673930

-Intro
-TOO geology
-prospecting

TSEE Project

June 27 - July 11/81 - Prior, Massam, Silins, Lawton

July 12 - ? 18 Prior, Massam

Introduction

July

Access

~~The initial TSEE project was to map and take geochemical samples on the TOO claim group.~~ The TOO property, staked in March, 1981 consists of 69 units (see map 1) extending 5 E from the eastern end of Tootsie Lk. The TOO property consists of a sequence of Paleozoic sedimentary rocks which have been known to contain strataform, stratabound Zn, Pb ± Zn deposits in shale hosted which at other locations have been found.

The TOO property joins the Climax claim group to the east with corner posts for TOO 2 and TOO 3 being beside one of the Climax C.P.'s (see map 3) with posts touching but not overlapping lines. The claims are believed to extend westward into the Cassiar batholith. However no igneous field work indicated that the batholith was further west than the western boundary of the property. This led to a prospecting effort from the property in that direction.

Elevations range from 3200' to over 6000' in most of the property being above treeline. Topography [illegible]

TOO Property

The TOO property (see sketch-in notebook - 1:50,000) consists of a sequence of paleozoic, ~~rocks~~ sedimentary rocks (see vert. sections) which have been found to host stratabound, shale hosted Pb-Zn deposits.

TOO Property - Geochemical Sampling.

to be rugged with steep ridges flanked by extensive, generally coarse talus. Access was by helicopter from Swift River although the ~~second~~ camp on Tootsie Lake could have been serviced by float plane.

→ TOO ~~Prop~~ - Geochem - Sampling.

Due to the nature of the topography emphasis was placed on talus sampling. Samples were collected at 100 m along contours and generally 2 lines were ~~usually~~ run along each slope. Most of the streams on the property were too steep for the deposition of sediments ~~for sampling. Sand.~~ fine enough for silt ~~sampling~~. The exception is the broad ~~glacial valley~~ stream running from W to E in the broad glacial valley. ~~but~~ near the ~~south~~ end in TOO 3. This was silt

N-S trending, ~~green~~ green, mafic ~~dikes~~ ~~dikes~~ dikes occur ~~along~~ up to 4 m thick several ~~ridges~~ places and it is possible that these have intruded along ~~fau~~ ~~brec~~ fault zones.

this sequence of rocks at other locations. (for a description of the rocks on the property see fig —).
Zinc zapping ~~the shales~~ this unit (as well as all other rock types on the property) gave negative results but as Bruce Mayer (Cominco) pointed out a positive test requires the presence of hydrozincite ( ) which can only form if carbonates are present. ~~in the shale.~~ Baritic which is often associated with such ~~the~~ deposits ~~is~~ was not ~~found~~ ~~ob~~ found. The base of the ~~shale~~ black elastic unit on the hill N of the first camp forms a silvery weathering ~~talus~~ talus ~~which~~ which ~~Mayer~~ suggests ~~feels~~ ~~may~~ may be due to the leaching of pyrite and Mayer feels that ~~so~~ this ~~could be~~ is the most promising horizon for Pb and Zn. ~~pyritic black shale of the Fm.~~

(No graptolites ~~were~~ were observed but apparently even slight metamorphism renders them invisible.) — Sect.

~~Omit~~ The only recognizable fossils observed on the property were a few brachiopods and a crinoid stem which were found in lsts. They were to poorly preserved for more precise identification. The fetid dolomite which apparently represents a near reef facies (Mayer)

sampled at 100 m intervals. In ~~the~~ ~~[illegible]~~ Down ~~the~~ stream B just to the W of the property. previous silt sampling ~~has~~ indicated a small area anomolous for Pb ~~Small Pb anomaly and a larger Zn anomalies~~. with a larger area anomolous for Zn ~~Zn anomaly~~ slightly further down.

Struct.
Mineraliz.

TOO Property - **Geology** (Anti - Syn)

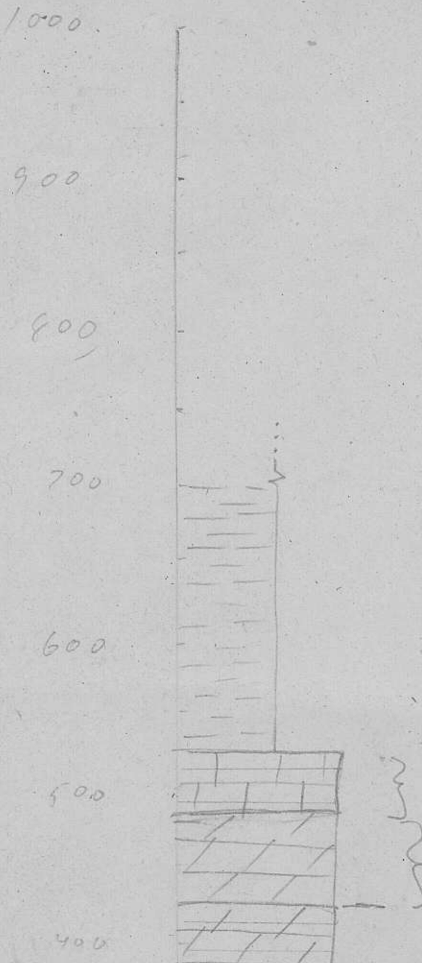
~~The main structural feature is~~ A series of anticlines and synclines ~~which dip plunge~~ plunging gently to the S. occur across most of the property. Cross-bedding in some of the sandy units indicates that the beds are stratigraphically upright ~~as does~~ and this is confirmed by comparison with the strat. column drawn by Dr. Gabrielle of the (Van) G.S.C. ~~There is also at least one major N-S fault.~~ The units along these folds are vertically offset in a number of places by N-S trending normal faults* f. zones.

The TOO property was staked in the hope that the black clastic ~~shale~~ unit might host strataform ~~stratabound~~ Pb - Zn deposits such have been found [illegible] in

* ~~[illegible]~~ Rocks along brecc. f. z.

700 m
× 3
≈ 2100'

(5) green
f. gr.
ign. intr.



black slaty shale
outcrops on top of ridge in TOO 3 — 5

platy lst. — 4

fetid dk. gy. dol. (spaghetti stone) - high S content (small H_2S on fresh surface)
- fossils weather out white — 3c

finely laminated dolo. unident. friable, elongate — 3b

sandy dolomite - siliceous dolomite - calc. qtzite
Outcrops along ridges in the NW section of prop. — 3a

Road River ~~[illegible]~~?
- recessive, black, shaly lst.
- slaty tatus
- 2 small outcrops along N ridge — 2

~~[illegible]~~ qtzites with interbedded
Atan Fm. dolomite and lst ~~beds~~ units
- Qtzite units generally contain diss sulfides (usually pyrrhotite)
- Outcrops along creek ~~&~~ in lower canyon to W. of property — 1

contains what appear to be the trace fossils of the burrows of some sediment ~~feeder~~ swallowing organisms (infaunal burrowers). These are quite numerous and weather out white against the dark grey dolomite. This unit is quite distinctive as it gives off a strong H_2S odor (rotten egg smell) when struck with a hammer. Qmt

~~The only~~ Mineralization was observed ~~on the~~ property ~~occurs in the~~ Htm Fm. Most of the qtzite beds contain a considerable amount of disseminated pyrrhotite and ~~some~~ several rock samples from this unit ~~have~~ were ~~been~~ collected for rock geochemistry (#'s ___ ___ ___ ___) which contains On Mauer's advice these and other samples will be run for Sn as well as Pb, Zn, Ba, Ag.

Prospecting was of the property located ~~the~~ Qtz-monzonite (bordering on granite) of the Cassiar batholith apx. 1 mile ~~#~~ W of the claims on the ridge ~~running~~ ~~#~~ parallel Fm. ~~Fool~~ S of Tootsie Lk. and ~~running~~ parallel to ~~it~~. New Rd W

east of the ridge the batholith rocks become somewhat finer grained and a small amt of carbonates was found in contact with it. These ~~rocks~~ carbonates as well as the ones east of the batholith were sampled for possible skarn minerals (W, Mo, — - rock samples # ——— and ——— respectively). These rocks as well as all others collected on the property were lumped with ult. light but ~~with negative results~~ all fluorescence (sp?) was due to calcite.

Just E of the batholith a ↓ newly vertical mineralized zone cuts ~~intrudes~~ across the gently dipping sedimentary units. This zone ~~contains disseminated pyrr sulfides~~ has a rusty appearance ~~weathering surface~~ due to weathering of disseminated pyrrhotite. A sample of massive pyrrhotite talus from this zone will be sent for 30 element spectrographic analysis (rock #).

Acknowledgements.

The authors would also like to acknowledge the help of A. B. Mawer (senior geologist, Cominco) who elaborated on the stratigraphic units and pointed out several structural features on a traverse made on July 16, 1981. ~~Also the description of~~

The description of ~~lithologies~~ ~~the lithology~~ of the Paleozoic sedimentary rocks of the area given by Dr. Gabrielle and Dr. Dawson of the ~~Vancouver~~ G.S.C. (Vancouver) on May 13th, 1981 was greatly appreciated.

~~Any mineral~~ Rock geochemistry should indicate if any mineralization occurs in the last three areas ~~of interest~~ ~~rock geochemis~~ mentioned.

Conclusion

In light of the evidence available ~~Field work on the TSEE project indicates~~ there appears to be four areas of possible interest on and to the W of the TOO property. ~~Although~~

~~1)~~ 1) ~~The black clastic unit at the top~~ of the sequence may contain stratiform Pb and/or Zn deposits although no mineralization was ~~The~~ talus sampling should indicate whether or not ~~the presence of~~ a stratiform Pb and/or Zn deposit ~~(the original target)~~ exists in the black clastic unit ~~at the top of sequence~~ ~~it should be indicated by~~ ~~the geochem results on the talus samples~~. Since this is the youngest unit in the observed sequence it does not extend beneath the surface ~~property~~.

2) ~~Rock geochemistry should indicate if~~ any Volcanic sulfides may ~~are~~ be associated with the disseminated pyrrhotite in the Atan Fm.

3) The rusty weathering ~~intruded~~ zone of pyroclastics W of the property may also ~~contain~~ host economic sulfides.

4) The carbonates adjacent to the batholith may contain set skarn minerals but ~~lumping~~ with U.V. light did not reveal scheelite.