Gy	6"	July 12/70	Soil	Clay	Mix.B.	N W E S	4	8	13

EM Anomaly No 6

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
61	8+00N	2W	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	N W E S	8	13	50
62	8+00N	1W	Leach Gy	12"	July 15/70	Soil	Sand& Gravel	Mix.B.	N W E S	4	9	11
63	8N	00	Leach Gy	12"	July 15/70	Soil	Sand& Gravel	L.B.	N W E S	5	8	4
64	8+00N	1E	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	N W E S	7	10	16
65	8+00N	3E	Org. Blk.	18"	July 15/70	F.Plain	Humic	Mix.B.	N W E S	11	9	163
66	8+00N	4E	Org. Blk.	6"	July 15/70	F.Plain	Humic	Mix.B.	N W E S	10	13	77
67	8+00	5E	Org. Blk.	6"	July 15/70	F.Plain	Humic	Mix.B.	N W E S	19	30	106
68	8+00N	6E	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	N W E S	3	8	13

E.M. Anomaly No 6

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
69	8+00N	7E	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	N W (E) E S	5	7	8
70	8+00N	8E	Leach Gy	12"	July 15/70	Soil	Sand& Gravel	L.B.	N (W) E S	5	10	13
70 +	8+00N	8E	Leach Gy	12"	July 15/70	Soil	Sand& Gravel	L.B.	N (W) E S	5	9	11
71	4+00N	1W	Leach Gy	-	July 15/70	Soil	Sand& Gravel	M.B.	(N) W E S	4	8	12
72	4+00N	00	Oxid Fe	6"	July 15/70	Soil	Sand& Gravel	M.B.	N W (E) S	5	17	12
73	4+00N	1E	Leach Gy	6"	July 15/70	Soil	Clay	L.B.	N W (E) S	4	8	8
74	4+00N	1+50E	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	N W (E) S	5	10	12
75	4+00N	2E	Leach Gy	12"	July 15/70	Soil	Sand& Gravel	Mix.B.	N W (E) S	5	8	8
76	4+00N	3E	Org. Blk.	12"	July 15/70	Soil	Humic	Mix.Bl.	N W (E) S	14	15	30
77	4+00N	4E	Leach Gy	-	July 15/70	Soil	Clay	M.B.	N (W) E S	13	21	30

M. Anomaly No 6

No.	Line	STA.	Soil Horizon	Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
78	4N	5E	Leach Gy	6"	July 15/70	Soil	Clay	M.B.	W N (E) S	3	8	8
79	0	4W	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	W (N) E S	7	9	12
80	0	3W	Leach Gy	12"	July 15/70	Soil	Clay	M.B.	W N (E) S	7	9	24
80 +	0	3W	Leach Gy	12"	July 15/70	Soil	Clay	M.B.	W N (E) S	No duplicate.		
81	0	1W	Org. Blk.	12"	July 15/70	Soil	Humic	L.B.	W N E (S)	17	9	TR
82	0	2W	Org. Blk.	12"	July 15/70	Soil	Humic	Mix.B.	W N (E) S	18	15	TR
83	16N	2E	Leach Gy	-	July 15/70	-	Clay	M.B.	W N (E) (S)	7	10	ND
84	16N	3E	Oxid. Fe	18"	July 15/70	Soil	Clay	M.B.	W N (E) S	4	8	TR
85	16N	4E	Leach Gy	6"	July 15/70	Soil	Clay	Mix.G.	W N (E) S	3	2	TR
86	16N	5E	Oxid Fe	12"	July 15/70	Soil	Sand& Gravel	M.B.	W N (E) S	4	5	TR

E.M. Anomaly No 6

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
87	16N	5+50E	Leach Gy	12"	July 15/70	-	Clay	L.G.	N W (E) S	4	5	ND
88	16N	6E	Leach Gy	12"	July 15/70	Soil	Clay	L.G.	N W (E) (S)	4	7	TR
89	16N	7E	Org Blk.	12"	July 15/70	Soil F.Plain	Humic	Mix.Bl.	N W E S	13	13	TR
90	16N	8E	Leach Gy. Oxid Fe	12"	July 15/70	Soil	Sand& Gravel	M.B.	N W (E) S	3	7	TR
90 +	16N	8E	Leach Gy Oxid Fe	12"	July 15/70	Soil	Sand& Gravel	M.B.	N W (E) S	3	6	TR
91	16N	9E	Org. Blk.	12"	July 15/70	Soil	Humic	M.B.	N W (E) S	10	11	11
92	12+00	00	Leach Gy Oxid Fe	12"	July 15/70	Soil	Clay	L.B.	N W (E) S	2	3	TR
93	12	1E	Oxid Fe	12"	July 15/70	Soil	Clay	L.B.	N W E S (O)	3	5	3
94	12	2E	Oxid Fe	12"	July 15/70	Soil	Clay	L.B.	N W (E) S	4	9	5
95	12	3E	Leach Gy	12"	July 15/70	Soil	Clay	L.B.	N W (E) S	5	9	TR

E.M. Anomaly No 6

No.	Line	STA.	Soil Horizon	Sample Depth	Date	Sample Type	Soil Type	Color	Direction	Cu PPM	Ni PPM	Pb PPM
96	12	4E	Leach Gy	12"	July 15/70	Soil	Clay Sand& Gravel	Mix.B.	N W (E) S E	6	8	5
97	12N	5E	Leach Gy	12"	July 15/70	Soil	Clay	Mix.B.	N W (E) S E	3	8	TR
98	12N	6E	Org. Blk.	6"	July 15/70	Soil	Humic	Mix.B.	N W (E) S E	10	8	ND
99	12N	7E	Org. Blk.	12"	July 15/70	Soil	Humic	Mix.Bl.	N W (E) S E	21	27	26
100	12N	8E	Org. Blk.	12"	July 15/70	Soil	Humic	Mix.Bl.	N W (E) S E	12	15	117
100 +	12N	8E	Org. Blk.	12"	July 15/70	Soil	Humic	Mix.Bl.	N W (E) S E	No duplicate.		

+ denotes a recheck.

Sample No.	Remarks
7	Edge of muskeg.
18	Cross over.
20	X over 100'N; contact dyke.
21	Edge of gtzitic meta sed.
26	X over @ 1+27W.
37	Edge of Muskeg.
40	Muskeg.
46	Some Lumic.
52	Edge of muskeg.
65	X over.
66	Bedrock under.
67	Swamp.
73	On outcrop.
74	X over.
75	Probably moraine.
76	Edge of swamp.
77	East side of swamp near bedrock.
87	X over.

APPENDIX 3

SAMPLING DATA FROM CARROT LAKE ZONE

APPENDIX 3

SAMPLING DATA FROM CARROT LAKE ZONE

Trench No.	Assay Cert.	(Feet) Width	Mineraliz. Type	% U_3O_8	% ThO_2	% Ni	% MoS_2	Ozs/Ton Au	Ozs/Ton Ag
28+10N	1682	7.0	2	0.005	Tr				
	1683	5.5	2	0.005	Tr				
27+80N	1680	2.0 x 1.0	1	0.180	Tr				
	1679	5.0 x 2.0	1	0.050	Tr				
	1681	5.0 x 5.0	1	0.025	0.012				
	1678	5.0 x 3.0	1 + 3	0.043	Tr				
	1677	5.0 x 2.0	3	0.040	Tr				
	1676	2.5 x 2.0	1	0.055	Tr				
22+00N	1669	1.5	1	0.092					
	1668	2.0	1	0.140					
	1667	2.0	1	0.140					
21+00N	1665	3.5	7 + 3	0.160					
	1666	4.5	7	0.020					
2+45N	1661	1.5	7	0.010					
2+70S	1662	1.75	4 + 5	0.005					
	1663	2.0	4 + 5	0.015					
5+60S	1652	2.75	5	0.022					
7+40S	1700	2.5	5	0.007					
	1651	1.5	5	0.027					
8+65S	1684	4.5	5	0.002	N.D.				
	1685	1.5	5	0.012	N.D.				
	1686	9.5	4 + 5	0.005	N.D.				
	1687	1.5	5	0.011	N.D.				
	1688	3.0	5	0.023	N.D.				
	1689	5.0	5	0.008	N.D.				
	1690	4.0	5	0.003	N.D.				
8+75S	1698	2.0	5 + 6	0.006					
	1699	6.0	5 + 6	0.019					
9+55S	1691	2.25	5 + 6	0.008				Tr	0.10
	1692	1.5	5 + 6	0.040				Tr	0.10
	1693	2.0	5 + 6	0.035				Tr	0.10
	1694	5.0	5 + 6	0.014		Tr	0.049	Tr	0.10
10+10S	1697	1.5	5	0.033					
	1696	5.0	5 + 6	0.012					
	1695	2.0	5	0.006					
14+50S	1658	7.5	4, 5 + 7	0.010					
	1659	6.5	4, 5 + 7	0.011					
	1660	4.5	4, 5 + 7	0.012					
14+55S	1657	5.25	5 + 6	0.010					
14+65S	1654	4.0	5 + 6	0.008					
	1655	3.25	5 + 6	0.015					
	1656	2.0	5 + 6	0.013					
16+95S	1653	6.5	2 + 5	0.018					

(see next page)

TYPE OF MINERALIZATION

1. Discontinuous, narrow, short, isolated veinlets and irregular pods of pitchblende and/or thucolite.

2. Thin, long biotitic selvages in granite and granite gneiss.

3. Yellow stains of secondary autunite on fracture surfaces.

4. Biotite concentrations in grey to pink pegmatite.

5. Biotite concentrations in porphyroblastic quartz-biotite-feldspar gneisses and schist.

6. Biotite-rich shear zones in 5.

7. Biotite-rich shear zones in metasediments.

All samples are chip samples and were collected by chipping 3 traverses across the indicated width. The only exception is in trench 27+80N where sampling was spread over the area indicated.

APPENDIX 4

ASSAY CERTIFICATES FROM E.M. ANOMALY #1 AND CARROT LAKE ZONE

CORE LABORATORIES - CANADA LTD.
Petroleum Reservoir Engineering

P.O. BOX 5670, POSTAL STATION "A"
CALGARY 9, ALBERTA
TELEPHONE: 253-3391

Company: Hudson's Bay Oil and Gas Company Limited

Page: 1 of 1
File: CAL-2-2330
Date: July 3, 1970

ANALYSIS

Sample	Copper	Nickel	Gold	Silver
# 1516 (8)	0.004%	-	N.D.	N.D.
# 1517 (9)	0.002%	0.017%	0.01 OZ/T	0.60 OZ/T
# 1518 (10)	0.005%	-	N.D.	N.D.
"COMPOSITE" (11-18)	0.010%	0.010%	N.D.	N.D.
# 1520 (6)	0.004%	-	-	-

Tr. # 1 — Pit & Trench # 2 area — 15-21

Andrew Lake Anom. #1 Area

NOTE: A dash (-) means element not looked for.

ASSAY CERTIFICATE E.M. ANOMALY #1

ASSAY CERTIFICATES CARROT LAKE ZONE

Tr. Sample Assays
Andrew C.

To: HUDSON'S BAY OIL AND GAS COMPANY LIMITED
320-7th Ave. S.W.
Calgary 2, Alberta.
Mr. E. C. Burgan

File No. 3236
Date September 12th 1970
Samples Chips

An

Certificate of ASSAY

LORING LABORATORIES LTD.

SAMPLE No.	Chemical U308 %
1652	.022
1653	.018
1654	.008
1655	.015
1656	.013
1657	.010
1658	.010
1659	.011
1660	.012
1661	.010
1662	.005
1663	.015

The above assays were done by fluorometry.

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

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

[redacted]

Licensed Assayer of British Columbia

ANDREW C. French Assay

To: HUDSON'S BAY OIL AND GAS COMPANY LIMITED
320 - 7th Ave. S.W.
Calgary 2, Alberta.
Mr. D. W. Pollock

File No. 3291
Date September 27th 1970
Samples Grab

Certificate of ASSAY

LORING LABORATORIES LTD.

SAMPLE No.	Chemical U308 %
1664	.017

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

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

[redacted]

Licensed Assayer of British Columbia

To: HUDSON'S BAY OIL & GAS COMPANY LIMITED.
320 - 7th Ave. S.W.
CALGARY 2, Alberta.
D. C. Mitchell

File No. 3337
Date October 1st 1970
Samples Chips

Certificate of ASSAY

LORING LABORATORIES LTD.

SAMPLE No.	Chemical U308 %
1665	.160
1666	.020

Assays run by fluorometry -

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

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

[redacted]

Licensed Assayer of British Columbia

To: HUDON'S BAY OIL & GAS COMPANY LIMITED
320 - 7th Ave. S.W.
Calgary 2, Alberta.
Mr. E. C. Burgan.

File No. 3405
Date October 15th 1970
Samples chips

Certificate of ASSAY

LORING LABORATORIES LTD.

ANDREW TRENCH

SAMPLE No.	Chemical U308 %
1667	.140
1668	.140
1669	.092

Samples # 1667 and 1669 also contain Thorium

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

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

[redacted]
Licensed Assayer of British Columbia

TO:

Hudson's Bay Oil & Gas Company Ltd.,

320 Seventh Avenue S.W.

Calgary 2, Alberta

ATTENTION: Mr. D.W. Pollock

Certificate of Assay

WARNOCK HERSEY INTERNATIONAL LIMITED

COAST ELDRIDGE PROFESSIONAL SERVICES DIVISION

125 EAST 4TH AVE. VANCOUVER 10, B.C., CANADA

PHONE: (604) 876-4111
TELEX: 04-50353
CABLE ADDRESS: ELDRICO

FILE NO. 461 - 12334

DATE September 14, 1970

We Hereby Certify *that the following are the results of assays made by us upon submitted* ~~ORE~~ *samples*

MARKED	GOLD		SILVER	Uranium (U_3O_8)	Thorium (ThO_2)				
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	PER CENT.	PER CENT	PER CENT.	PER CENT.	PER CENT.	PER CENT.
		$							
1676			0.02	0.055	Trace				
1677			Trace	0.040	Trace				
1678			Trace	0.043	Trace				
1679			Trace	0.050	Trace				
1680			0.33	0.180	Trace				
1681			Trace	0.025	0.012				
1682				0.005	Trace				
1683				0.005	Trace				

(U & Th here done by Loring Labs)

FAS

Note. Rejects retained one week.
Pulps retained one month.
Pulps and rejects may be stored for a maximum of one year by special arrangement.

Unless it is specifically stated otherwise, gold and silver values reported on these sheets have not been adjusted to compensate for losses and gain inherent in the fire assay process.

Gold calculated at $ ---------- *per ounce*

[redacted]

---------- *Provincial Assayer*

TO:

Hudson's Bay Oil & Gas Co. Ltd.,

320 Seventh Avenue S.W.

Calgary 2, Alberta

COAST ELDRIDGE

PROFESSIONAL SERVICES DIVISION

WARNOCK HERSEY INTERNATIONAL LIMITED

125 EAST 4th AVE. VANCOUVER 10, B.C., CANADA

PHONE: [redacted] 876-4111
TELEX: 04[redacted]0353
CABLE ADDRESS: ELDRICO

FILE NO. 468 - 12334

DATE September 14, 1970

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

We Hereby Certify *that the following are the results of semi quantitative spectrographic analyses made on* ORE *samples submitted.*

SAMPLE IDENTIFICATION	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Ga	Au	Fe
1679	Major	ND	ND	0.05	0.001	ND	0.001	ND	1.0	0.001	0.003	0.003	ND	Trace	Major
1680	Major	ND	ND	0.03	<0.001	ND	0.001	ND	1.5	<0.001	ND	0.001	ND	Trace	Major

SAMPLE IDENTIFICATION	Pb	Mg	Mn	Mo	Nb	Ni	Si	Ag	Sr	Na	Sn	Ti	W	V	Zn
1679	0.03	1.5	0.05	0.001	ND	0.001	Major	<0.001	0.01	*	<0.01	0.5	ND	0.01	<0.1
1680	<0.01	1.5	0.05	0.001	ND	<0.001	Major	*	0.02	*	<0.01	0.5	ND	0.005	<0.1

All results expressed as **PERCENT BY WEIGHT**

Note: Rejects retained one week.
Pulps retained one month.

*** - Greater than 0.1 %**

< - LESS THAN

SUGGEST FIRE ASSAY FOR GOLD IF ANALYSIS IS CRITICAL

COAST ELDRIDGE PROFESSIONAL SERVICES DIVISION

[redacted]

Supervisor, Spectrographic Dept. CHEMIST

P. O. BOX 187
HAILEYBURY, ONT.

TELEPHONE
672-3107

BELL-WHITE ANALYTICAL LABORATORIES LTD.

ASSAYERS AND ANALYTICAL CHEMISTS

Certificate of Analysis

NO. 5825 DATE Sept. 22, 1970.

WE HAVE ASSAYED six SAMPLES OF pulp

RECEIVED Sept./70 AND SUBMITTED BY E. C. Burgan, Esq.,

Hudson Bay Oil and Gas Co. Ltd. WITH THE FOLLOWING RESULTS:

RE: ANDREW - TR - 28+20 N

Chemical Fluorimetric - Total Decomposition

Lowing Lab

Sample No.	% U_3O_8	
1676	0.059	.055
1677	0.040	.040
1678	0.037	.043
1679	0.049	.050
1680	0.168	.180
1681	0.023	.025

NOTE: Thorium Assay to follow.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

[redacted]

PER

Andrew Lake Trench Assays

P. O. BOX 187
HAILEYBURY, ONT.

TELEPHONE
672-3107

BELL-WHITE ANALYTICAL LABORATORIES LTD.

ASSAYERS AND ANALYTICAL CHEMISTS

Certificate of Analysis

NO. 5928 DATE Sept. 28, 1970.

WE HAVE ASSAYED one SAMPLES OF pulp composite

RECEIVED Sept./70 AND SUBMITTED BY E. C. Burgan, Esq.,

Hudson's Bay Oil and Gas Co. Ltd. WITH THE FOLLOWING RESULTS:

Composite 1676 to 1681 incl.

0.01 % ThO_2 (Equilibrium Counter)

BELL-WHITE ANALYTICAL LABORATORIES LTD.

[redacted]

PER

FILE: ANDREEN LAKE TR ASSAYS

geologists • geochemists • analysts • assayers

BONDAR-CLEGG & COMPANY LTD.

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.
Phone 988-5315

CERTIFICATE OF ASSAY

TO Hudson's Bay Oil & Gas Co. Ltd.,
320 - 7th Ave., S.W.,
Calgary 2, Alberta Att: Dr. D.W. Pollock, Phd

Report No.: A20 - 467
Samples Rec'd: August 20, 1970
Results Completed: August 25, 1970

I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED		GOLD		SILVER	Cu	U_3O_8	ThO_2					TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Ores	~~1602~~	~~.005~~		~~.06~~	~~.04~~	---	---		EDIT	BAY		
	~~1603~~	----		---	---	---	---					
	1684	----		---	---	.002						
	1685	---		---	---	.012						
	1686	---		---	---	.005		ANDREEN		LAKE		
	1687	---		---	---	.011						
	1688	---		---	---	.023						
	1689	---		---	---	.008						
	1690	---		---	---	.003						

Thorium oxide results to follow.

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at $........................per ounce

[redacted]

Registered Assayer, Province of British Columbia

BONDAR-CLEGG & COMPANY LTD.

geologists • geochemists • analysts • assayers

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.

Phone 988-5315

CERTIFICATE OF ASSAY

TO Hudson's Bay Oil & Gas Company Ltd.,
320 7th Ave., S.W.
Calgary 2, Alberta

Report No.: A20 - 511
Samples Rec'd: August 26, 1970
Results Completed: September 2, 1970

I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED		GOLD		SILVER	U_3O_8	Ni	total Mo as % MoS_2					TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Ores	1691	trace		.10	.008	---	---					
	1692	trace		.10	.040	---	---					
	1693	trace		.10	.035	---	---					
	1694	trace		.10	.014	trace	.049					

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at $.....per ounce

[redacted]

Registered Assayer, Province of British Columbia

Andrew Li (Assays)

BONDAR-CLEGG & COMPANY LTD.

geologists • geochemists • analysts • assayers

1500 PEMBERTON AVENUE, NORTH VANCOUVER. B.C.
Phone 988-5315

CERTIFICATE OF ASSAY

TO Hudson's Bay Oil & Gas Co. Ltd.,
320 - 7th Ave., S.W.,
Calgary 2, Alberta Att: Mr. D.C. Mitchell

Report No.: A20 - 543
Samples Rec'd: September 3, 1970
Results Completed: September 10, 1970

I hereby certify that the following are the results of assays made by us upon the herein described Ore samples.

MARKED		U_3O_8 Percent	MARKED	Percent	MARKED	Percent
Ores	1651	.027				
	1695	.006				
	1696	.012				
	1697	.033				
	1698	.006				
	1699	.019				
	1700	.007				

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

[redacted]
Registered Assayer, Province of British Columbia

APPENDIX 5

EXPENDITURES AND AFFIDAVIT

APPENDIX 5

EXPENDITURES

The following expenditures were incurred on the Andrew Lake Permits 24, 25 and 26 in the three years since they were acquired from the Alberta Government.

I.	Federal Resources Corporation, 1968 Expenditures		
	1. Exploration expenditures	$ 8,197	
	2. Second term renewal	11,440	$ 19,637
II.	Hudson's Bay Oil & Gas Co. Ltd., 1969 Expenditures		
	1. Airborne Geophysical Survey (Canadian Aero Services)	$27,168	
	2. Third term renewal	17,160	
	3. Travelling expense	569	$ 44,897
III.	Hudson's Bay Oil & Gas Co. Ltd., 1970 Expenditures		
	1. Airborne Geophysical Survey (Geo-X Surveys Ltd.)	$ 6,435	
	2. Aircraft costs	9,839	
	3. Camp supplies and sundries	5,827	
	4. Salaries and wages	37,143	
	5. Travelling expenses	5,132	
	6. Rentals and assaying	2,416	
	7. Miscellaneous	2,007	$ 68,799
	TOTAL		$133,333

AFFIDAVIT OF EXPENDITURES

I, E. C. Burgan, P. Eng., hereby certify that the foregoing is a true statement of expenditures incurred for the purpose claimed on behalf of Hudson's Bay Oil and Gas Company Limited.

[redacted]

E. C. Burgan, P. Eng.
February 5, 1971
Calgary, Alberta

Sworn before me at the
City of Calgary in the
Province of Alberta this
5th day of February, A.D. 1971

[redacted]

Notary Public in and for
the Province of Alberta

APPENDIX 6

PERSONNEL

APPENDIX 6

PERSONNEL

The following personnel were employed on the Andrew Lake Permits during the 1970 field season:

Name and Address	Position	Dates Employed
E. C. Burgan [redacted] Calgary, Alberta	Minerals Exploration Manager	Aug. 1-Aug. 2 Sept. 17-Sept. 18
Dr. D. W. Pollock [redacted] Calgary, Alberta	Sr. Geologist	June 26-July 1 Aug. 24-Aug. 29 Sept. 17-Sept. 18
P. Lassila [redacted] Calgary, Alberta	Geologist	May 28-June 20 July 21-Oct. 6
D. C. Mitchell [redacted] Calgary, Alberta	Geologist	May 29-July 18
J. Panenka [redacted] Calgary, Alberta	Geophysicist	June 8-June 14 June 26-June 29 Aug. 27-Sept. 5 Sept. 11-Sept. 29
P. Gisler [redacted] Bend, Oregon, U.S.A.	Student Assistant	June 24-Sept. 5 Sept. 10-Sept. 16
R. Mahfoud Dept. of Geology B.Y.U. Provo, Utah, U.S.A.	Student Assistant	June 6-Sept. 7
L. Homeniuk [redacted] Winnipeg, Manitoba	Student Assistant	May 28-July 18 Aug. 19-Sept. 9
R. Turner [redacted] Don Mills, Ontario	Student Assistant	May 28-July 18

Name and Address	Position	Dates Employed
K. Campbell [redacted] Winnipeg, Manitoba	Student Assistant	May 29-Sept. 7
R. Davis [redacted] Saskatoon, Saskatchewan	Student Assistant	May 29-July 10 Aug. 24-Aug. 31
G. Chapman [redacted] Erskine, Alberta	Student Assistant	Aug. 24-Sept. 5
R. Seibert [redacted] Calgary, Alberta	Cook	May 29-Aug. 21 Sept. 11-Oct. 5
W. A. Larocque [redacted] Saskatchewan	Laborer	Aug. 15-Oct. 4
R. H. Heron [redacted] Fort Smith, N.W.T.	Laborer	July 27-Sept. 9
H. J. Larocque [redacted] Saskatchewan	Laborer	July 27-Oct. 6
A. Seegerts [redacted] Saskatchewan	Laborer	Aug. 1-Sept. 23
R. Berube [redacted] Uranium City, Saskatchewan	Laborer	Aug. 8-Sept. 5
Z. S. Powder [redacted] Saskatchewan	Cook	Aug. 21-Sept. 11

N.W.T.
ALBERTA

Anom. 6
FIG. 3
Anom. 3X
Anom. 4X
Anom. 7
Anom. 3
Anom. 9
FIG. 2
Anom. 5X
VL-a

TP 126, R 3
TP 126, R 2
TP 126, R 1
Bayonet
Lake
VL-a
Anom. 1X
Anom. 7X
Anom. 6X
Andrew
Lake
Mag. Dec. 25° 10' E

VL-a
Anom. 2X
PERMIT 25
TP 125, R 3
TP 125, R 2
TP 125, R 1
Anom. 4
CBS 2483
Anom. 8X
Anom. 12
Anom. 1
Anom. 10
Anom. 11
FIG 4
PERMIT 158
Anom 8
PERMIT 24
Anom. 2
Waugh
Anom. 5
Lake

PERMIT 26
TP 124, R 3
TP 124, R 2
TP 124, R 1
Dam L
Carrot L
Elia L
ALBERTA
SASK.
Johnson
Ney
Lake
Potts
Lake
Potts
Lake

TP 123, R 3
TP 123, R 2
TP 123, R 1
St. Agnes Lake
Weekes Lake 1075'
Alexander
FOURTH MERIDIAN

PLATE 4

ASAMERA OIL CORP PERMIT 1. (James Exploration)

110°30' 25' 20' 15' 10' 05' 110°00'
60°00'
55'
50'
59°45'
40'

LEGEND

- H.B.O.G. Permit boundary
- Airborne E M anomaly outline ("definite" or "probable" grades)
- X Airborne E M anomaly (doubtful x grade)
- VL-a Vertical loop traverse
- VL anomaly trace

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
ELECTROMAGNETIC
LOCATION MAP

MAP	DATE	BY	SCALE	NTS
	JAN 1971	P. LASSILA	1" = 1mi.	74M/16

PLATE 3

1971/0001

ALBERTA - NORTHWEST TERRITORIES BOUNDARY
ALBERTA
SASKATCHEWAN
PROVINCE OF ALBERTA
PROVINCE OF SASKATCHEWAN
FOURTH MERIDIAN
TP 126, R. 3
TP 126, R 2
TP 126, R 1
TP 125, R 3
TP 125, R 2
TP 125, R 1
TP 124, R 3
TP 124, R 2
TP 124, R 1
TP 123, R 1
Andrew Lake
Bayonet Lake
Treasure Loch
Dawson Lake
Charles Lake
Ashton Lake
Eagle Lake
Potts Lake
Waugh Lake
Johnson Lake
Ney Lake
Weekes Lake 1075'
Herburg Lake
Ingster Lake
Niggli Lake
Henson Lake
Harker Lake
Sedgwick Lake
One Week Lake
Mylonite Lake
Andrew Lake Arm
Pons Lake
MUD
LEGEND
Flight line number and direction of flight
Fiducial point
Radiometric Anomaly number and outline of Anomaly. Letter indicates grade
A - Medium
B - Weak
Anomalies with no letter are questionable
Permit Boundary
Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA
ANDREW LAKE PROJECT
FLIGHT LINE PLAN
GEO-X AIRBORNE RADIOMETRIC SURVEY
MAP
DATE JAN. 1971
BY D. MITCHELL
SCALE 2" = 1 MILE
NTS 74 M/16
PLATE 1
1971000
110°30'
25'
20'
15'
10'
05'
110°00'
60°00'
50'
59°45'
40'

110° 30' 25' 20' 15' 10' 05' 110° 00'

60° 00'

ALBERTA – NORTHWEST TERRITORIES BOUNDARY

TP. 126, R. 3

TP. 126, R. 2

TP. 126, R. 1

Bayonet Lake

Andrew Lake

TP 125, R 3

TP 125, R. 2

TP 125, R 1

Ashton Lake

Waugh Lake

TP. 124, R. 3

TP. 124, R. 2

TP. 124, R. 1

Potts Lake

Johnson Lake

Ney Lake

Weekes Lake 1075'

TP. 123, R 3

TP. 123, R. 2

TP. 123, R. 1

Alexander Lake

55'

50'

59° 45'

40'

SASKATCHEWAN

FOURTH MERIDIAN

LEGEND

Traverse line with date

Geo-x Airborne Anomaly

Other Anomalies } Canadian Aero / Federal Resources / Alberta Research Council

RADIOMETRIC SHOWINGS LOCATED DURING FOLLOW UP

R3 3 to 10x Background (total count)

R5 10 to 20x Background (total count)

R10 Greater than 20x Background (total count)

R10 Indicates U/Th Ratio

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT

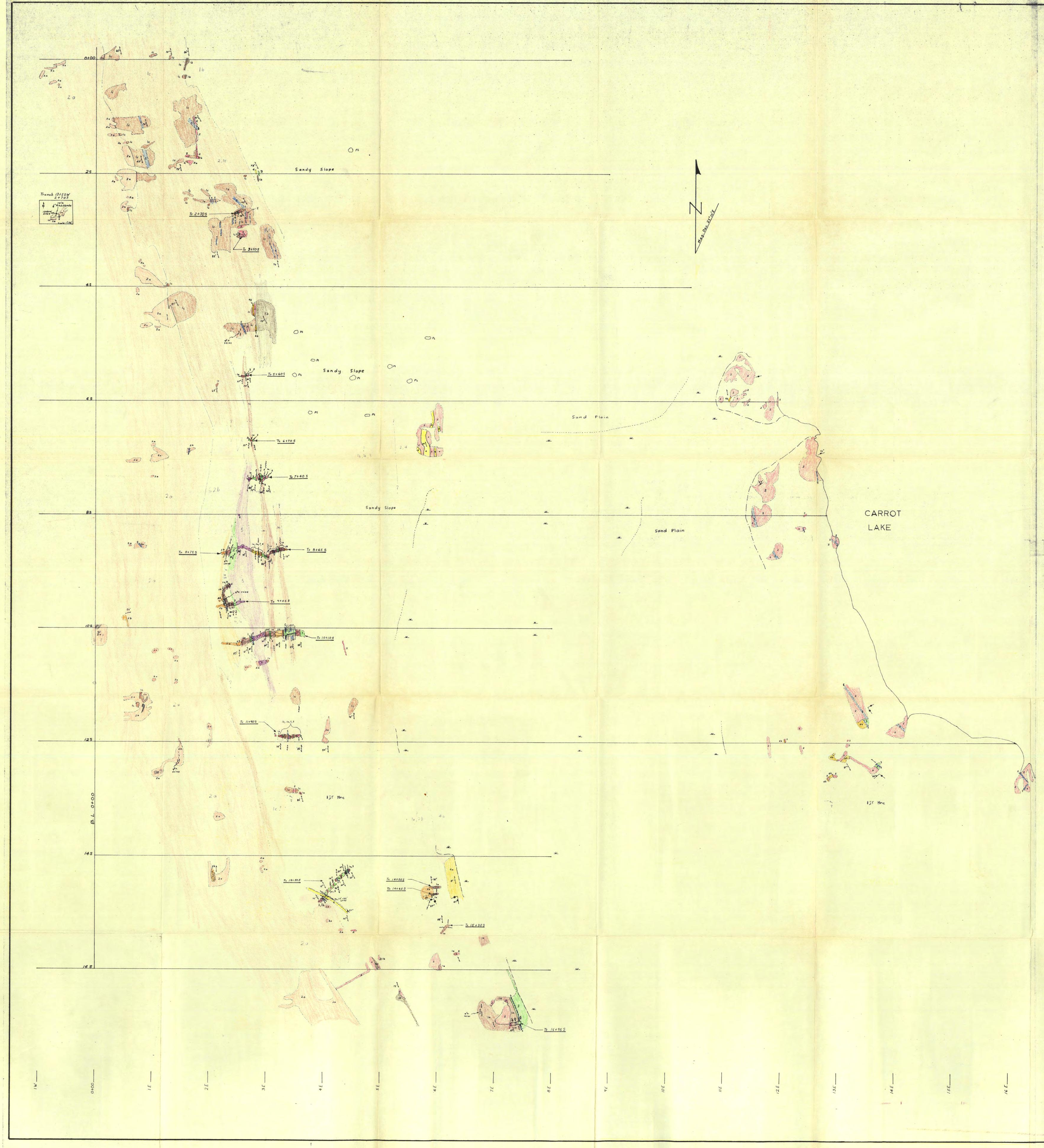
RADIOMETRIC GROUND FOLLOW UP

PLAN MAP

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	D. MITCHELL	2" = 1 MILE	74M/16

PLATE 2

197/8001



LEGEND

1. Gneiss

1 (a) Undifferentiated gneisses includes:
- grey to pinkish medium grained gneiss, locally porphyroblastic, over 10% biotite.
- as above but cataclastically metamorphosed and less than 10% biotite.
- unmappable patches of 1 (b) and 1 (c).

1 (b) Whitish grey-black quartz-feldspar-biotite gneiss, medium grained with 1 mm to 1 cm wide bands of biotite.

1 (c) Pinkish quartz-rich granite gneiss interlayered with biotite schist bands up to over 1 foot thick and locally chloritized.

2. Granite - Pegmatite

2 Undifferentiated granite and pegmatites includes:
- light grey to pinkish quartz-feldspar pegmatite, less than 5% biotite.
- intermixed light grey to dark grey granite and pegmatite, locally schistose, 20-25% biotite.

2 (a) Pinkish equigranular poorly to moderately well foliated quartz-feldspar-biotite granite, less than 10% biotite, over 50% granitic rock.

2 (b) Similar to 2 (a) but with thin (up to 2 mm) bands of biotite, well foliated, less than 50% granitic rock.

3. Schist

3 Dark thinly foliated, drag folded and locally contorted quartz-feldspar-biotite and chlorite schist, usually including blebs and lenses of pegmatite and quartz, locally migmatized.

3 (a) Distinctive unit of pinkish-grey migmatitic biotite schist; has ribbed texture of thin (1 mm to several inches thick) lenses of quartz poor granitic rock en-echelon in a matrix of well foliated biotite-feldspar schist, locally flow (?) folded; usually over 70% schist but locally nearly a granite (2 a).

4. Metasediments

4 Undifferentiated metasediments including:
- dark grey-brown metaconglomerate with elongated rock fragments.
- pinkish grey feldspathic metaquartzite, 60% quartz, 30% feldspar, 10% biotite.
- dark grey weakly foliated biotite rich (40%) quartz-feldspar metagraywacke.

4 (a) Dark grey to dark pinkish metaconglomerate (?) with elongated feldspar and shattered quartz in a weakly metamorphosed dark grey aphanitic matrix.

4 (b) Dark grey fine grained thinly foliated metagraywacke, 75% quartz and feldspar, 25% biotite.

5. Amphibolite

5 Dark medium grained amphibolite with well lineated hornblende, 40-60% hornblende, 0-20% biotite, 40% feldspar.

Picket line or Base line
Boundary of outcrop zone (may have very shallow overburden)
Boundary of deep sandy cover
2a Outcrop outline and rock type
Wooded swamp
Bluff or Cliff
Interpreted geological contact
Interpreted "contact" of rock unit(s) mineralized with U_3O_8
85° Fault with dip
5 Shear zone
S Shear
Drag fold
Strike of foliation
Strike of foliation, vertical dip
84° Strike of foliation with dip
80° 85° Strike and dip of foliation and plunge of lineation
40° Jointing with dip
Jointing vertical
40° Syncline with plunge
50° Anticline with plunge
Tr. 28+10 N Trench: solid line = blasted rock; dotted line = overburden stripped off
Pit Pit in rock
Pt Pit in overburden with bedrock exposed (dashed line)
Pt Pit in overburden, bedrock not exposed
PM Permafrost

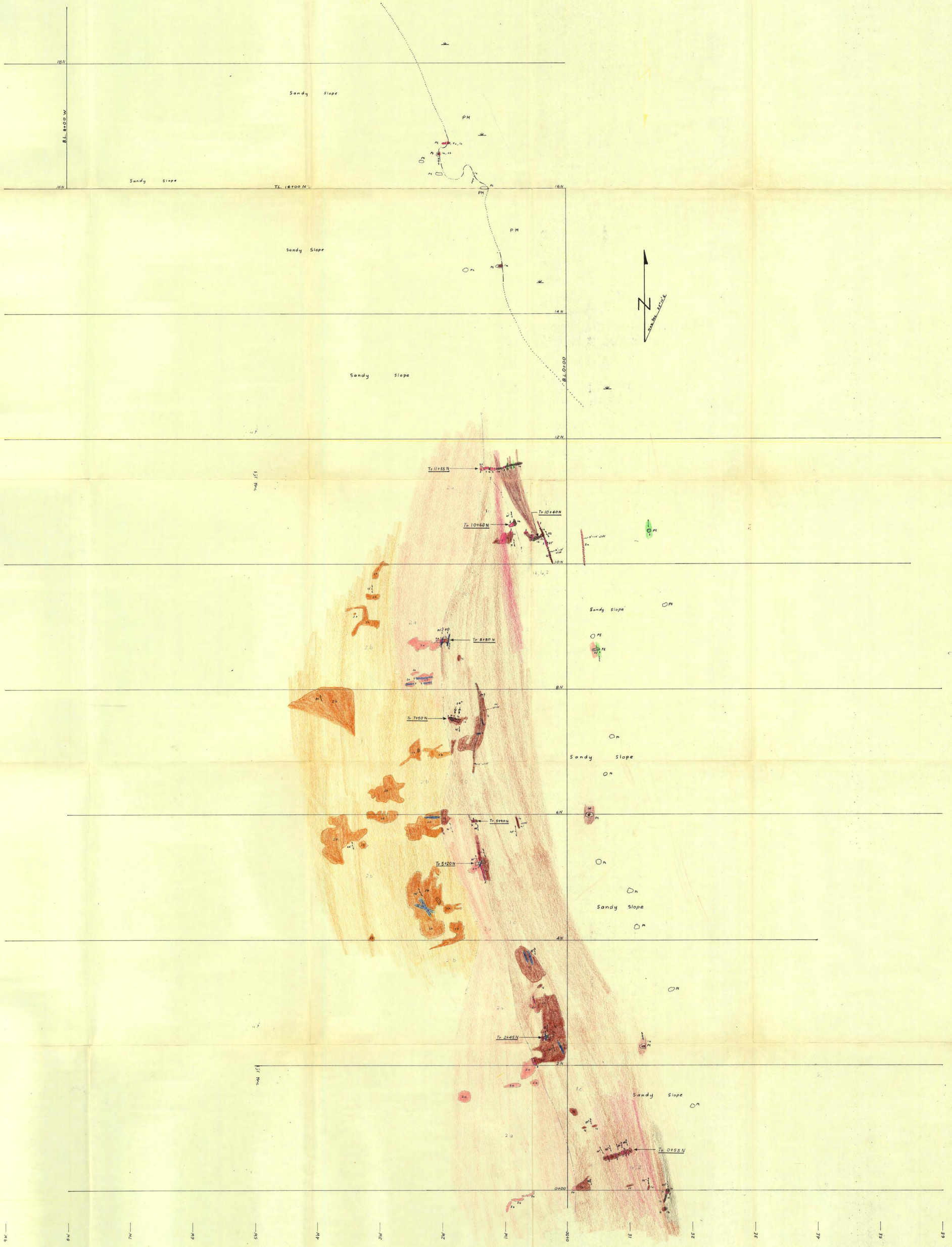
Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
CARROT LAKE AREA
GEOLOGICAL MAP
(SOUTH SHEET 3 of 3)

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	P. LASSILA	1" = 50'	74M/16

PLATE 7C

1971000I



LEGEND

1. Gneiss

1 (a) Undifferentiated gneisses includes:
- grey to pinkish medium grained gneiss, locally porphyrchlastic, over 10% biotite.
- as above but cataclastically metamorphosed and less than 10% biotite.
- unmappable patches of 1 (b) and 1 (c).

1 (b) Whitish grey-black quartz-feldspar-biotite gneiss, medium grained with 1 mm to 1 cm wide bands of biotite.

1 (c) Pinkish quartz-rich granite gneiss interlayered with biotite schist bands up to over 1 foot thick and locally chloritized.

2. Granite - Pegmatite

2 Undifferentiated granite and pegmatites includes:
- light grey to pinkish quartz-feldspar pegmatite, less than 5% biotite.
- intermixed light grey to dark grey granite and pegmatite, locally schistose, 20-25% biotite.

2 (a) Pinkish equigranular poorly to moderately well foliated quartz-feldspar-biotite granite, less than 10% biotite, over 50% granitic rock.

2 (b) Similar to 2 (a) but with thin (up to 2 mm) bands of biotite, well foliated, less than 50% granitic rock.

3. Schist

3 Dark thinly foliated, drag folded and locally contorted quartz-feldspar-biotite and chlorite schist, usually including blebs and lenses of pegmatite and quartz, locally migmatized.

3 (a) Distinctive unit of pinkish-grey migmatitic biotite schist; has ribbed texture of thin (1 mm to several inches thick) lenses of quartz poor granitic rock en-echelon in a matrix of well foliated biotite-feldspar schist, locally flow (?) folded; usually over 70% schist but locally nearly a granite (2 a).

4. Metasediments

4 Undifferentiated metasediments including:
- dark grey-brown metaconglomerate with elongated rock fragments.
- pinkish grey feldspathic metaquartzite, 60% quartz, 30% feldspar, 10% biotite.
- dark grey weakly foliated biotite rich (40%) quartz-feldspar metagraywacke.

4 (a) Dark grey to dark pinkish metaconglomerate (?) with elongated feldspar and shattered quartz in a weakly metamorphosed dark grey aphanitic matrix.

4 (b) Dark grey fine grained thinly foliated metagraywacke, 75% quartz and feldspar, 25% biotite.

5. Amphibolite

5 Dark medium grained amphibolite with well lineated hornblende, 40-60% hornblende, 0-20% biotite, 40% feldspar.

- Picket line or Base line
- Boundary of outcrop zone (may have very shallow overburden)
- Boundary of deep sandy cover
- 2 a — Outcrop outline and rock type
- Wooded swamp
- Bluff or Cliff
- Interpreted geological contact
- Interpreted "contact" of rock unit(s) mineralized with U_3O_8
- 85° — Fault with dip
- Shear zone
- S — Shear
- Drag fold
- Strike of foliation
- Strike of foliation, vertical dip
- 84° — Strike of foliation with dip
- 80° 85° — Strike and dip of foliation and plunge of lineation
- 40° — Jointing with dip
- Jointing vertical
- 46° — Syncline with plunge
- 50° — Anticline with plunge
- Trench: solid line = blasted rock, dotted line = overburden stripped off (Tr 28+10 N)
- Pit in rock
- Pt — Pit in overburden with bedrock exposed (dashed line)
- Pt — Pit in overburden, bedrock not exposed
- PM — Permafrost

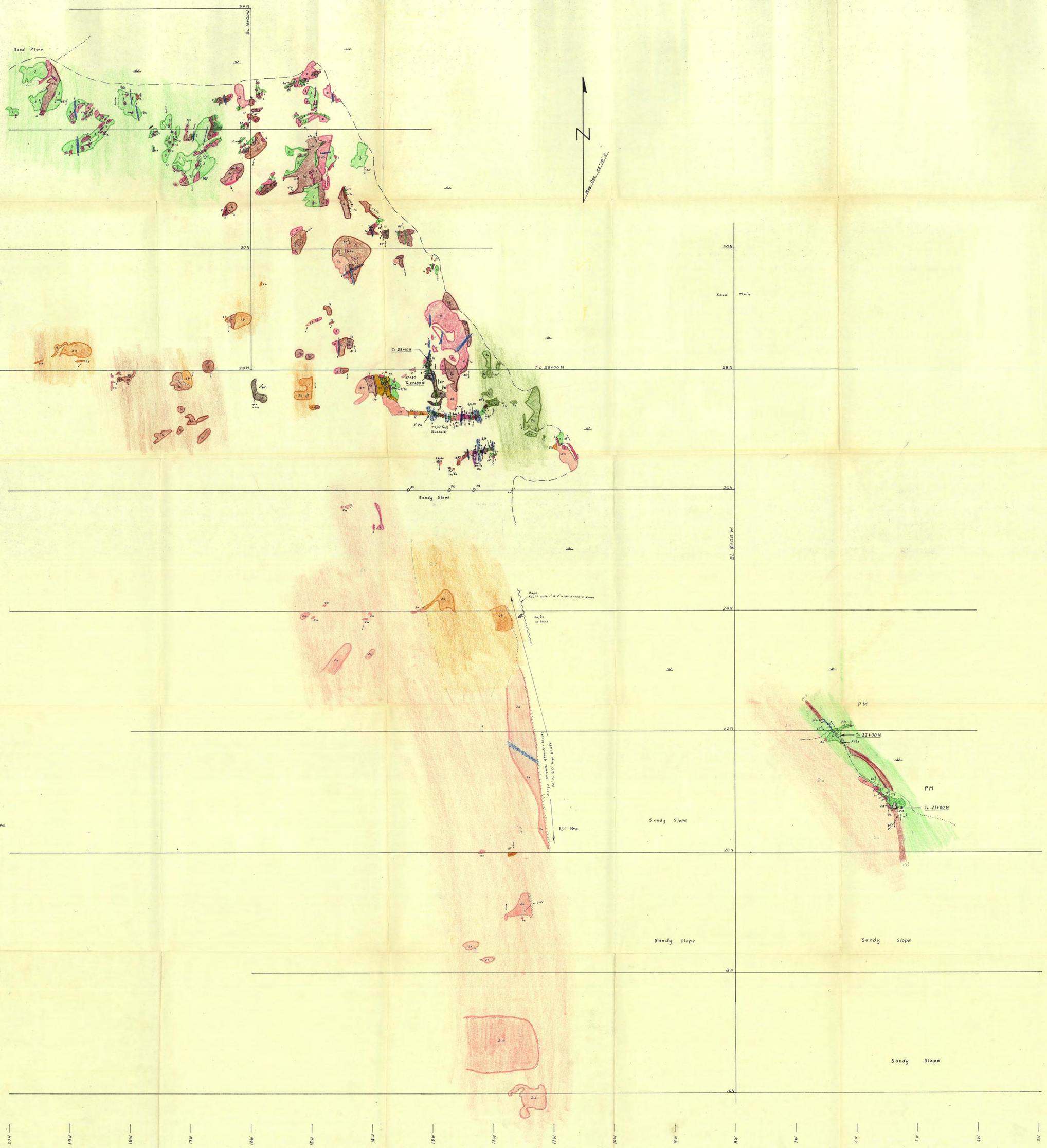
Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
CARROT LAKE AREA
GEOLOGICAL MAP
(CENTER SHEET 2 of 3)

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	P. LASSILA	1"=50'	74M/16

PLATE 7B

197/0001



LEGEND

1. Gneiss

- 1 (a) Undifferentiated gneisses includes:
  - grey to pinkish medium grained gneiss, locally porphyrchlastic, over 10% biotite.
  - as above but cataclastically metamorphosed and less than 10% biotite.
  - unmappable patches of 1 (b) and 1 (c).
- 1 (b) Whitish grey-black quartz-feldspar-biotite gneiss, medium grained with 1 mm to 1 cm wide bands of biotite.
- 1 (c) Pinkish quartz-rich granite gneiss interlayered with biotite schist bands up to over 1 foot thick and locally chloritized.

2. Granite - Pegmatite

- 2 Undifferentiated granite and pegmatites includes:
  - light grey to pinkish quartz-feldspar pegmatite, less than 5% biotite.
  - intermixed light grey to dark grey granite and pegmatite, locally schistose, 20-25% biotite.
- 2 (a) Pinkish equigranular poorly to moderately well foliated quartz-feldspar-biotite granite, less than 10% biotite, over 50% granitic rock.
- 2 (b) Similar to 2 (a) but with thin (up to 2 mm) bands of biotite, well foliated, less than 50% granitic rock.

3. Schist

- 3 Dark thinly foliated, drag folded and locally contorted quartz-feldspar-biotite and chlorite schist, usually including blebs and lenses of pegmatite and quartz, locally migmatised.
- 3 (a) Distinctive unit of pinkish-grey migmatitic biotite schist; has ribbed texture of thin (1 mm to several inches thick) lenses of quartz poor granitic rock en-echelon in a matrix of well foliated biotite-feldspar schist, locally flow (?) folded, usually over 70% schist but locally nearly a granite (2 a).

4. Metasediments

- 4 Undifferentiated metasediments including:
  - dark grey-brown metaconglomerate with elongated rock fragments.
  - pinkish grey feldspathic metaquartzite, 60% quartz, 30% feldspar, 10% biotite.
  - dark grey weakly foliated biotite rich (40%) quartz-feldspar metagraywacke.
- 4 (a) Dark grey to dark pinkish metaconglomerate (?) with elongated feldspar and shattered quartz in a weakly metamorphosed dark grey aphanitic matrix.
- 4 (b) Dark grey fine grained thinly foliated metagraywacke, 75% quartz and feldspar, 25% biotite.

5. Amphibolite

- 5 Dark medium grained amphibolite with well lineated hornblende, 40-60% hornblende, 0-20% biotite, 40% feldspar.

- Picket line or Base line
- Boundary of outcrop zone (may have very shallow overburden)
- Boundary of deep sandy cover
- 2a — Outcrop outline and rock type
- Wooded swamp
- Bluff or Cliff
- Interpreted geological contact
- Interpreted "contact" of rock unit(s) mineralized with U_3O_8
- 135° Mmc, 85° — Fault with dip
- Shear zone
- S — Shear
- Drag fold
- Strike of foliation
- Strike of foliation, vertical dip
- 84° — Strike of foliation with dip
- 80°, 85° — Strike and dip of foliation and plunge of lineation
- 40° — Jointing with dip
- Jointing vertical
- 66 — Syncline with plunge
- 50° — Anticline with plunge
- Tr 28+10 N — Trench: solid line = blasted rock; dotted line = overburden stripped off
- Pit — Pit in rock
- Pit — Pit in overburden with bedrock exposed (dashed line)
- Pit — Pit in overburden, bedrock not exposed
- PM — Permafrost

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

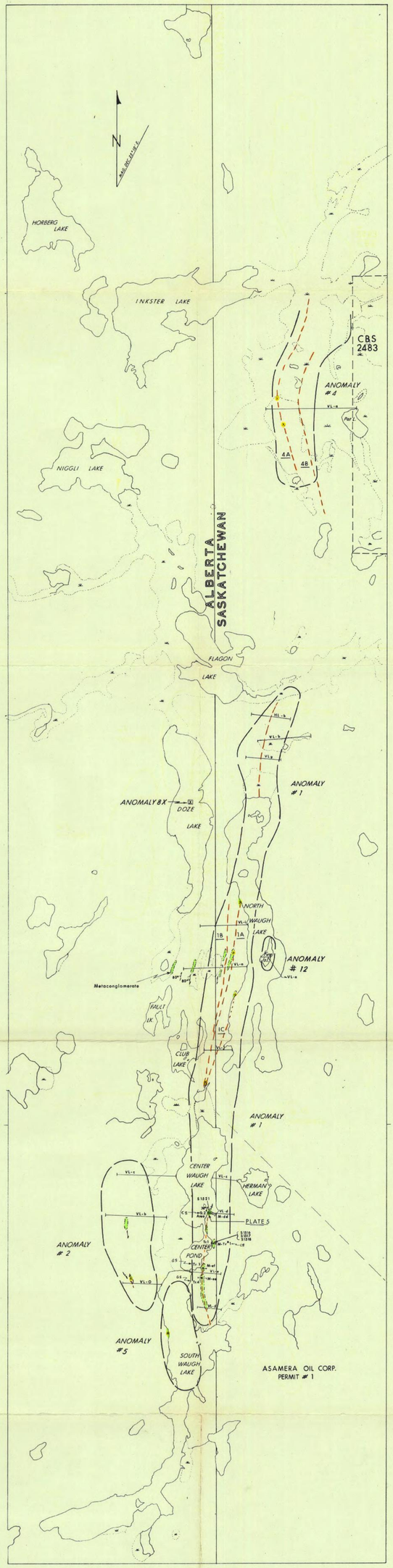
ANDREW LAKE PROJECT
CARROT LAKE AREA

GEOLOGICAL MAP
(NORTH SHEET 1 of 3)

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	P. LASSILA	1" = 50'	74M/16

PLATE 7A

197/681



LEGEND

- VL-a — VERTICAL LOOP TRAVERSE
- HL-a — HORIZONTAL LOOP TRAVERSE
- M-aa — MAGNETOMETER TRAVERSE
- Tr■ — TRENCH SITE
- Pit ○ — PIT SITE
- Tr■ *L-CS — TRENCH, CHIP SAMPLE TAKEN
- Pit ○ *L-GS — PIT, GRAB SAMPLE TAKEN
- ANOMALY TRACE BY VL STANDARD
- OUTCROP (METASEDIMENTS)
- GRAPHITE
- S 1516 — ASSAY SAMPLE NUMBER
- 4A — ANOMALY NUMBER
- SCHISTOSITY

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT

ANOMALIES 1, 2, 4, 5 & 12

VHEM, MAGNETOMETER AND TRENCH LOCATION MAP

MAP NO.	DATE:	BY:	SCALE:	N.T.S.
	DEC., 1970	P. LASSILA	1" = 1/4 MI.	74M/16

PLATE 4
11700026
19711001

LEGEND

- Permit Boundary
- Picket Line or Base Line
- Tractor road
- Trail
- Beaver dam
- Boundary of boulder field
- Boundary of sandy cover
- Boundary of outcrop area
- Open bog or swamp
- Wooded swamp
- PM Permafrost
- Slope < 5°
- " 5° - 10°
- " 10° - 20°
- " 20° - 35°
- Bluff
- Talus
- Radioactive rock unit
- Fault
- Tr Trench
- ▲ Pit to bedrock
- △ Pit, bedrock not reached

RADIOMETRIC SYMBOLS

(Maximum Total Count Readings taken on McPhar TV-5 Scintillometer).

- 10,000 - 25,000 CPM
- 25,000 - 50,000 CPM
- 50,000 - 100,000 CPM
- > 100,000 CPM

NOTE: Trench numbers which are underlined indicate trenches which have been sampled and are shown in detail below.

OUTCROP AREA COVERED BY RECONNAISSANCE ONLY

Several local patchy areas, primarily in grey granite, with yellow staining and radioactive readings 3 to 7 times background.

Max. T_0 21,000
T_1 12,000
T_2 6,500
T_3 500

Crater Pond

KNOB LAKE

Ball Pond

Kettle

Tractor Road

Trail to Andrew Lake

Pine & Spruce Sand Flats

Pine and Spruce Sand Flats

Sandy Plain

DAM LAKE

Boulder Field

Slope

PM

TL 28 N.

TL 16 N.

3 Pits 28+00N

Tr 28+10N

Tr 27+80N

Tr 27+25N

Tr 26+60N

Tr 11+55N

Tr 10+60N

Tr 10+40N

Tr 8+80N

Tr 7+50N

Tr 5+90N

Tr 5+20N

Tr 2+45N

Tr 2+70S

Tr 3+10S

Tr 5+60S

Tr 6+70S

Tr 7+40S

Tr 8+75S

Tr 8+65S

Tr 9+55S

Tr 10+10S

Tr 11+90S

Tr 14+30S

Tr 14+55S

Tr 14+65S

Tr 15+30S

Tr 16+95S

Tr 22+00N

Tr 21+00N

PERMIT No. 158 (H.B.O.G.)
PERMIT No. 24 (H.B.O.G.)

AREA COVERED ONLY BY RECONNAISSANCE SCINTILLOMETER AND GEOLOGY ONLY WITH RADIOACTIVE ROCKS MAINLY PINK GRANITIC

NO SIGNIFICANT RADIOACTIVITY — MUCH OUTCROP — Covered by Reconnaissance Only

Mag. Dec. 25° - 10° E

ILO LAKE

CARROT LAKE

Glacial Stream Boulder Field

Creek

Andrew Lake Project

N.W.T.

Uranium City

Fort Smith

Carrot Lake

Peace River

Lake Athabasca

TRENCH ASSAY PLANS

Scale: 1" = 20' (1:240)

Note: Assay values are shown, beside Sample numbers, in parenthisis, in Percent U_3O_8
Underlined numbers are Trench numbers

Trench No.
Sample No.
Value in % U_3O_8

28+10
#1682 (.005)
#1683 (.005)
#1680 (.180) #1678 (.043)
#1679 (.050)
#1676 (.055)
#1677 (.060)
#1681 (.026)
27+80
28+00N
8+00

22+00N
#1669 (.092)
#1668 (.140)
#1667 (.140)
22+00N
6+20 W

21+00N
#1666 (.020)
#1665 (.160)
20+70N
5+30W

5+20N
#1664 (N.R.)
5+20N
1+20 W

2+45N
#1661 (.010)
2+40N
0+30W

2+70S
#1663 (.015)
#1662 (.005)
2+70S
2+50E

7+40S
#1700 (.007)
#1665 (.027)
7+40S
2+90 E

5+60S
#1652 (.022)
5+60S
2+70 E

8+65S
#1688 (.012)
#1686 (.006)
#1680 (.003)
#1689 (.008)
#1685 (.023)
#1684 (.002)
#1687 (.011)
8+75S
#1698 (.006)
#1699 (.019)
8+70S
3+10 E

9+55S
#1691 (.008)
#1694 (.014)
#1693 (.035)
#1692 (.040)
9+60S
2+50 E

10+10S
#1835 (.004)
#1697 (.033)
#1896 (.012)
10+10S
3+20E

14+50S
#1658 (.010)
#1659 (.011)
#1660 (.012)
14+50S
4+20 E

14+55S
#1657 (.010)
14+65S
#1656 (.013)
#1695 (.015)
#1654 (.006)
14+60S
6+00 E

16+95S
#1653 (.018)
17+00 S
7+50 E

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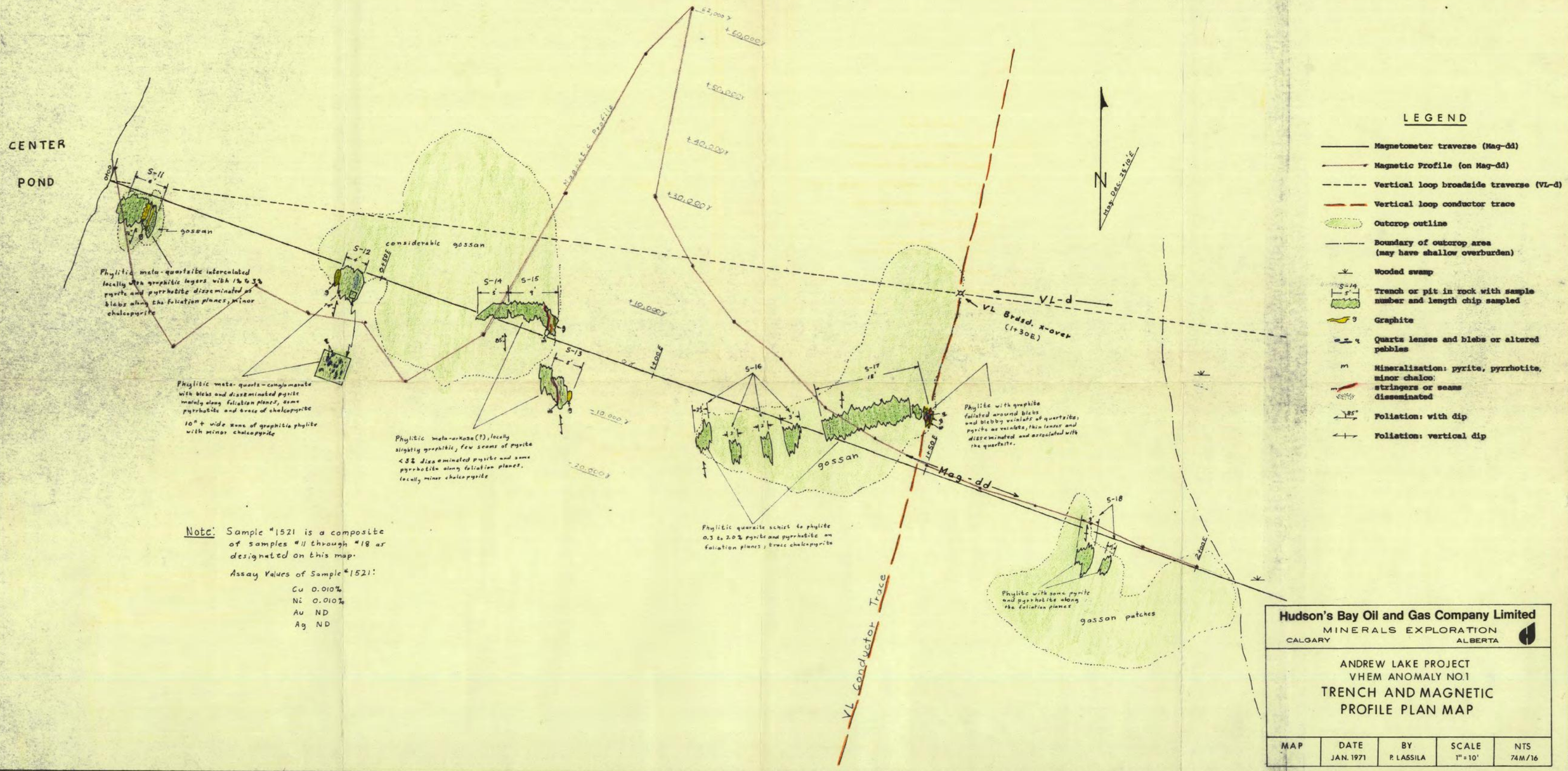
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
CARROT LAKE AREA

RADIOMETRIC, TRENCH LOCATION AND TOPOGRAPHIC MAP

MAP:	DATE:	BY:	SCALE:	NTS:
	Dec. 1970	P. LASSILA	1"=200'	74M/16

PLATE 6



Note: Sample #1521 is a composite of samples #11 through #18 as designated on this map.

Assay Values of Sample #1521:

Cu	0.010%
Ni	0.010%
Au	ND
Ag	ND

LEGEND

- Magnetometer traverse (Mag-dd)
- Magnetic Profile (on Mag-dd)
- Vertical loop broadside traverse (VL-d)
- Vertical loop conductor trace
- Outcrop outline
- Boundary of outcrop area (may have shallow overburden)
- Wooded swamp
- S-14, 5' — Trench or pit in rock with sample number and length chip sampled
- g — Graphite
- q — Quartz lenses and blebs or altered pebbles
- m — Mineralization: pyrite, pyrrhotite, minor chalco: stringers or seams / disseminated
- 85° — Foliation: with dip
- Foliation: vertical dip

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
CALGARY ALBERTA

ANDREW LAKE PROJECT
VHEM ANOMALY NO.1
TRENCH AND MAGNETIC PROFILE PLAN MAP

MAP	DATE	BY	SCALE	NTS
	JAN. 1971	P. LASSILA	1" = 10'	74M/16

PLATE 5