



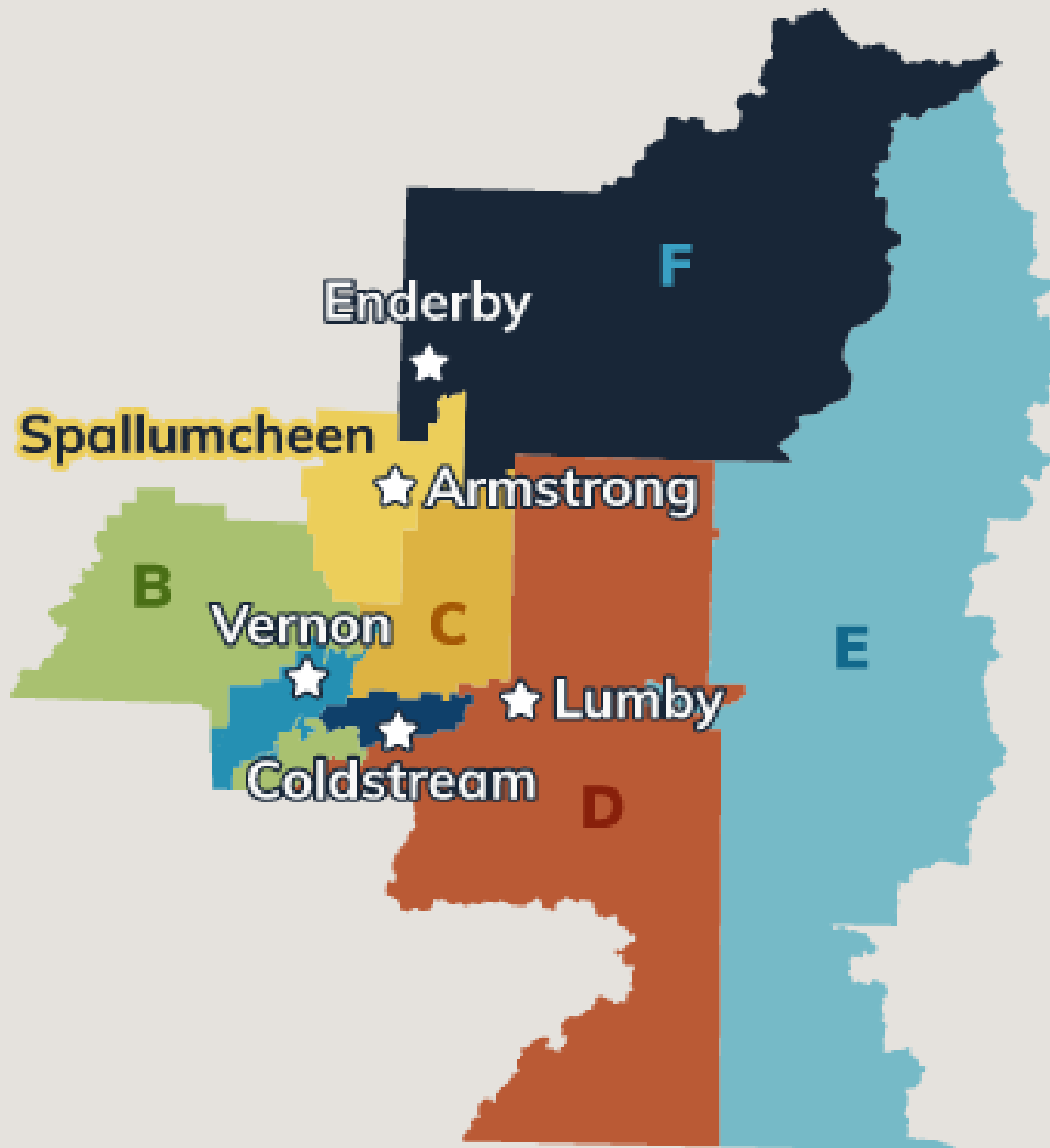
BCGWA Okanagan Kootenay Regional Meeting

Proposed Changes to RDNO
Subdivision Bylaw and
Bedrock Hydrogeology of
Northeast Vernon

October 2022

RDNO Subdivision and Proof of Water

- Proof of water requirements for subdivisions vary between Regional Districts.
- 2,270 L/day (500 Imperial gpd or 0.42 US gpm) most common
- RDNO Subdivision Bylaw 2600, last updated in 2013
- Different quantity requirements for different Electoral areas.
 - Some areas 2,270 L/day
 - Other areas 6,550 L/day (1.2 US gpm)



Electoral Areas D and E requirement is 2,270 L/day (0.42 US gpm)

Electoral Area B, C and F requirement is 6,550 L/day (1.2 US gpm)

Bylaw states that for wells with driller estimated yield greater than 3.6 US gpm, no pumping test needed

Other typical requirements include requirement to test wells in the dry part of the year (August to March), and pump test reports need to be 5 years current

Trinity Valley

Lumby

Silver Star Mountain

Lavington

Coldstream Ranch

Kedleston

Silver Star Foothills

Armstrong

Swan Lake

Vernon

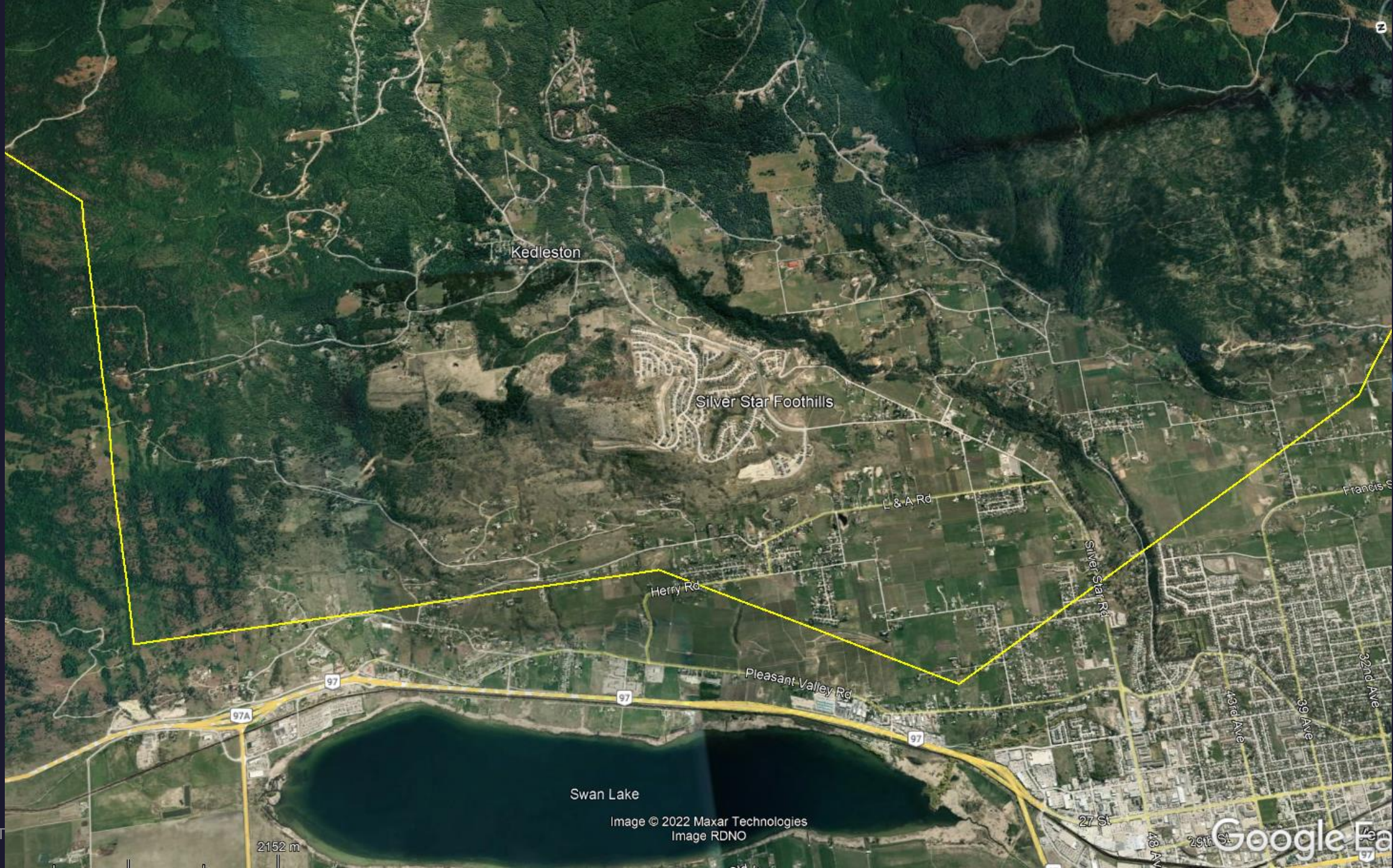
Image © 2022 Maxar Technologies

Image RDNO

Image © 2022 Province of British Columbia

Google Earth

5.83 km



Kedleston

Silver Star Foothills

L & A Rd

Herry Rd

Pleasant Valley Rd

Silver Star Rd

Francis St

32nd Ave

39 Ave

43rd Ave

27 St

25th St

48 Ave

97

97A

97

97

Swan Lake

2152 m

Image © 2022 Maxar Technologies
Image RDNO

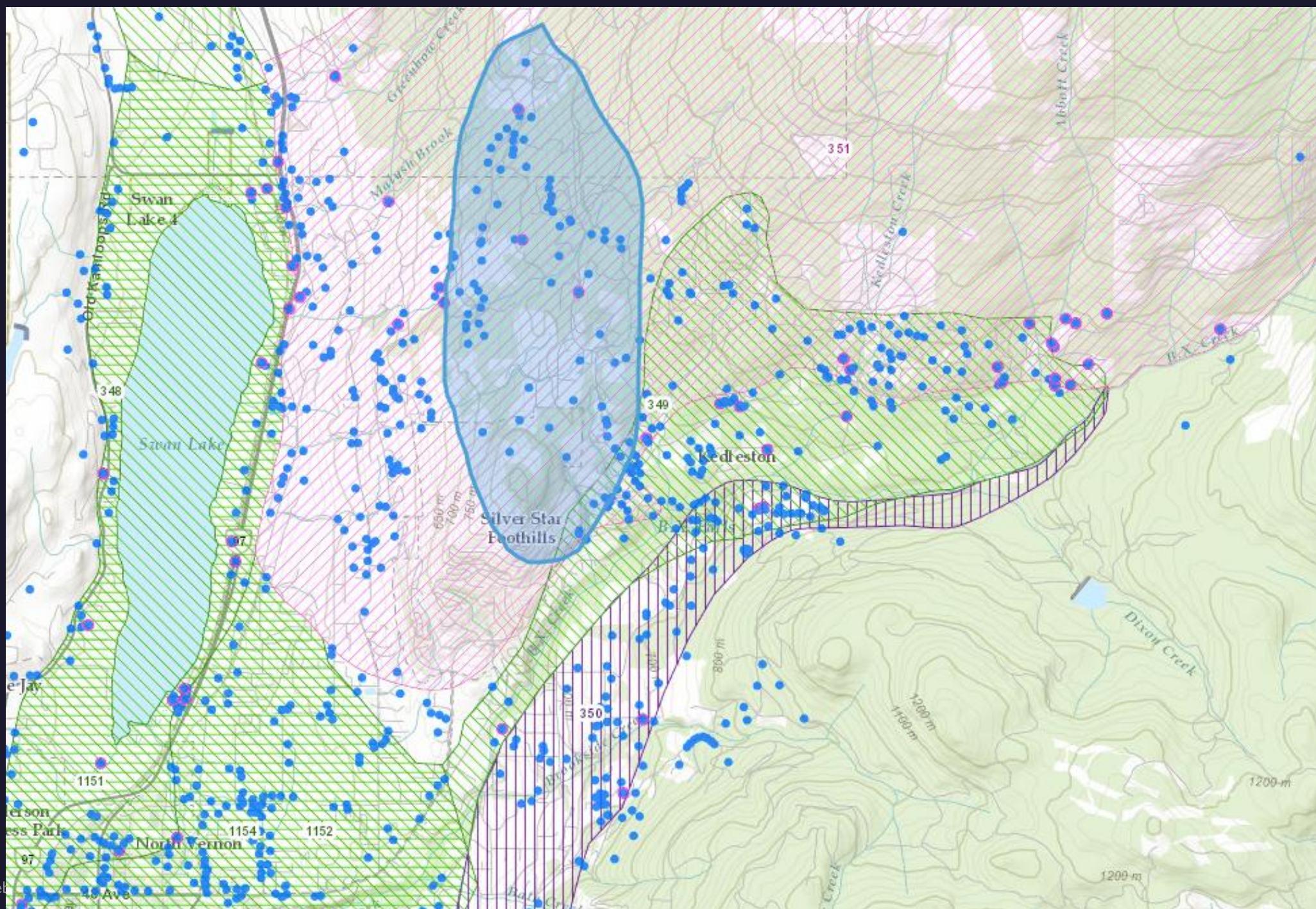
Google Earth

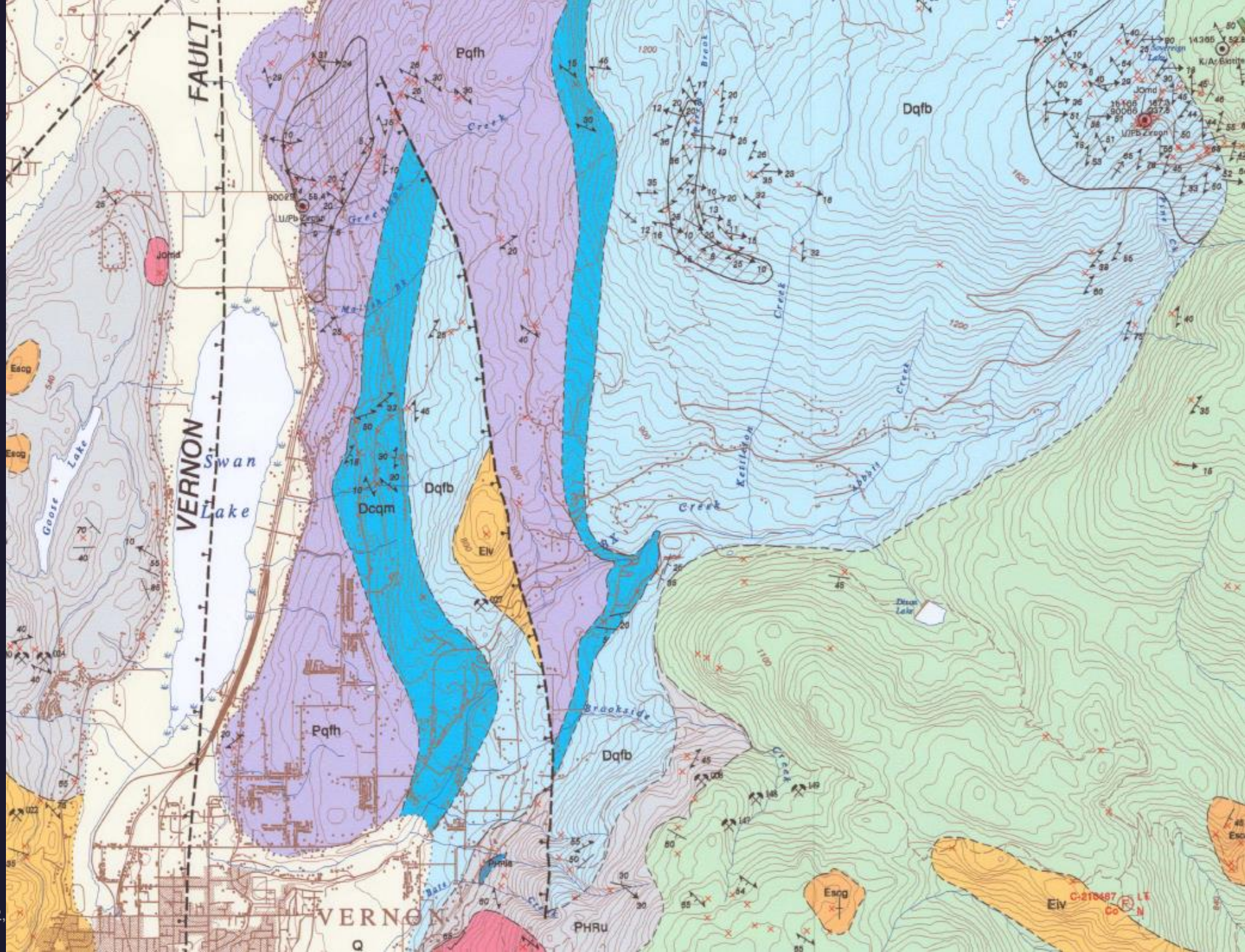
RDNO Subdivision and Proof of Water

- There has long been development pressure west of Silver Star Road, and the area has been identified as an area of concern for groundwater supplies. In the Mid-2000s, the RDNO looked into providing community water to the area but it was cost prohibitive
- More recently (2019 – 2022), the RDNO commissioned Golder to complete two studies into water availability from aquifers 350 and 351 (bedrock aquifers north and south of BX Creek)
- As an outcome of the study, the RDNO is proposing changes to the Subdivision Bylaw for Electoral Area C.

Proposed New Changes

- At least one year of continuous water level monitoring for each well proposed as a water source.
- A survey (door to door, mail out?) to determine all wells within 300 m
- Driller-estimated yield of >3.6 US gpm no longer sufficient. Pumping test required, minimum duration of 72 hours for bedrock aquifers. 48 hours minimum for others
- At least one observation well must be monitored within 100 m of the pumping well in same aquifer or same fracture network
- Where more than one parcel to be created, every proposed well must be pumped at the same time.
- Letter of Certification required from hydrogeologist, in addition to report.





DEVONIAN (and CARBONIFEROUS?)

SILVER CREEK FORMATION (Jones, 1959)

Silver Creek schist: Quartz-feldspar-muscovite-biotite schist with or without garnet, staurolite and sillimanite; black carbonaceous schist; dark-grey to tan micaceous quartzite; minor white-to-grey marble; amphibolitic schist; minor amphibolite (map units Peb4 and Peb6 of Read, 1979a).

Dqfb

Dm

Silver Creek marble: Medium to coarse crystalline, white to dark grey marble (map unit Psc5 of Read, 1979a).

MIDDLE? DEVONIAN

CHASE FORMATION (CALCAREOUS QUARTZITE MARKER UNIT)

White to light grey, cliff-forming, calcareous quartzite having a coarse, pitted texture on weathered surfaces; diopside rich calcsilicate bands (map unit F3 of Reesor and Moore, 1971).

Dcqm

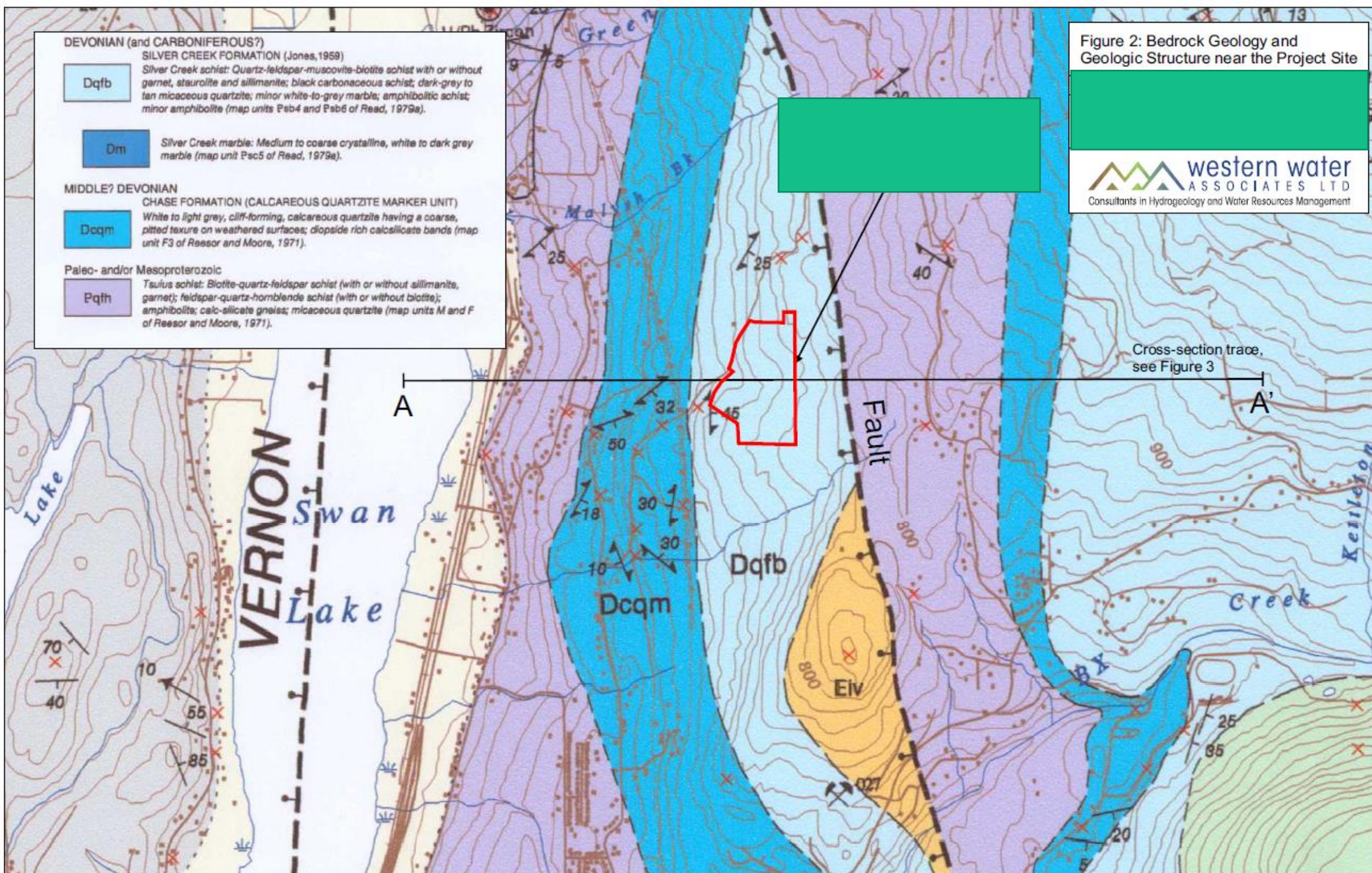
Paleo- and/or Mesoproterozoic

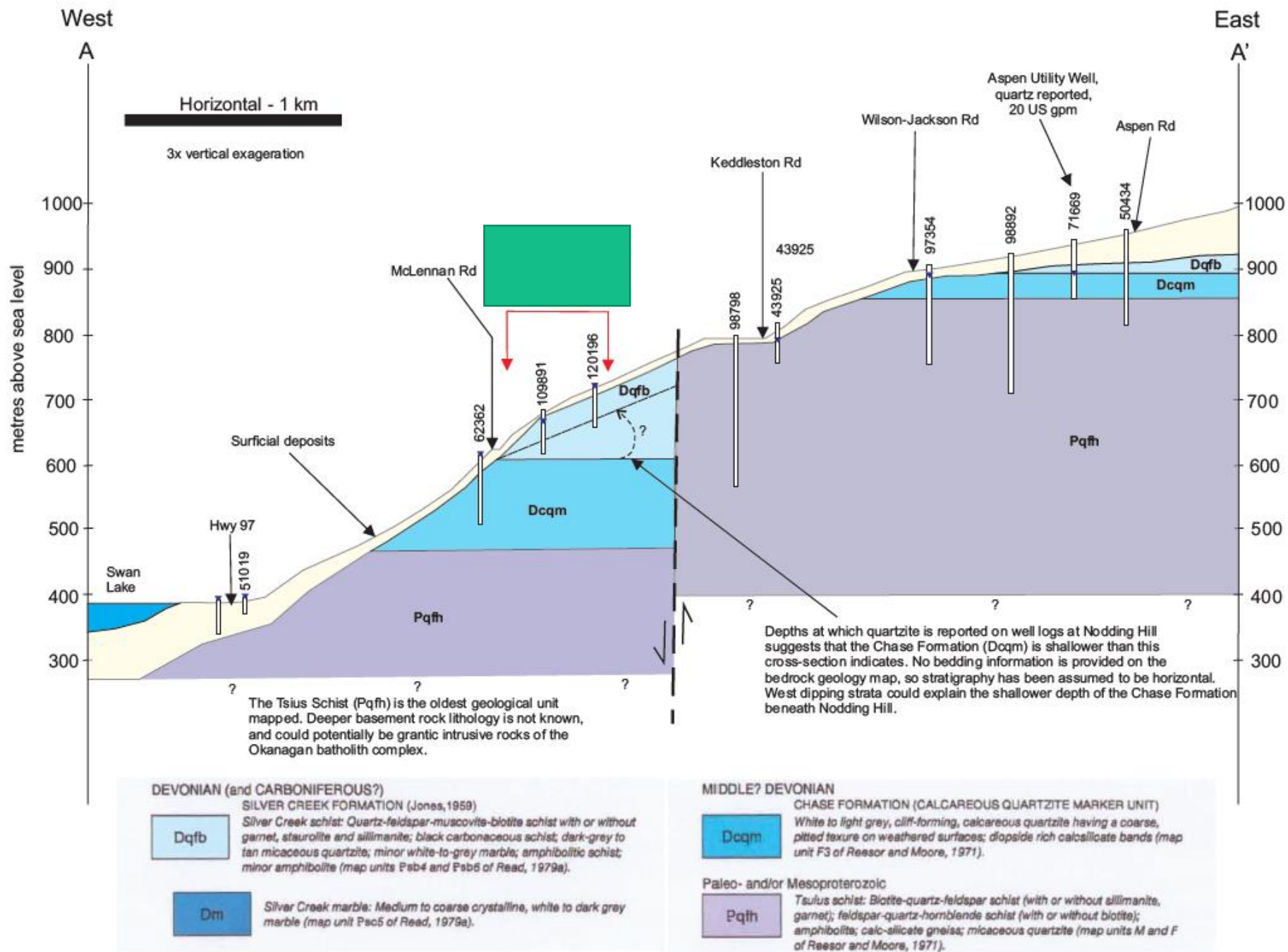
Pqth

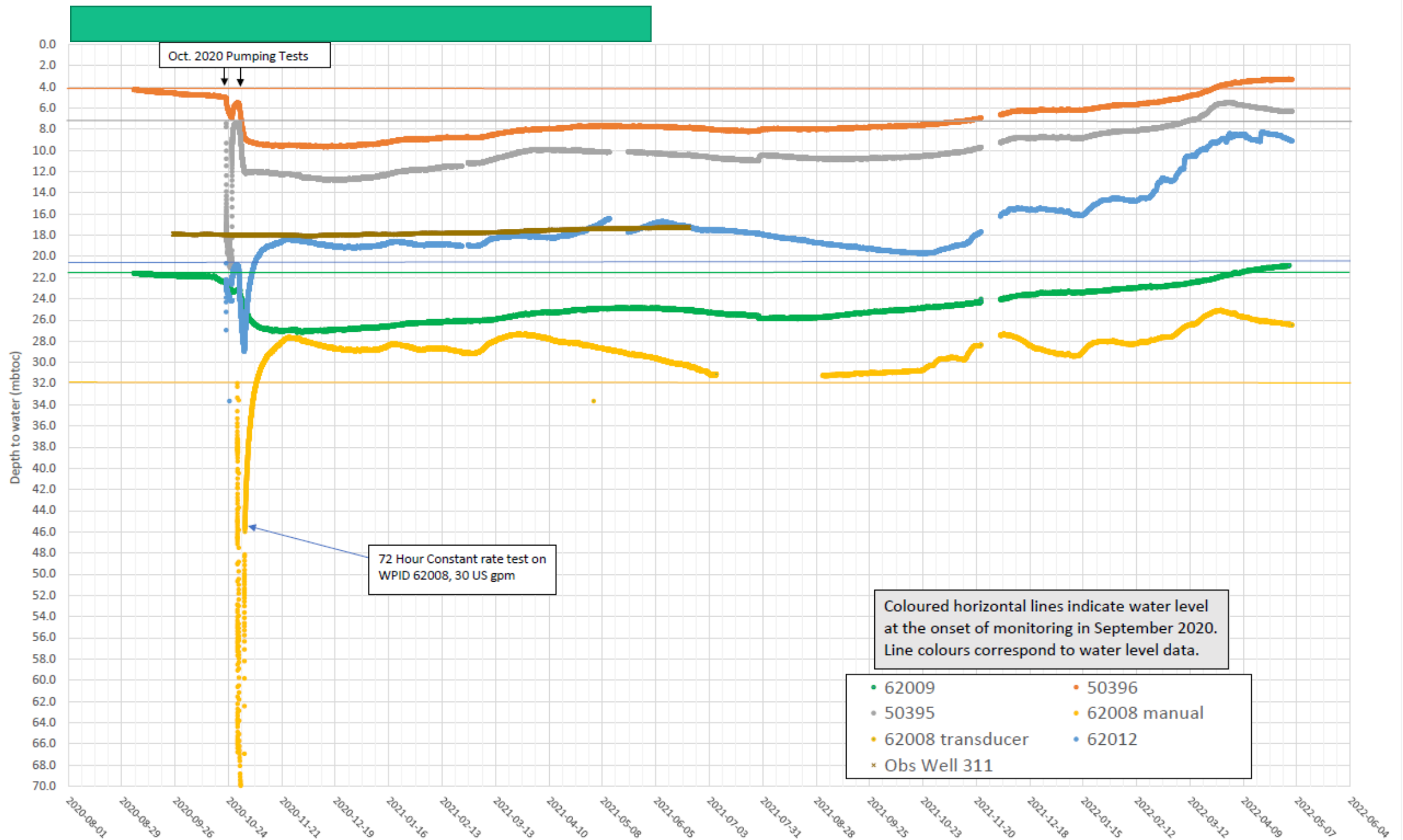
Tsulus schist: Biotite-quartz-feldspar schist (with or without sillimanite, garnet); feldspar-quartz-hornblende schist (with or without biotite); amphibolite; calc-silicate gneiss; micaceous quartzite (map units M and F of Reesor and Moore, 1971).

Figure 2: Bedrock Geology and Geologic Structure near the Project Site

western water
ASSOCIATES LTD
Consultants in Hydrogeology and Water Resources Management







Take-aways

- RDNO Proposed Bylaw Changes out for public comment. In particular they are looking for input from water well professionals
- More info: www.rdno.ca/keddleston
- Send Comments: [planning @rdno.ca](mailto:planning@rdno.ca)
- There are hydrogeologic differences in Electoral Area C. Can't paint the whole area with the same brush.
- This is part of a general trend of increased scrutiny on proof of water for subdivisions. Other Regional Districts are updating their Bylaws as well.