

GEOLOGICAL AND EVALUATION SURVEYS

OF

MINERAL CLAIMS: ELBOW #1 - 8, BUTTE #1 - 8,  
HIP #1 - 4, and TOE #1 - 4

CLAIM SHEET NO. 116G-1

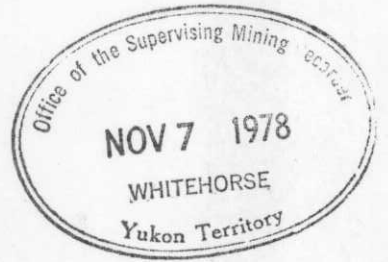


Author: Say-Lee Kuo, Ph.D.

Work Period: July 18 - 24, 1978

September 7, 1978

090413  
Calgary, Alberta



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$4,800.00 29 Jan/79

Resident Geologist or  
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER

Supervising Mining Recorder

Commissioner of Yukon Territory



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## INTRODUCTION

The property totalling 24 claims was discovered and staked by 3 geologists working for Baltic Drilling Ltd. of Edmonton, Alberta in August 1977. The property was subsequently recorded and held in good standing.

Assessment work of the property and immediate vicinity was made in early August 1978 by 2 geologists and a field assistant working for Baltic Drilling Ltd.

This report presents the result of the assessment work and offers recommendations for future work on the property.

## LOCATION AND ACCESS

The Baltic property is situated at about  $65^{\circ}14'N$  and  $138^{\circ}20'W$  on a hillside on both sides of the Demster Highway between Mile 111 and 112, approximately 8.15 miles (or 13.25 Km) due south of the intersection of the highway with the Ogilvie River.

The property is 112 miles by road (or 180.2 Km) from the Klondike River settlement on the Klondike Highway, or about 88 miles (or 142.5 Km) by air from Dawson City. Access to the property can be made by foot along a talus hillside from the highway, the distance to the western edge of the property being the farthest is just over a mile.

## TOPOGRAPHY

The property is located along Engineer Creek, a southern tributary of the Ogilivie River in the Central Ogilivie Ranges. Most hills, in which the property straddles, are 3,700 to 4,100 feet (or 1130 m to 1220 m) in elevation with less than 1,500 feet relief; and, although some may rise abruptly, most rise gradually to a rounded to subrounded summit.

Mountain ranges further to the southeast, west and northwest have greater elevations, generally in the range of 4,500 to 5,200 feet (1370 to 1585 m), with more than 2,000 feet relief in places.

Drainage system in the area generally follows prominent geological features such as faults, strikes, etc., but some tributaries appear to be bisecting ridges and crossing beddings or fold limbs.

LIST OF MINERAL CLAIMS

<u>Claim Name</u>	<u>Tag No.</u>	<u>Staker</u>	<u>Owner</u>
Elbow #1	YA 10529	Kory R. Koke	Baltic Drilling Ltd.
Elbow #2	10533	Craig S. Banks	Baltic Drilling Ltd.
Elbow #3	10530	Kory R. Koke	Baltic Drilling Ltd.
Elbow #4	10534	Craig S. Banks	Baltic Drilling Ltd.
Elbow #5	ELBOW #7 10531	Kory R. Koke	Baltic Drilling Ltd.
Elbow #6	YA 10532 10535	Craig S. Banks	Baltic Drilling Ltd.
Butte #1	ELBOW #8 10538	Grant Gibson	Baltic Drilling Ltd.
Butte #2	YA 10537 10539	Grant Gibson	Baltic Drilling Ltd.
Butte #3	10540	Grant Gibson	Baltic Drilling Ltd.
Butte #4	10541	Grant Gibson	Baltic Drilling Ltd.
Butte #5	10542	Grant Gibson	Baltic Drilling Ltd.
Butte #6	10543	Grant Gibson	Baltic Drilling Ltd.
Butte #7	10544	Grant Gibson	Baltic Drilling Ltd.
Butte #8	10545	Grant Gibson	Baltic Drilling Ltd.
Hip #1	10506	Kory R. Koke	Baltic Drilling Ltd.
Hip #2	10507	Kory R. Koke	Baltic Drilling Ltd.
Hip #3	10508	Kory R. Koke	Baltic Drilling Ltd.
Hip #4	10536	Kory R. Koke	Baltic Drilling Ltd.
Toe #1	10509	Craig S. Banks	Baltic Drilling Ltd.
Toe #2	10510	Craig S. Banks	Baltic Drilling Ltd.
Toe #3	10511	Craig S. Banks	Baltic Drilling Ltd.
Toe #4	10512	Craig S. Banks	Baltic Drilling Ltd.

More accurate positions of the claims were determined during the assessment work and are shown in Figure 2.

## GENERAL GEOLOGY

### (1) REGIONAL GEOLOGY

Reconnaissance in the 10 mile immediate vicinity of the property was carried out during the assessment work. The purpose of reconnaissance was to outline or locate any potential barite mineralization in geological setting similar to that of the property.

A geological map of this immediate region is shown in Figure 1. A brief geological summary is presented below.

#### (A) Lithology

The rock types encountered can be grouped into 3 main types - carbonates, shale, and chert. These rocks occurred either as intercalated sequences or separate units. By far carbonates are the predominant rock types encountered. Lithology in each locality prospected is summarized below (see Figure 1 for locality).

##### Locality A

Limestone exposures on hillcrest and hillside in this locality are excellent. The limestone is pale white to light grey, massive to thick bedded, fossiliferous in part, minor intercalated black calcareous shale and coarsely crystalline dolomitic limestone and nodules/lenses of banded chert in places.

##### Locality B

Two varieties of limestone can be identified. One white to light brown grey, medium to coarse grained, crystalline, partly

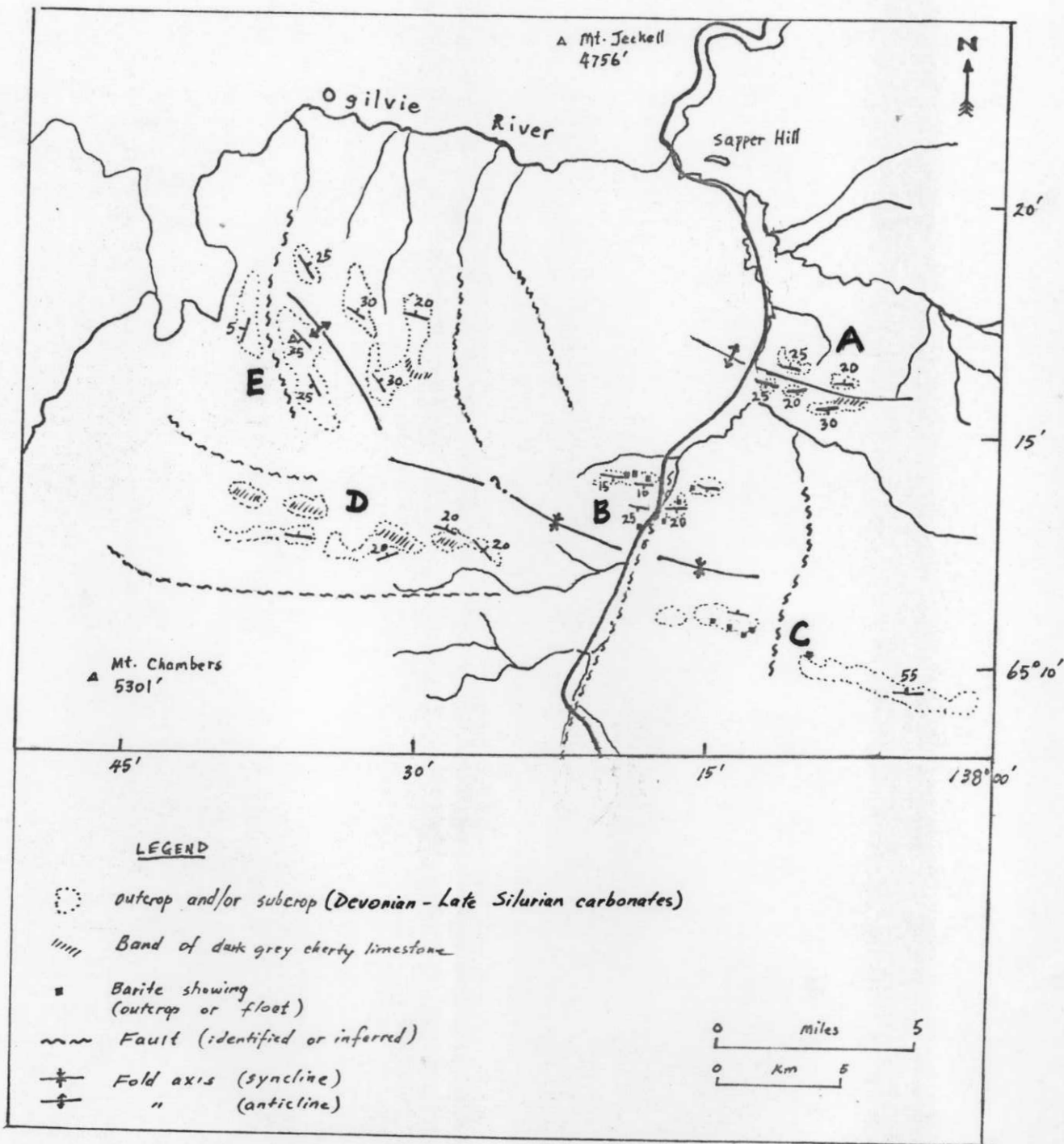


Fig. 1. Regional Geological Map in the vicinity of Baltic Barite Claims.

with overgrown calcite nodules and lenses. Another is light to medium grey, fine grained, medium to thick bedded, partly with nodules/lenses of calcite and chert.

#### Locality C

Rock exposures along ridge crests and hill slopes in this locality are predominantly limestone, grey, micritic to sucrossic, with minor grey to white dolomitic limestone. The rocks are intensely fractured with fillings of calcite veinlets and pods containing an interesting amount of barite and barite-calcite in a few locations (see Figure 1).

#### Locality D

Limestone exposes extensively on hillcrest and hillside of this mountain range. It is light grey limestone, coarse grained, fetid, partly vuggy, with minor white to creamy massive bedded limestone. These limestones are strongly fractured, with veinlets of recrystallized calcite. Excellent exposure of medium--dark grey, cherty to argillaceous limestone occurs on the northern side of this locality, forming a distinctive broad belt on the ridge crests and hillsides. The rock is banded to massive bedded, intensely fractured.

#### Locality E

Grey limestone with minor dolomite are the rocks observed in this locality. A band of chert nodules/lenses occur across hillside in the eastern part of this locality.

#### (B) Structure

Structural features of the region are presented in

Figure 1. Briefly, three NW-SE trending fold axes can be defined. One anticline in the Mt. Bouvette area to the northwest, one anticline south of Soldier Creek to the east, and one syncline south of the property. The folds appear to be open with a wavelength of about a few miles.

A series of faults are present in the region, most of them N-S trending, with only one E-W trending fault to the west. The faults that are subparallel to fold axes are probably thrust faults, and those transect or at high angles to fold axes are probably normal faults.

At a few locations, contortions or kinks of recrystallized and fractured calcite pods and veinlets have a linear trend at slight angles to the larger fold axes suggesting a later or secondary deformation after the major event.

### (C) Geological Age

The age of the rocks in the region is inferred from the fossils present. Generally fossils are rare and poorly preserved. A gastropod similar to *Bucillia* was noted and corals (*Heliophyllum*) are present. Thin bedded argillaceous limestones overlying barite horizon in the property contain brachiopods, nautiloids, gasterocoma, and tentaculites (Baltic Internal Report, 1977). The age of the limestone is considered to be Devonian to late Silurian. Similar carbonates and interbedded shale sequence to the east in the Hart River map area are also considered to be Silurian to Devonian (Norris, 1974).

### (2) LOCAL GEOLOGY

Rock type observed in the property was exclusively limestone

belonging possibly to the Ogilvie formation of Devonian age.

A map showing rock exposures and barite showings is presented in Figure 2. Rock exposures in the Elbow claims are excellent and form steep cliffs near the hillcrest and some on hillside; talus of rock debris was formed on the downhill side of the rock cliffs. Exposures on Hip and Toe claims near the Demster Highway are more subdued and talus slope was gentle.

Lithology of the limestone was given in previous section.

The limestone is generally medium to thick bedded, in the range of 10 to 20 feet, weathered recessively, and dips to the south at  $15^{\circ}$  to  $25^{\circ}$ .

Tension fractures related to folding and faulting in the region were developed in the competent limestone and associated veins and pods of calcite, chert, quartz, and barite were formed.

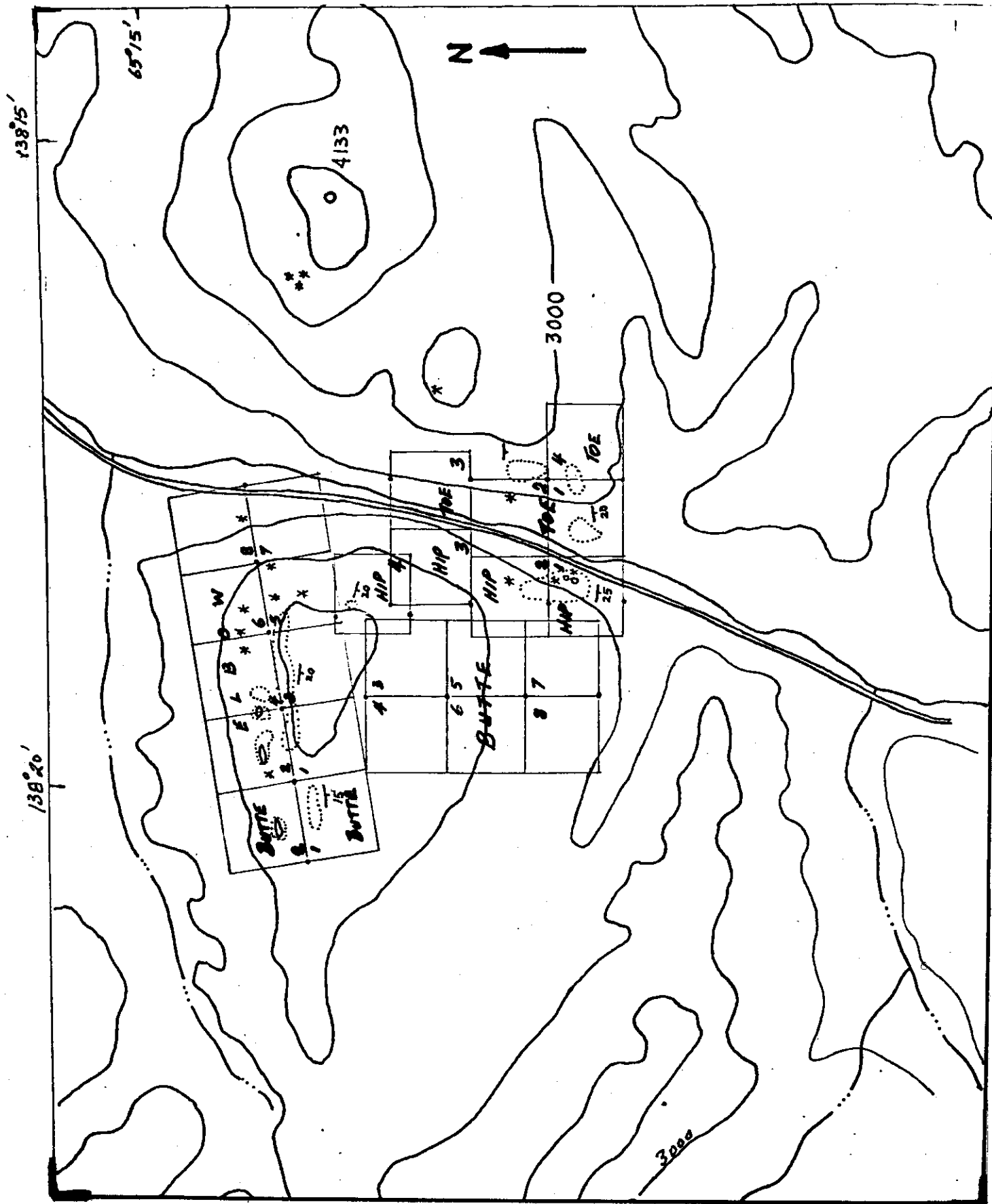


Fig. 2 A map showing rock exposures, barite showings and floats, and location of Baltic claims.

- ⊙ Rock exposure
- ⊙ Baltic showing (outcrop)
- \* Barite floats
- Claim posts

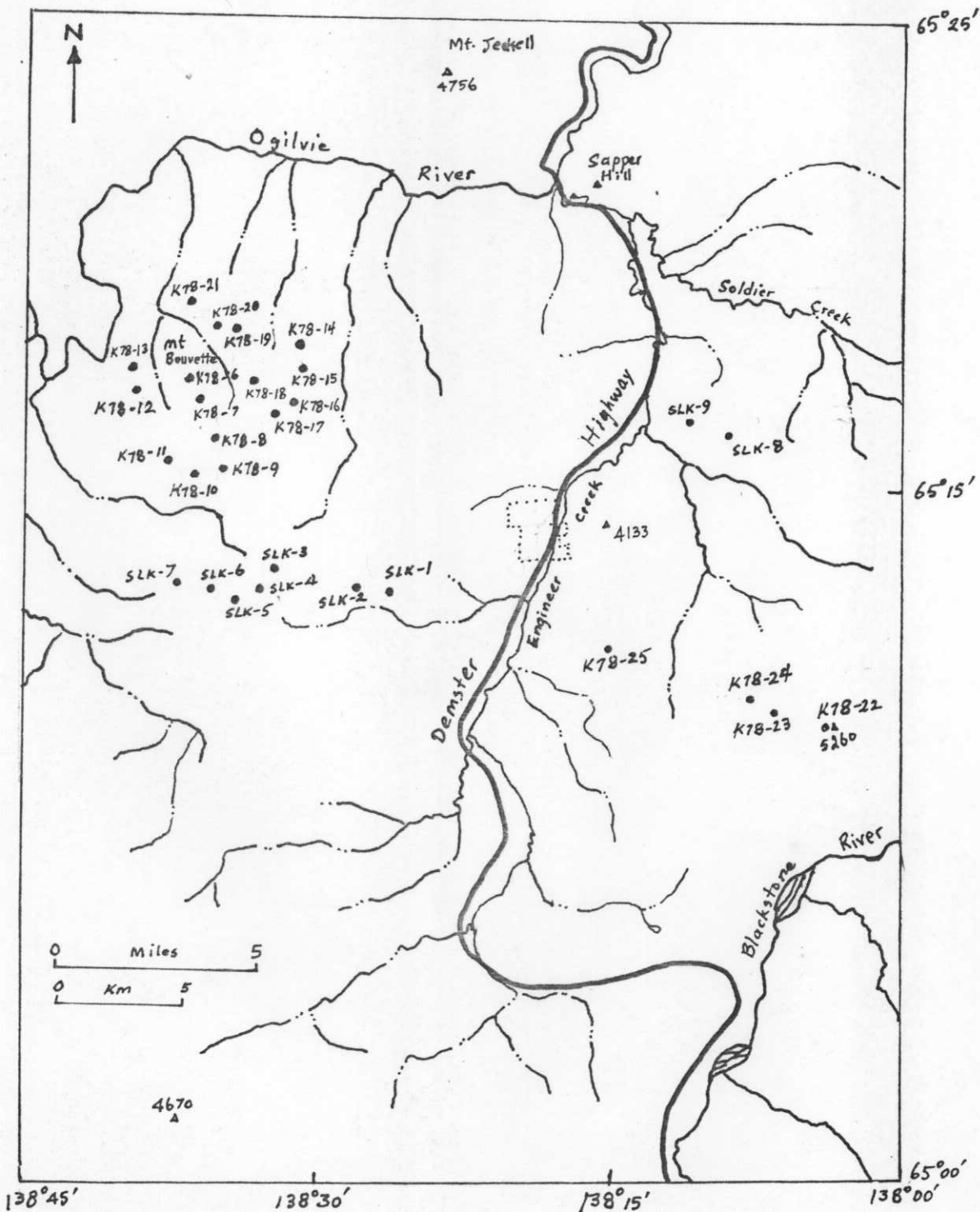


Fig. 3 Locations of soil samples taken in Central Ogilvie Mountains.

Soil sample site : ●

Baltic claim outline: □

## RECOMMENDATIONS

The property shows interesting barite mineralization within a 1.5 mile dimension in and around the property. Even though an estimate of 10,000 tons of barite is in the order, much more barite potential in the area remains to be revealed by further excavation.

In view of numerous barite floats occurring less than a mile east of the property on the western hillsides of Hill 4133, and along hillsides and crests at about 4 to 5 miles southeast of the property, the area within 5 miles to the east and southeast of the property may contain a significant amount of barite mineralization.

At the present stage, until further excavation reveals otherwise, it is the opinion of the writer that the property, though attractive, is not economically potential enough to develop. The nature of mineralization is such that no extensive and continuous mineralized zone of great magnitude could be anticipated; any potential is made possible only by abundant or concentrated occurrence(s) of barite-carrying fillings in a rather small area, otherwise, a rich barite mineralization scattered over a wide area is of no economic significance.

(1) It is recommended that a budget be prepared for next season to excavate the main showings in Elbow claims, where barite mineralization appears to be more localized and concentrated. The best economical excavation of these showings is by rock blasting. Barite showings in Hip #1 claim should also be excavated.

(2) Area to the east of the property near Hill 4133 is

not recommended for further work or staking until excavation of the above showings in the property proves any good potential.

(3) Areas of barite floats 4 to 5 miles southeast of the property are too remote from the Demster Highway and the terrain is too rugged to be of any immediate interest.

By: Say-Lee Kuo, Ph.D.  
Geologist Consultant

A handwritten signature in cursive script, appearing to read "Say-Lee Kuo".