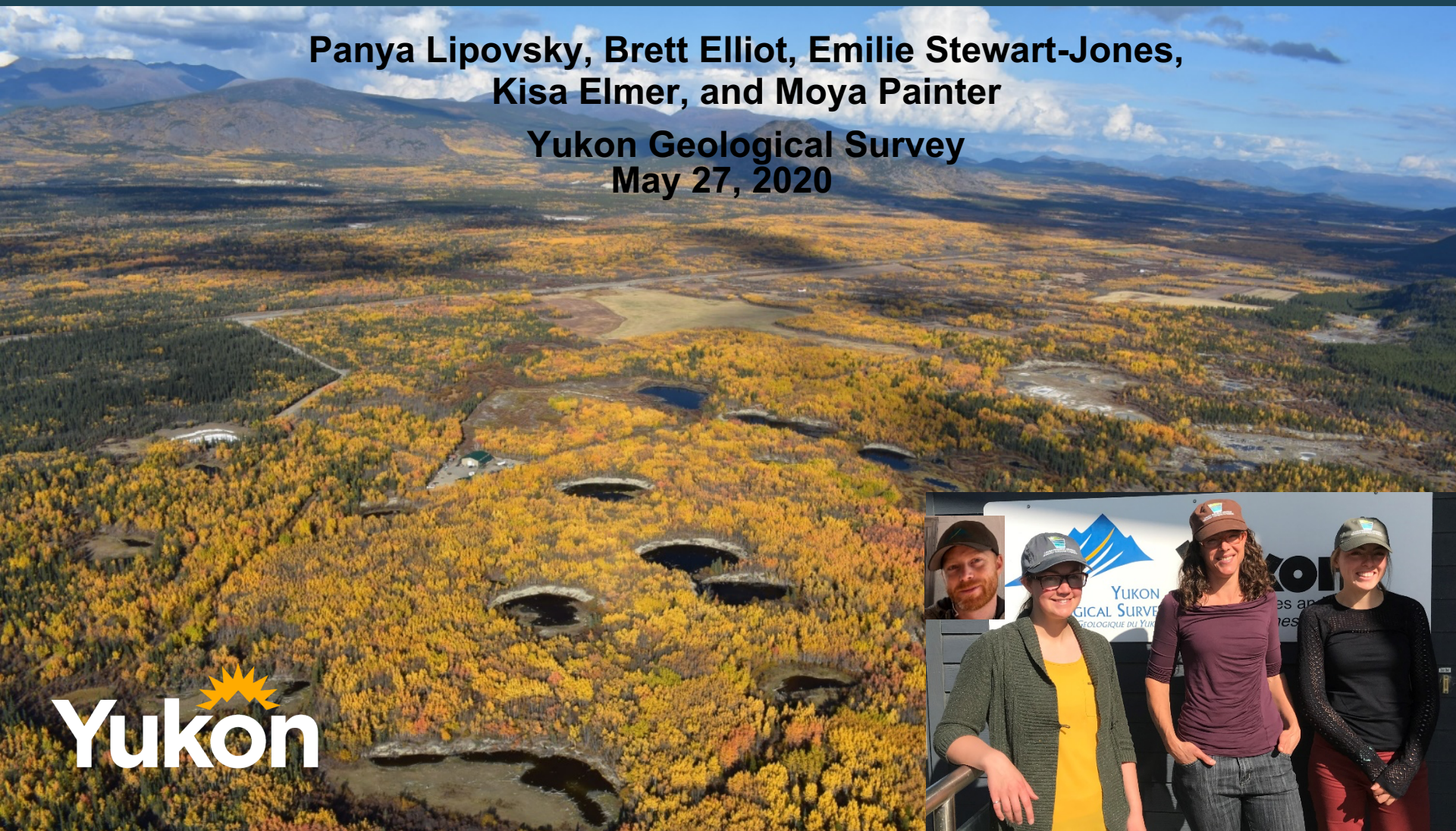




Yukon Permafrost Database Update

**Panya Lipovsky, Brett Elliot, Emilie Stewart-Jones,
Kisa Elmer, and Moya Painter**

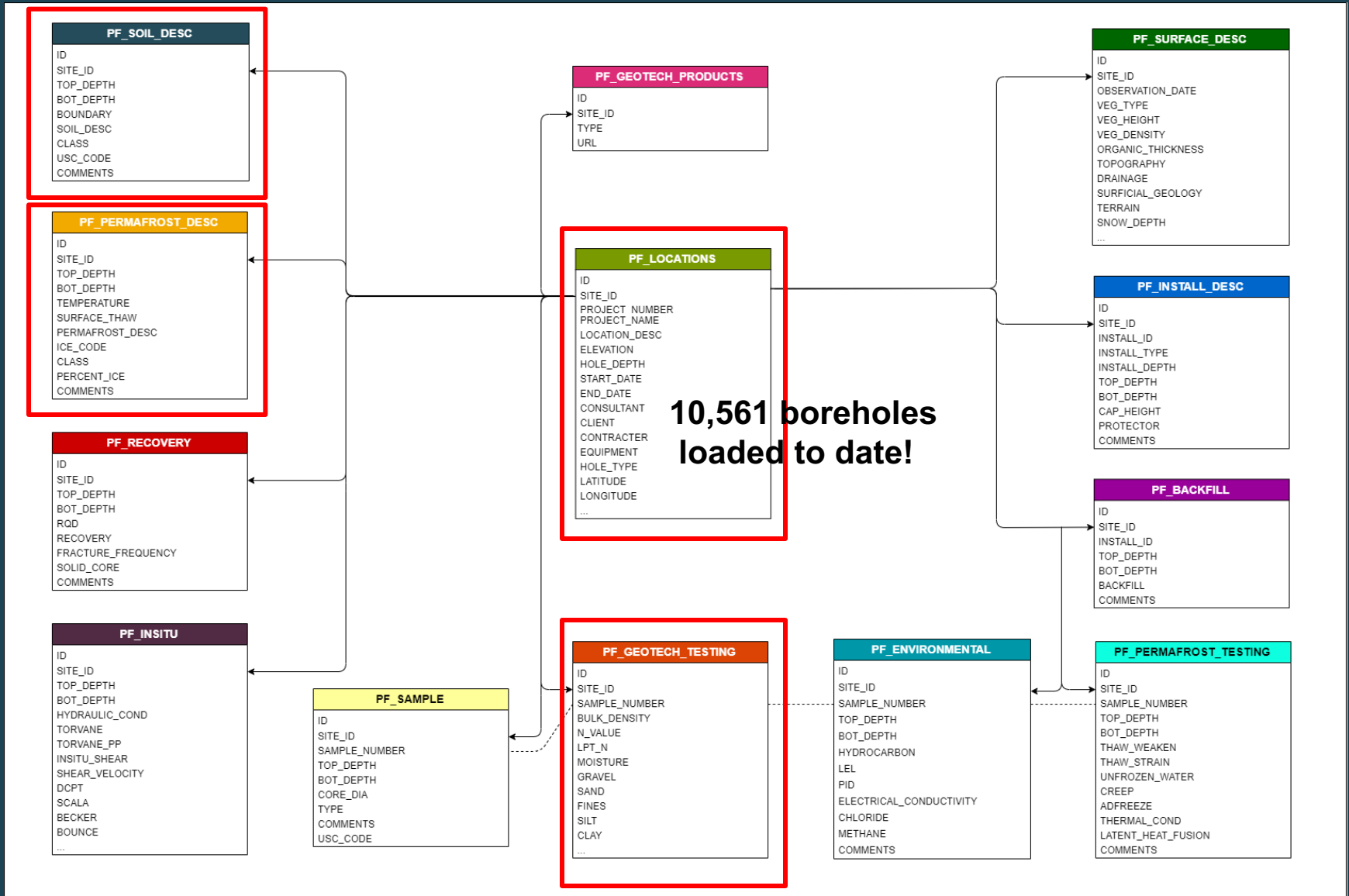
**Yukon Geological Survey
May 27, 2020**



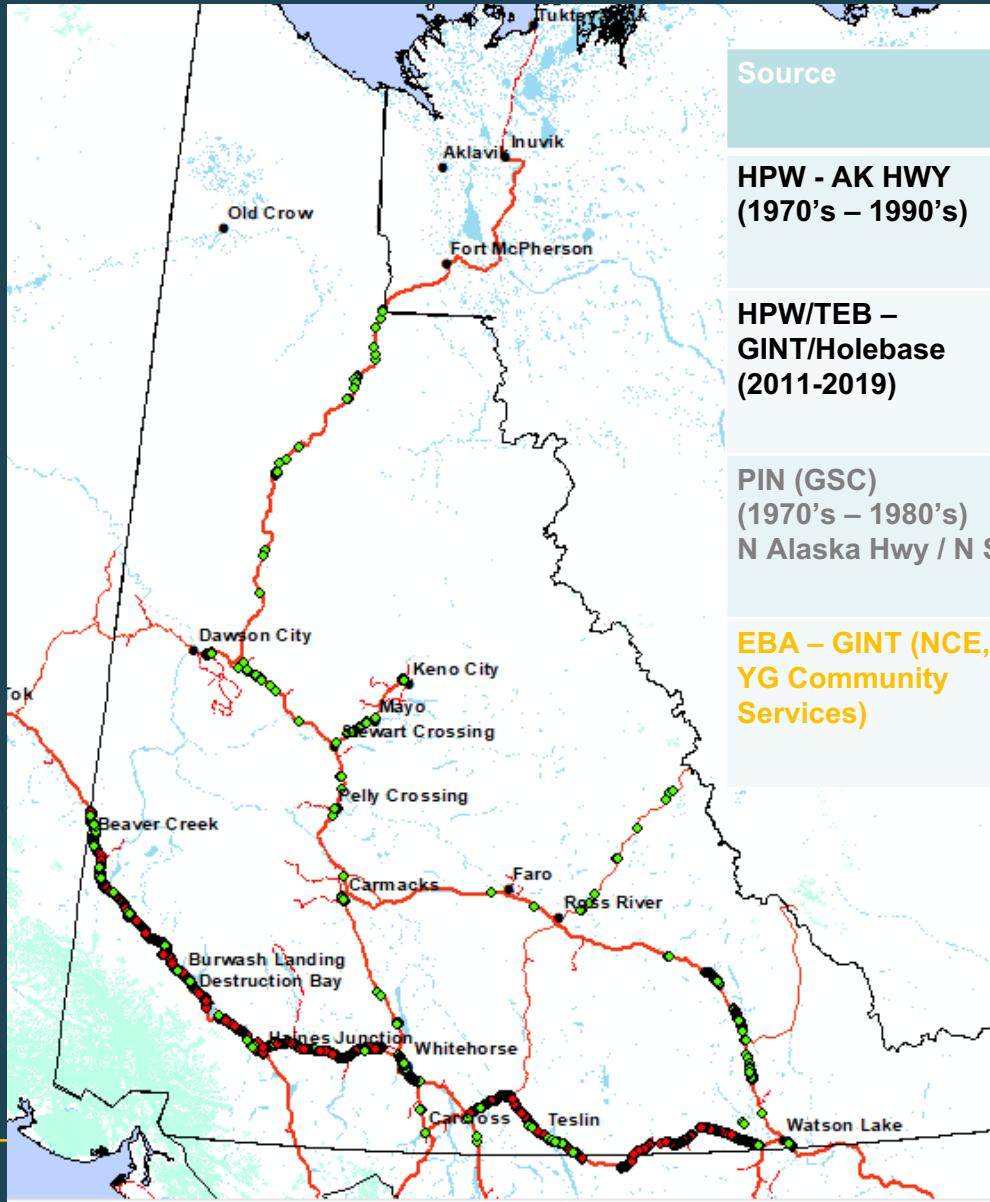
Yukon



Geotechnical Data Model



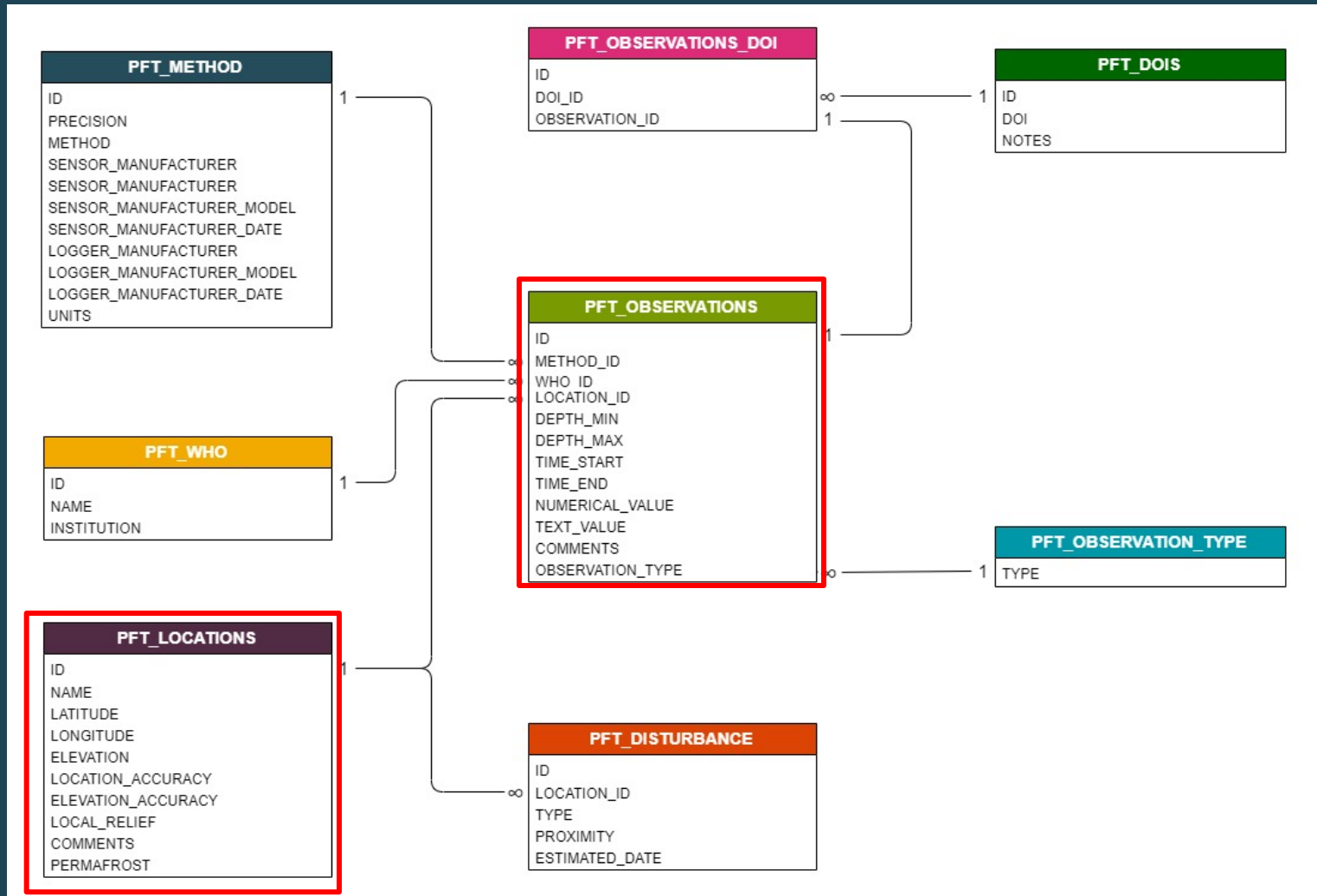
Geotechnical boreholes



Source	Boreholes	Loaded/Available
HPW - AK HWY (1970's – 1990's) ●	8818	Y
HPW/TEB – GINT/Holebase (2011-2019) ●	1743	Y
PIN (GSC) (1970's – 1980's) N Alaska Hwy / N Slope	633	Available via PIN
EBA – GINT (NCE, 2011 / YG Community Services)	4444	N Coming Soon!



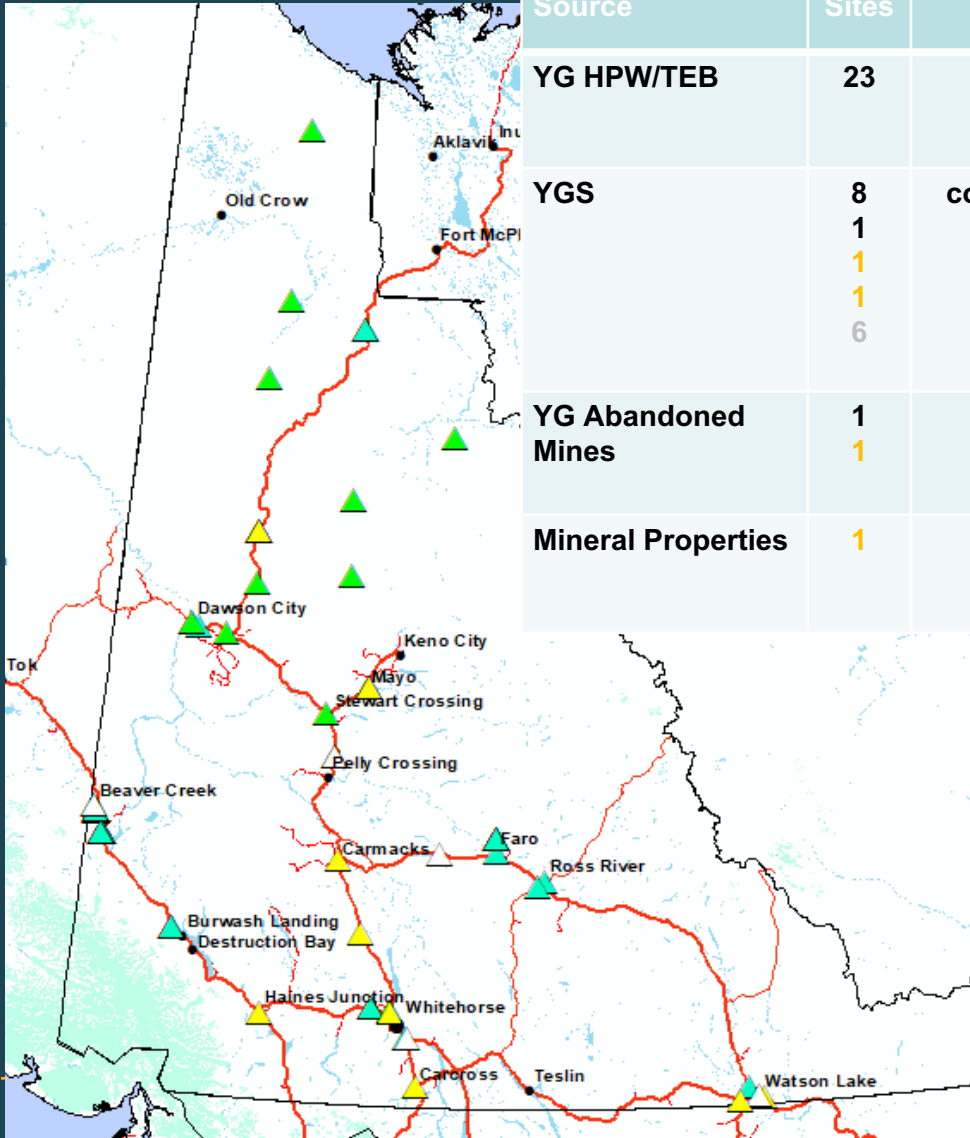
Temperature Data Model



Thermistor Data

80 boreholes
at 33 sites
currently loaded

Source	Sites		Gathered	Loaded
YG HPW/TEB	23	e.g. Dry Ck x10 Beaver Ck test section x25		Y Y
YGS	8 1 1 1 6	community monitoring (3-5 m + 20 m) S Canol Rd geothermal (58 m) Takhini Valley (20 m) Hamilton Blvd (2 & 10 m) N Yukon - US Array (0.5-1.5 m)	 Y Y N	Y Y
YG Abandoned Mines	1 1	Faro Mine (x8) Clinton Ck x11 (16-67 m)	Y	Y
Mineral Properties	1	Casino x6 (39-56 m)	Y	

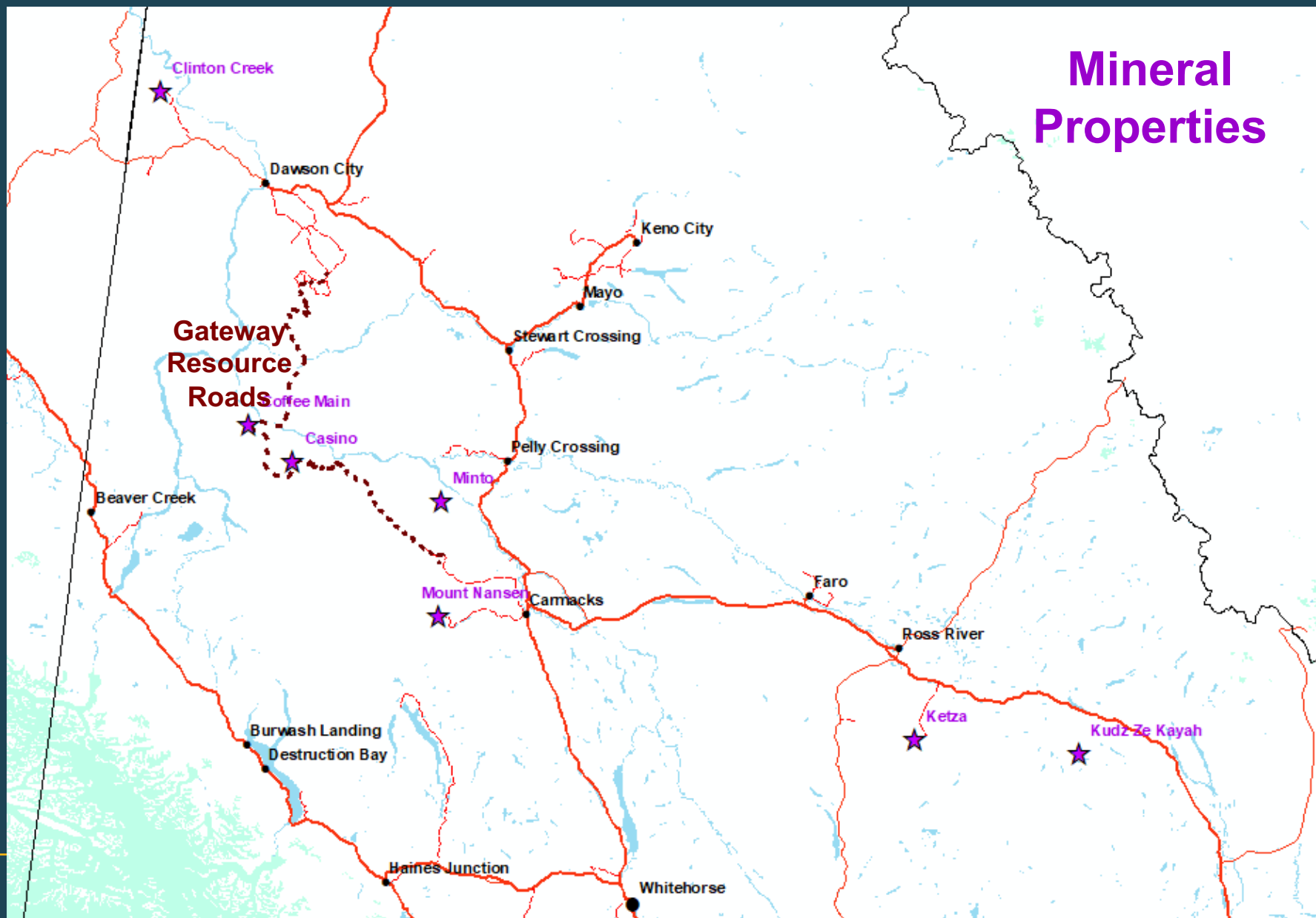


19 boreholes
at 4 sites to come
this summer

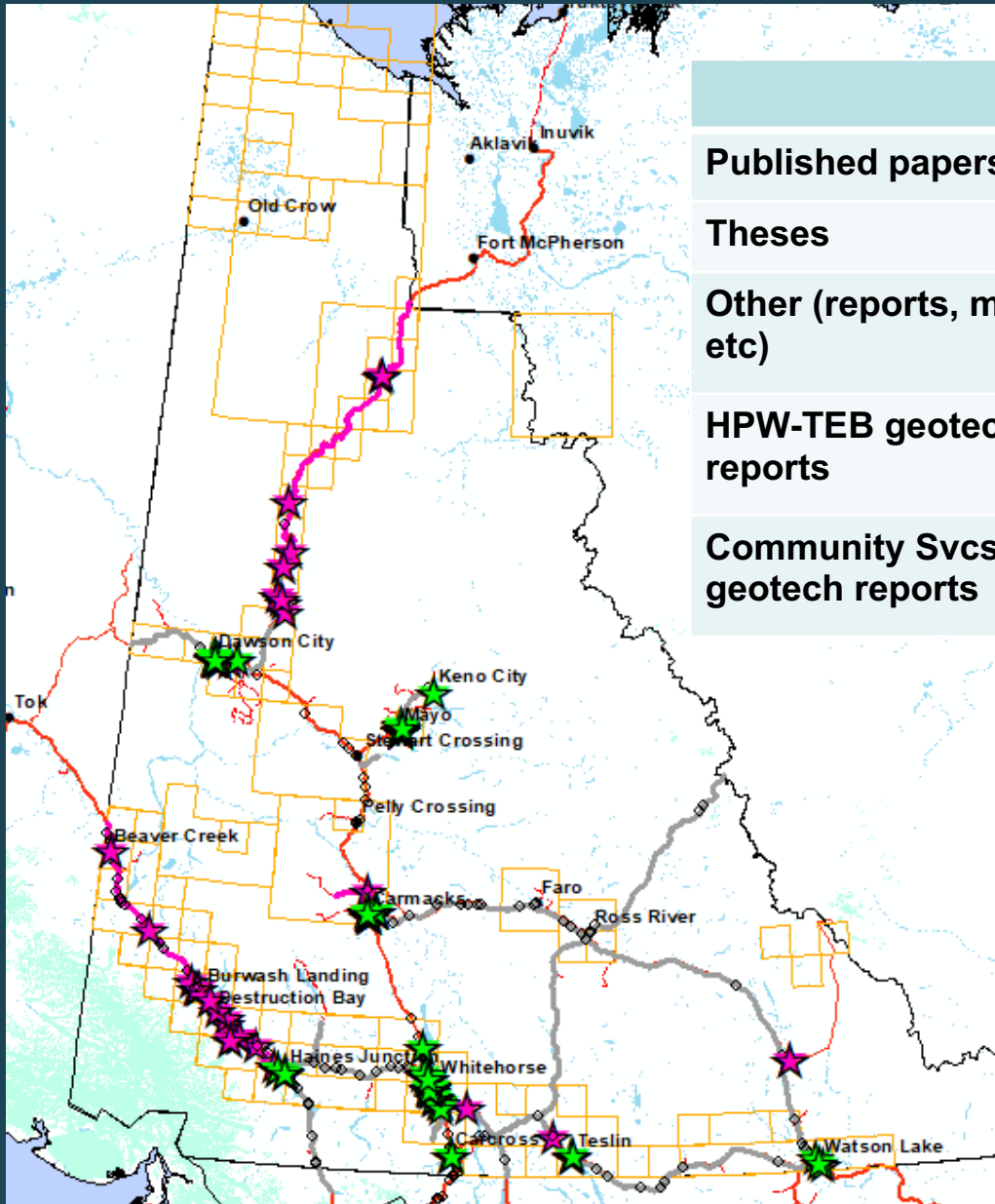
- ▲ permafrost present (54)
- ▲ permafrost not present (15)
- ▲ permafrost unknown (11)



Exploring New Data Sources



Document Footprints



	Gathered	Georeferenced	
Published papers	215	186	
Theses	61	47	
Other (reports, maps, etc)	83	48	
HPW-TEB geotech reports	150	120	★
Community Svcs geotech reports	-	94	★



Other Resources

Yukon2.maps.arcgis.com/home/webmap/viewer.html?webmap=cc3cf79a9f344b70a12f64da651c66f8

YGS Drill hole database:

yukon.ca/en/geology-maps

Home ▾ Yukon Drill Hole Database (Web Map)

Details | Basemap

Share | Print | Measure | Find address

About | Content | Legend

Legend

Drillhole Locations

- Epigenetic Deposit
- Syngenetic Deposit
- Deposit Type Unknown

Bedrock_Faults_and_Contacts

Faults

- normal, <Null>, approximate
- normal, <Null>, covered
- normal, <Null>, defined
- normal, <Null>, inferred
- normal, low-angle detachment, inferred
- strike slip, dextral, approximate
- strike slip, dextral, covered
- strike slip, dextral, defined
- strike slip, dextral, inferred

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yukon.maps.arcgis.com/apps/webappviewer/index.html

Yukon Water well registry

Tips

Access an original well log

- Click on a monitoring point:
- Click on the [Drillers Log](#) link:

Drillers Log: [Drillers Log](#)

Note: Not all records contain driller's logs.

Search for a well by name

Use the text search feature:

Display additional map layers

Additional data such as land parcels, bedrock geology, watersheds, and traditional territories are available in the layer list:

[Layer List](#)

Drill logs for ~1500 Yukon water wells:

Yukon.ca/en/groundwater



Next Steps

- Refine web interface - to be publicly accessible by April 2021
- Formalizing data sharing agreements
- Documentation of database standards and procedures
- Develop updating and long-term maintenance protocols
- Coordinate with other permafrost database initiatives (e.g. GSC/PIN and Permafrost Network)
- Continue adding more data...
- Potential long-term staffing opportunities!

Please contact me for more info/sample data!

Panya.Lipovsky@gov.yk.ca

