

# J.C. STEPHEN EXPLORATIONS LTD.

## WEEKLY CAMP REPORT

PROJECT TSEE CAMP NAME Charlie

NTS MAP SHEET 104-0 DATES Prior, Musson June 27 - July 18/81  
Silas, Linton June 27 - July 11/81

AIR PHOTOS " A.C. 5734 # 153 and #154  
" # 081, # 082 and # 083 LAT. & LONG. \_\_\_\_\_

SILT SAMPLE SERIES 81-TS-X-101 to X-133  
81-TS-X-301 and X-302

~~SOIL~~ <sup>Talus</sup> SAMPLE SERIES 81-TS-CT-101 to CT-205  
CT-207 to CT-227

~~ROCK SPECIMEN NUMBERS~~  
CT-229  
CT-231  
CT-233  
CT-235  
CT-237  
CT-239  
CT-501 to CT-527  
CT-601 to CT-630

Rock Specimen Numbers 73670B to 73673B  
27667C to 27675C

# TSEE Project

## Introduction

The T00 property consisting of 69 units extending south-east from the eastern end of Tootsee Lake (map 1). It was staked in March, 1981 and covers a sequence of Paleozoic sedimentary rocks known to host stratiform lead-zinc deposits at other locations. The T00 property joins the Climax claim group of Cordilleran to the east with the corner posts for T00 2 and T00 3 lying beside one of the Climax corner posts. However south from these posts the claim lines tend to overlap. The T00 claims were believed to extend westward into the Cassiar batholith.

However field work indicated that the batholith was further west than the western boundary of the property and this led to a prospecting effort in that direction.

Elevations range from 3700' along Tootsie Lake to over 6000' with most of the property being above treeline. Topography tends to be rugged with steep ridges flanked by extensive, generally coarse talus. Access was by helicopter from Swift River although the camp on Tootsie Lake could have been serviced by float plane.

## Geochemical Sampling

Due to the nature of the topography emphasis was placed on talus sampling. Samples were collected at 100 m. intervals along contours and generally two lines were run along each slope. Most of the streams on the property are too fast for the deposition of sediments fine enough for silt sampling. The exception is the stream running from west to east in the broad glacial valley in T003. This was silt sampled at 100 m. intervals. Down stream just to the west of the property previous silt sampling indicated a small area anomalous for lead with a larger area anomalous for zinc slightly further down.

## Geology

A series of anticlines and synclines plunging gently to the south occur across most of the property. The units along these folds are vertically offset in a number of places by north-south trending normal faults or fault zones. North-south trending, green, mafic dikes up to 4 m thick occur in several places and it is possible that these have intruded along fault zones. Cross-

bedding in some of the sandy units indicates that the beds are stratigraphically upright and this is confirmed by comparing the stratigraphic sequence on the property with the one drawn by Dr. Gabrielle of the G. S. C. (Vancouver).

The T00 property was staked in the hope that the black elastic unit might host strataform lead-zinc deposits such have been found in this sequence of rocks at other locations (for a description of the stratigraphy on the property see cross-section 1). Zinc zapping this unit (as well as all other rock types on the property) gave negative results but as A. B. Mawer (Cominco) pointed out a positive test requires the presence of hydrozincite ( $Zn_5(OH)_6(CO_3)_2$ ) which can only form if carbonates are present. Barite which is often associated with such deposits was not found. The base of the black elastic unit ~~rest~~ on the ridge north of the first camp (map 1) forms a silvery weathering talus ~~which~~ and Mawer feels that this is the most promising horizon for lead and zinc (within

the lower 100 m of the black elastic unit). Mineralization was observed in the Atan Formation which outcrops just west of the property. Most of the quartzite beds contain a considerable amount of disseminated pyrrhotite and several rock samples from this unit were collected for rock geochemistry (rock #'s 27673B, 27667C to 27670C).

Prospecting west of the property located the quartz monzonite (bordering on granite) of the Cassiar batholith approximately one mile west of the claims on the ridge south of and running parallel to Tootsie Lake. Near the west end of the ridge the batholith rocks become slightly finer grained and a small unit of carbonates was found in contact with it. These carbonates as well as ones just east of the batholith were sampled for possible skarn minerals (<sup>tungsten, molybdenum,</sup> ~~to 2 Mo~~ rock samples # 27675C and # 27673C respectively). These rocks as well as all others collected on the property were lamped with U.V. light but all fluorescence was due to calcite with the exception of # 27671C which gives displays some green fluorescence. This rock

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is a piece of quartzite talus collected east of the batholith.

Just east of the Cassiar batholith a nearly vertical mineralized zone cuts across the gently dipping sedimentary units. This zone has a rusty appearance due to the weathering of disseminated pyrrhotite. A sample of massive pyrrhotite talus from this zone will be sent for a 30 element spectrographic analysis (# 27672C).

#### Conclusion

In the light of the evidence available there appears to be four areas of possible interest on and to the west of the T00 property.

1) The talus sampling should indicate whether or not a strata form lead and/or zinc deposit exists in the black elastic unit. Since this is the youngest unit in the observed sequence it does not extend beneath the surface.

2) Valuable sulfides may be associated with the disseminated pyrrhotite in the Atan Formation

3) The rusty weathering zone of pyrohotite west of the property may also host economic sulfides.

4) The carbonates adjacent to the batholith may contain skarn minerals but lamping with ultraviolet light did not reveal scheelite.

Rock geochemistry should indicate if any mineralization occurs in the last three areas mentioned.

#### Acknowledgements

The description of the Paleozoic sedimentary rocks of the area given by Dr. Gabrielle and Dr. Dawson of the G.S.C. (Vancouver) on May 13, 1981 was greatly appreciated. The authors would also like to acknowledge the help of A.B. Mower (senior geologist, Cominco) who elaborated on the stratigraphic units and pointed out several structural features on a traverse made on July 16, 1981.

Galen Prior, Mark Masson

July 17, 1981