MAR 19800007: NORTH EASTERN ALBERTA

Received date: Dec 31, 1980

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EVALUATION REPORT 19800007

FARMER CHEMICALS - URANIUM PROPERTY

CONTENTS

APPENDIX

Missing

Alberta Government

Disclaimer

This page was inserted by the Coal and Minerals Development Branch, to provide a reference that the pages one and two associated with this report is not contained in the assessment report on file.

radiometric and property holder indicated anomalies (See Map 4). The remaining area was visited on the strength of an anomaly indicated by the property holder only. (See Map 1 for areas).

Double rock samples were taken at each location, one sample being sent for chemical analysis and the other kept as a lithology reference. (To date, no results from the analysis have been received).

AREA 1

This is an area with coincident anomalies. The general rock type of the area is a quartz feldspar gneiss, with a background scintillometer reading of 150-250 cps. There is a well developed joint pattern in the rock with the joints trending 100° and 190°.

A radiometric anomaly 1500 cps was located while enroute to the main mapped anomalous area. This anomaly is centered on a joint trending 190°, but has a radioactive halo of at least 2 meters on either side of the joint. The rock type on either side of this joint is a quartz feldspar gneiss with minor amounts of biotite and garnet.

The main mapped anomalous area is located on a ridge of high ground. The area was walked over in a loose grid pattern, and no highly anomalous areas were found. The highest scintillometer reading was 500 cps obtained over joints.

AREA 2

Located on Ryan Lake is the area that the property holder indicated was interesting. The rock type in the area is a coarse grained feldspathic metasediment with a background reading of 150-200 cps. No radioactive interesting area was found here. However, there is a broad fault zone $\sim$ 300 meters wide and trending north-northeast. On the margins of this fault mylonite samples give slightly higher (by 50 to 100 cps) than normal scintillometer readings.

AREA 3

The anomalous area here is located 3.2 km west of Darwin Lake. This is one of the coincident anomaly areas. The rock type of the area appears to be a plagioclase-rich granite (Adamellite). The background radioactivity in the area is 150-250 cps. A maximum reading of 500 cps was obtained on the margins of a small fault. This fault is located on the north-east corner of a small lake at the center of the anomalous area. The elevation of the outcrop in this area is generally higher than surrounding areas.

Nothing of interest was located while travelling in to or out of the anomalous area.

RESULTS AND INTERPRETATION

Radioactive anomalous areas do not exist in the area, centeredon joint planes and along fault zones.

Airborne radiometric anomalous areas appear to be associated with topographic highs.

The areas indicated as anomalous by the property holder were not defined or were not as pronounced as expected.

No pegmatite dykes or other post formational intrusives were found. Also, no altered zones were found, either around joints or faulted areas.

RECOMMENDATIONS

While one day is hardly sufficient to evaluate a property of this size, it should be noted that only highly anomalous areas were visited. None of these anomalies proved interesting either from a high radioactive or alteration of country rock standpoint.

It is therefore recommended that the property be by-passed in favour of finding more favourable ground in another location.

Respectfully submitted,

[redacted]

RICHARD M. SPROULE

cr

October 15th, 1980

FARMER CHEMICAL'S URANIUM PROPERTY

ANALYSIS TO DATE
November 20, 1980

AREA 1	Sample A 1452	U_3O_8	3.5 ppm
	Sample A 1454		0.2 ppm
AREA 2	Sample A 1453	U_3O_8	1.3 ppm
AREA 3	Sample A 1451	U_3O_8	0.7 ppm

COST ESTIMATE

SALARIES:	
2 Geologists, 1 field day	
1 Geologist, 2 office days	$ 400.00
AIRCRAFT:	
Contract Cesna	
185 + fuel	$ 1,070.00
SAMPLE ANALYSIS:	
U_3O_8 + Multi Element I.C.P.	
4 x $17.80	$ 71.20
MISCELLANEOUS EXPENSES:	
~ 15%	$ 231.18
TOTAL CALCULATED EXPENSES:	$ 1,772.32

* These costs are included in E.L. Jones Report of Jan. 1981 (U-AF-172(3))

R.9 R.8 R.7 111°00' R.6 R.5 R.4 R.3 R.2 R.1 110°00'

Tp.121

59°30'

Tp.120

Tp.119

Tp.118

Tp.117

Tp.116

59°00'

BOUNDARY

SASKATCHEWAN

ALBERTA

SLAVE RIVER

Bocquene L.

Disappointment L.

Turtle Birtle L.

De Manville L.

Burstall Lake

Wylie Lake

Bryant L.

Florence Lake

Winnifred L.

AREA 3

Darwin Lake

AREA 1

Ryan Lake

AREA 2

Loutit Lake

ATHABASCA LAKE

N

31°

#1

ID 19800007

U-AF-172(2)

LEGEND

A1450 SAMPLE LOCATIONS

GROUND COVERED WHILE VISITING AREAS

Miles 3 2½ 2 1½ 1 ½ 0 1 2 3 Miles

ASAMERA OIL CORPORATION LTD.

SASKATOON SASKATCHEWAN CANADA

FARMER CHEMICAL

OPTION

PREPARED BY L. DAUPHIN	SCALE 1:126,720	
DATE DRAFTED AUG. 30, 1980		MAP NO. 1

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOPHYSICAL SERIES (AIRBORNE GAMMA-RAY SPECTROMETRIC)

EQUIVALENT URANIUM/EQUIVALENT THORIUM (eU/eTh) 74 M

AIRBORNE GAMMA-RAY SPECTROMETRIC MAP

Airborne gamma-ray spectrometry data collected in Northeastern Alberta during the summers of 1970 and 1977, are presented:

(1) as contour maps of the integral count, the potassium, equivalent uranium and equivalent thorium concentrations, and the eU/eTh, eU/K and eTh/K ratios; and

(2) as stacked profiles of the seven radiometric parameters plotted for each of the 23 flight lines.

The airborne measurements were made using the high sensitivity G.S.C. spectrometer with detector volume of 50,000 ml, flown at a mean terrain clearance of 122 metres and 190 km/hr. East-west flight lines were at 5 km line spacing, and the numbered flight lines are plotted on each of the contour maps.

Potassium is measured directly from the 1.46 MeV gamma-ray photons emitted by potassium-40, whereas uranium and thorium are measured indirectly from gamma-ray photons emitted by daughter products in their decay chains. Uranium is monitored by means of gamma-ray photons at 1.76 MeV from bismuth-214, and thorium, from 2.62 MeV photons emitted by thallium-208. The energy windows used are as follows:

Total Count		0.41-2.81 MeV
Potassium	K-40	1.37-1.57 MeV
Uranium	Bi-214	1.66-1.86 MeV
Thorium	Tl-208	2.41-2.81 MeV

Uranium, thorium and potassium counts were measured over 2.5-second intervals; integral counts over 0.5-second intervals. The data have been corrected for background, height variation and spectral scattering. The computer programs used to produce the contour maps and profiles are described by R.L. Grasty, 1972 "Airborne Gamma Spectrometry Data Processing Manual", G.S.C. Open File No. 109.

The values for the radioelement concentrations shown on the contour maps are "average surface concentrations", that is, an average of the area on the ground viewed by the spectrometer, an area which may contain varying amounts of outcrop, overburden and surface waters. As a result the concentrations as shown on the contoured maps are usually considerably lower than the concentrations in the bedrock. However, the radioelement distribution pattern shown by the contour maps reflects the distribution of the elements in the bedrock.

Factors for converting airborne measurements to element concentration were determined by relating the corrected airborne count rates over test strips in the Ottawa area to the known ground radioelement concentrations (R.L. Grasty, and B.W. Charbonneau, 1974, Gamma-Ray Spectrometer Calibration Facilities, G.S.C. Paper 74-1B, pp. 69-71).

The conversion factors used are approximately those listed below.

Total Count	1 ur	= 170 c.p.s.
	1%K	= 83 c.p.s.
	1 ppm eU	= 9 c.p.s.
	1 ppm eTh	= 7 c.p.s.

Total count measurements are presented as units of radioelement concentration (ur), as defined in International Atomic Energy Agency Technical Report Series No. 174.

In order to produce the contour maps, data along the flight lines were averaged over seventeen 2.5-second counting intervals (approximately 2.2 km) and the effect of background count rates over the lakes was removed. This degree of averaging or smoothing is selected in order to:

(i) keep the smoothing to a minimum, i.e. have the smoothed values as close as possible to the original unsmoothed data, yet

(ii) use sufficient smoothing to utilize all data along flight lines between grid points while making the contouring grid dimension along the flight lines as close as possible to the spacing between flight lines.

Compromise between (i) and (ii) results in a rectangular grid (approximately 5 km N-S and 2 km E-W) of data used for contouring. As a result of these compilation procedures, contours in some cases may be distorted in the direction perpendicular to the flight lines. This sort of imperfection is difficult to avoid in contouring data on widely spaced flight lines. It does not detract from the value of the map as the product of a reconnaissance survey, indicating the regional radioelement distribution pattern, but one should not attempt to use these contour maps for the precise location of exploration targets. More accurate locations of anomalies can be made using the data on the profiles.

This project was carried out according to the standard specifications of the Federal-Provincial Uranium Reconnaissance Program.

Airborne Gamma-Ray Spectrometry Survey 1970 & 1977
by
Resource Geophysics & Geochemistry Division
Geological Survey of Canada

Base map material supplied by Surveys and Mapping Branch

Cartography by Geological Survey of Canada

EQUIVALENT URANIUM/EQUIVALENT THORIUM

FITZGERALD

ALBERTA

WEST OF FOURTH MERIDIAN - OUEST DU QUATRIÈME MÉRIDIEN

MAP 36374 G

Scale 1:250,000 Échelle

ID 19800007
U-AF-172 (2)
#2

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

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ALBERTA

WEST OF FOURTH MERIDIAN · OUEST DU QUATRIÈME MÉRIDIEN

MAP 36374 G

Scale 1:250,000 Échelle

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