

North Yukon Linear Features: Potential Issues and Data Capture Methodology

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1. Data Issues

- The current Yukon Oil and Gas Management Branch Seismic Line database (*'Yukon seismic line database'* - seismic.shp) appears to be missing historical seismic lines when compared visually to the 50K NTDB data.
- This observation is supported through three major sources:
 - 1:50K NTDB linear features (*base50k.mdb* - transportation layer)
 - National Energy Board reports of historical seismic activity (9,952 km as reported in Osadetz et al. (2005); Petroleum Resource Assessment of the Eagle Plain).
 - Old Crow land user observations (Old Crow land users have identified specific travel routes along old linear features that are not represented in the *Yukon seismic line database*).
- Based on visual inspection of available imagery the *Yukon seismic line database* does not provide a spatially-correct representation of linear features; spatial shifts of 100–500m are apparent. The seismic features were created from the NEB reports that contain coordinates for ends and turns to 1/10 of a second. These also only contain lines that had shot points done on them and does not contain any surveyed or connecting cut that may have been created.
- A number of non-permanent winter exploration trails and survey lines were created during the 1950-1980 historical exploration period; many of these features are still visible on the landscape today. The *Yukon seismic line database* does not represent the trail network created to support the historical seismic activity. It is fully acknowledged that some visible linear features are not associated with historical oil and gas exploration.
- For the seismic line features contained in the database, the *Yukon seismic line database* provides an excellent attribute record (year of creation, company that created seismic line) of those features.

2. Proposal

To facilitate an objective assessment of historical, current and potential future levels of linear feature footprint in the North Yukon Planning Region, a more complete and spatially accurate inventory of linear features is required. This inventory can be accomplished by two major activities:

1. Obtain records of missing seismic lines from NEB for current *Yukon seismic line database*, and add these features to the current database.

2. Through digital data capture, use 1:50K transportation features to spatially represent historical linear features, with the identification of seismic lines being informed from the updated *Yukon seismic line database*.

While the re-vegetation status of all historical linear features, both seismic lines and trails, cannot be quantified at this time, this proposed linear feature data capture will provide the foundation for a future quantitative field-based assessment.

3. Methods

Study Area

Figure 1. North Yukon Planning Region and immediate adjacent areas with focus on Eagle Plains (*ny_planning_region_250k.shp*). NOTE: Peel Plateau should also receive a similar exercise at a future date using methodology developed during this project.

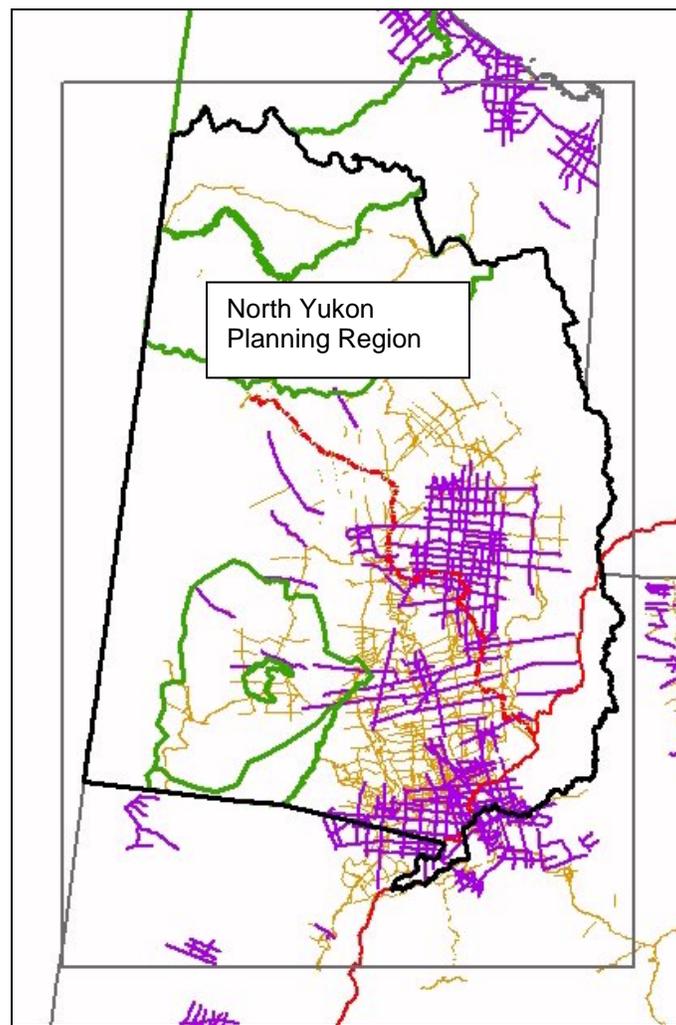


Figure 1. North Yukon Planning Region Study Area (*ny_planning_region_250k.shp*)

Data Capture

- Use 1:50K NTDB linear features (*base50k.mdb* - transportation layer) as initial working base file.
- Create 4 new fields:
 1. *F_TYPE*: text, 8 characters
 - ‘MR’ = Major Road – only used for Dempster Highway
 - ‘WR’ = Winter Road (Old Crow Road only current one)
 - ‘AR’ = Access Road – used for existing all season minor/resource access roads
 - ‘SL’ = Seismic Line – only features identified in updated Yukon seismic line database
 - ‘TR’ = Trail - unidentified linear feature; all unidentified historical linear features (survey lines, trails, tote roads and similar)
 2. *WIDTH*: long integer
 - ‘MR’ = 60
 - ‘WR’ = 10
 - ‘AR’ = 10
 - ‘SL’ = 8
 - ‘TR’ = 8
 3. *LINE_NAME*: text, 15 characters (LINENAME attribute from Yukon seismic line database)
 4. *SOURCE*: text, 20 characters
 - ‘50K transportation’ = 1:50K NTDB transportation features
 - ‘250K seismic’ = Yukon seismic line database

Data Capture Rules

1. where identified seismic line features are represented in both *base50k.mdb* and *seismic.shp*, use *base50k.mdb* transportation features to spatially represent seismic lines. Attribute features with “SL”, identify LINE_NAME from Yukon seismic line database, and identify Source = ‘50K transportation’
2. maintain all non-seismic line linear features represented in *base50k.mdb* and assume features are trails / unidentified linear features (with exception of specific cases for Old Crow winter road and Dempster Highway). Attribute features with “TR” and identify Source = ‘50k transportation’
3. use *seismic.shp* to represent seismic lines only when not represented (missing) from *base50k.mdb* (significant in Whitefish Wetlands area). Attribute with “SL”, identify LINE_NAME from Yukon seismic line database, and identify Source = ‘250K seismic’

end