

MAR 19680012: NORTHEASTERN ALBERTA

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ECONOMIC MINERALS
FILE REPORT No.
U-AF-014(1)

**OUTLINE OF RECONNAISSANCE SURVEY
 OF QUARTZ MINERAL EXPLORATION PERMIT # 40
 TWP 122 & 123 Rg. 3 W4M**

The area that will be dealt with in this report is located in the northeast corner of Alberta. It is located on a portion of the Precambrian Shield area, north of Lake Athabasca.

ACCESS

Access to the area was gained through the use of a Cessna 185 float equipped aircraft chartered from Fort Chipewyan, Alberta. Although there are many scattered lakes in the area, the use of a canoe requires a great deal of portaging; therefore a great deal of leg work plus the canoe and aircraft were needed to cover the area of the permit described herein.

PHYSIOGRAPHY

Taken from P3 Research Council of Alberta Report 62-1 - "the peneplained surface of the area is typical of the Precambrian Shield where Pleistocene glacial scouring has left numerous rock-basin lakes, low rounded hills, and a locally rugged surface with a maximum relief of about 250 feet. Striae and giant glacial grooves are the most obvious ice-erosional features. The general elevation is approximately 1000 - 1100 feet above sea level.

The distribution and shapes of lakes are controlled by factors of structure and lithology with modification by ice erosion. Narrow elongated bays are associated with the erosion of fault zones and straight shorelines suggest faultline features. Fractured zones or structurally weak rocks have been plucked out by ice erosion, particularly on the west and southwest lake-shores, giving rise to irregular shorelines."

The terrain on the whole was very rough. The main fault zones were filled with very deep floating muskeg, while the rest was covered with broken rocky ground with stands of spruce, pine and poplar. In areas which had been burnt over there was considerable deadfall 1' - 4' high. In some areas the ground rose 100' - 400' high with sheer cliffs on one side. These can be clearly seen on the aerial photographs using the stereoscope.

The lakes on the whole are very clear and cold. The rocky shores and bottoms are interlaced with fine to coarse granite sand which in turn leads to small shallow beaches.

OUTLINE OF WORK PERFORMED & EQUIPMENT USED

In September, 1968 a two man crew landed by aircraft and set up camp on the west shore of an unnamed lake east of Alexander Lake. The lake is located on Permit No. 40 (Sec. 35-122-3-W4M).

The camping equipment included the following which had to be kept at a reasonable bulk and weight for air transportation;
 A 9' x 12' duck tent with sewn-in floor and mosquito netting

cont..

in door and two small vent windows and complete compact self supporting aluminum frame

Eiderdown sleeping bags although warm at the start proved worthwhile later on in the season

Coleman lamp, stove catalytic tent heater, the usual light weight cooking and eating utensils, axe, swede saw, 2 coils 50' nylon rope, miscellaneous nails, friction tape, miscellaneous small tools, 14' fibreglass canoe, and rifle.

The prospecting equipment included one Geiger counter (Model PR5A El-tronics Geiger counter) and two scintillometer models (W56 Fisher Scintilliadyne and 111B Precision Scintillometer); plus geological hammers, wedges, marking pencils, compasses, bags for samples, trench shovels, maps, aerial photographs, pocket stereoscope, notebook and Nelson pack boards.

The weather throughout the period we worked on this permit was very unsettled with one to two days wind and rain to periods of cloudy windy days. We also had a few days of wet snow. Average temperatures in the daytime were between 40° and 55°, and nighttime 30° to 35°.

The actual survey consisted of compass traverse using aerial photographs to locate oneself as close as possible. While traversing at the start, the compass man and his helper both carried a scintillometer each. However, it was found that the compass was greatly affected by the nearness of the scintillometer and from then on only when the crew was split up on short traverses were both used with such nearness.

It was also found that both scintillometers were very much affected by thunderstorms and also the Aurora (Northern lights). It would take 2 - 4 hours before they would settle down.

All efforts to keep the instruments completely dry were to no avail when one was caught in the field during a shower or heavy rain. They could only be put back into service after being dried slowly over the catalytic tent heater.

The scintillometers were switched on while traversing and readings observed whenever they appeared. It was noted that the samples taken always gave a lesser reading than the outcrop. There were spots where powder could have opened up more rock but since we didn't have it this naturally was not done. The strike and dip was taken along with samples at any of the more favorable outcrops.

On a few areas anomalous compass readings were noted and these could be checked with an aeromagnetic map of the Geological Survey of Canada (1958) that covers that district.

The samples that were collected were marked with black marking pencils and corresponding numbers will be found on the enclosed map.

The map that is enclosed in this report (scale 2" - 1 mile) shows the main traverses, the scintillometer reading in MR/hr. - e.g. .001

cont.

and sample number. A few of the traverses have been omitted since a negative reading was recorded on the scintillometer, but all traverses are clearly marked on the aerial photographs of the area. In some instances samples were taken by aircraft in a time saving step. There will not be any traverse shown from camp to these outcrops.

Schistosity as well as falcation are well developed in most of the area.

There is a fault running northeast roughly through Sec. 27 & 34-122-3-W4M and Sec. 2 & 11-123-3-W4M. This fault and some minor fractures are visible on the aerial photographs as are the glacial markings. Large granite rocks are prevalent throughout. Dykes and lenses are common and veins of quartz 1" - 2" wide.

After nine days counting one day of bad weather, setting up and taking down camp and moving same, a total of approximately 35 miles were covered and 16 samples were collected.

The use of the aircraft saved at least 2 days on the prospect and also many services that were supplied personally by the pilot George Hart of Fort Chipewyan helped greatly. To him many thanks.

It must be said for the time spent a very good coverage was obtained when all conditions are realized.

CONCLUSION

There is evidence that U308 is present, however only a small portion of the prospect was covered and further work is needed to cover the whole area.

RG 3 W 4th MER.

TP 123

TP 122

RG 3 W 4th MER.

READINGS TAKEN SHOWN IN MR/HR $\text{E}6.001$
BASE MAP-ALBERTA SHEET 74.M/9

TP. PLAN

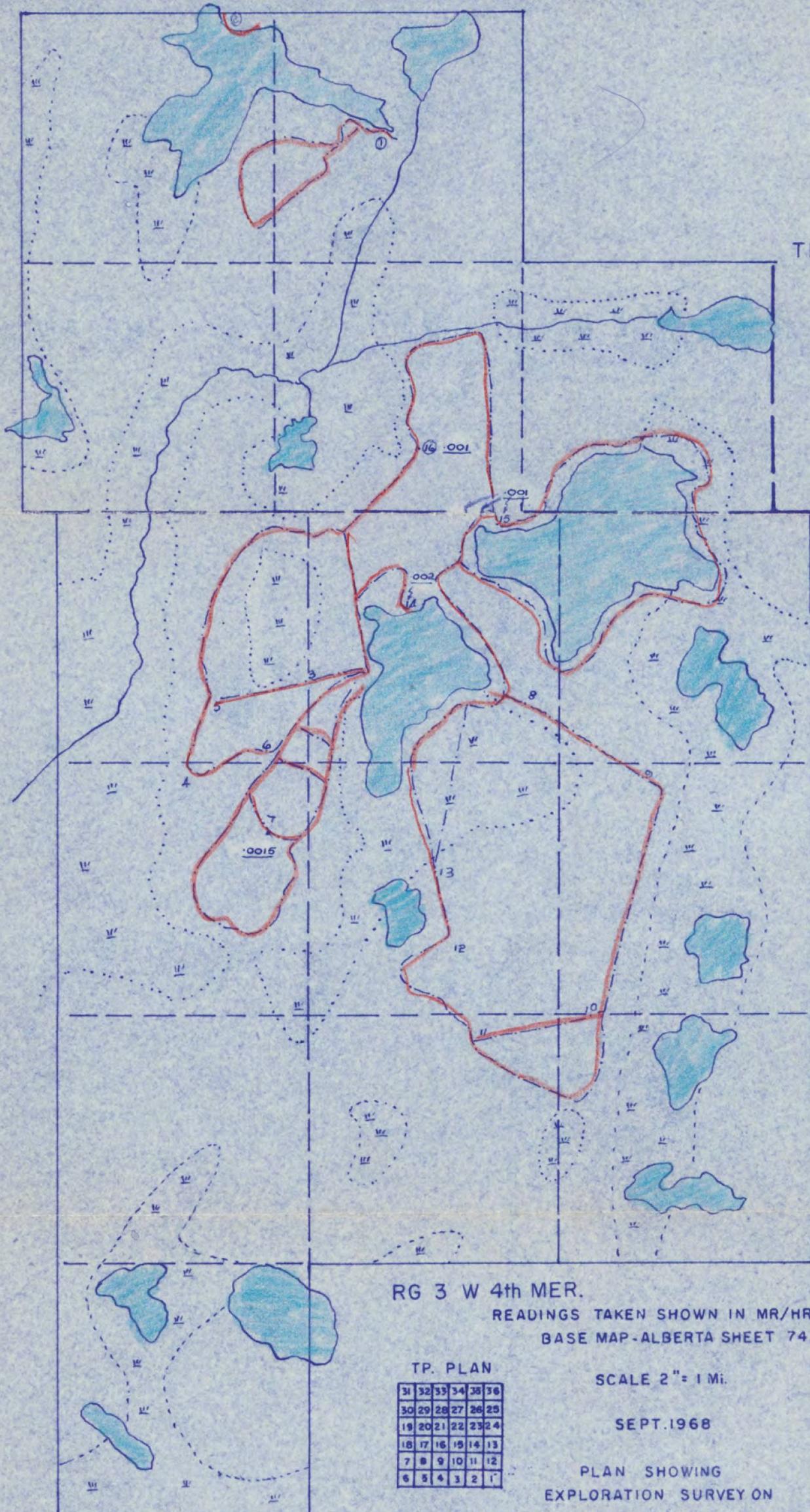
| | | | | | |
|----|----|----|----|----|----|
| 31 | 32 | 33 | 34 | 35 | 36 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 7 | 8 | 9 | 10 | 11 | 12 |
| 6 | 5 | 4 | 3 | 2 | 1 |

SCALE 2" = 1 Mi.

SEPT. 1968

PLAN SHOWING
EXPLORATION SURVEY ON

QUARTZ MINERAL EXPLORATION PERMIT No. 40



19680012

QUARTZ MINERAL EXPLORATION PERMIT No. 40

