ASSESSING THE MINERAL POTENTIAL OF DRIFT COVERED AREAS, WEST-CENTRAL BRITISH COLUMBIA YEAR 2 - COLLEYMOUNT MAP AREA (NTS 93L/1)

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BRITISH COLUMBIA GEOLOGICAL SURVEY | Geoscience BC

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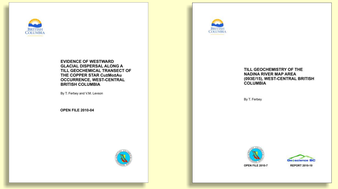
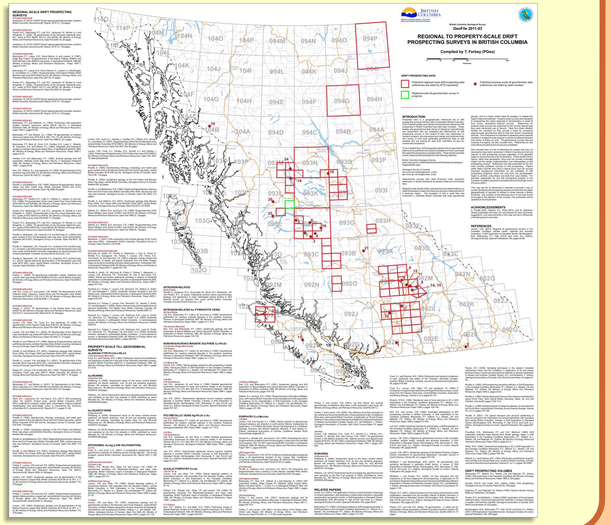
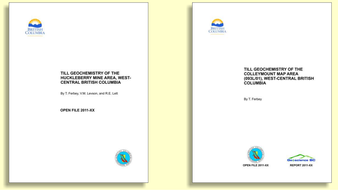
TILL GEOCHEMICAL SURVEYS IN BRITISH COLUMBIA

2010/2011 RELEASES





UPCOMING RELEASES



WHY HERE?

PROSPECTIVE ROCKS

- High potential for porphyry Cu±Mo±Au, epithermal and perhaps VMS-style mineralization, and polymetallic veins (Carter, 1981; MacIntyre, 1985; MacIntyre et al., 2004; Alldrick et al., 2007).

MINERAL EXPLORATION IS POSSIBLE

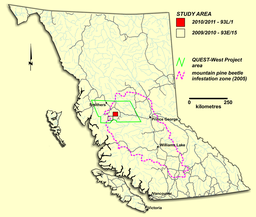
- Glacial sediments can be a help not a hinderance.
- Logging activity has increased access within study area and produced new Quaternary and bedrock exposures.

WHY SAMPLE TILL?

- Dominance of basal till, lack of bedrock outcrop, and good truck access makes study area ideally suited for a till geochemical survey.

THE PROGRAM

- Trace element till geochemistry, heavy mineral concentrates and gold grain counts on till samples.
  - 93E/15 (2009/2010)
  - 93L/1 (2010/2011)



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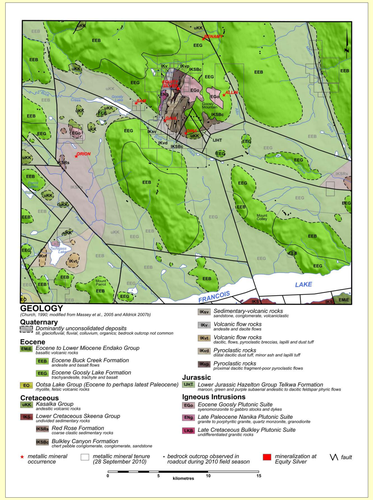
BEDROCK GEOLOGY 93L/1

- Late Cretaceous intrusives are mapped but, in contrast to adjacent areas, do not appear associated with significant mineralization.
- In contrast to adjacent areas, transitional, intrusion-related stockwork and vein deposits dominate known occurrence types.

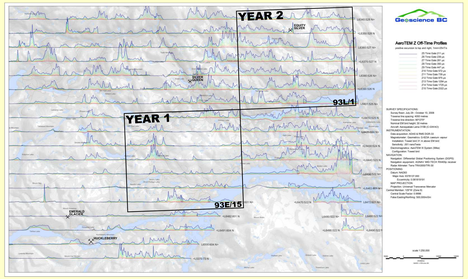
OCCURRENCE	MINFILE	STATUS	COMMODITY
Equity Silver	093L 001	past producer	Ag, Cu, Au
Allin	093L 293	prospect	Cu, Ag, Zn, Pb, Mo
Gaul	093L 256	prospect	Ag, Cu, Zn
Benamy	093L 331	showing	Ag
Dina	039L 313	showing	Cu, Ag
Orion	093L 330	showing	Ag, Zn
Sam	093L 260	showing	Ag, Zn

Subcropping Late Cretaceous Bulkey Suite granodiorite, north shore of Tschigass Lake.



AIRBORNE GEOPHYSICS

- Newly acquired airborne geophysical data (EM, gravity; Kowalczyk, 2009) for the QUEST-West Project area provide new insight into covered and partially covered bedrock lithologies.
- These data provide a good starting point for a new look into the regional bedrock geology.

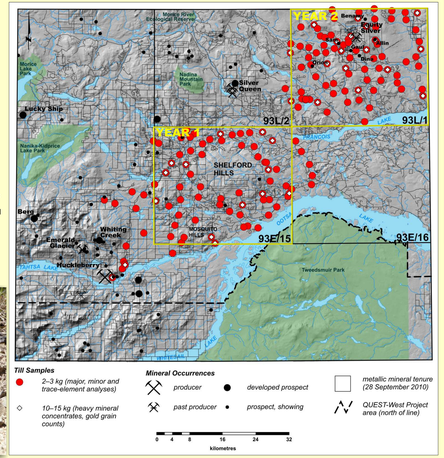


TILL GEOCHEMICAL SURVEY 93L/1 - Year 2

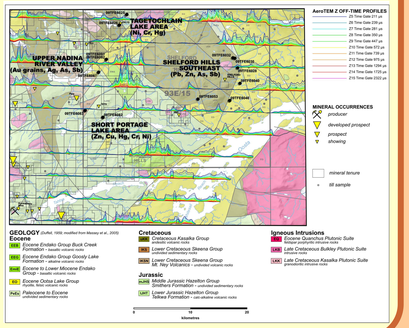
- 85 till samples (2 to 3 kg) collected for ICP-MS (<0.063 mm and <0.002 mm fractions) and INAA (<0.063 mm fraction) determinations.
- 18 till samples (10 to 15 kg) collected for heavy mineral concentrates and gold grain counts (<2.0 mm fraction).
- Ice-flow reversal confirmed; in agreement with Ferbey and Levson (2001) and Ferbey (2010).

Silt-rich, overconsolidated diamict, interpreted to be basal till; ideal sample media for a till geochemical survey. Jointing and subhorizontal fissility gives this till facies a blocky appearance. Exposure located in Buck Creek valley, east of Goosly Lake.

Exposed 3 km southeast of Equity Silver minesite, on a southeast aspect slope, are rat-tails indicating ice-flow towards the west (272°).



HIGHLIGHTS FROM 93E/15 - Year 1

Open File 2010-07

- Elevated multi-element concentrations identified in multiple till samples at:
  - Shelford Hills southeast (Pb, Zn, As, Sb)
  - Short Portage Lake area (Zn, Cu, Hg, Cr, Ni)
  - Tagetochlain Lake area (Ni, Cr, Hg)
  - Upper Nadina River valley (Au grains, Ag, As, Sb)
- Detailed geochemical case studies conducted at Copper Star occurrence (porphyry Cu-Mo-Au), Huckleberry Mine (producing porphyry Cu-Mo), Equity Silver Mine (past producing Ag-Cu-Au), and west indicating ice-flow features suggest detrital dispersal in till likely to west (i.e., source to east).
- Follow-up work in the field is required to assess their significance in the context of local bedrock lithologies.