

## 1. GUSTY LAKES - BEAVER RIVER AREA

## Beaver River Area

Prospectors Hundere and Ritco spent 7 weeks on the La Biche River sheet both north and south of the Beaver River from late May until the middle of July. Davis and Fairley mapped the "Beaver River Uplift" for 5 days early in June.

With the exception of the area mapped by the geologists and a small section north of the Beaver the area is underlain by quartzites, shales, argillites and lesser amounts of limestone striking generally north to northeast. The uplifted area south of the Beaver River has a core composed of a syenite intrusive body 3 to 4 miles long in a north-south direction and a mile or more across. Associated with the syenite are gneisses, serpentized limestone and extensive hornfelsed argillite. Metamorphism is predominately outside the southern contact of the syenite. South of the intrusion narrow beds of basaltic volcanic rock, for the most part brecciated are interbedded with silicified argillite. Minor intrusions of syenite and trachyte are reported a few miles to the west of the uplifted area but sparseness of outcrop made it impossible to determine the extent of these bodies. North of the Beaver River a smaller intrusive body of similar syenitic composition was found.

Molybdenite was found disseminated in the gneissic rocks south of the main syenite body on the uplifted area. A picked specimen ran 0.13%  $\text{MoS}_2$  with a trace of gold and silver. Molybdenite was also found associated with the syenite intrusion north of the Beaver River. A specimen of Fluorite-actinolite skarn south of the Beaver River was sent in for spectrographic analysis. The results included Au - trace, Ag .004% (2.56 oz/ton), 1.3% Pb, 8.0% Zn (check), .001% Cu and .006% Mo.

Traces of chalcopyrite were found in the volcanic rocks mentioned above.

A bed of hematite iron formation occurs in quartzite and quartz pebble conglomerate just NE of the main syenite intrusion. The bed is 3 to 5 feet thick and can be traced for over 200 feet along strike.

North of the Beaver River aerial reconnaissance and prospecting on the ground has outlined numerous transported limonite deposits. In general outcrops are scarce in these areas and the deposits are difficult to explain. However, one such deposit located the previous year during a helicopter reconnaissance on the Coal River sheet was visited by the writer. This deposit crops out in a creek canyon south of the Beaver River north-northwest of Toobally Lake. A section through this deposit shows a capping of from 20 to 30 feet of poorly consoli-

dated powdery siliceous material underlain by a similar thickness of interbedded massive limonite and brown sandy material. Below this is 60 to 100 feet of brown, loose sandstone showing contorted secondary structures. This in turn is underlain by 200 to 250 feet of mostly massive limonite to the bottom of the section. Whether this is a truly bedded deposit or simply related to the present erosion surface could not be properly determined. If bedded the plan dimensions of the deposit could be 400 to 600 feet by 1000 to 2000 feet. A specimen sent in for spectrographic analysis yielded the following results: Pb - 0.9%, Mg - 3.0%, Mn - 1.0%, Si - 10%, Ti - 0.1% and Zn - 0.1%. All these limonite deposits are closely related to pink quartzite, often pyritic. It is the writers opinion that the white, powdery, siliceous material referred to above is leached from the quartzite and the limonite is derived from the pyrite contained within the quartzite and concentrated by anomalous groundwater conditions.

Results from silt samples taken in the Beaver River area have outlined at least two areas of anomalous zinc values. Three samples from the section at the north end of the "Beaver River Uplift", south of the Beaver River, yield anomalous zinc values by field test. These samples have since been checked in the lab and have yielded 270, 290 and 300 ppm. Opposite this area, on the north side of the Beaver, 9 silts have given values from 250 to 450 ppm zinc.

The background value for copper varied from less than 10 ppm to 20 or 30 ppm. Only one sample southeast of the large syenite intrusion was higher than this, 50 ppm. Higher values derived from minor amounts of chalcopyrite in volcanic rocks may be expected in this area.

Because of the occurrence of molybdenite associated with syenite all silts were run for this metal but no values as high as 10 ppm were recorded. A more sensitive test is probably necessary for molybdenum.

#### GUSTY LAKES - TOOBALLY LAKES AREA

##### Toobally Lakes Area

Prospectors Anderson and Mickle spent three weeks in late May and early June prospecting the area northwest and west of the northernmost Toobally Lake. For ten days in July Hundere and Ritco prospected northeast and north of Gusty Lakes while at the same time Fairley, Anderson, and Mickle prospected and mapped down Gusty Creek to Toobally Lake to complete the coverage of that area. Earlier in the year Davis and Fairley had spent one week mapping northwest of Toobally Lake.

The area northwest of Toobally Lake is underlain by pink to white, fine to coarse grained quartzite and feldspathic quartzite apparently resting conformably on older volcanic rocks that are for the most part amygdaloidal greenstone. The strike of the formations is generally northwest to north with small to moderate southwest and north-

east dips. Dykes and sills of gabbro have intruded these rocks. There is evidence of high angle normal faulting in a north-south direction. A small deposit of barite in one fault zone indicates some hydrothermal activity. Although little time was spent on the east side of Toobally Lake the rocks encountered were mostly shale and quartzite with some basic sills. The sediments have a northerly strike and a moderate westerly dip.

South of Gusty Lake around lat.  $60^{\circ} 20'$  north the rock is limestone to dolomite (medium grained, grey, brown and mottled pink) generally flat lying. To the east the bedding steepens with a north strike and westerly dip. There is a change to sandy dolomite, then phyllite, sandstone-quartzite and argillite. Dips gradually increase to  $60^{\circ}$  in this area. Also in this region there are numerous sills, sometimes porphyritic and amygdaloidal andesite and basalt. Further east approaching Toobally Lake the rocks are varieties of greywacke and the westerly dip lessens. Finally shale occurs on both sides of the lake. At higher elevations on either side of Toobally Lake there is a white quartzite suggesting an angular unconformity between it and the previously mentioned series. Somewhere near lat.  $60^{\circ} 26'$  north and south of Gusty Lakes there is probably an east-west fault. This is indicated by an apparent displacement of the stratigraphy around Gusty Lakes of 2 miles to the west.

Mineralization was not impressive throughout this area. A little galena replacement in some phyllitic limestone and some copper mineralization in calcite stringers within a greenstone volcanic and also within quartz stringers in phyllite. Float of fine grained galena in quartz vein material was picked up on the west side of Toobally Lake 3 miles below its north end.

Background values for zinc ore somewhat lower than those in the Beaver River area to the east. Most samples ran from 50 or less ppm to 120 ppm. The highest value is 180 ppm on the south fork of the large creek draining into Toobally Lake from the west, 5 miles upstream. Three miles northeast of the largest of the Gusty Lakes two silts ran 70 and 40 ppm copper. This is considerably higher than background values that are generally less than 10 ppm.

#### CONCLUSIONS AND RECOMMENDATIONS

The small amounts of copper and lead mineralization found west of Toobally Lake does not recommend the area for further prospecting. With the exception of the two higher copper values in silt northeast of Gusty Lake geochemical results are not much above background.

The "Beaver River Uplift" is a more geologically anomalous area although none of the known mineral occurrences are of significant size or grade. Some of the alkali rock types are reminiscent of specimens

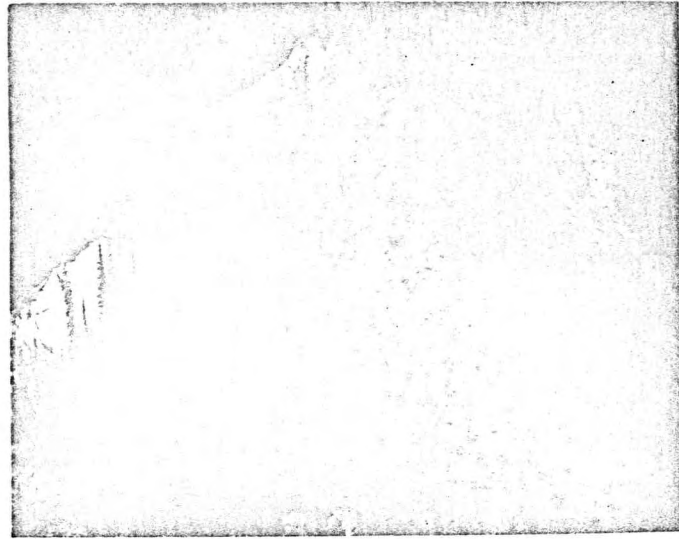
from the Ice River Complex. These rocks will be investigated in the lab this winter with the possible presence of uranium or rare earth minerals to be checked. The presence of sphalerite in the tremdite-actinolite skarn, which carried 8% Zinc, in addition to higher zinc values in silt make the area north, west and south of the large syenite intrusion worthy of further work. This should be in the form of detailed geochemical sampling along with prospecting and geologic mapping by one two-man party. The crew should extend coverage to the west toward Toobally Lake. Six weeks would probably be necessary to carry out this program. In light of geochemical results the possibility of more detailed work north of the Beaver River should be considered.

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The transported limonite deposit  
NW of Toobally Lake



The leached capping on this  
deposit



# GUSTY LAKES - BEAVER RIVER AREA



Mt. Armas  
5314

4514

Jackpine  
Lake

Beaver

5268

Gusty  
Lakes

4589

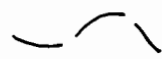
River

4352

4424

Toobally

Lakes



Boundary of area prospected

4 Miles

