Relative Drift Thickness Map, North-Central BC (93G, 93H/w, & 93J/s)

Map 2010-14-1

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Scale 1 : 250 000

Universal Transverse Mercator Zone 10
North American Datum 1983

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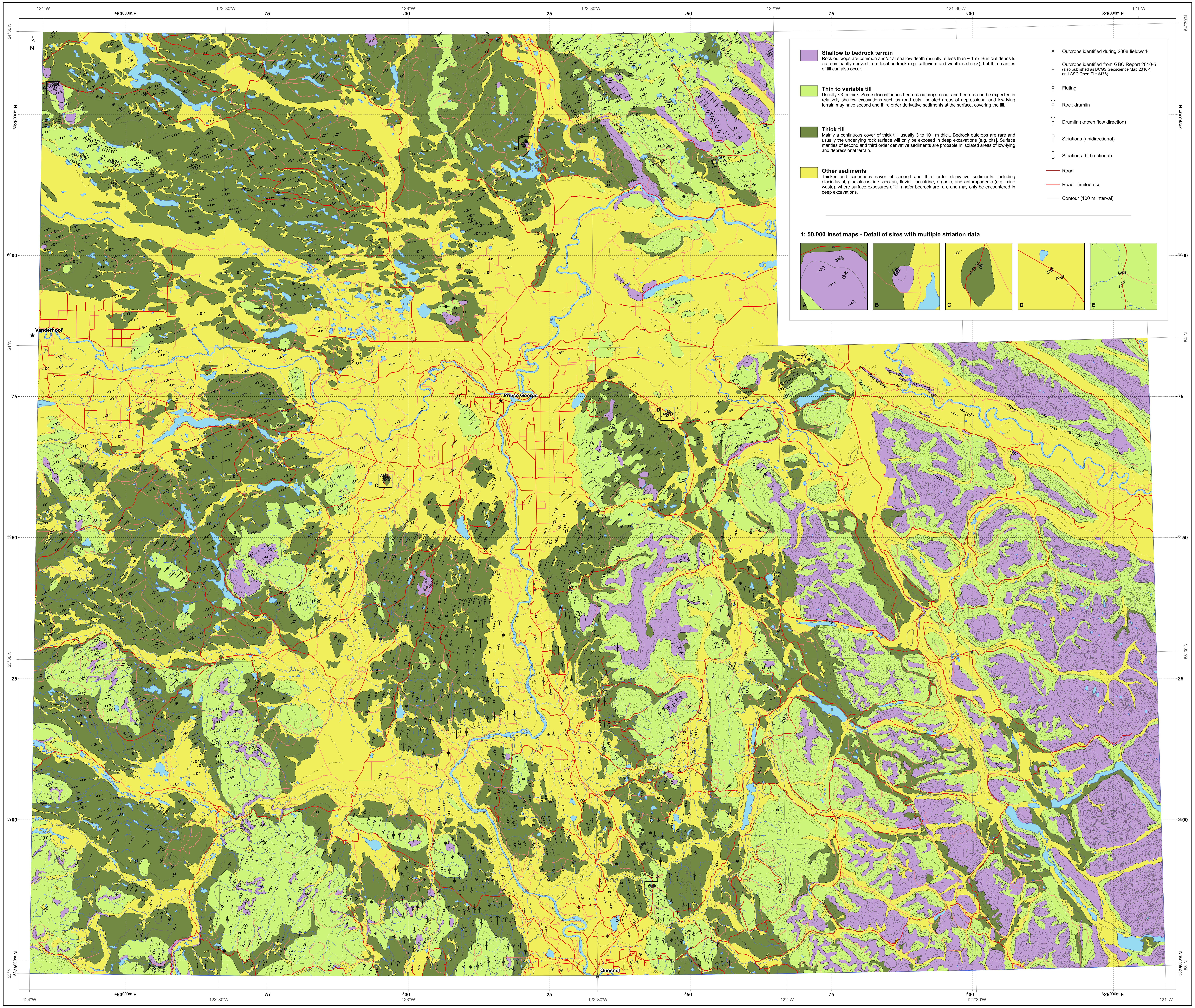

Shallow to bedrock terrain
Rock outcrops are common and/or at shallow depth (usually at less than ~ 1m). Surficial deposits are dominantly derived from local bedrock (e.g. colluvium and weathered rock), but thin mantles of till can also occur.

Thin to variable till
Usually <3 m thick. Some discontinuous bedrock outcrops occur and bedrock can be expected in relatively shallow excavations such as road cuts. Isolated areas of depressional and low-lying terrain may have second and third order derivative sediments at the surface, covering the till.

Thick till
Mainly a continuous cover of thick till, usually 3 to 10+ m thick. Bedrock outcrops are rare and usually the underlying rock surface will only be exposed in deep excavations [e.g. pits]. Surface mantles of second and third order derivative sediments are probable in isolated areas of low-lying and depressional terrain.

Other sediments
Thicker and continuous cover of second and third order derivative sediments, including glaciofluvial, glaciolacustrine, aeolian, fluvial, lacustrine, organic, and anthropogenic (e.g. mine waste), where surface exposures of till and/or bedrock are rare and may only be encountered in deep excavations.

- Outcrops identified during 2008 fieldwork
- Outcrops identified from GBC Report 2010-5 (also published as BCGS Geoscience Map 2010-1 and GSC Open File 6476)
- Fluting
- Rock drumlin
- Drumlin (known flow direction)
- Striations (unidirectional)
- Striations (bidirectional)
- Road
- Road - limited use
- Contour (100 m interval)

1: 50,000 Inset maps - Detail of sites with multiple striation data

Marginal Notes

This map is intended as an aid to mineral exploration by providing information on the distribution and relative thickness of surficial sediments and generalized ice flow history. This will help to determine areas that are more suited for drift prospecting and bedrock prospecting, as well as provide guidance as to the dominant transport direction when interpreting the results of geochemical surveys.

Drift prospecting generally relies on the analysis of first derivative sediments, namely till, to identify mineralized bedrock. Sampling other sediment types may result in data that are difficult to evaluate. Aeolian, glaciofluvial and glaciolacustrine sediments have a much more diffuse source area than till, while bedrock derived colluvium will result in a very local signature. Thus, areas that are covered by thick and thin till should be concentrated on for geochemical sampling. However, this does not preclude training workers to identify all sediment types, as till-mantled terrain may also contain small zones of organic, colluvial, aeolian, glaciofluvial, and glaciolacustrine sediments.

Areas where bedrock prospecting will be most viable are the shallow-to-rock/colluvium units, but also included will be areas of thin till. In thin till, bedrock is more likely to occur as outcrops, particularly at higher sites, and can be expected to be exposed in road-cuts. Minor outcrops also occur in isolated locations in units of mainly thick till and the other sediments. Those identified during fieldwork and other outcrop data from previous mapping are also included in this map. Obviously, sites with striations are also outcrops.

Ice flow is also indicated. Macroforms (drumlins, flutings, streamlined bedrock) were digitized from Tipper (1971) for 93G and 93 J, while for 93 H (west) features were mapped with airphotos aided by a DEM. These features will be oriented in the dominant transport direction (Figure 1) which should be used to help interpret any geochemical anomalies. Striation data resulted from fieldwork in 2008 and 2009. These can give insight into ice flow previous to and after the dominant ice flow, but in most cases conform to the dominant ice flow. Sites with multiple directions present are shown in detail in the inset boxes.

This map is constructed from existing mapping with limited field checking (Ward et al., 2009; Sacco et al., 2010). There was no terrain mapping in the study area so the map is compiled from Geological Survey of Canada surficial geology maps and BC Ministry of Environment soil and terrain classification maps. Most confidence is placed on the surficial geology maps which cover the SW, SE, and NW portion of 93H (Figure 2). The rest of the area consisted of soil and landform maps. These maps are mainly concerned with the type and distribution of pedologic soils. Surficial material is also noted but this data is of lower quality than the surficial geology mapping where distribution of sediment types are the primary objective. The limited field checking in 2008 indicated that some boundaries needed to be modified. The map has been assembled, and is intended for use, at a scale of 1:250,000. Users should be aware that the map's reliability is gauged to its original scale, even though print productions may be enlarged.

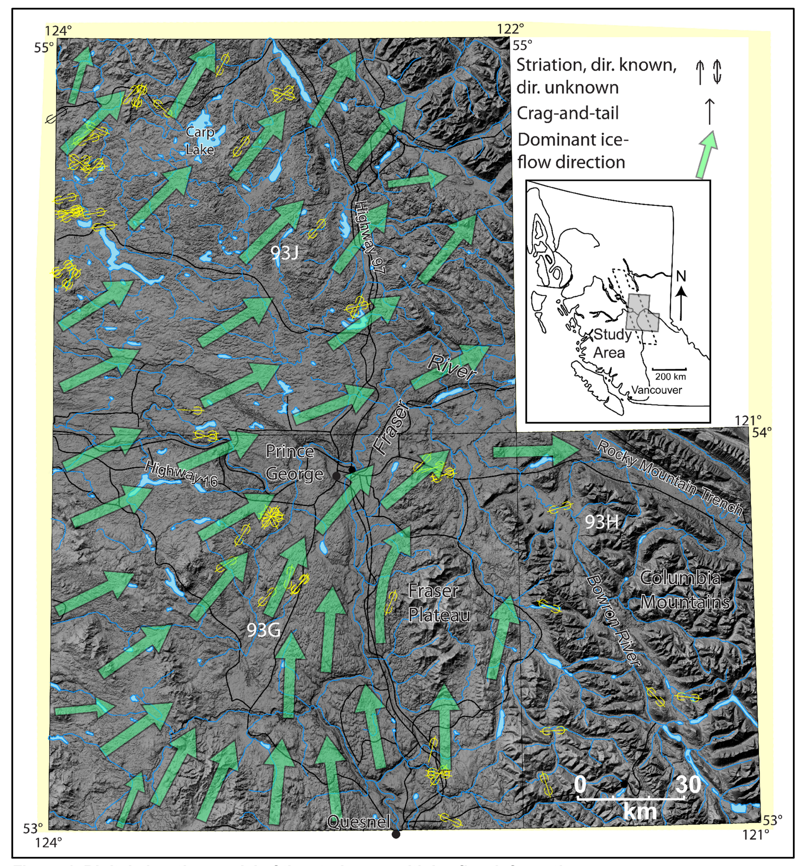

Figure 1. Digital elevation model of the study area with ice flow information.
Drumlinized drift is evident throughout most of the study area. Striation data is from field observations in summer 2008/09. Some striation sites were simplified to avoid cluttering. Inset map indicates the location of the study area (shaded area) in relation to British Columbia and the QUEST Project geophysical survey area (dashed line).

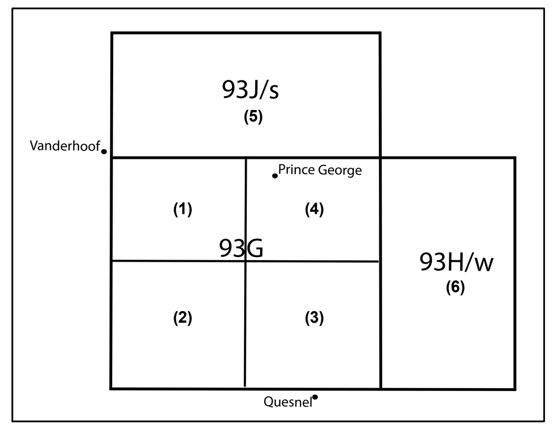

Figure 2. Source maps used to compile drift thickness.
References to source maps are numbered in parentheses, and can be found in the list below.

References

Blais-Stevens, A. and Clague, J.J. (2007): Surficial geology, south eastern portion of the Prince George map area, British Columbia; Geological Survey of Canada, Open File 5274, scale 1:100 000. **(3)**

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Lord, T.M. and A.J. Green, 1985. Soils of the Barkerville Area, British Columbia. Report No. 40 of the British Columbia Soil Survey, Land Resource Research Institute Contribution No. 82-35. (Map sheets 93 H/SW and 93 H/NW, scale:1:100,000). **(6)**

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Citation:
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