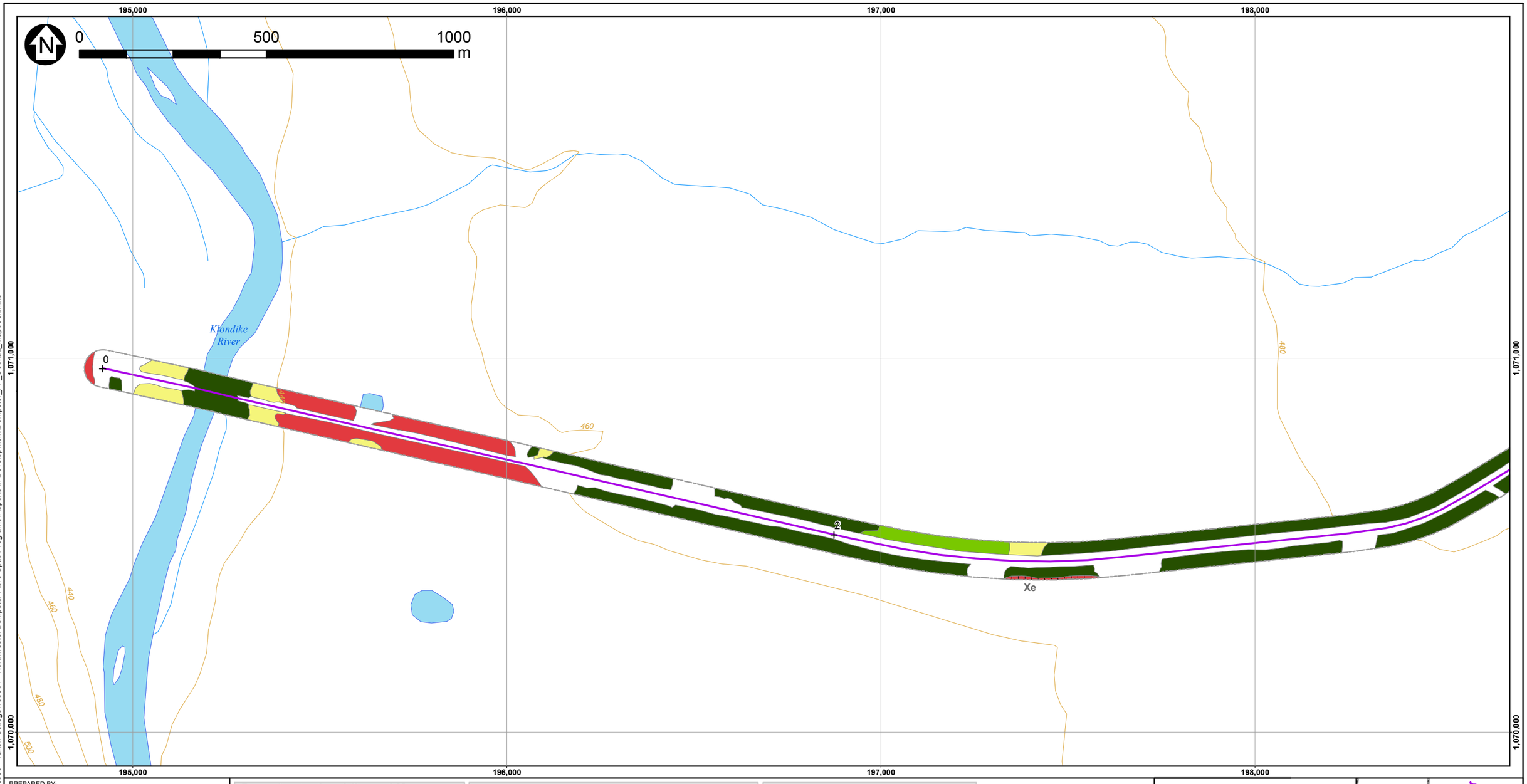


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
| | Moderate | Thin |
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| | Low | Thin |
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| | Anthropogenic | |

**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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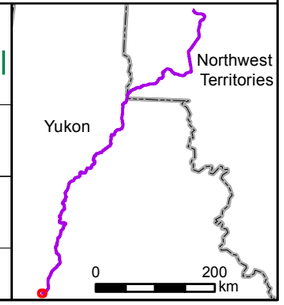
LEDCOR GROUP | NorthwesTel

# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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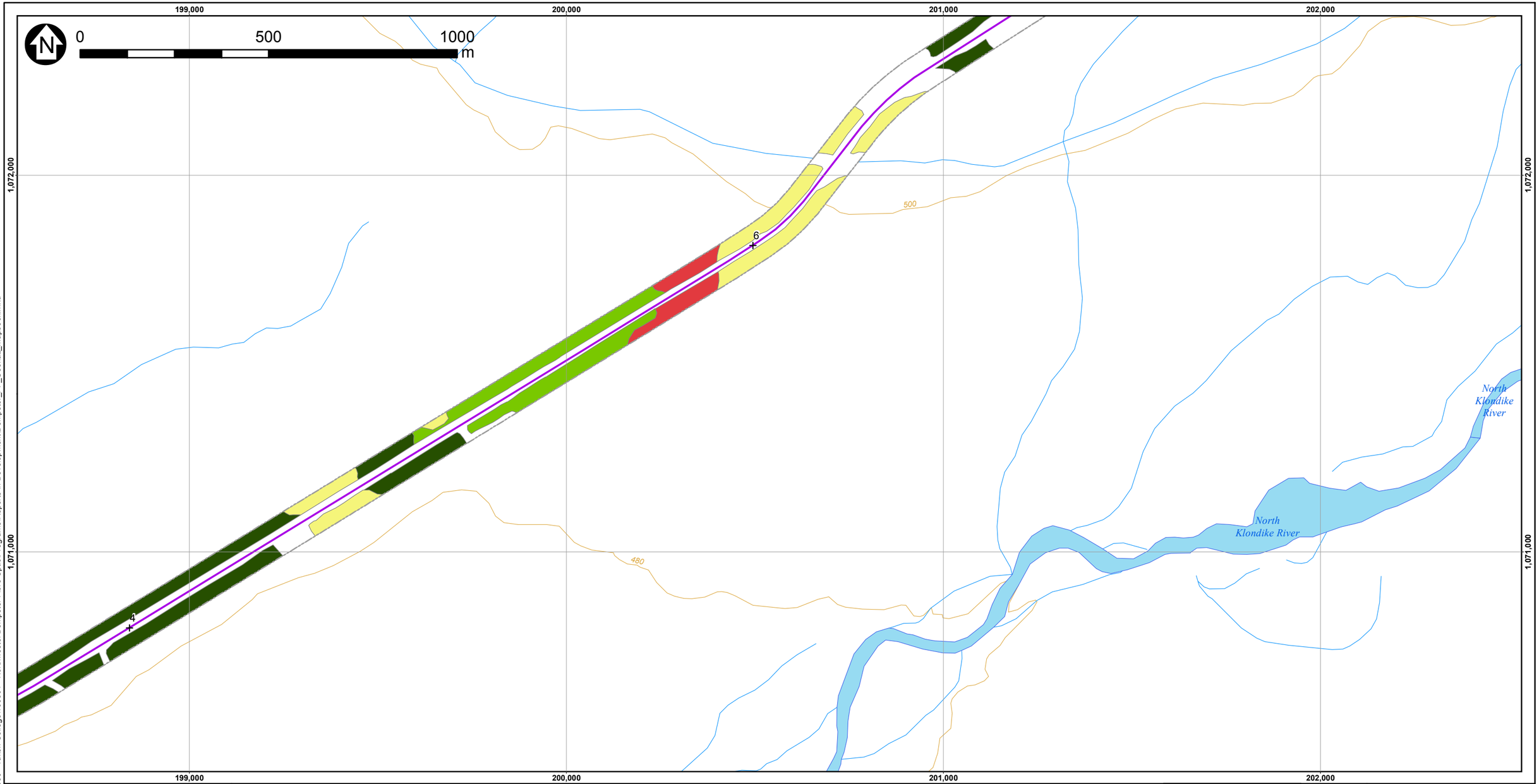


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# Dempster Highway Fibre Optic Line

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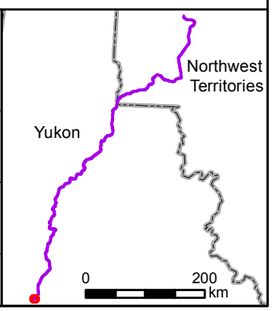

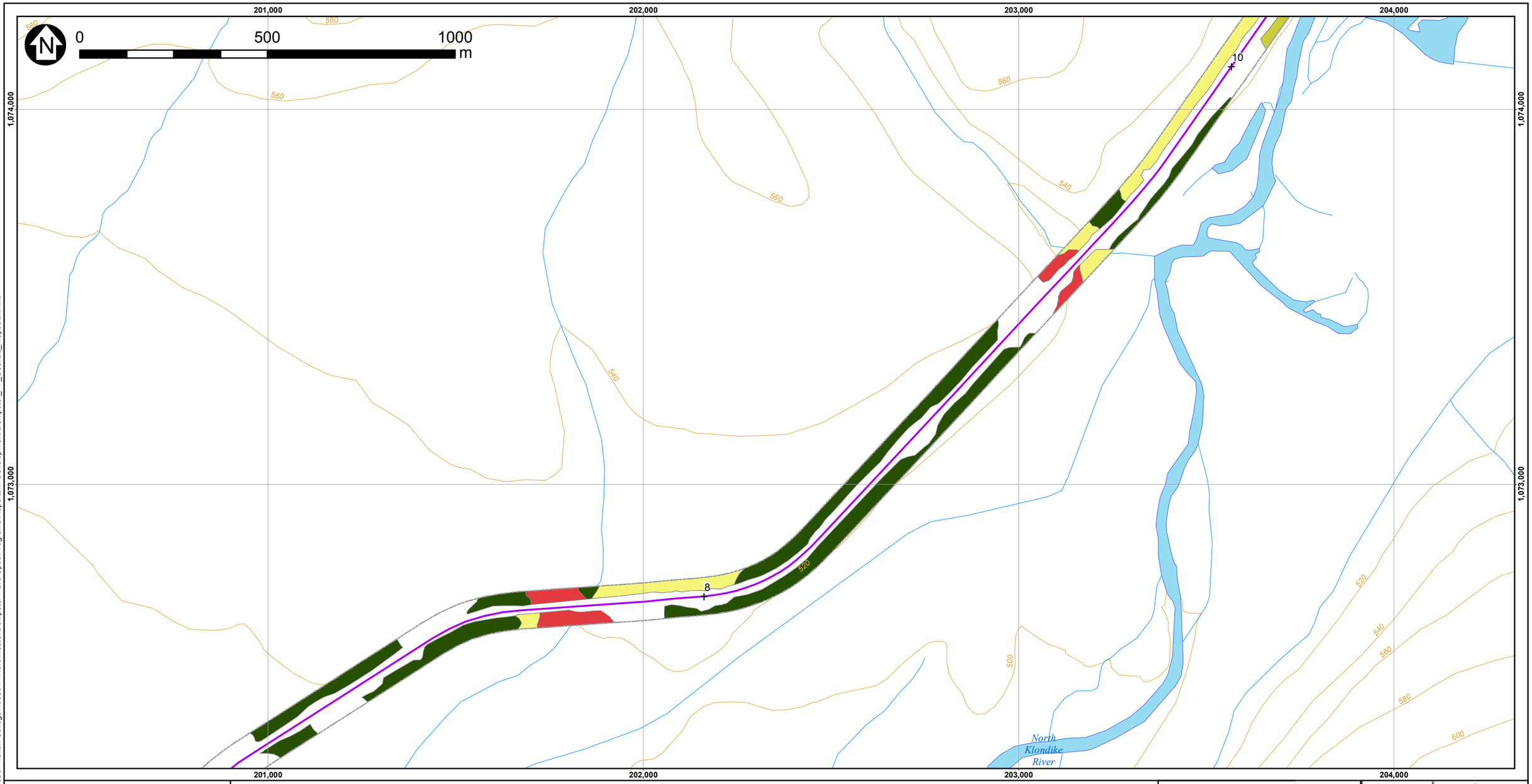


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Horizontal | Vertical | Both

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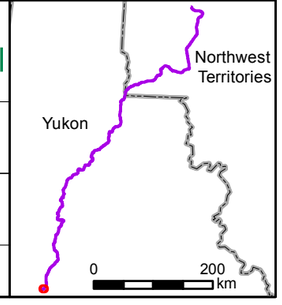
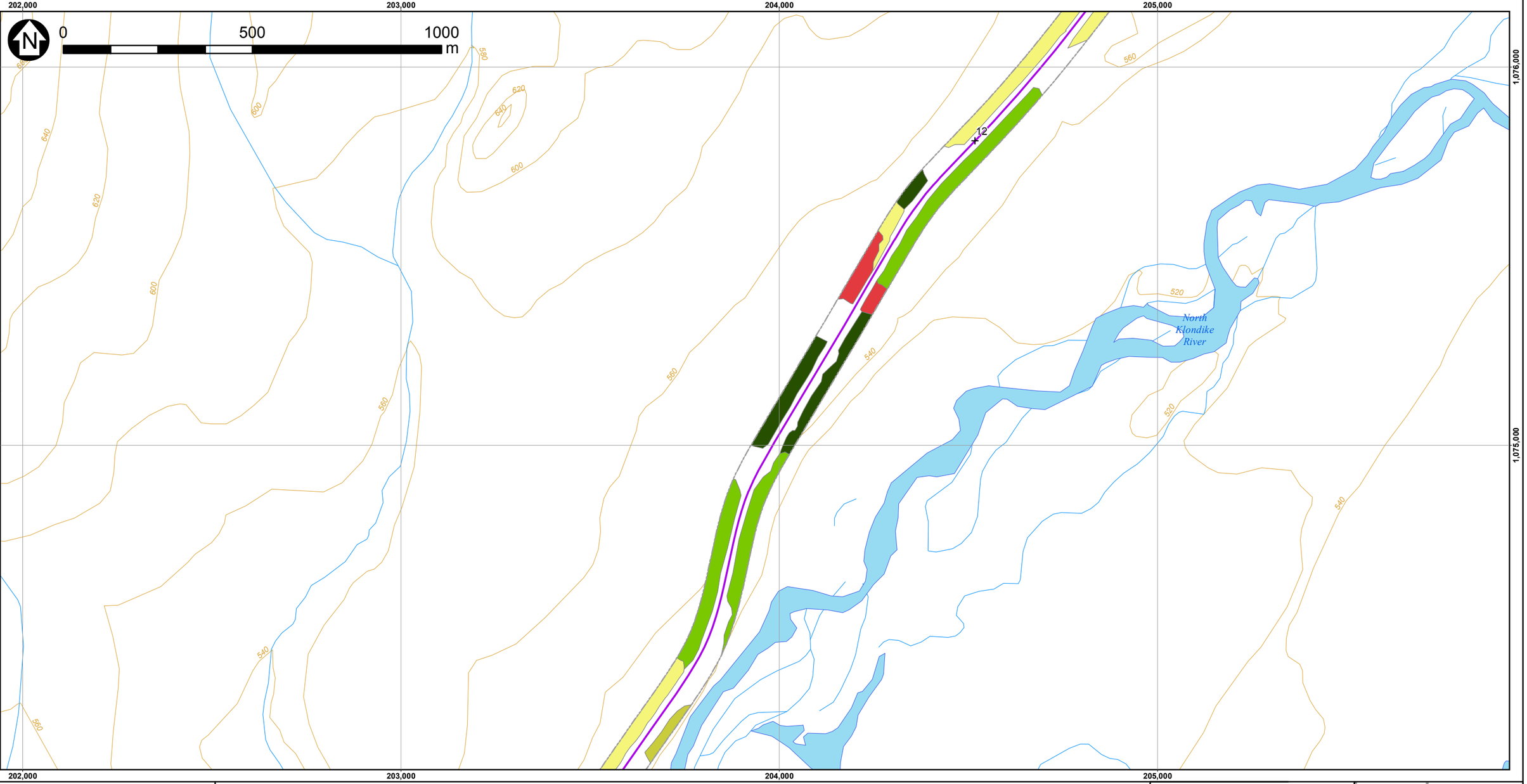
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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Horizontal | Vertical | Both

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LEDCOR GROUP

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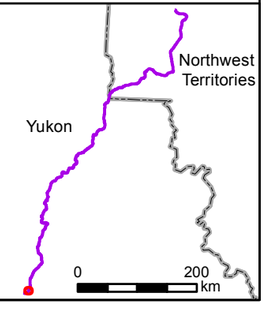
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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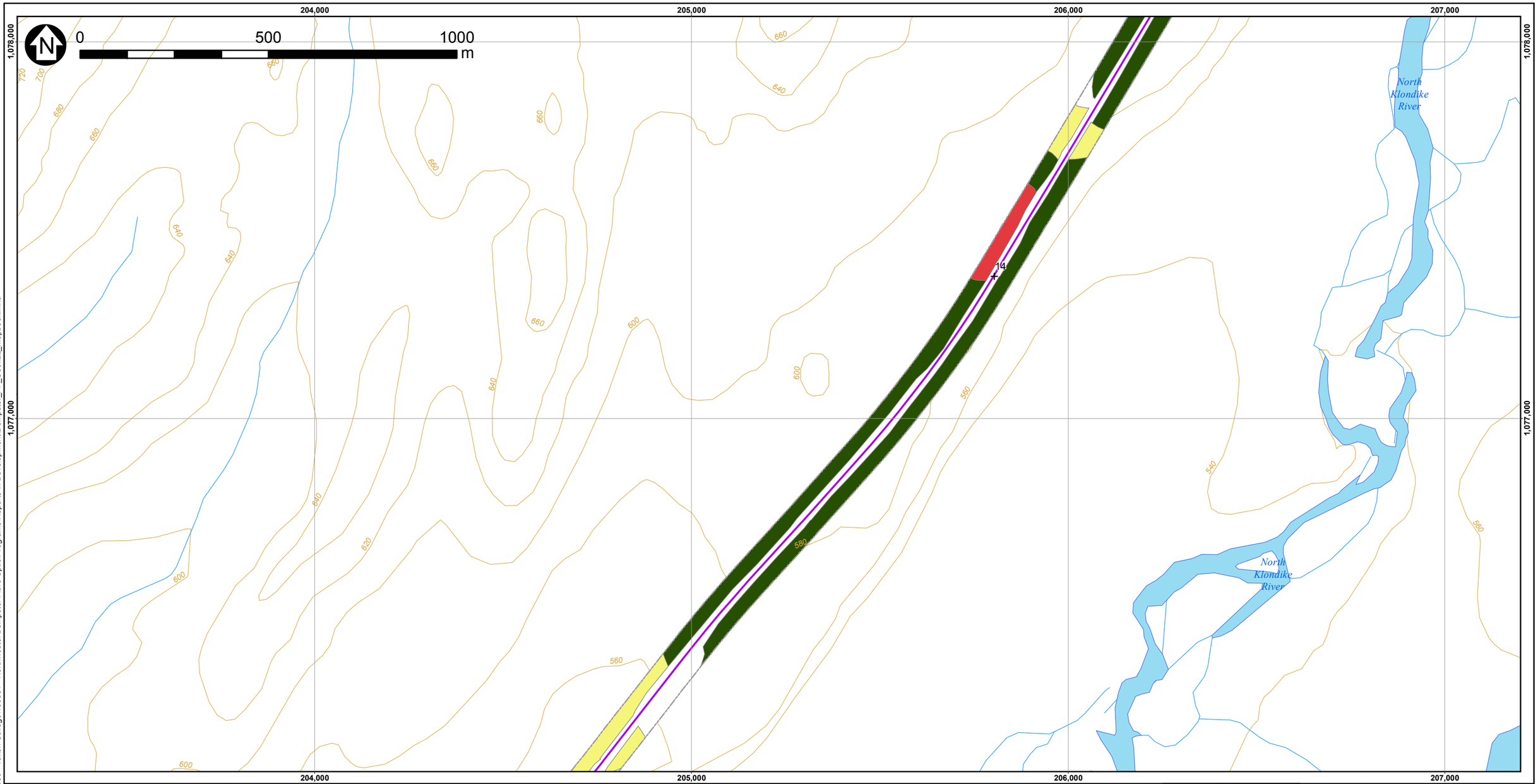


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## Potential Movement Direction

Horizontal  Vertical  Both

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**Dempster Highway Fibre Optic Line**

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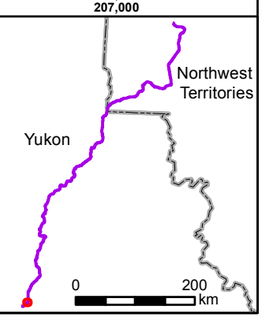


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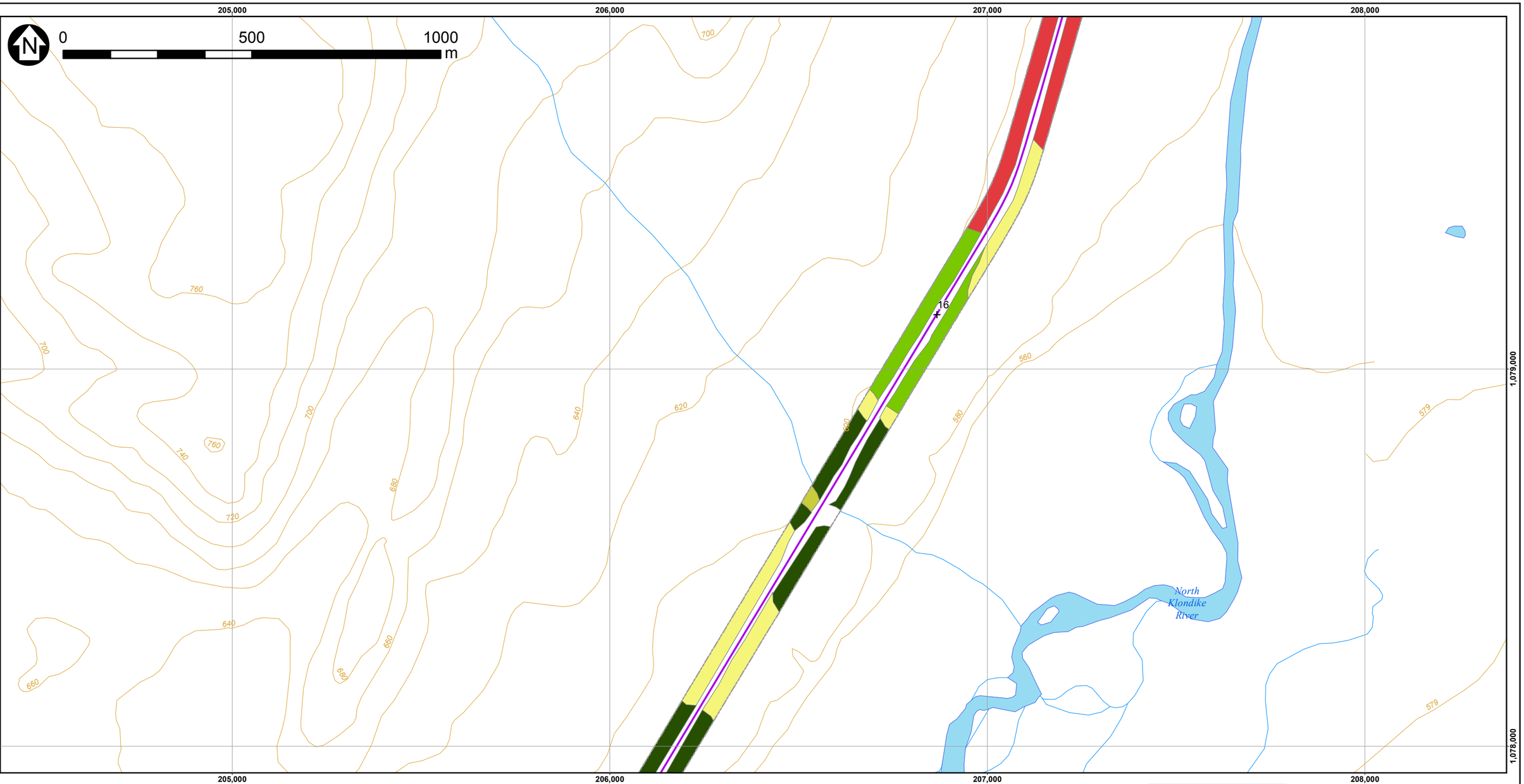


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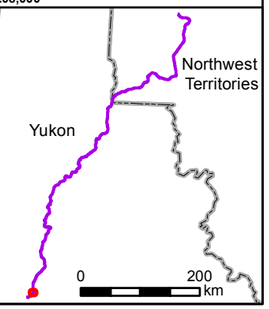

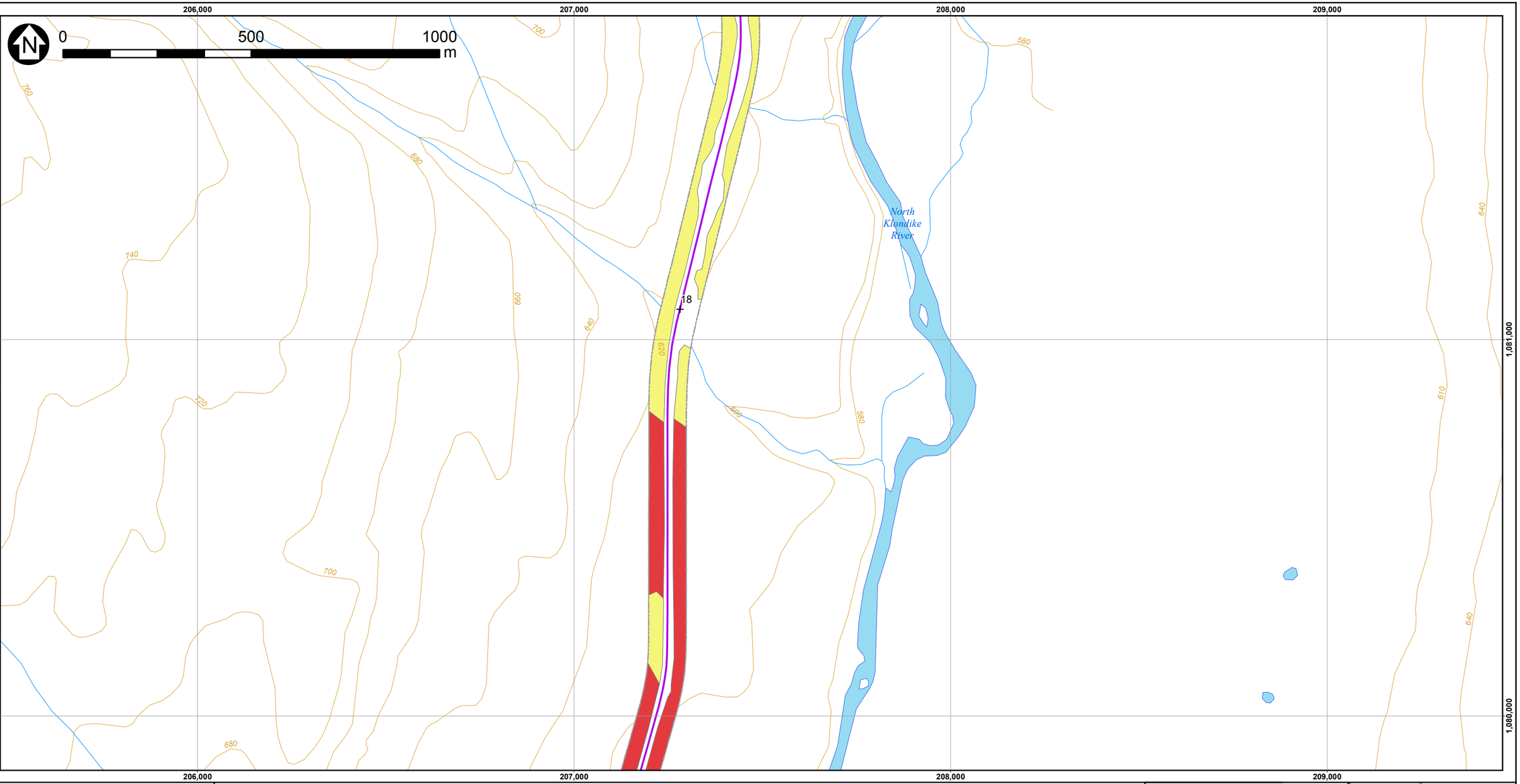


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**Dempster Highway Fibre Optic Line**

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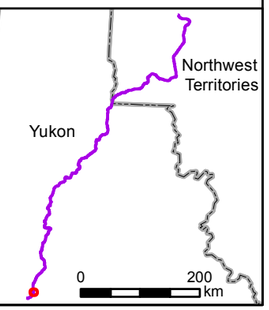


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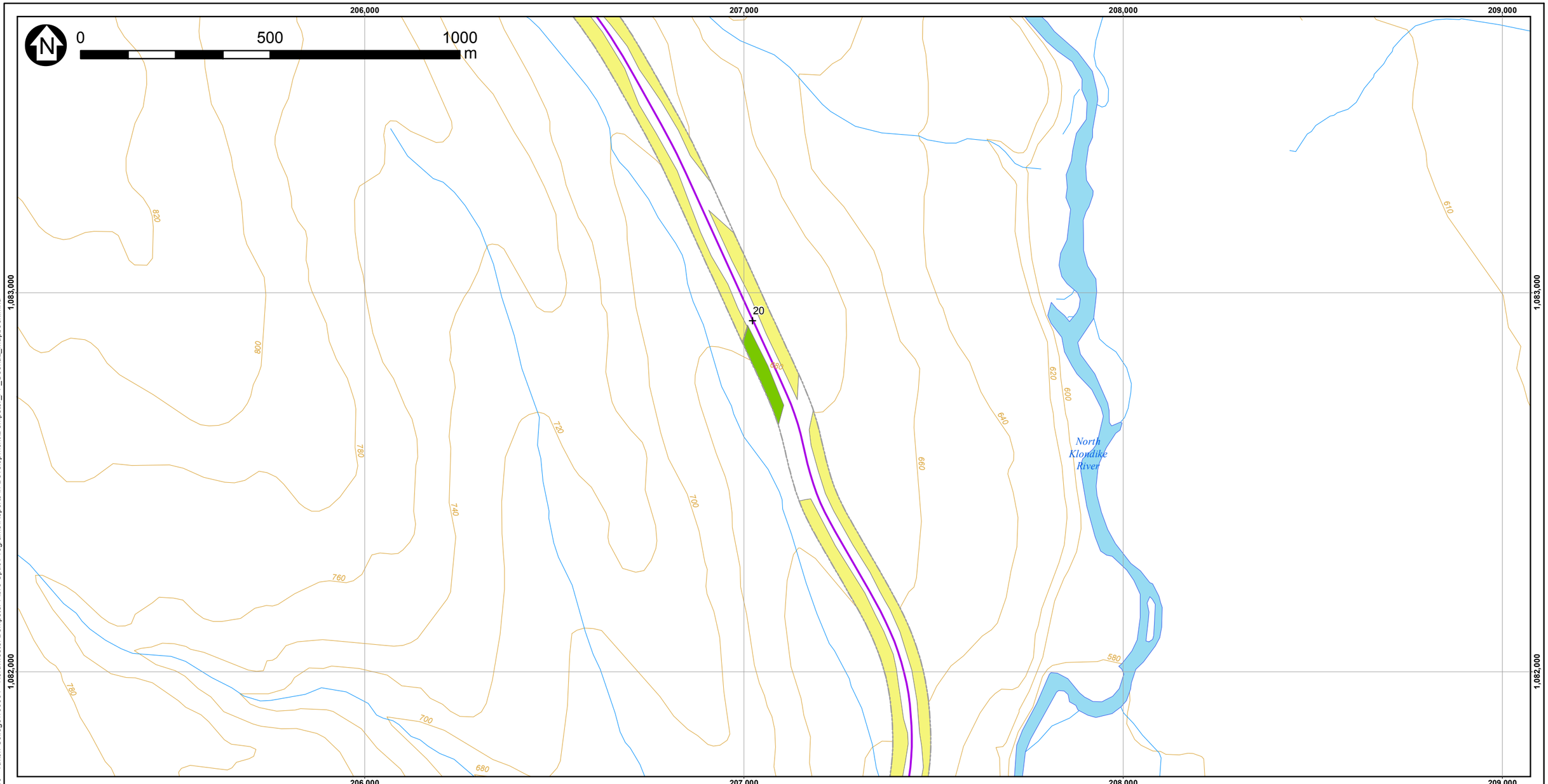


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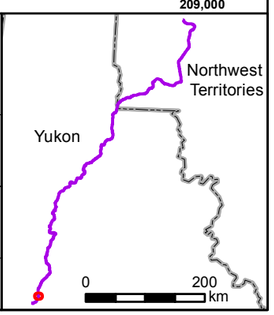
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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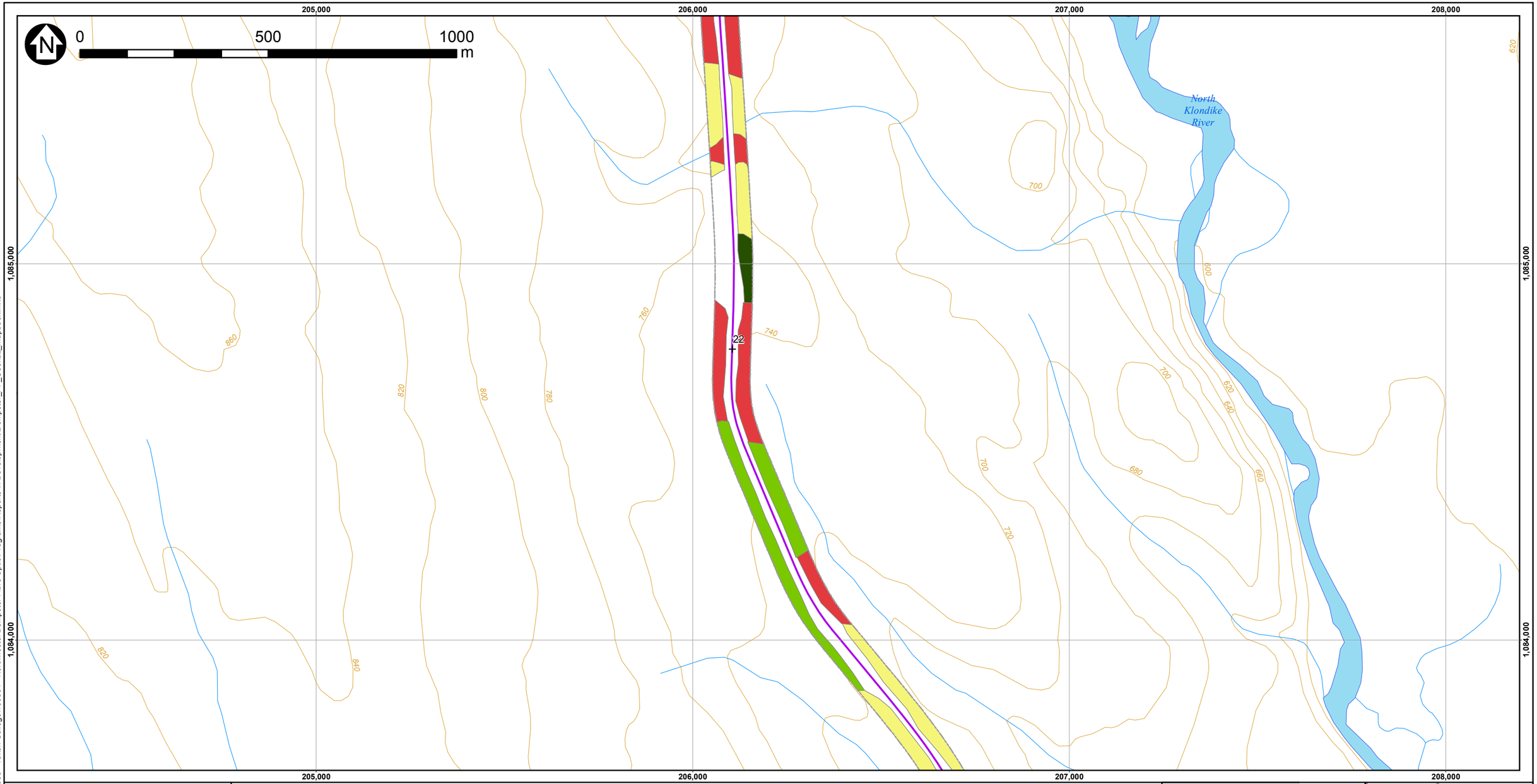


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
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**Mass Movement Geohazard**

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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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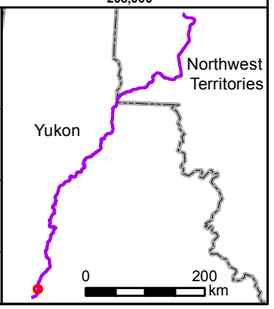

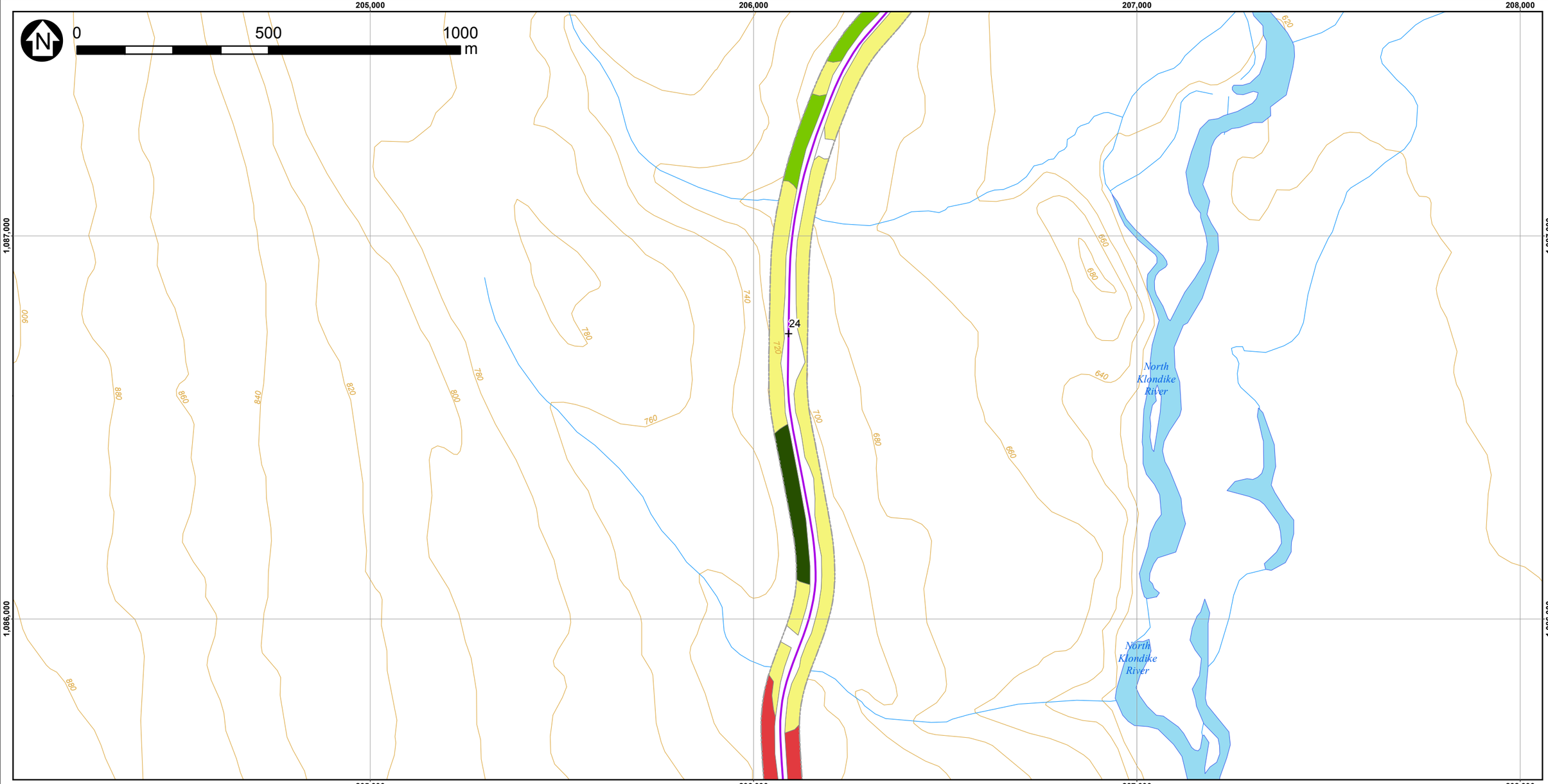


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Horizontal | Vertical | Both

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- +234 Kilometre Post
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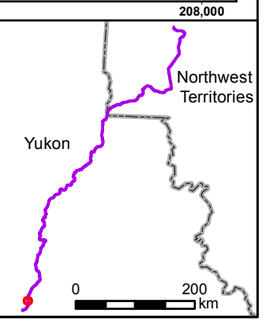


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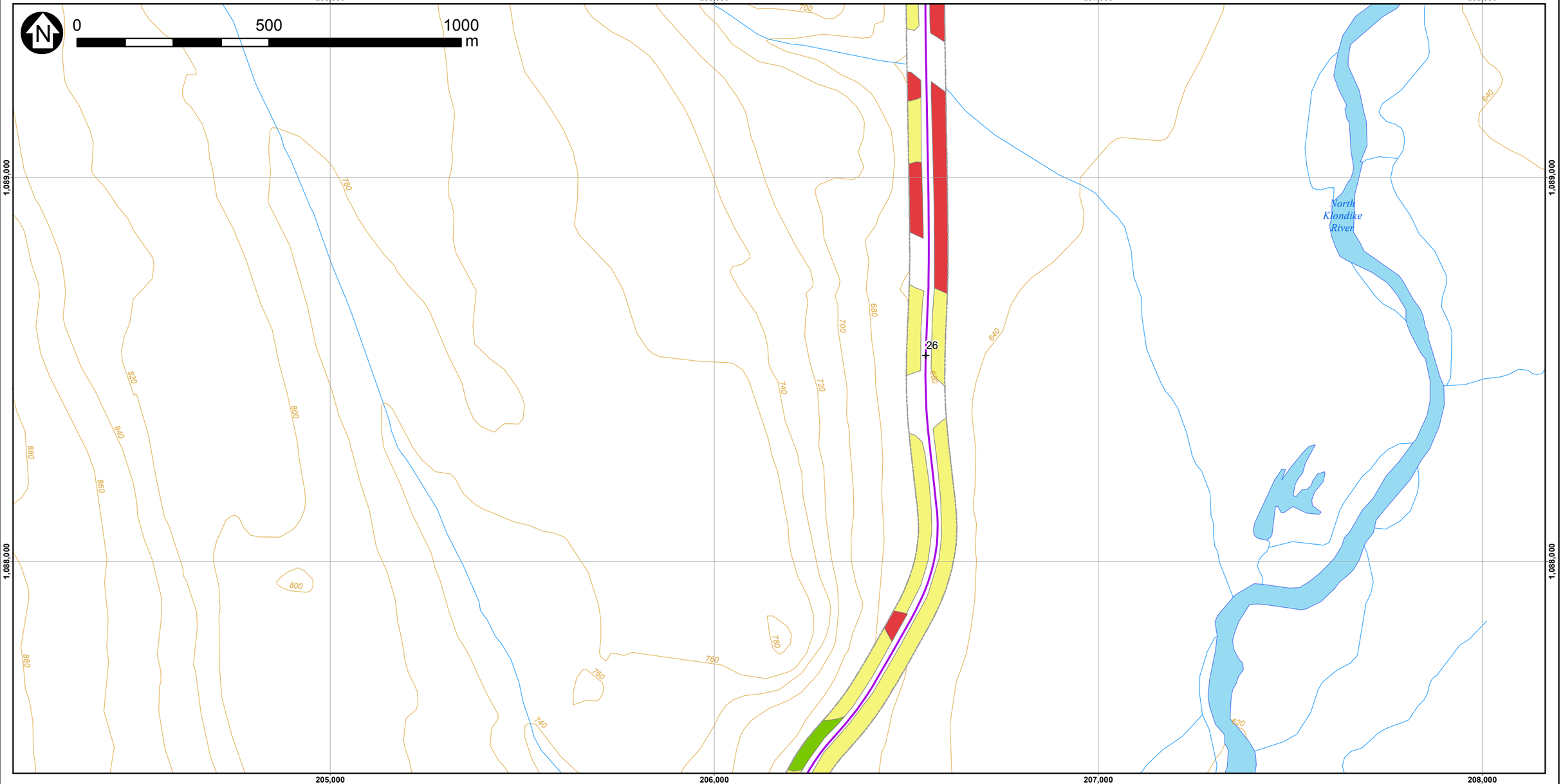


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## Potential Movement Direction

Horizontal | Vertical | Both

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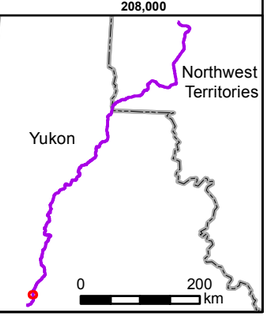

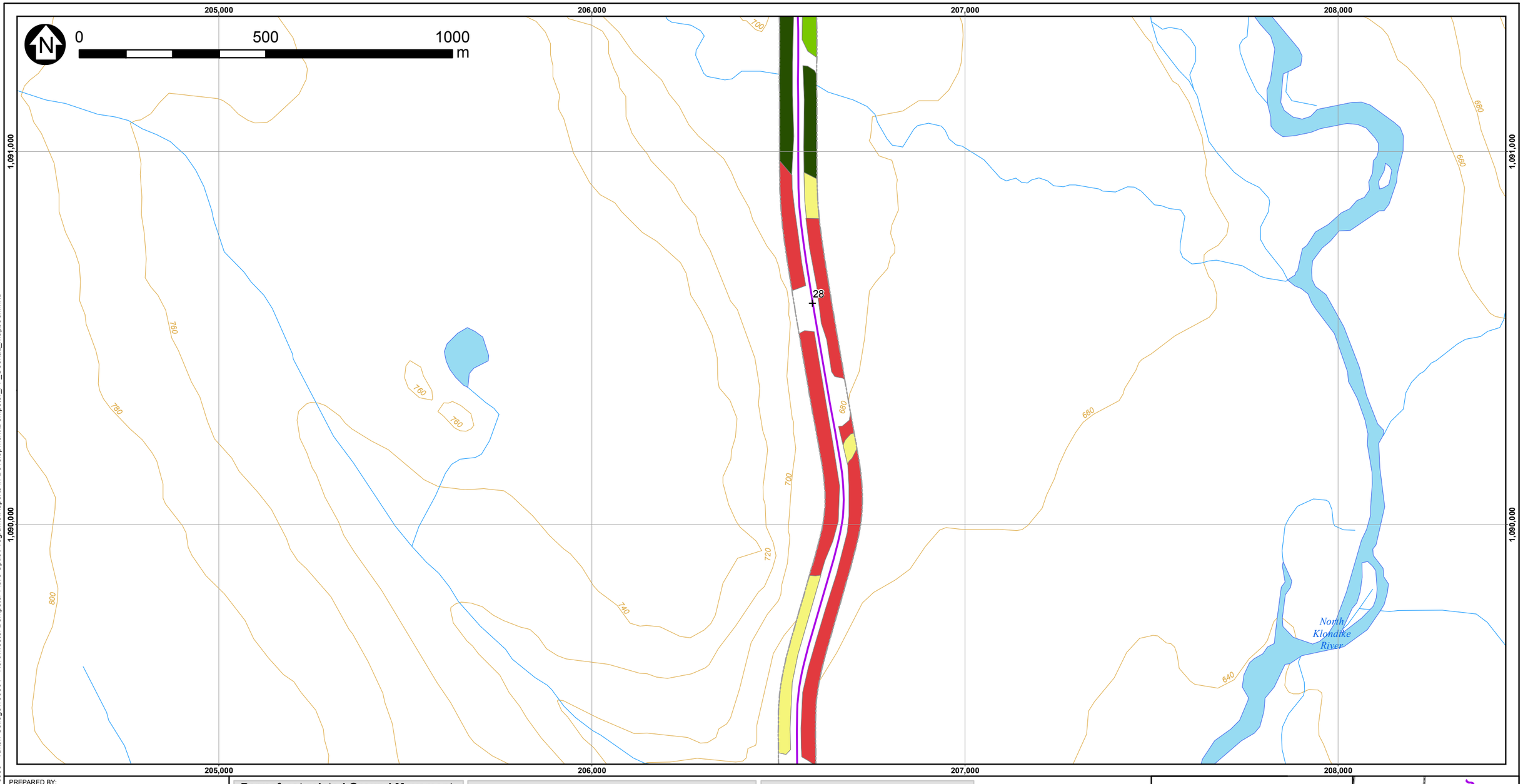


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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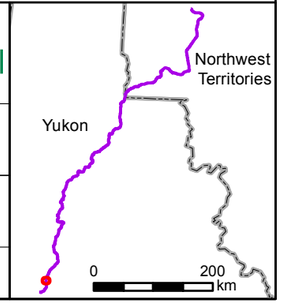

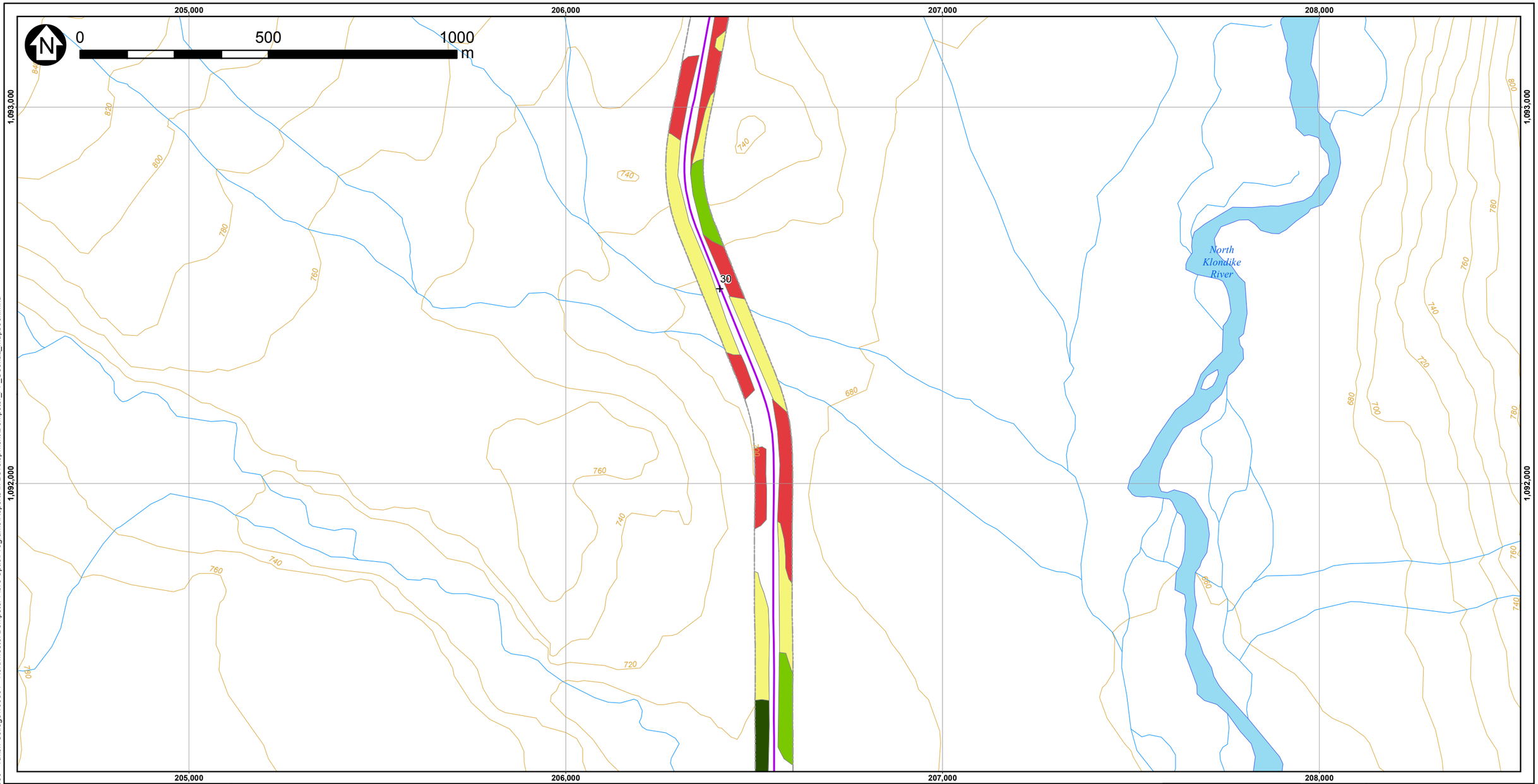


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**Potential Movement Direction**

Horizontal | Vertical | Both

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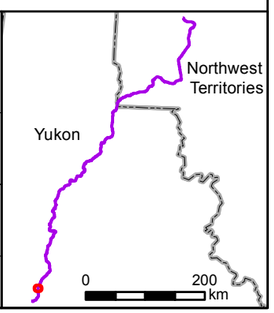

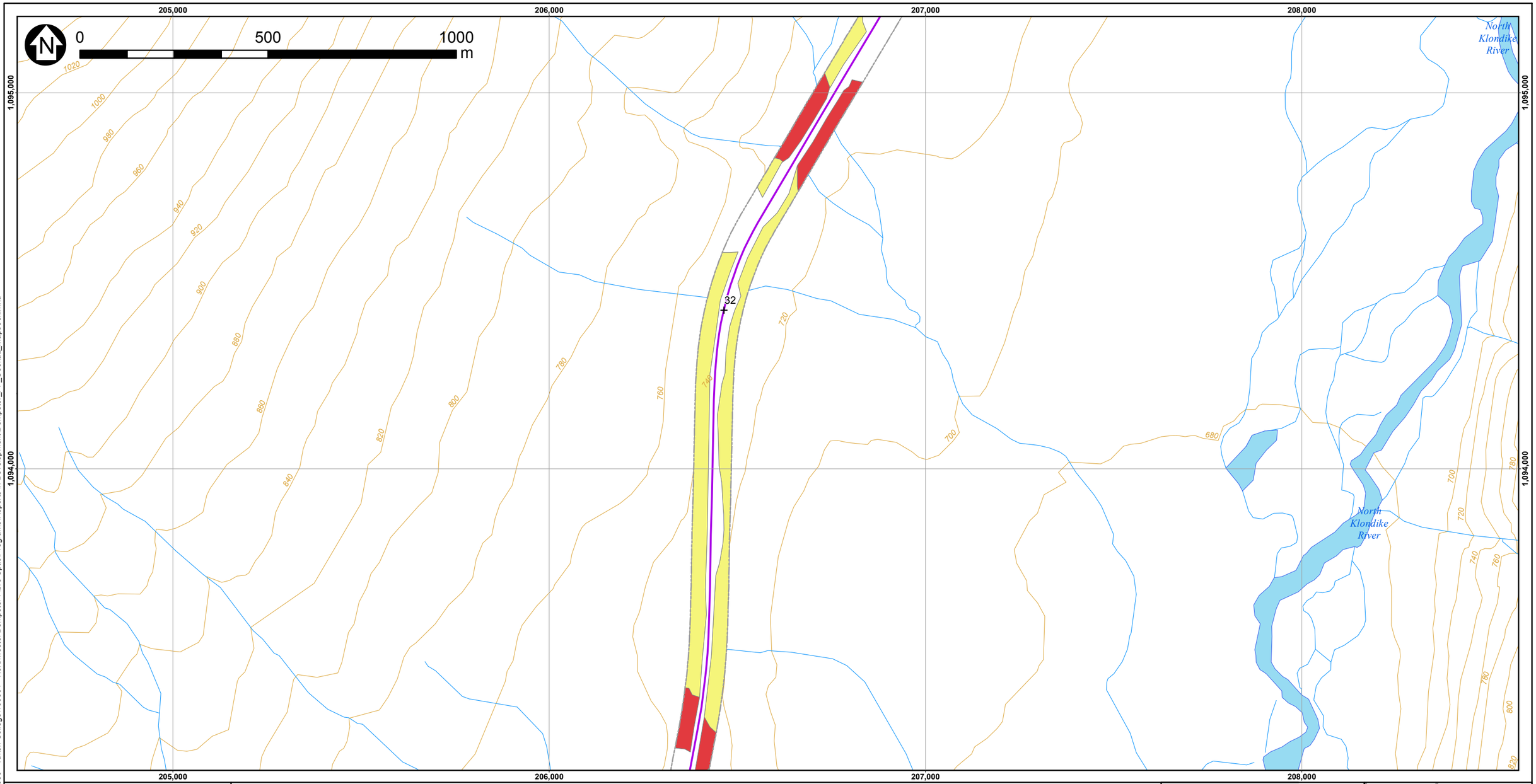


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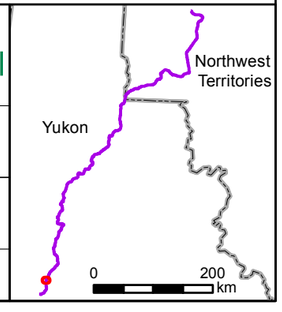


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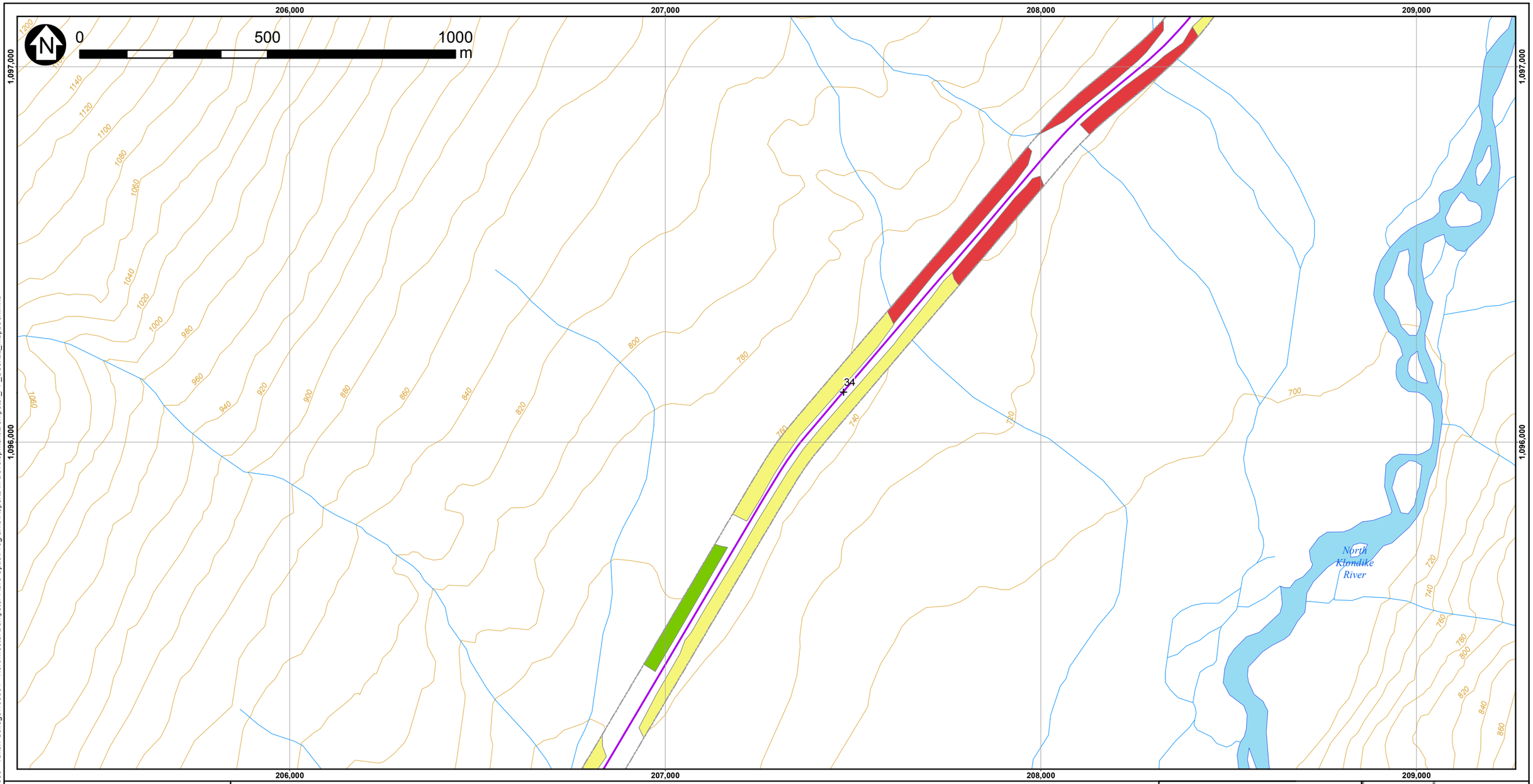


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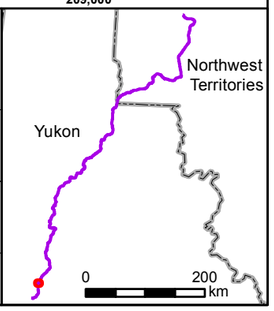


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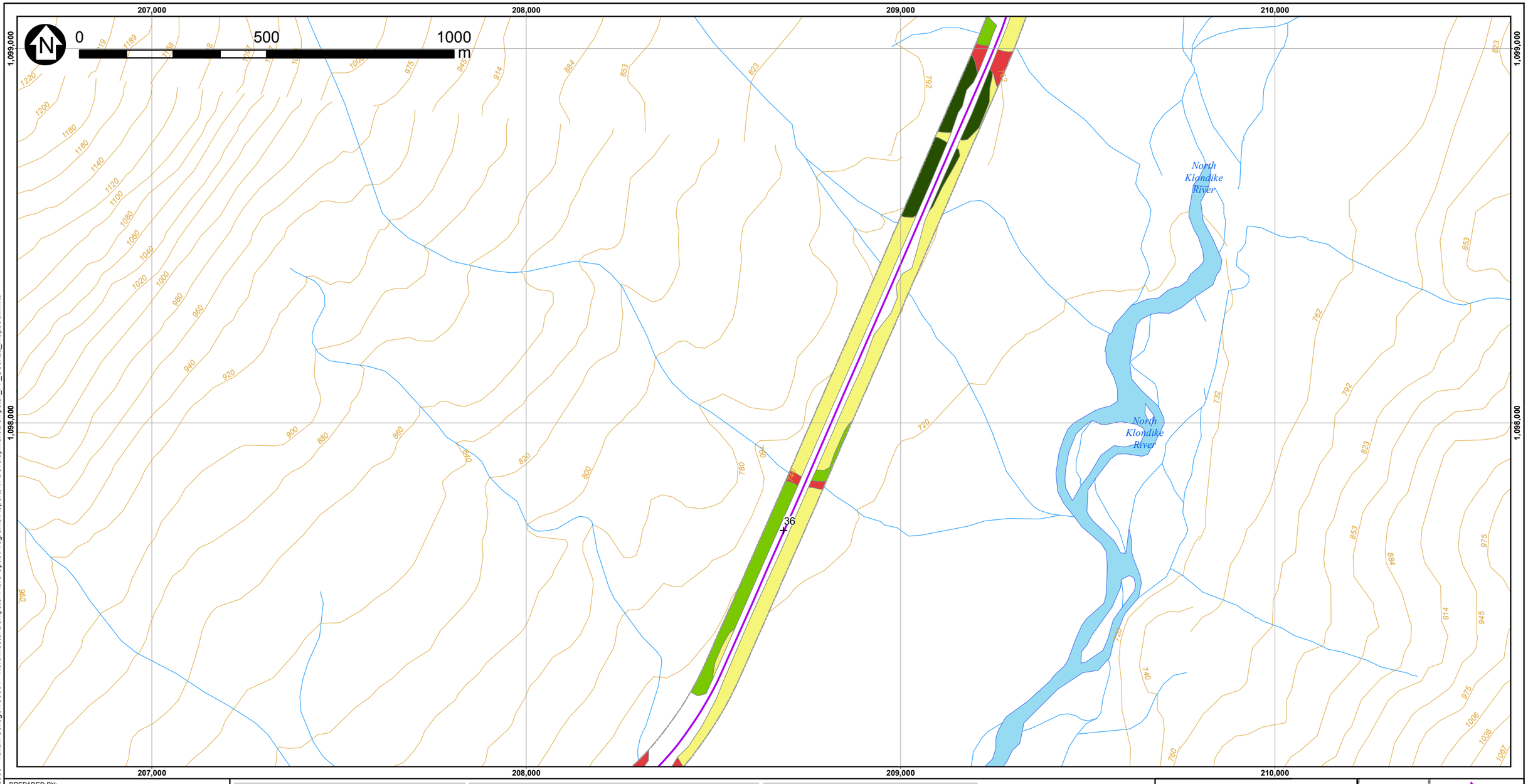


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**Mass Movement Geohazard**

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- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
- ***RTS*** - Retrogressive Thaw Slump
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- ***DF*** - Debris Flow
- ***TKs*** - Thermokarst Subsidence (active, >1 m relief)
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**Periglacial Process/Feature**

- ***Xs*** - Slopewash
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- ***Xp*** - Palsa
- ***Xt*** - Thermokarst Subsidence
- ***S*** - Solifluction
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- ***Xf*** - Active Layer Detachment
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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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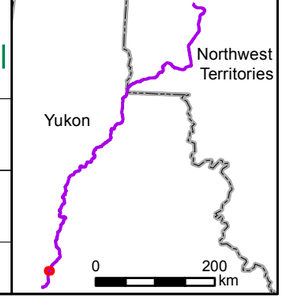
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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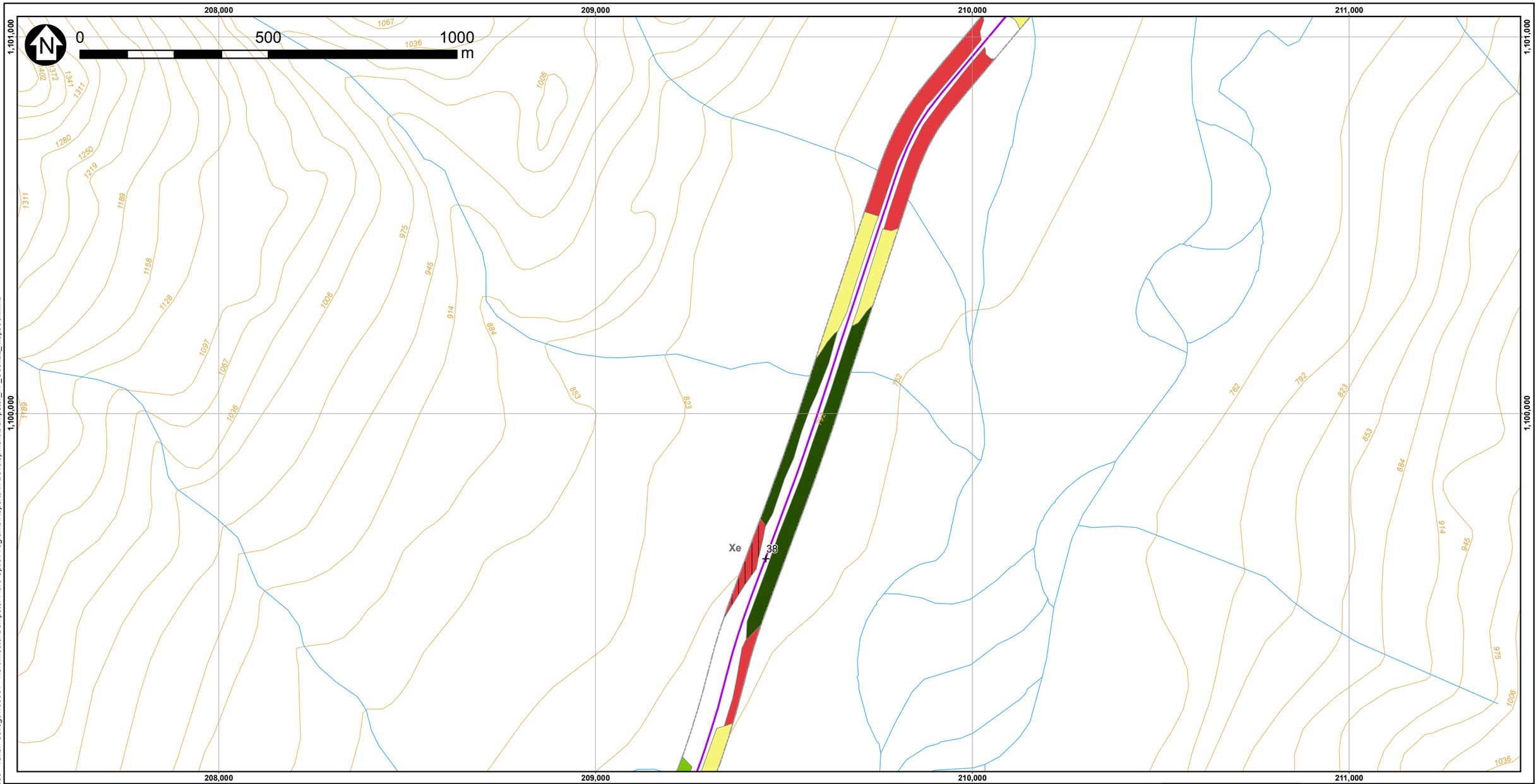


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
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## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
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## Mass Movement Geohazard

| | | |
|---|---|---|
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| | | | |
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## Potential Movement Direction

Horizontal  Vertical  Both

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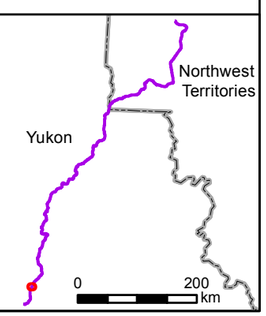


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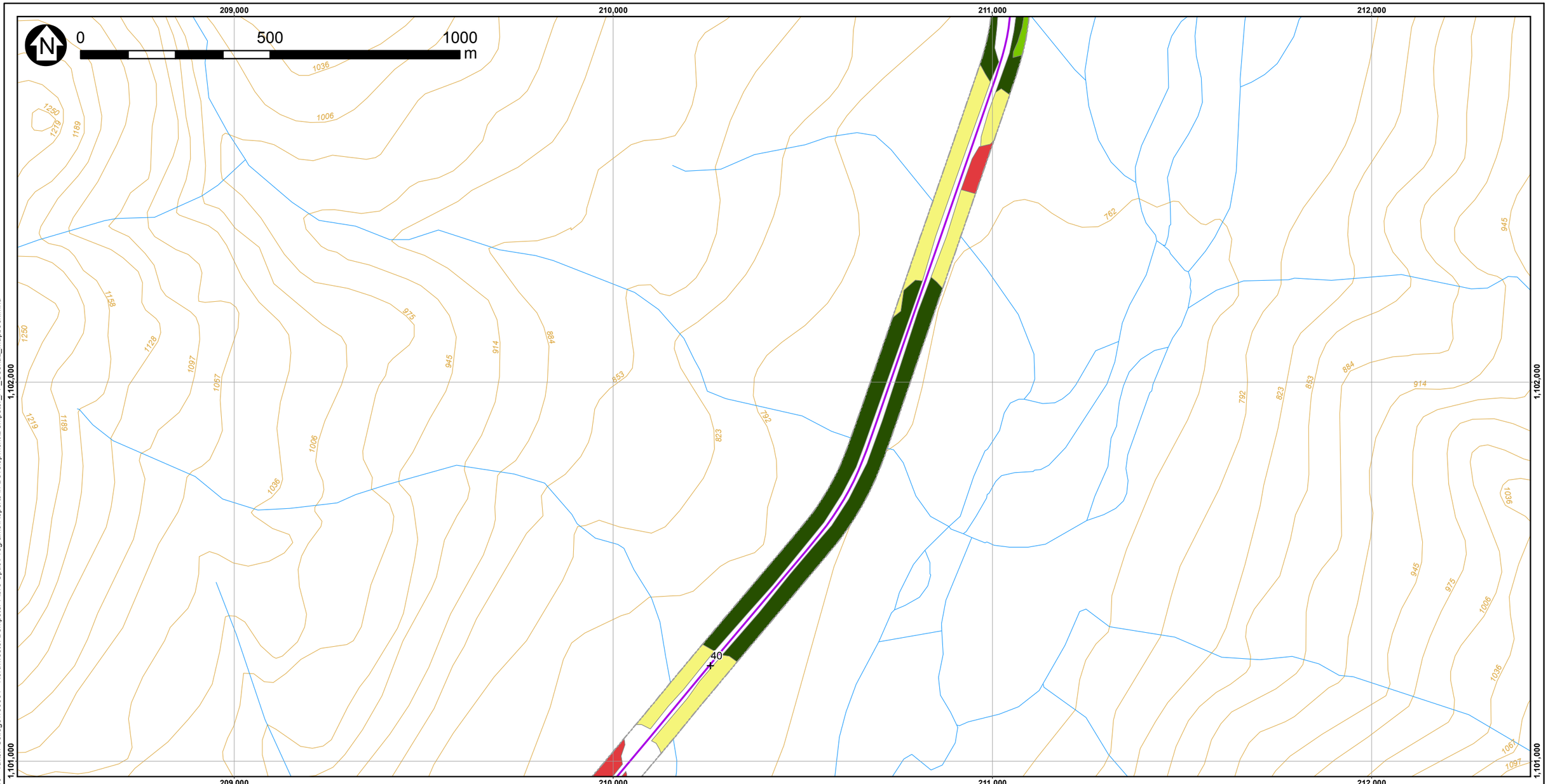


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## Potential Movement Direction

Horizontal | Vertical | Both

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- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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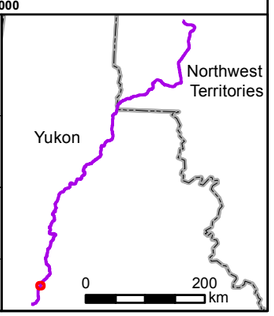
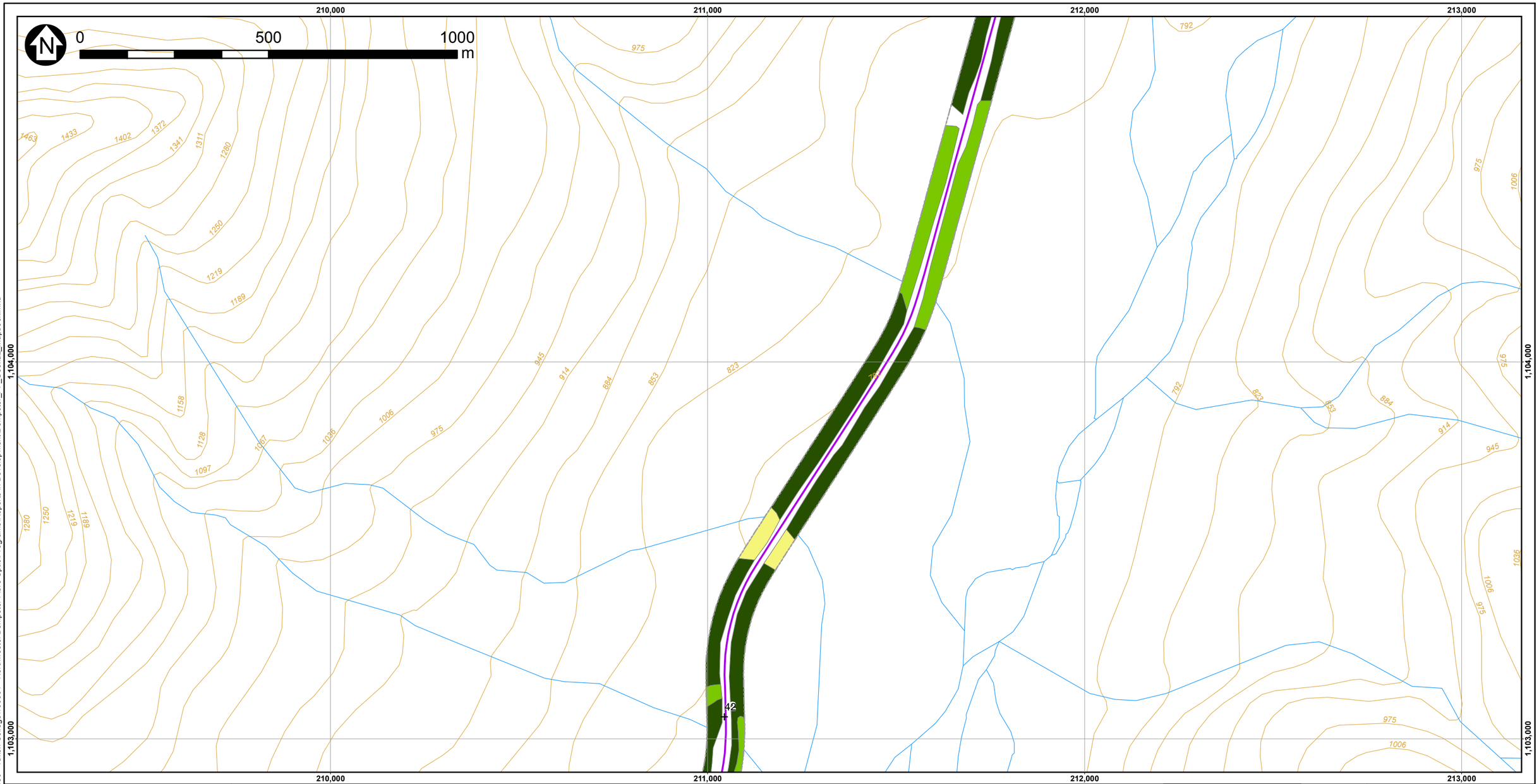
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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## Potential Movement Direction

Horizontal | Vertical | Both

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- Dempster Highway
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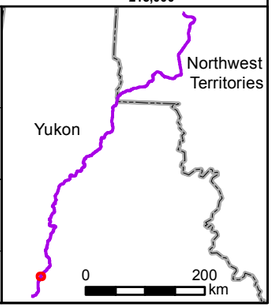
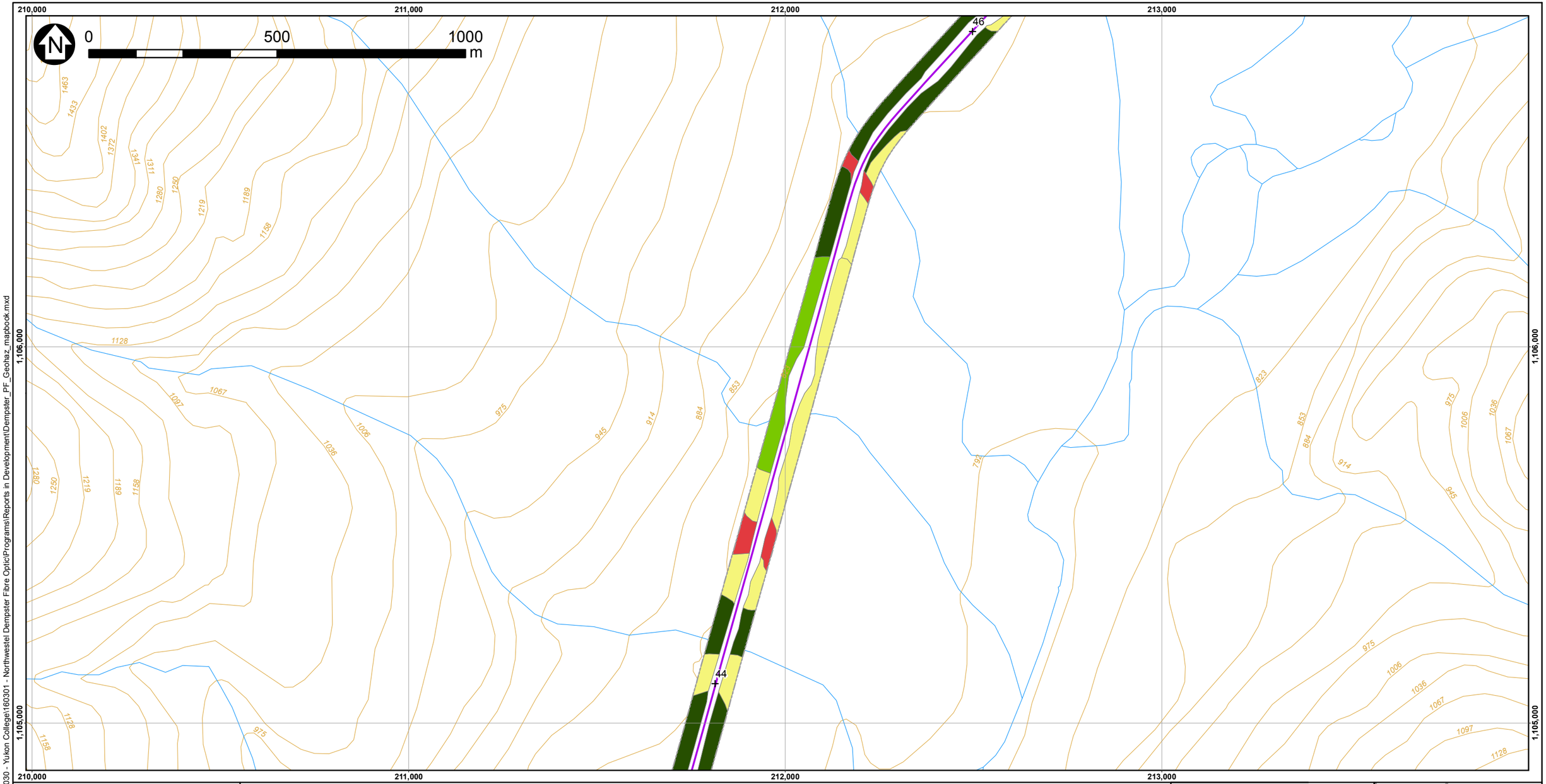
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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**Potential Movement Direction**

Horizontal | Vertical | Both

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**Dempster Highway Fibre Optic Line**

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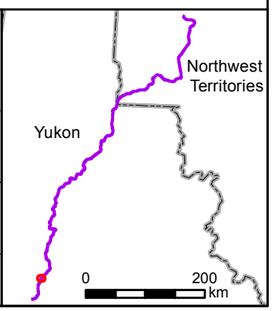


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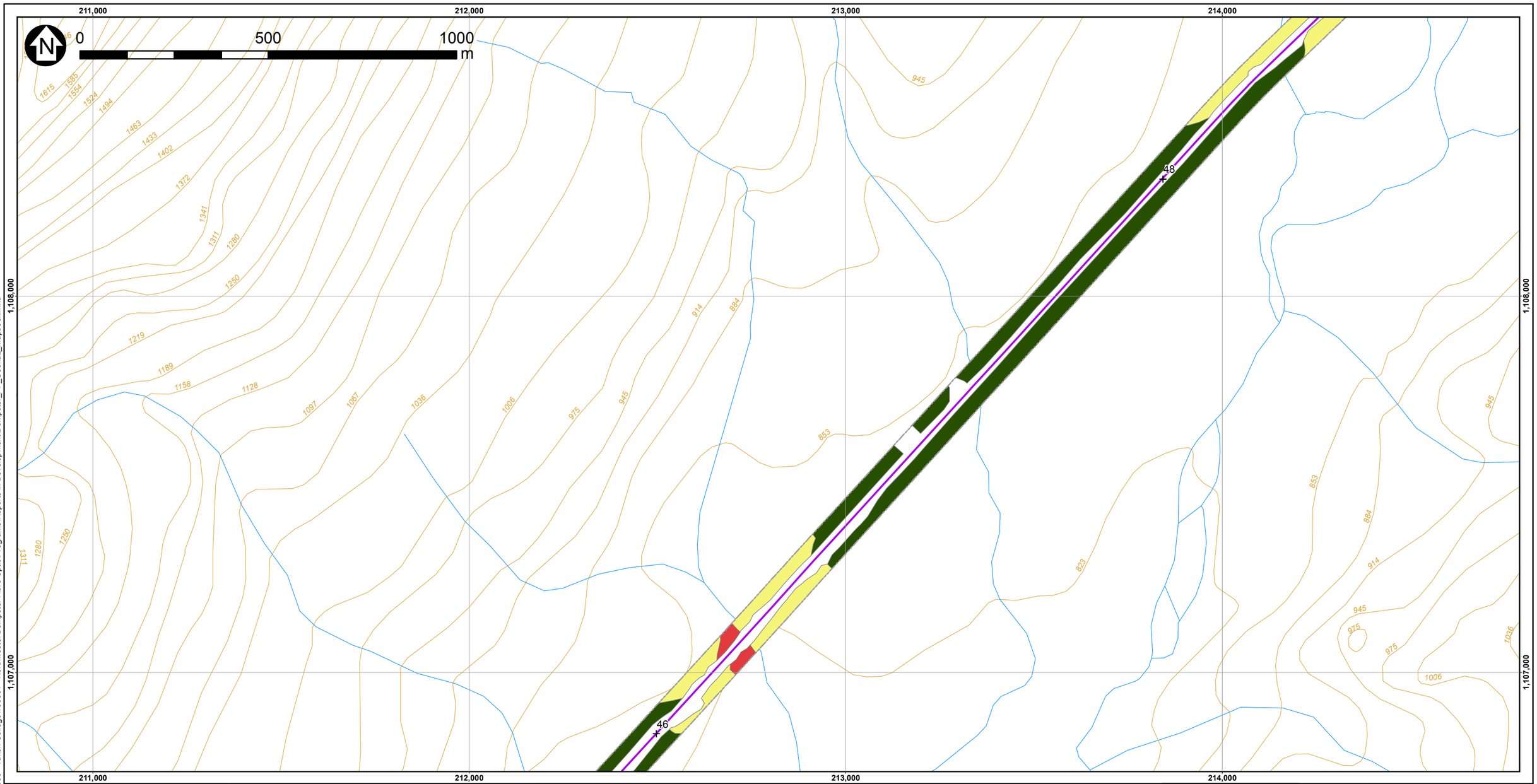


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| DRAWN | DS |
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**Potential Movement Direction**

Horizontal | Vertical | Both

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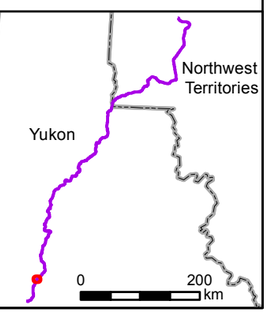


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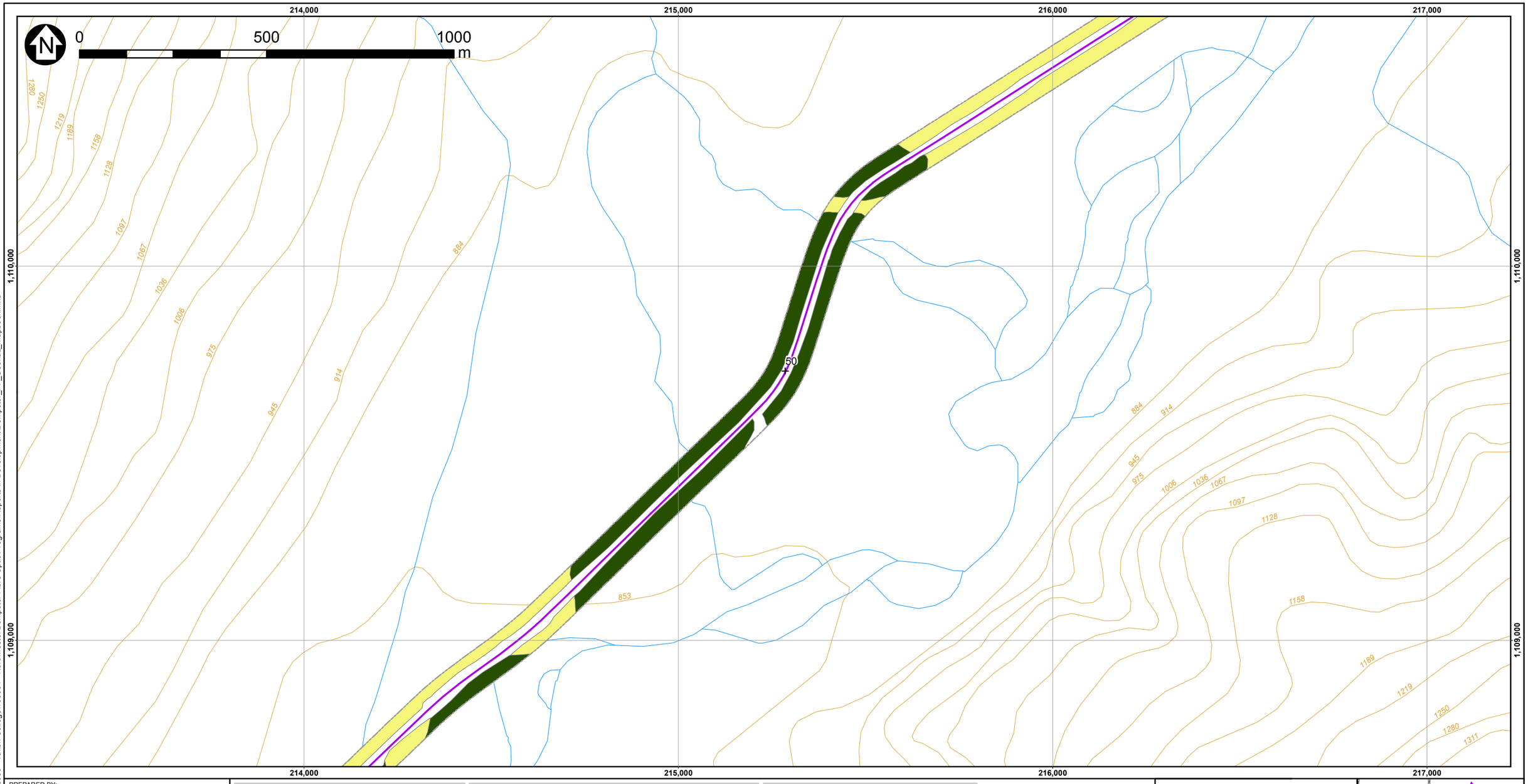


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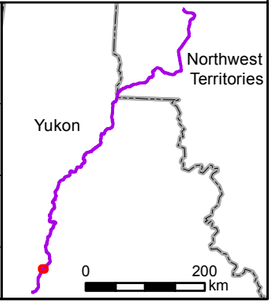

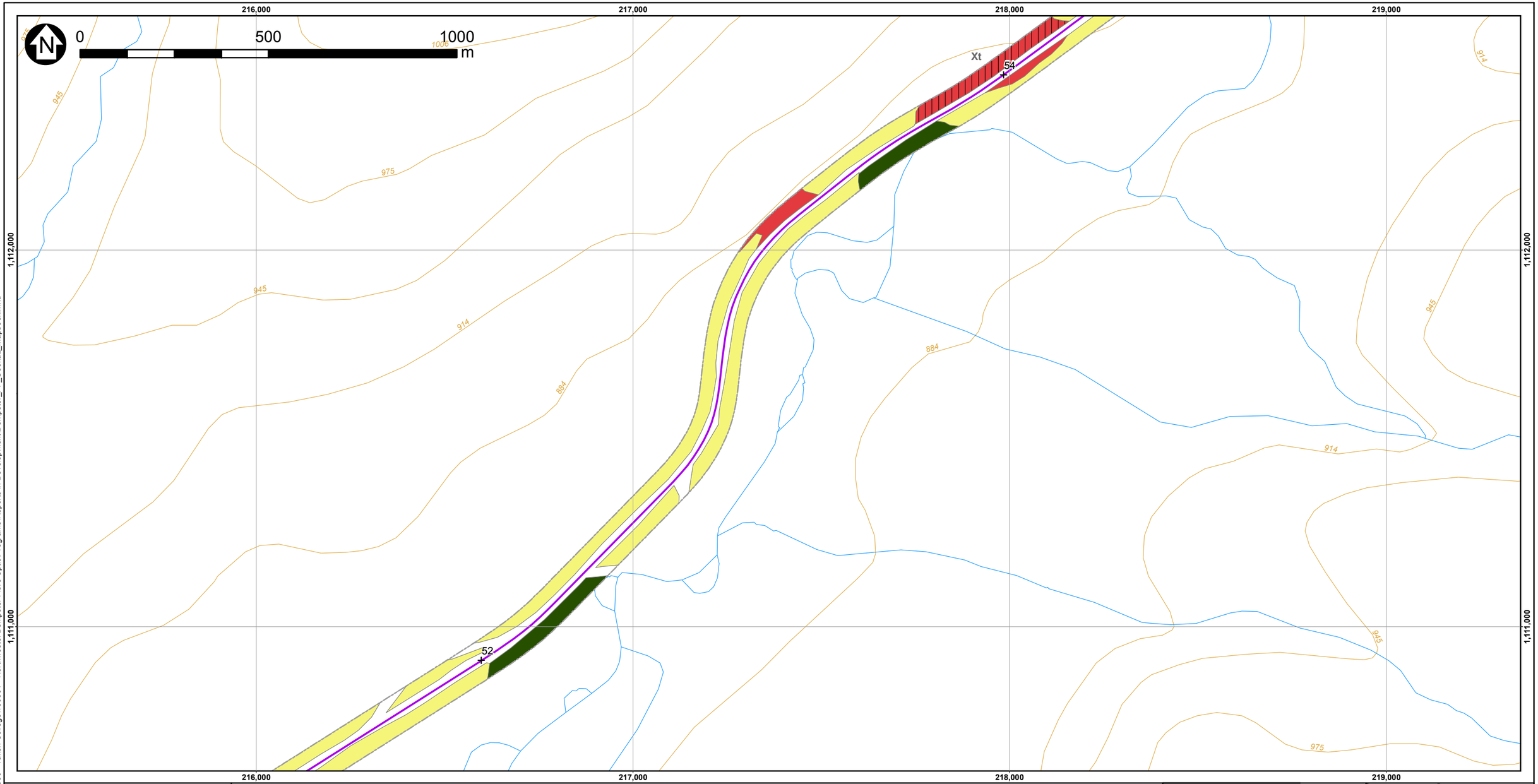


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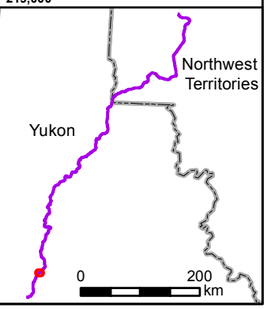


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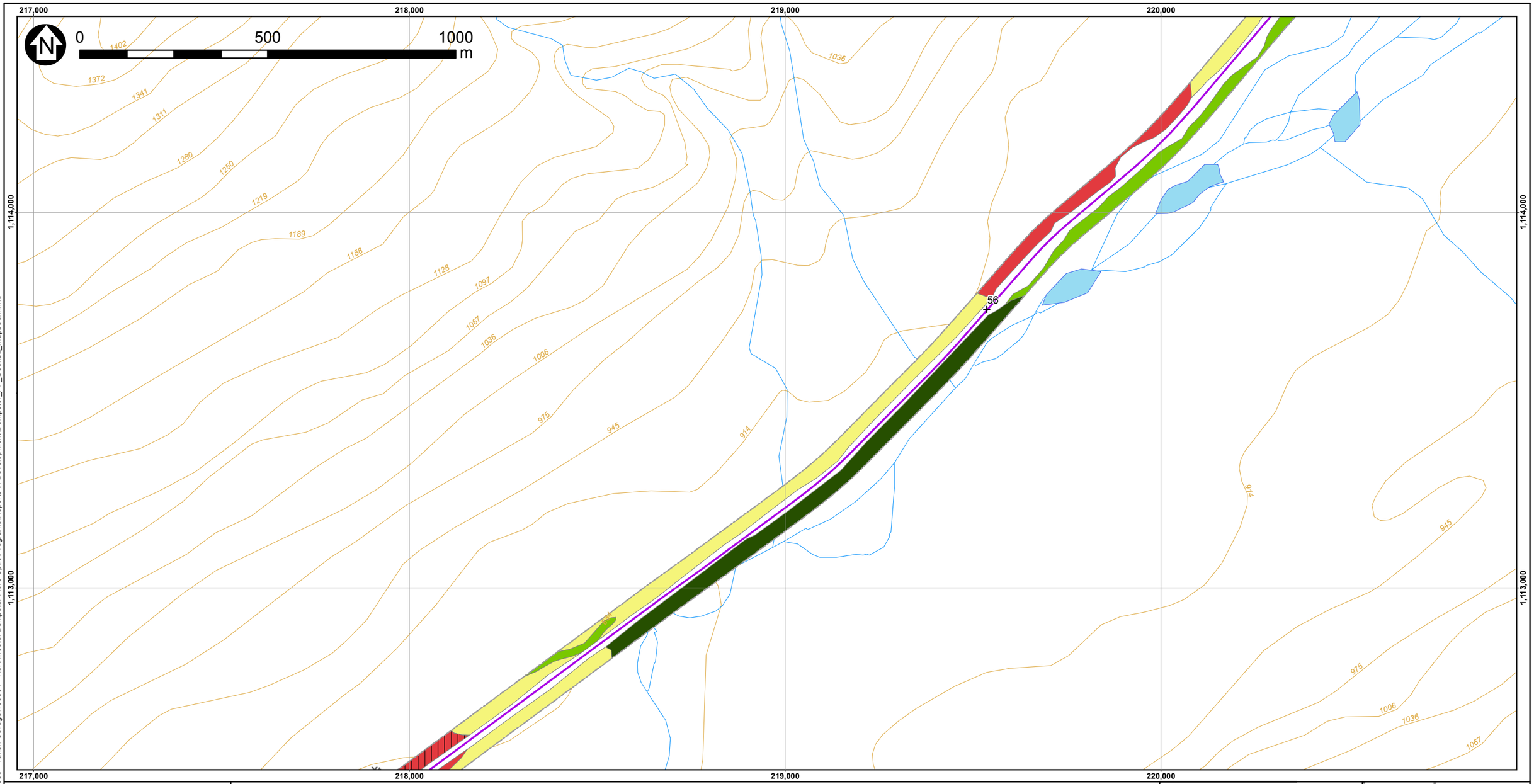


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
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**Mass Movement Geohazard**

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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
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- +234 Kilometre Post
- Contour (m)
- Watercourse

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**Dempster Highway Fibre Optic Line**

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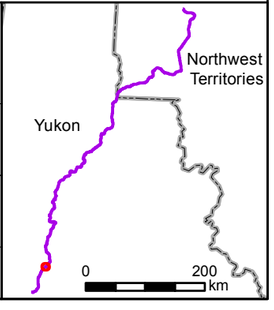


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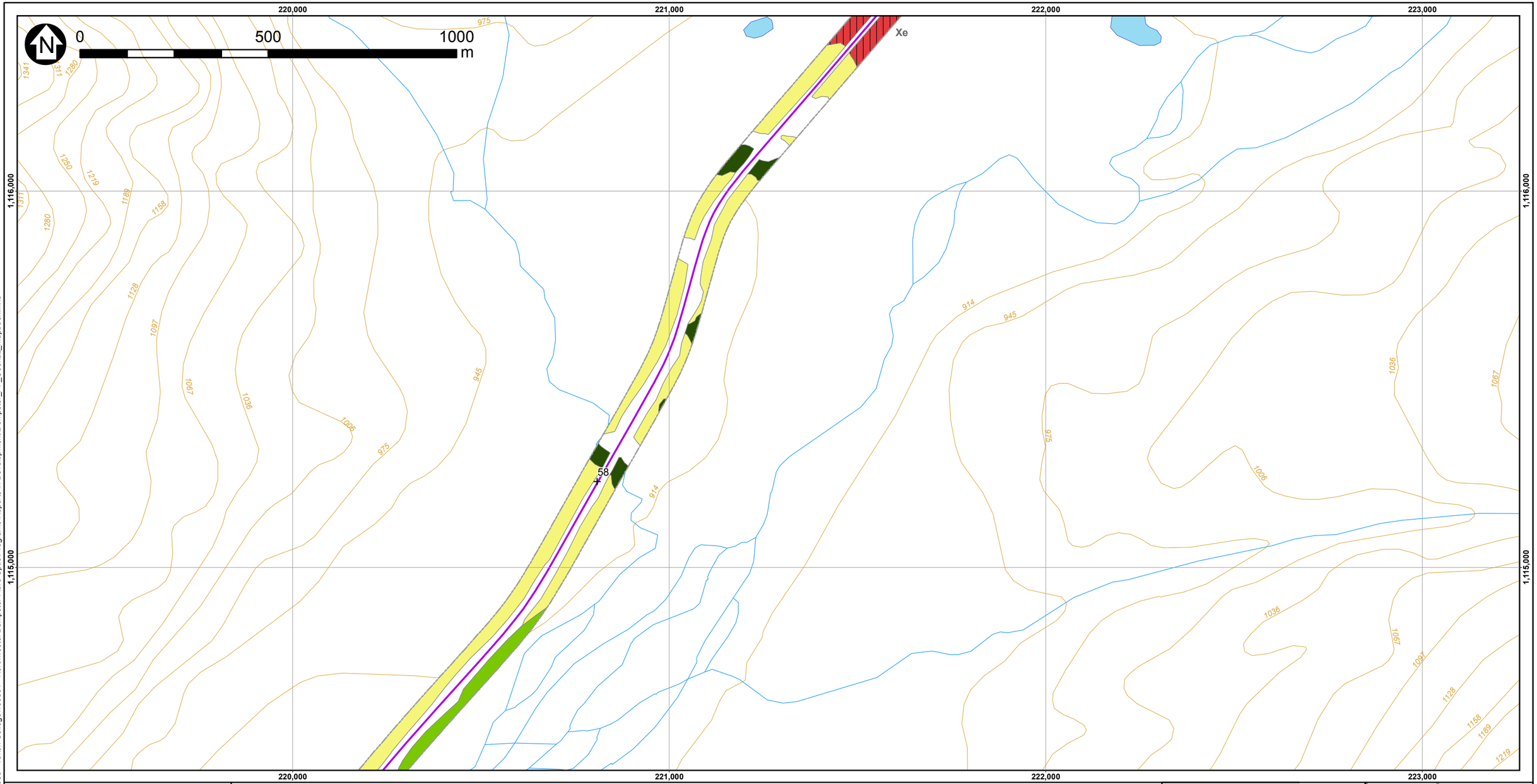


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Horizontal | Vertical | Both

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Contour (m)
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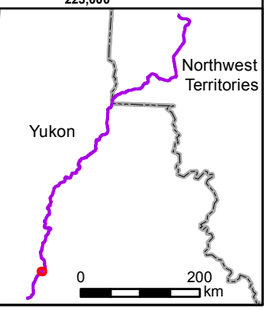


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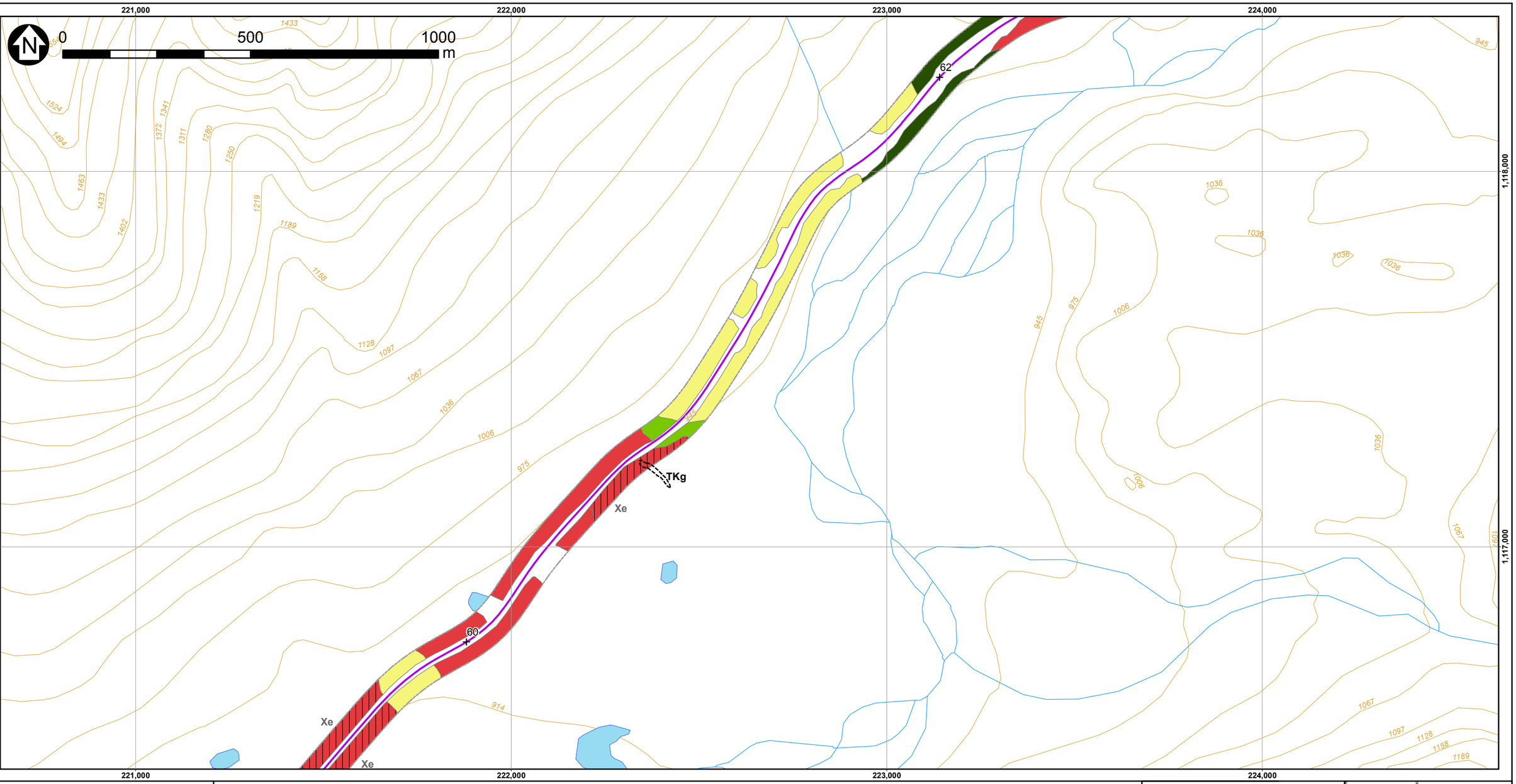


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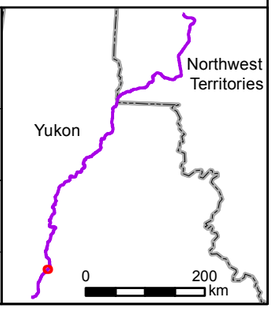

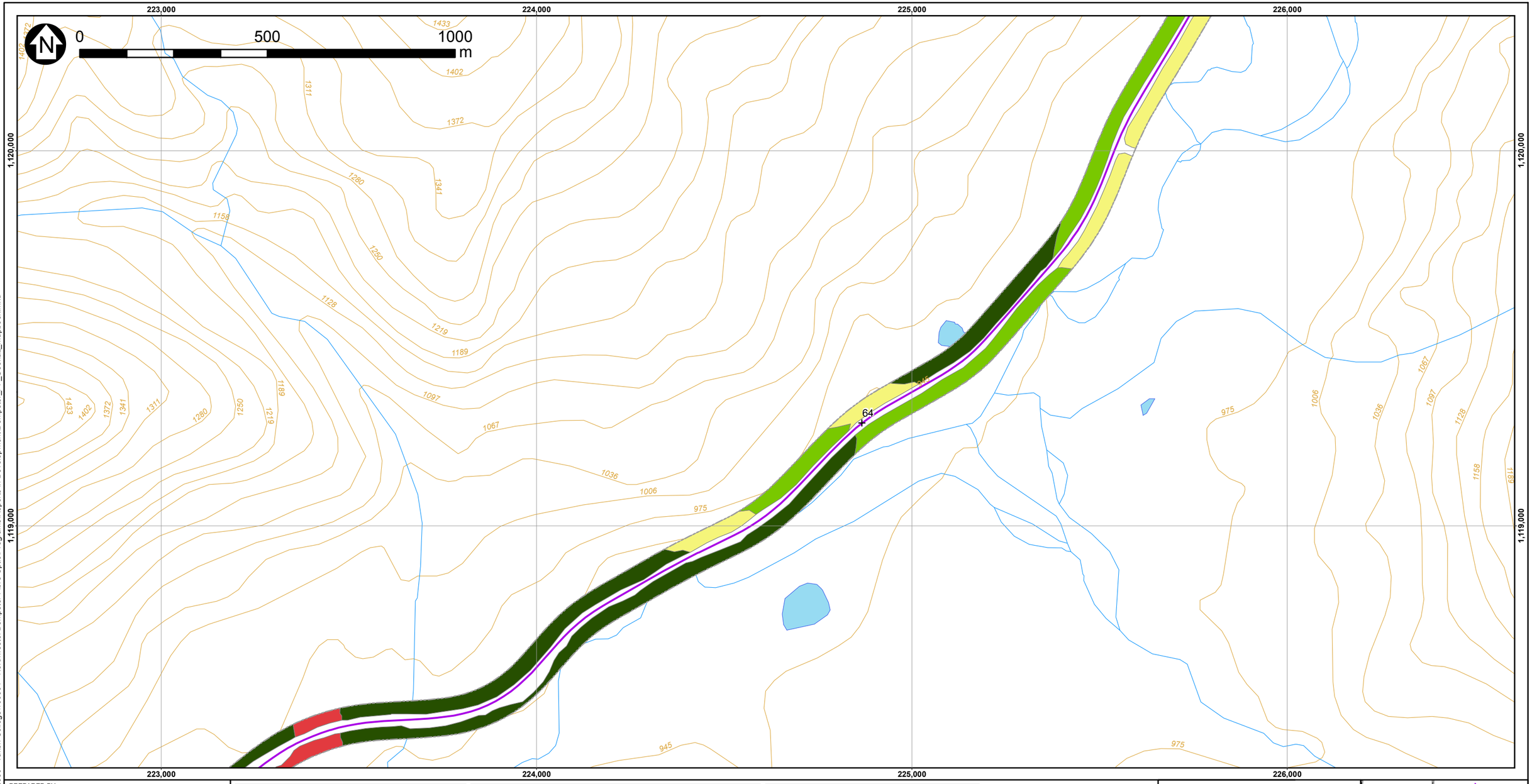


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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**Dempster Highway Fibre Optic Line**

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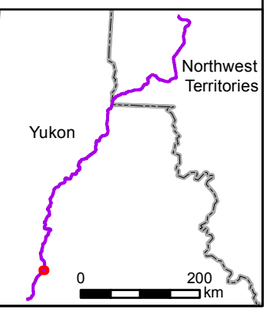


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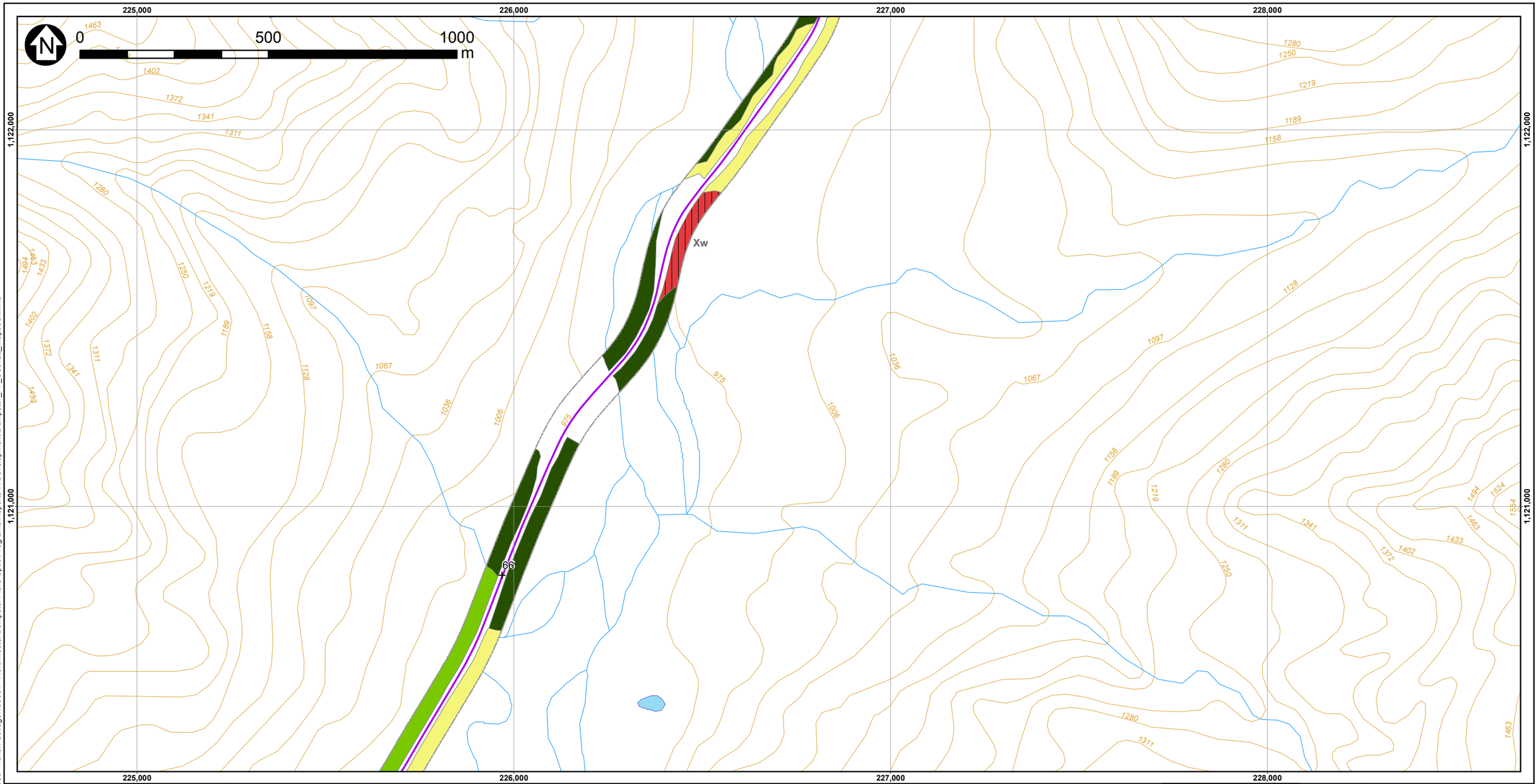


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| GEOLOGY | DS/RM/CB |
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| | | | |
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**Potential Movement Direction**

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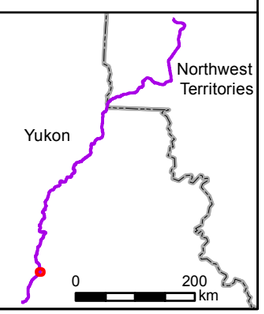


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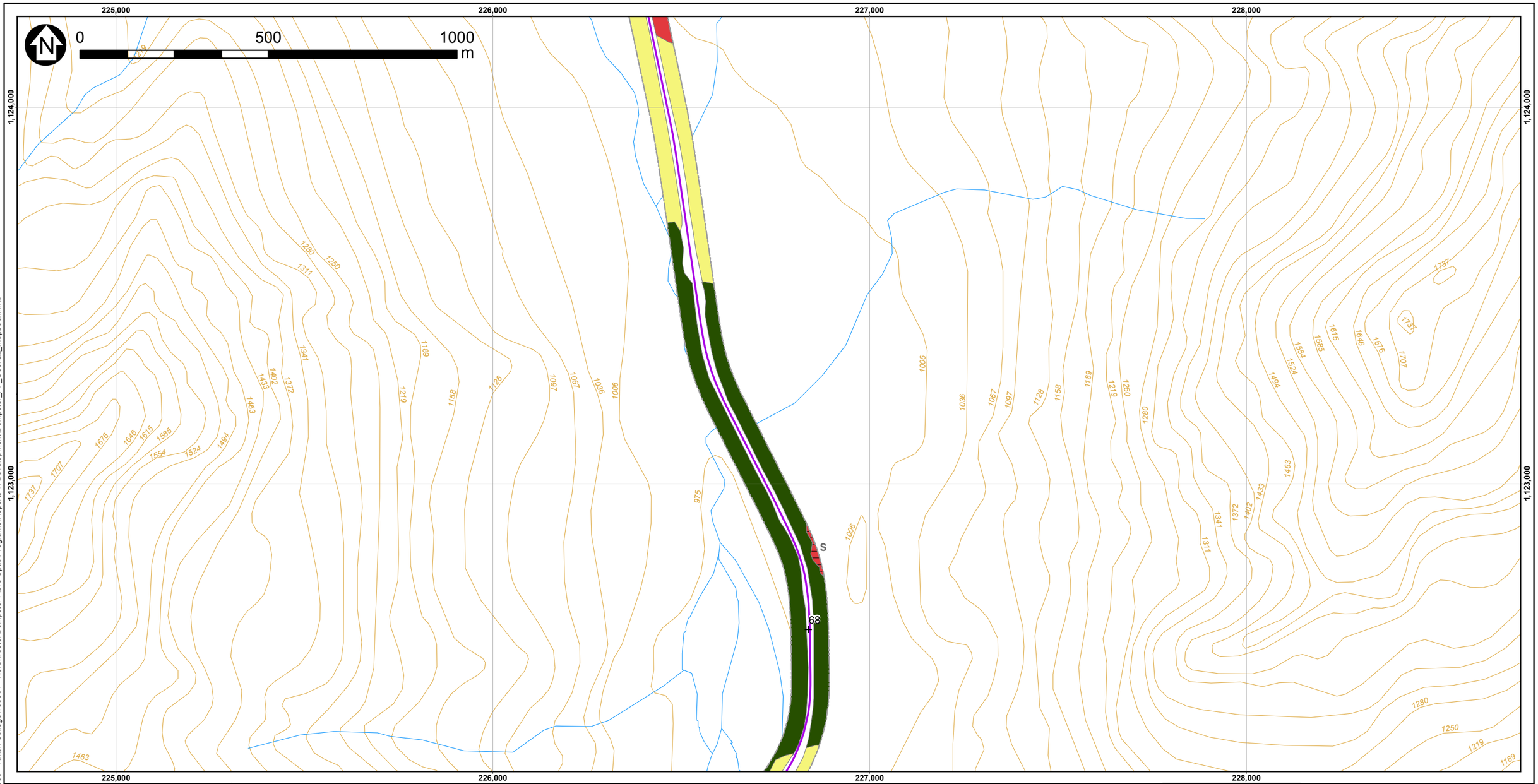


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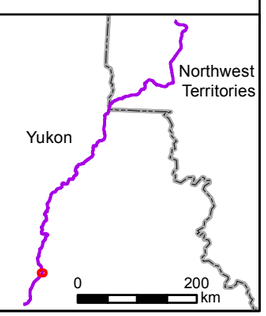

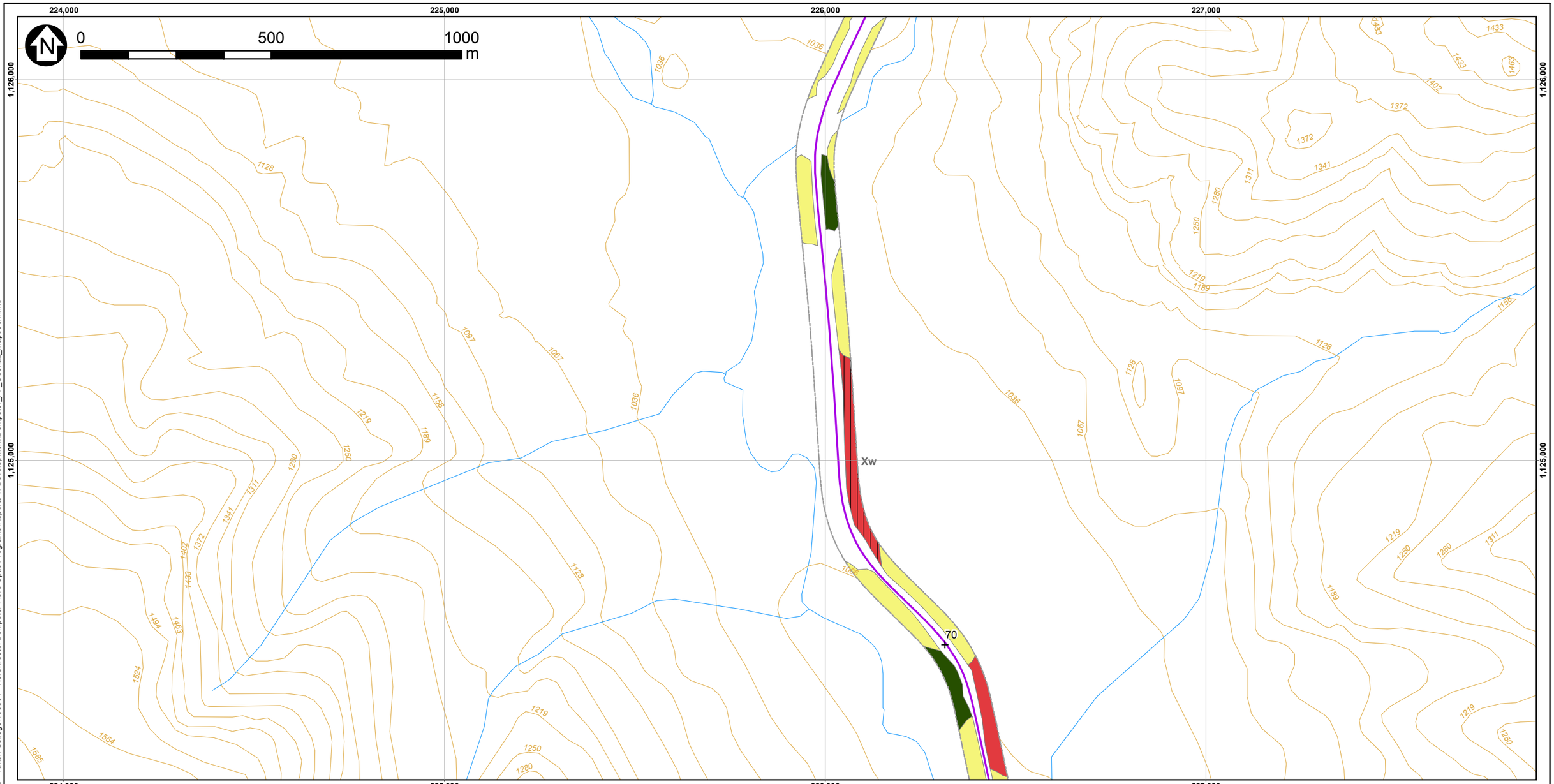


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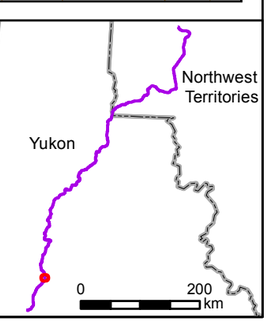
LEDCOR GROUP | NorthwesTel

# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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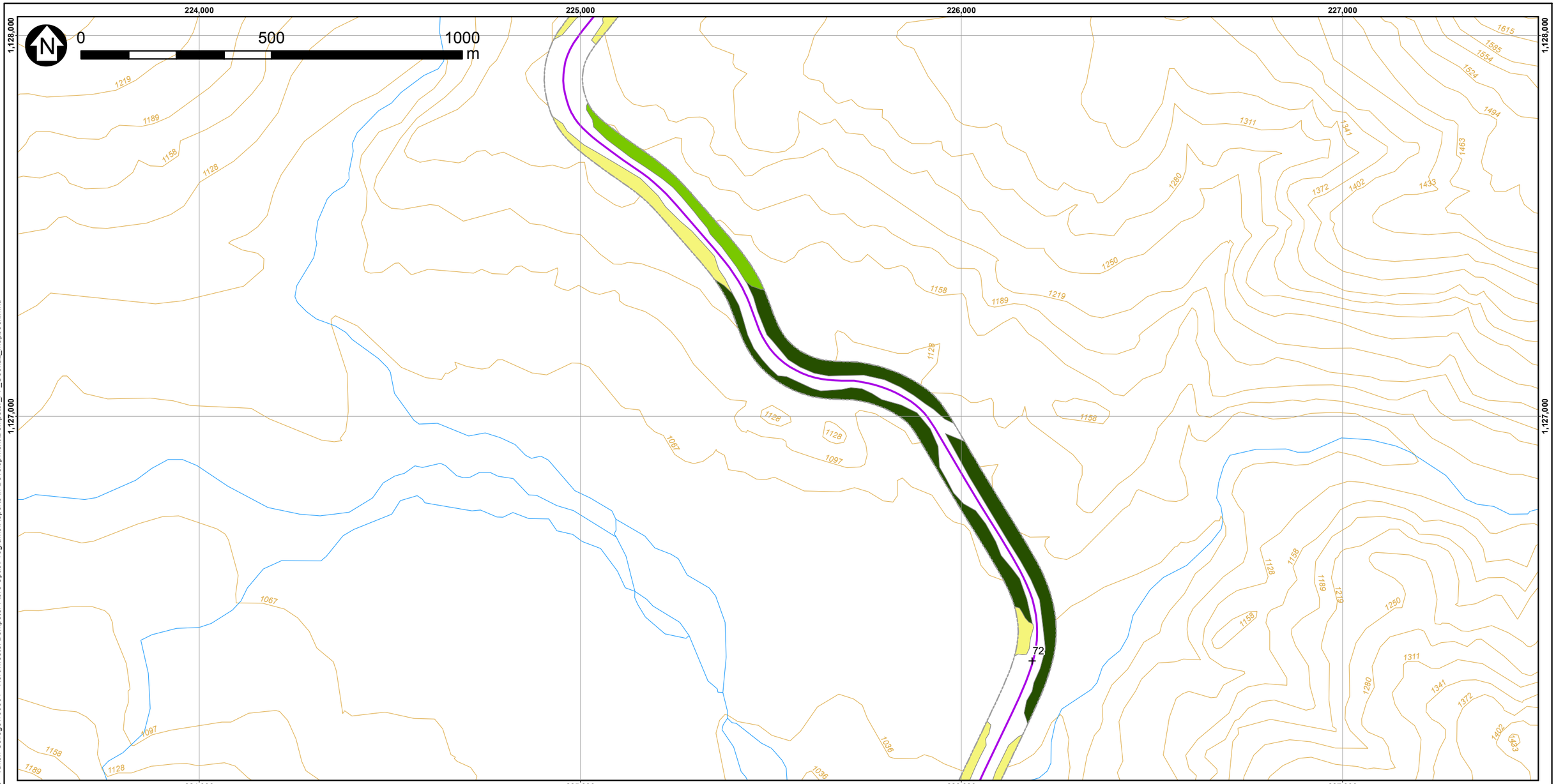


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## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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**Map Notes:**
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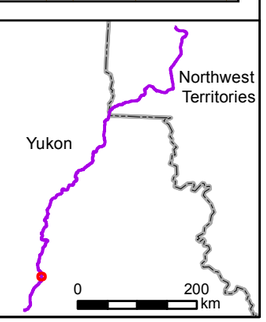
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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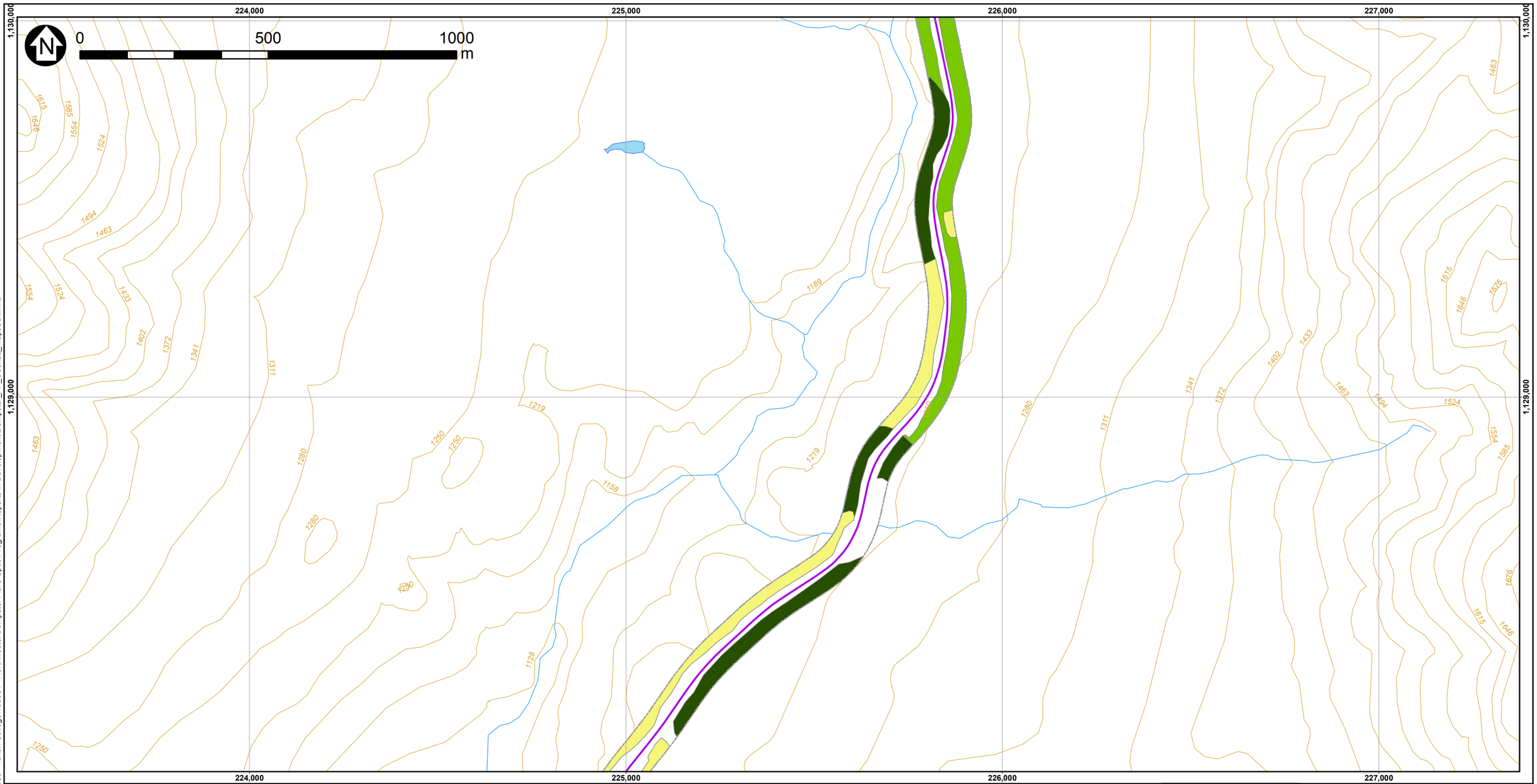


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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
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Horizontal Vertical Both

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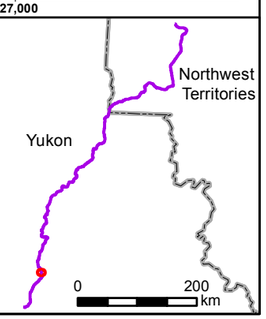


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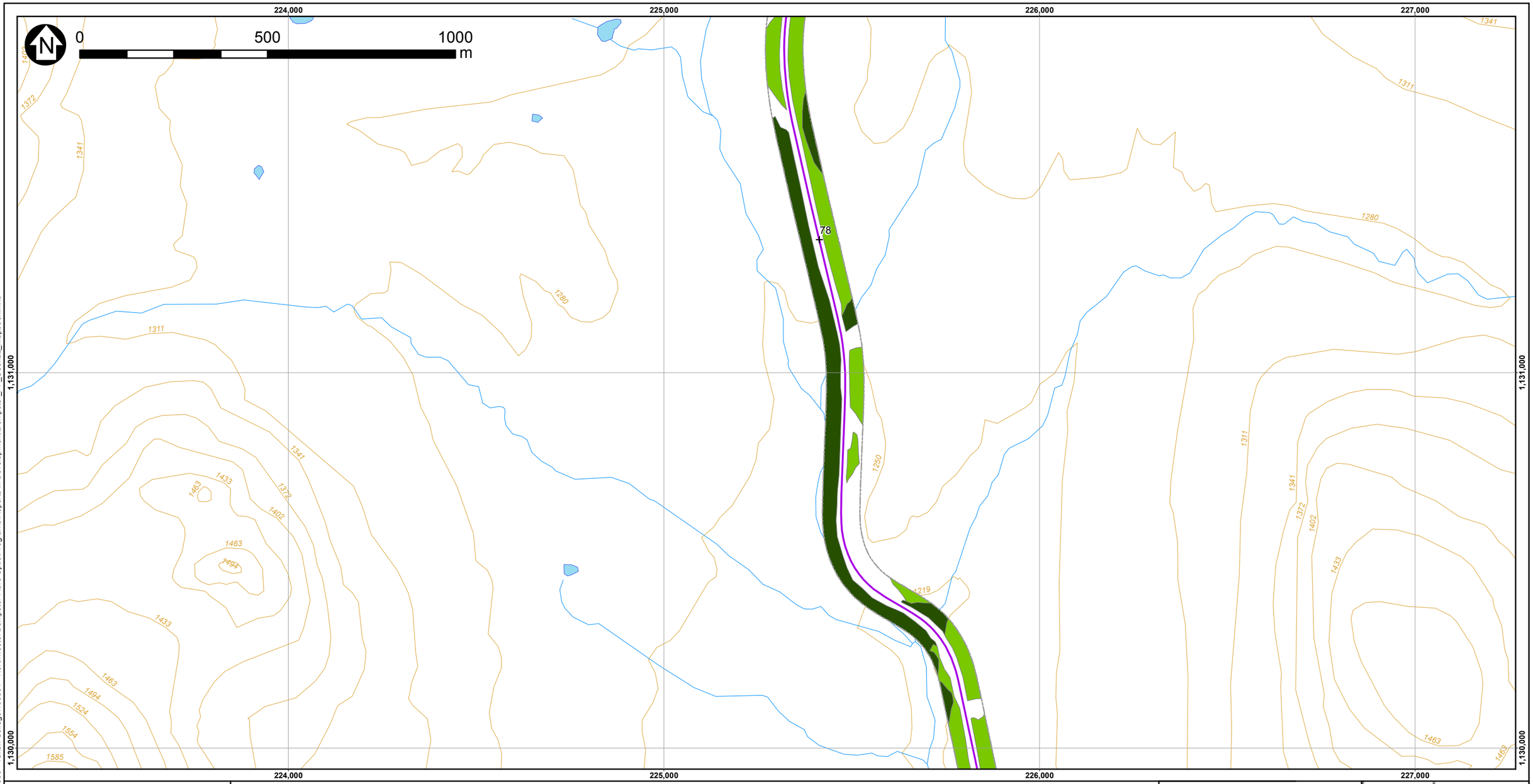


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Horizontal | Vertical | Both

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Contour (m)
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# Dempster Highway Fibre Optic Line

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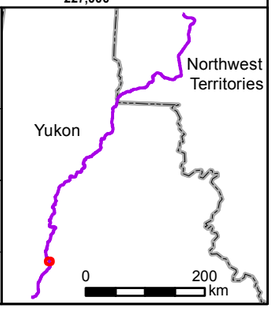

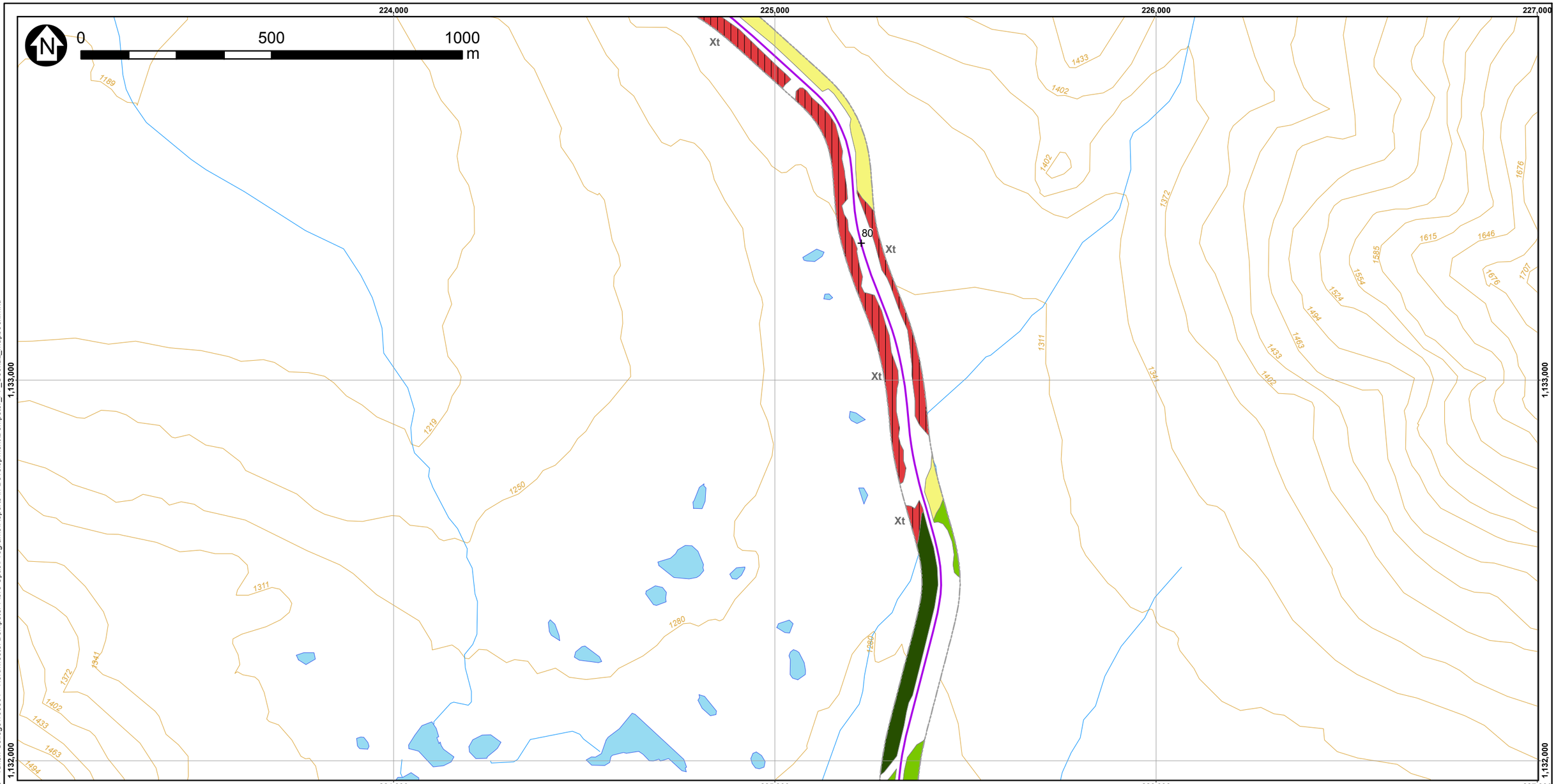


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# Dempster Highway Fibre Optic Line

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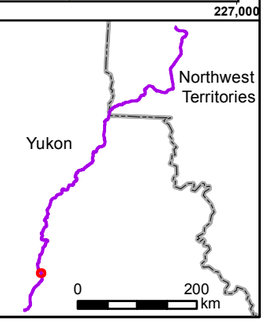

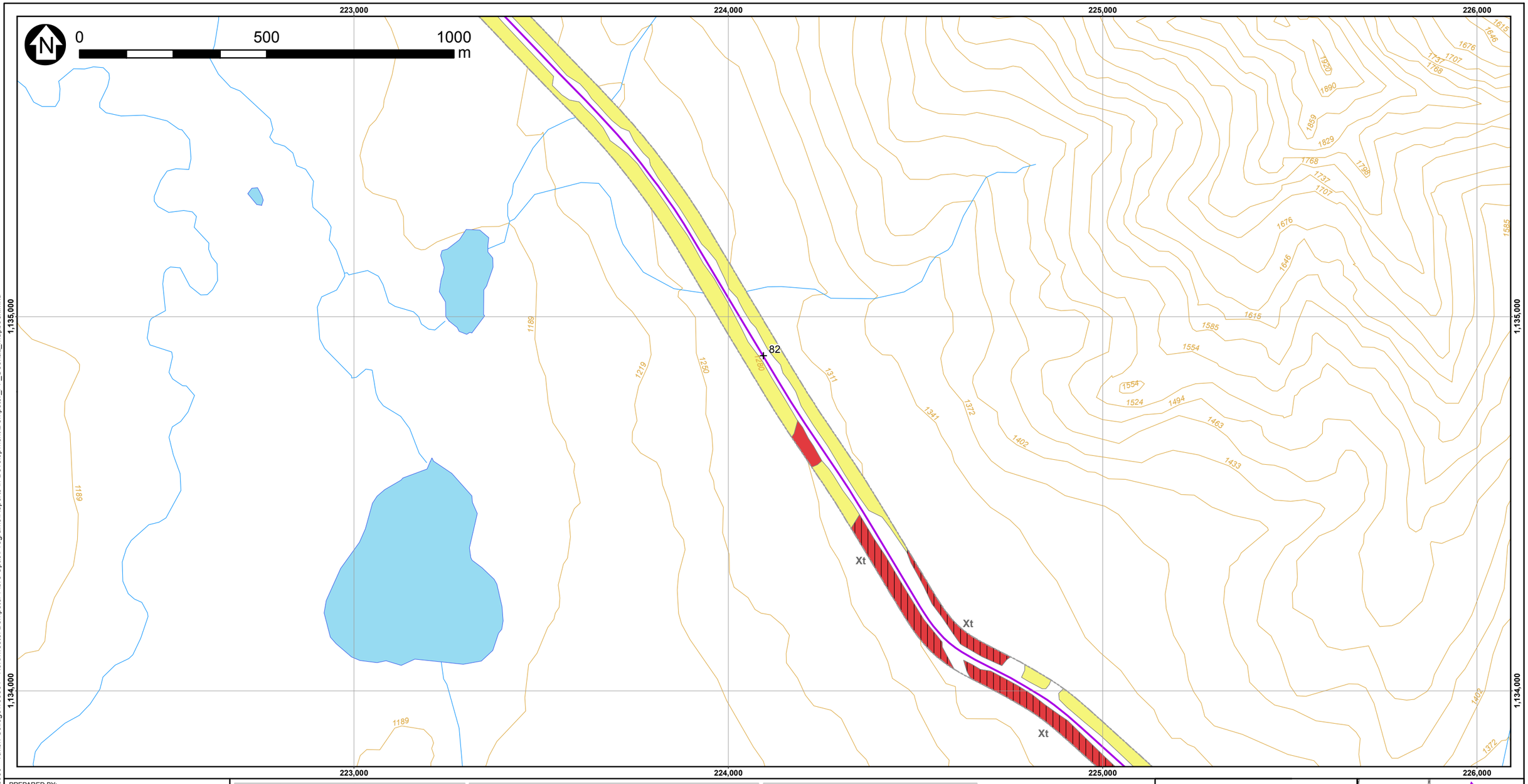


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**Potential Movement Direction**

Horizontal | Vertical | Both

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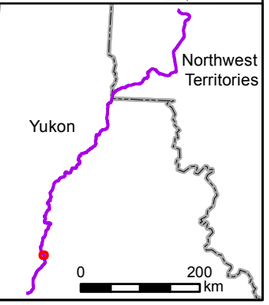


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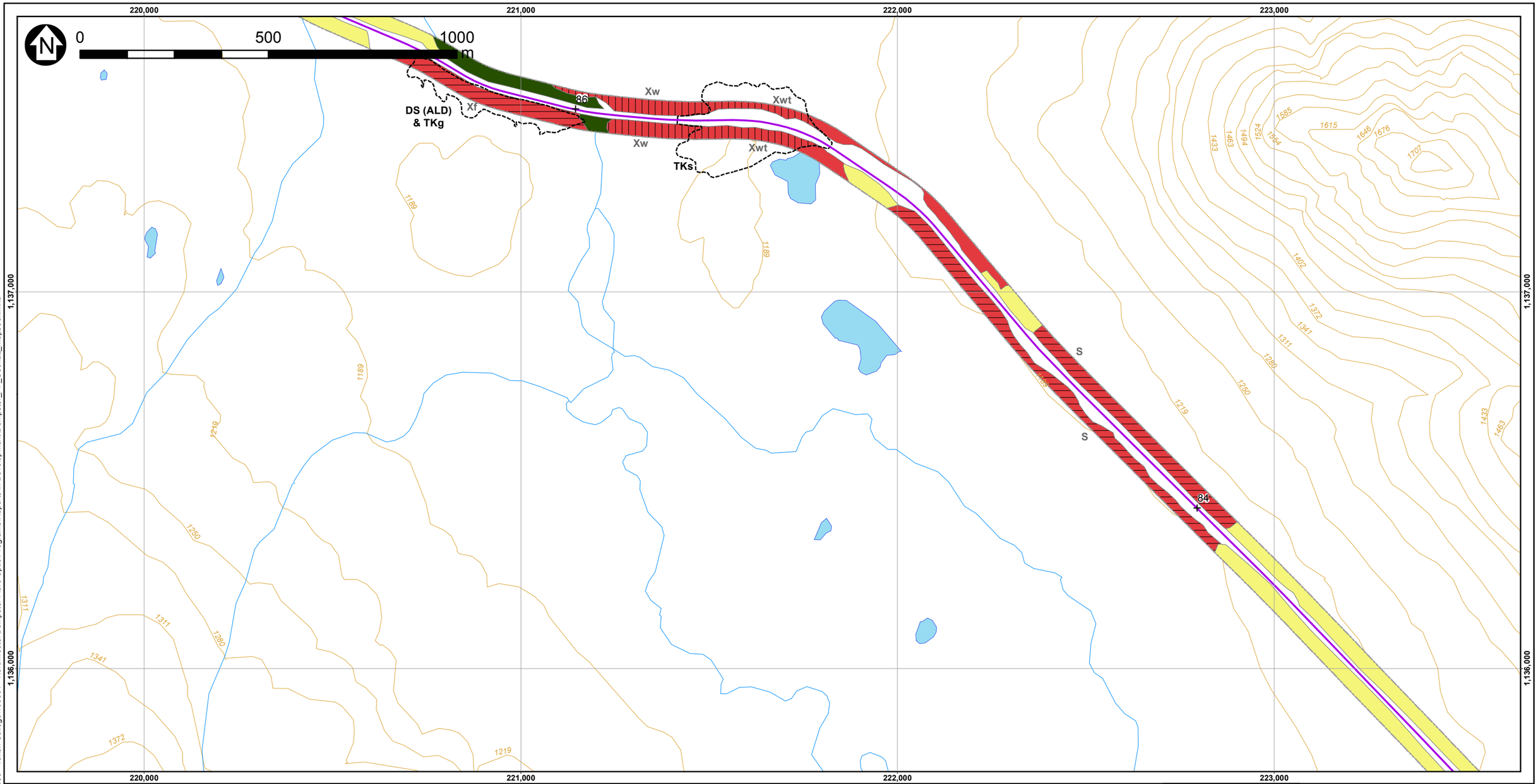


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Horizontal | Vertical | Both

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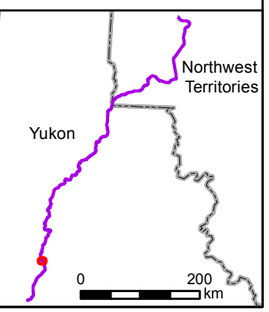


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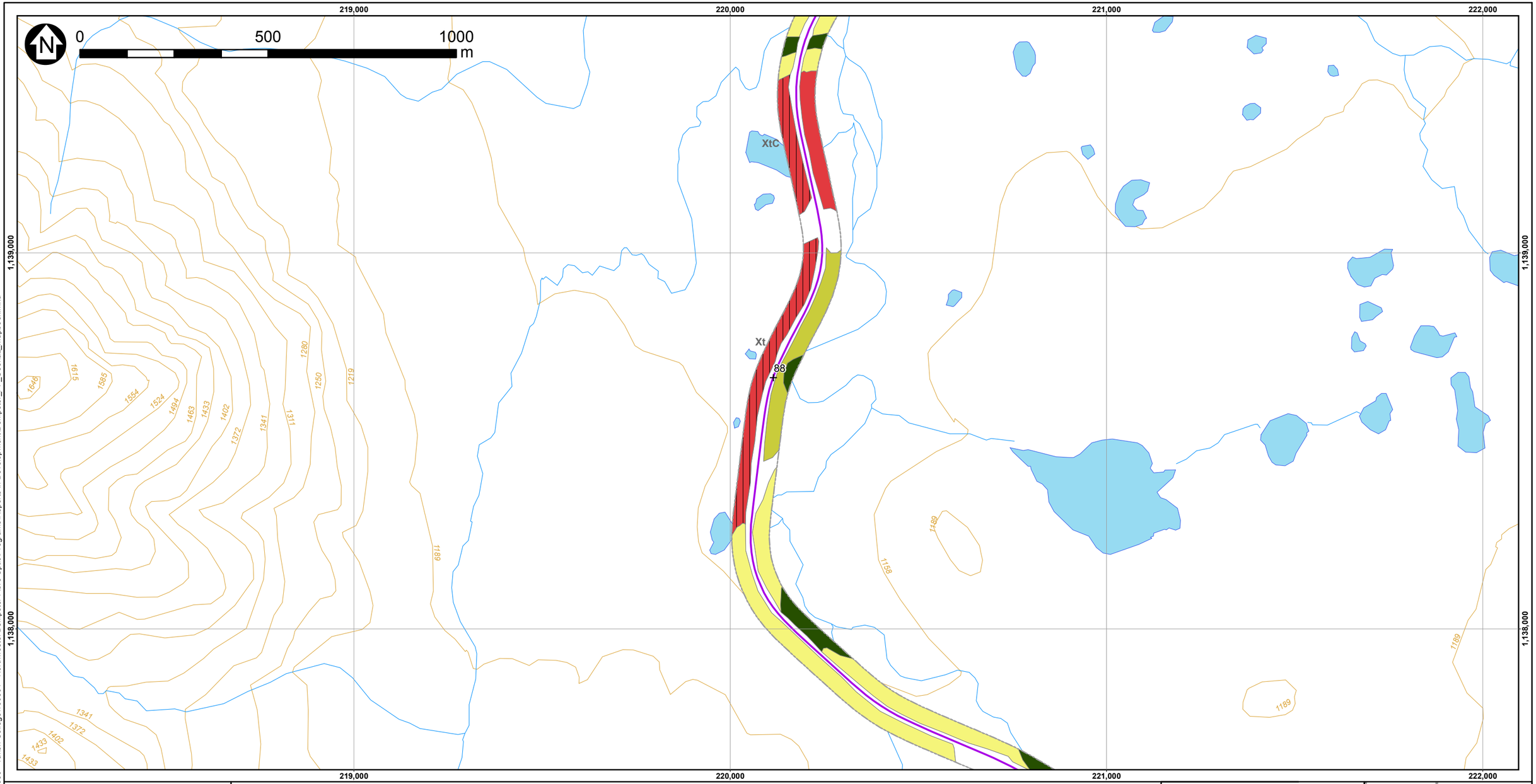


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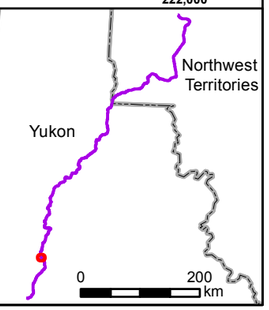


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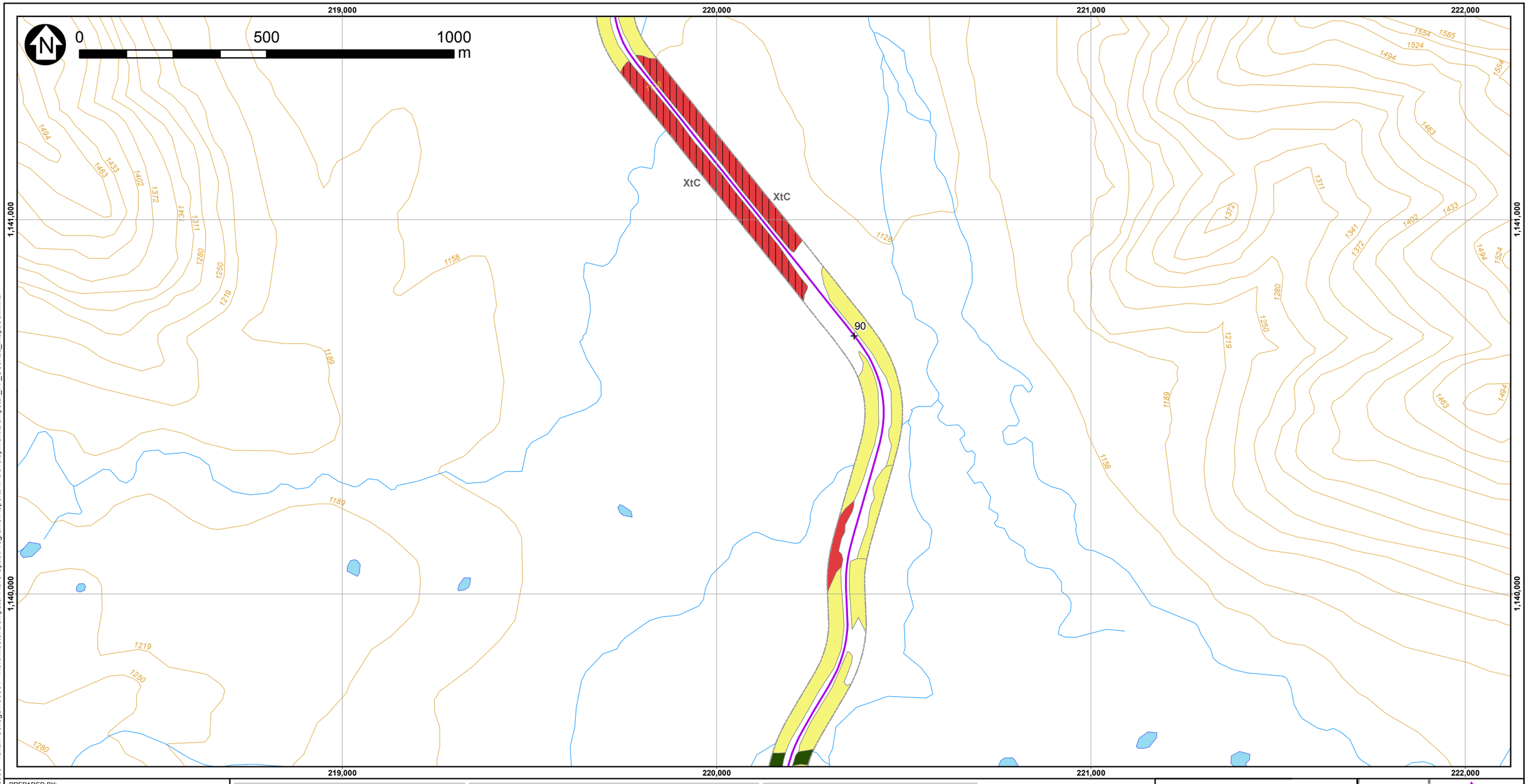


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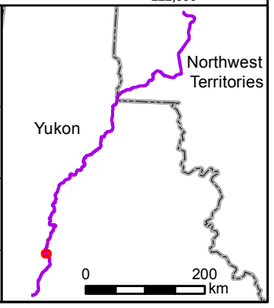

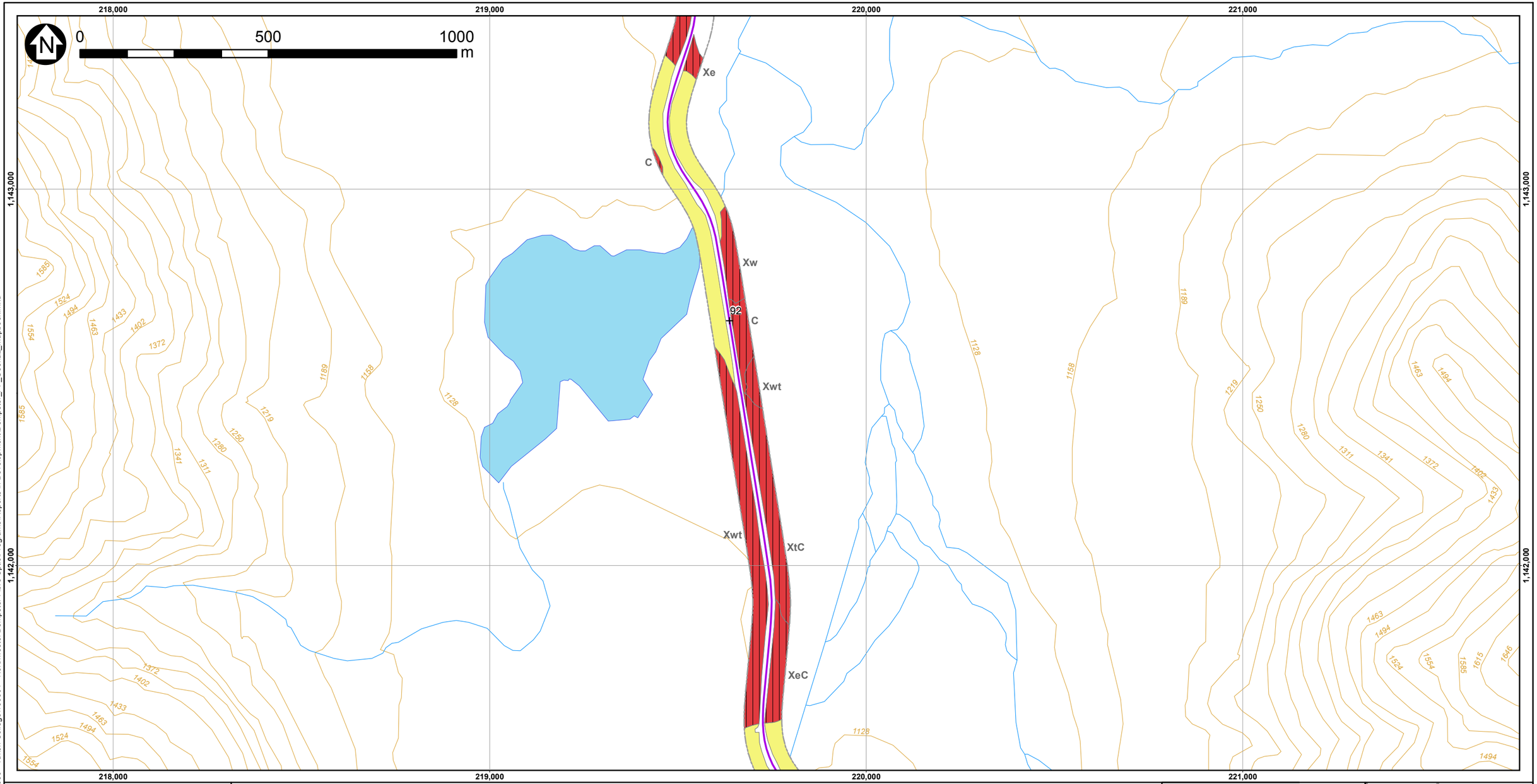


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ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
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| | Low | Thick |
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**Mass Movement Geohazard**

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- ***Xs*** - Slopewash
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- ***Xh*** - Retrogressive Thaw Slump
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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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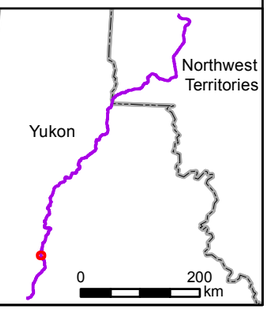
LEDCOR GROUP NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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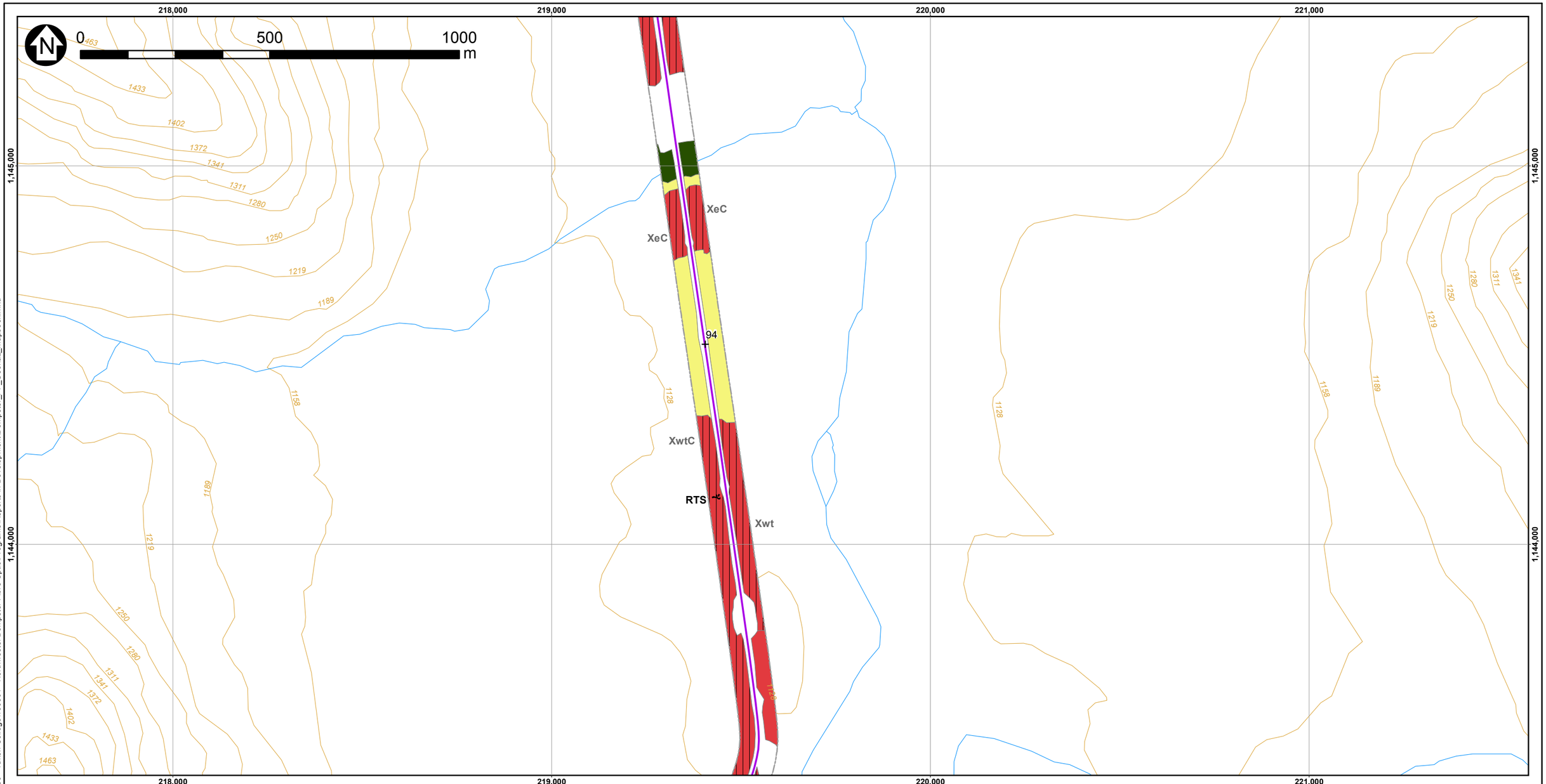


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|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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BASE MAP: http://geogratis.gc.ca/
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Horizontal | Vertical | Both

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LEDCOR GROUP

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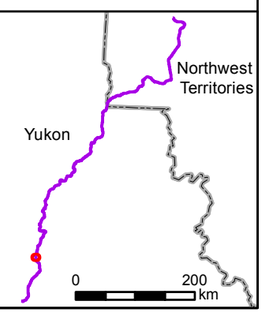


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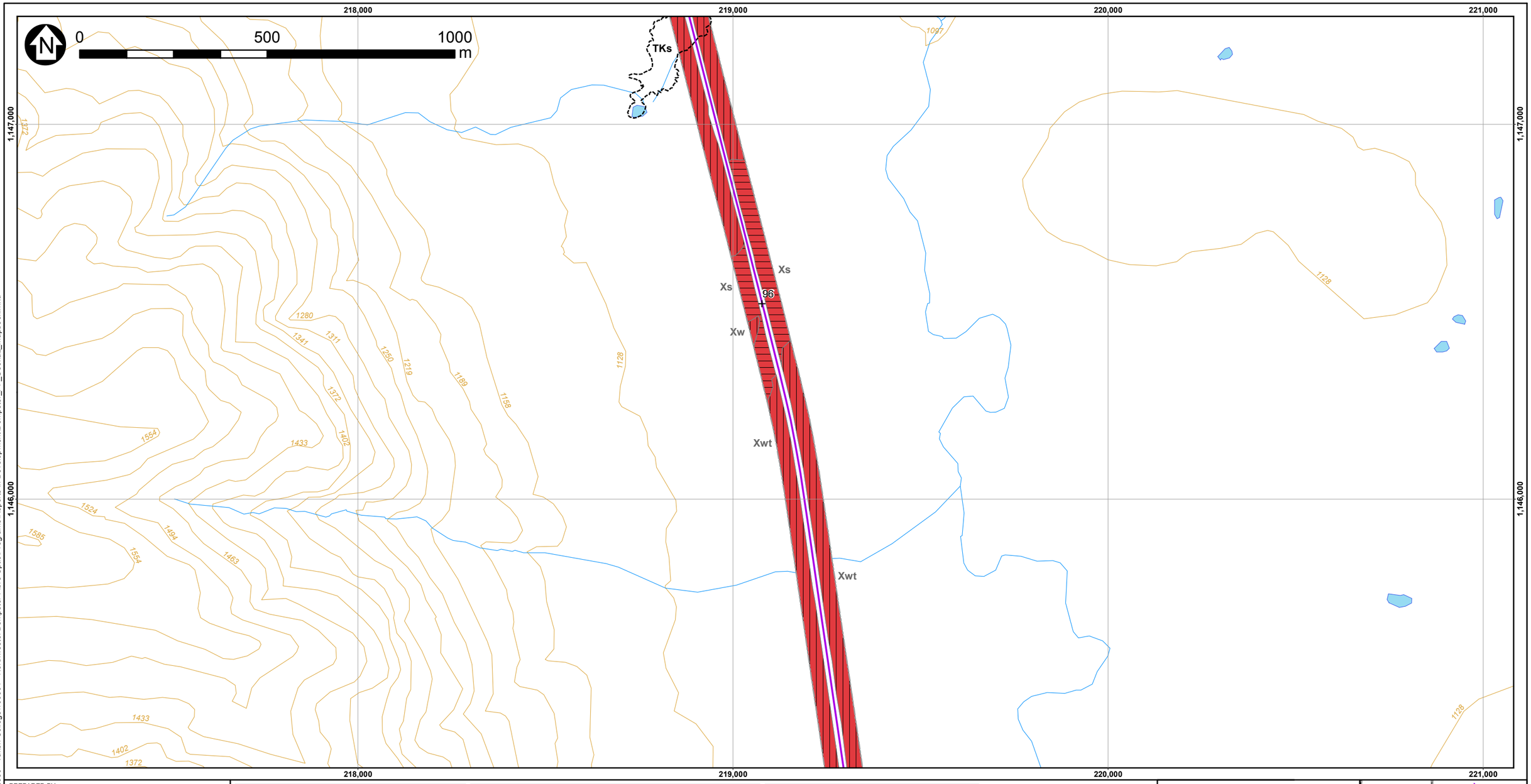


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Horizontal | Vertical | Both

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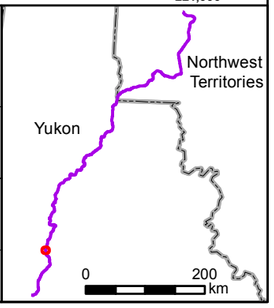

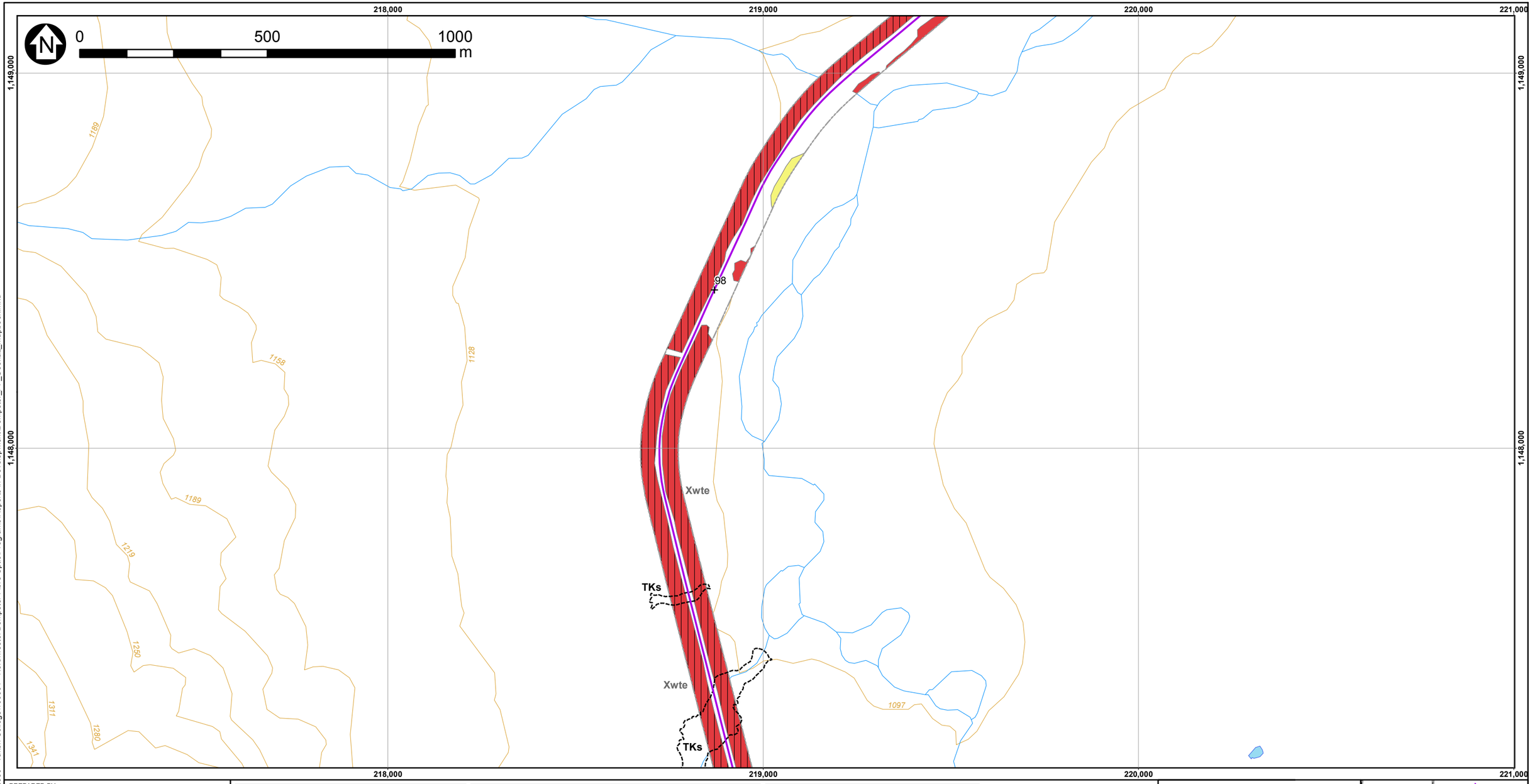


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Horizontal | Vertical | Both

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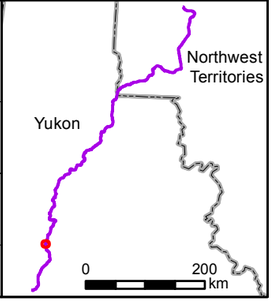


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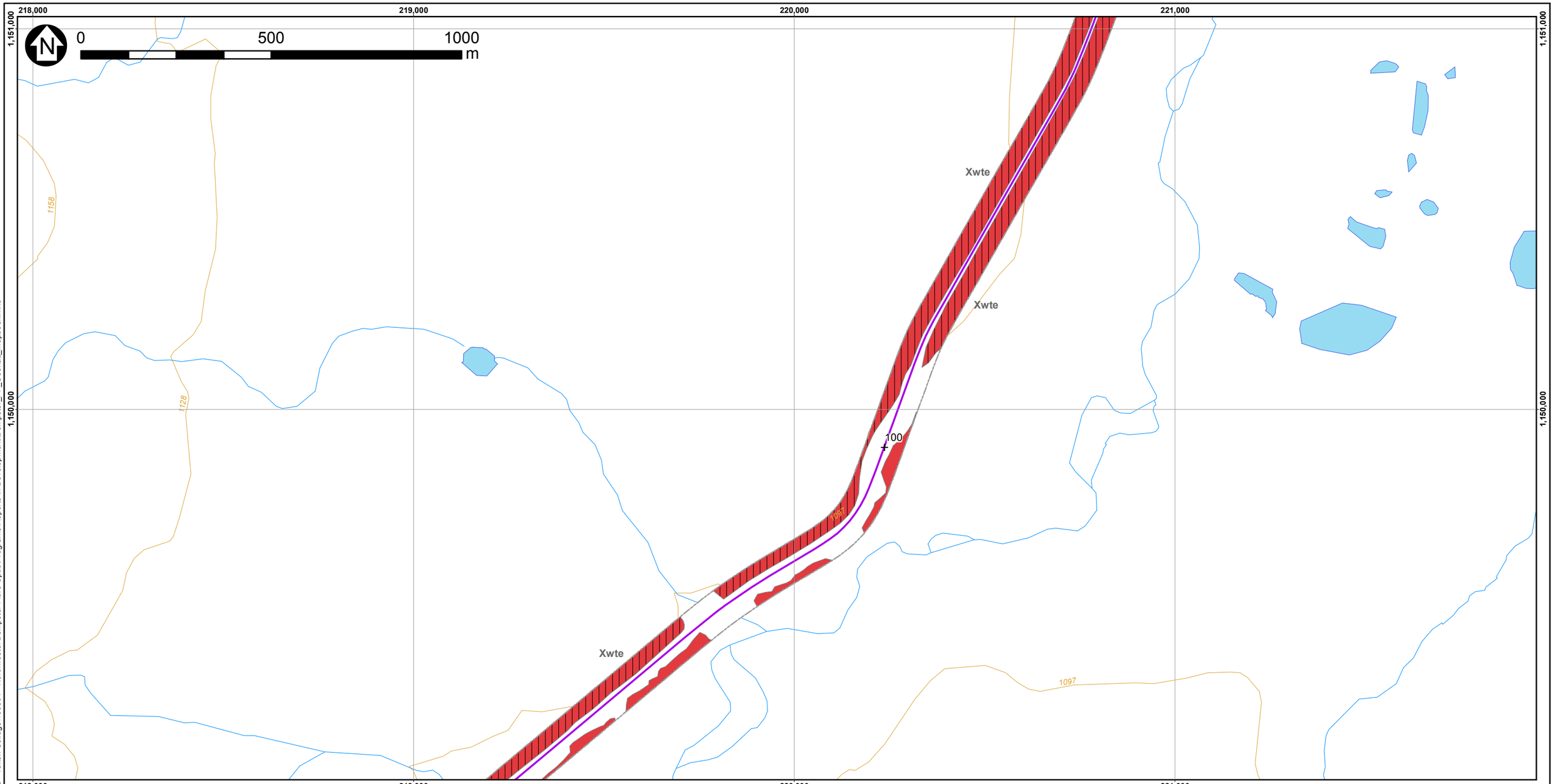


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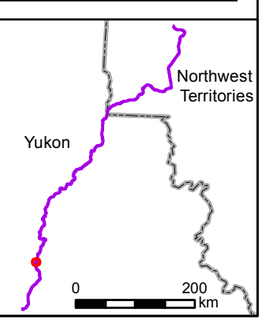

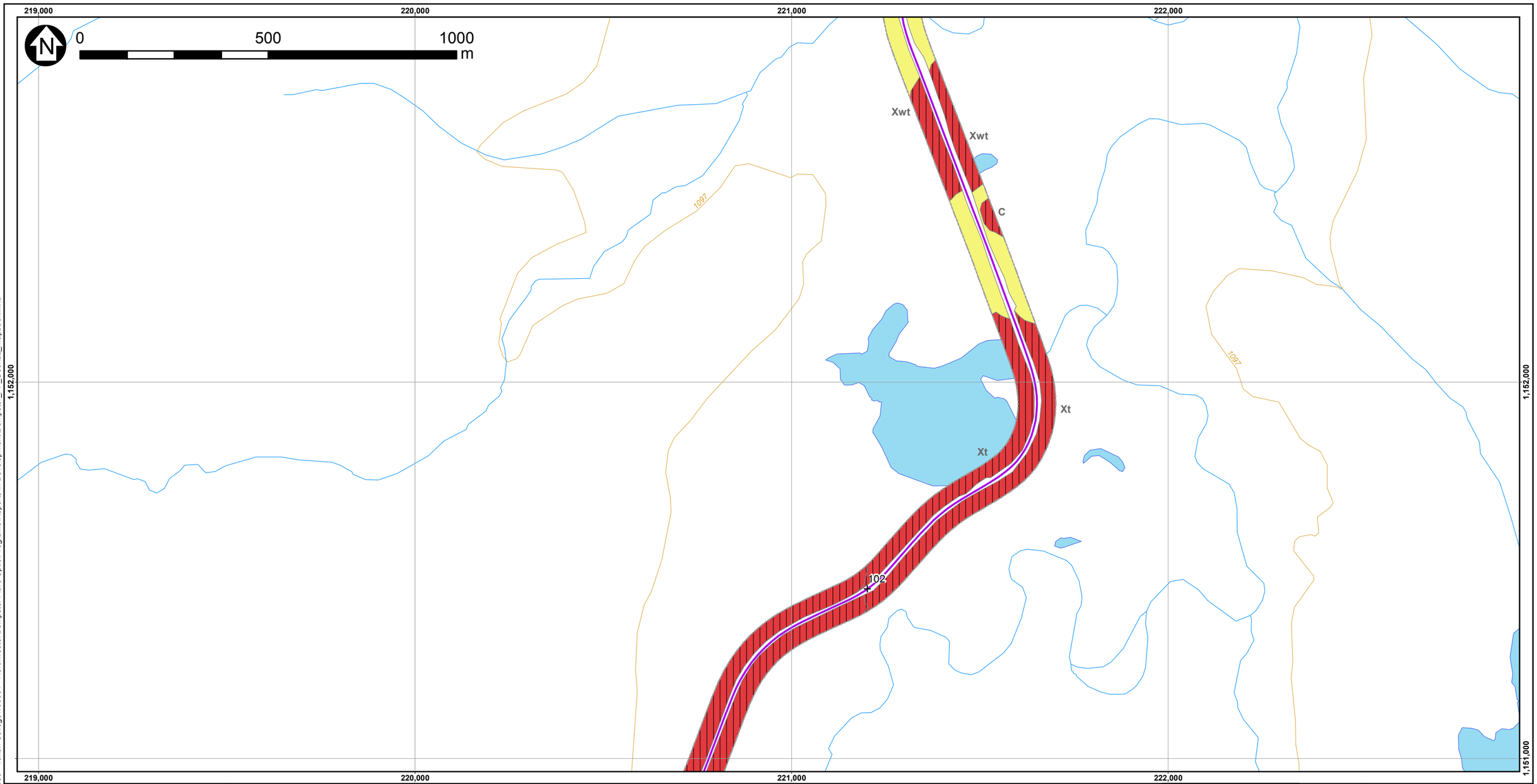


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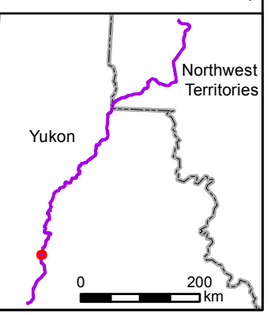
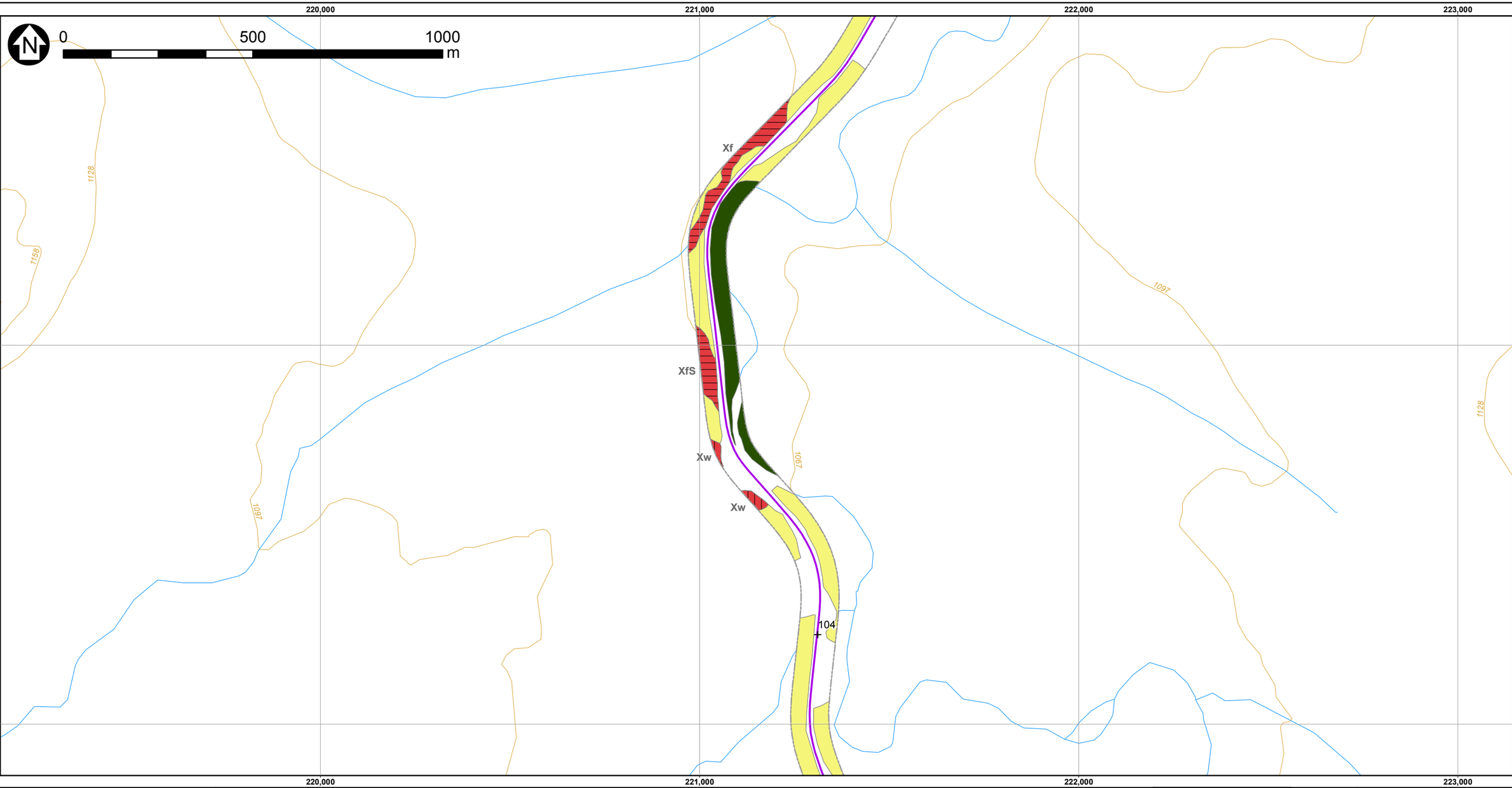
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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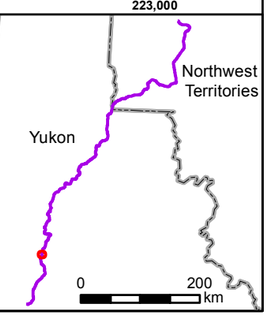

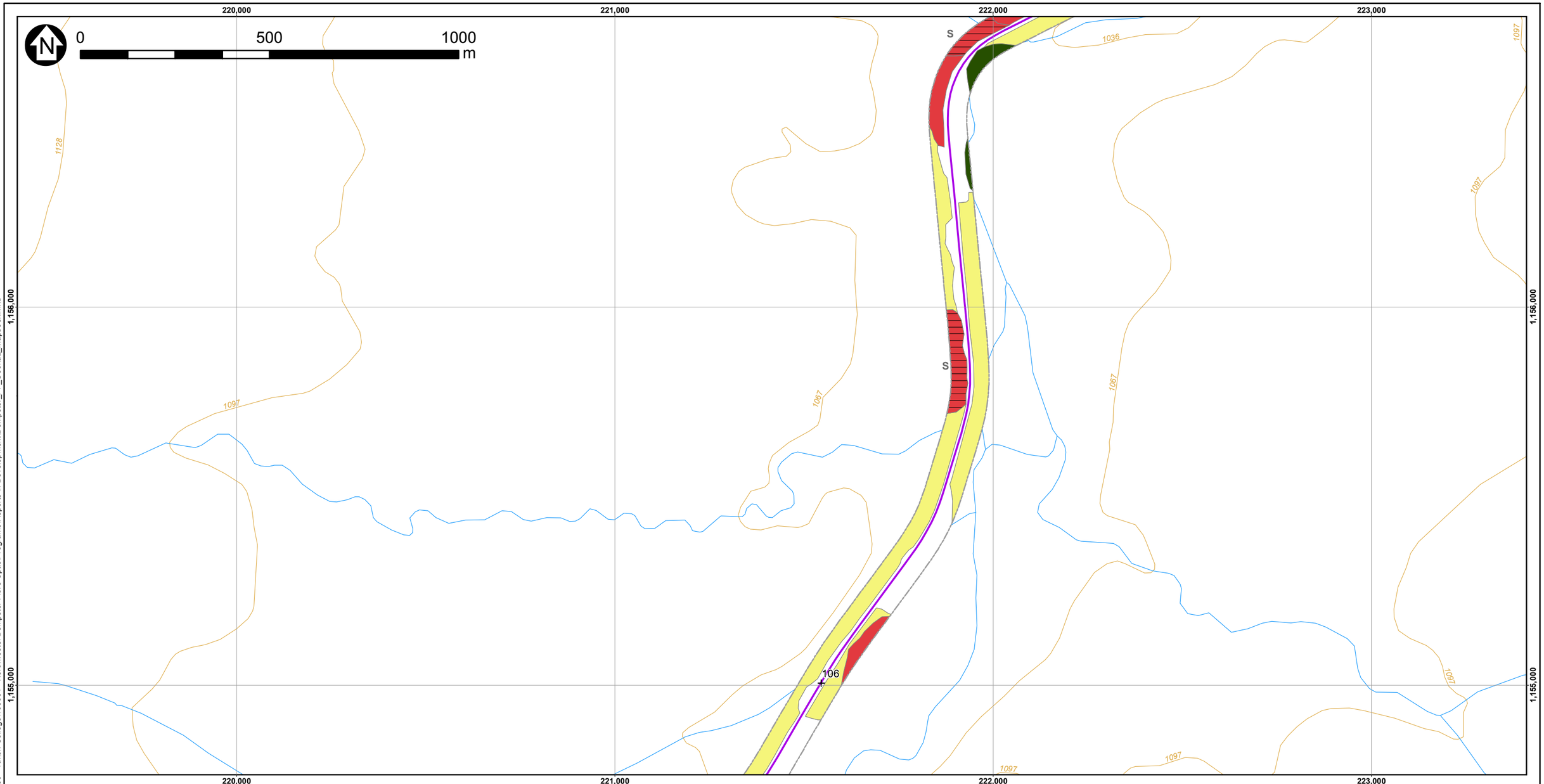


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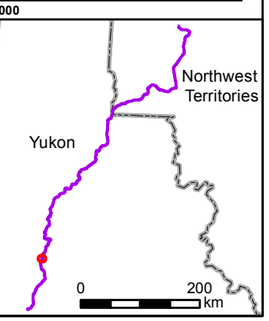
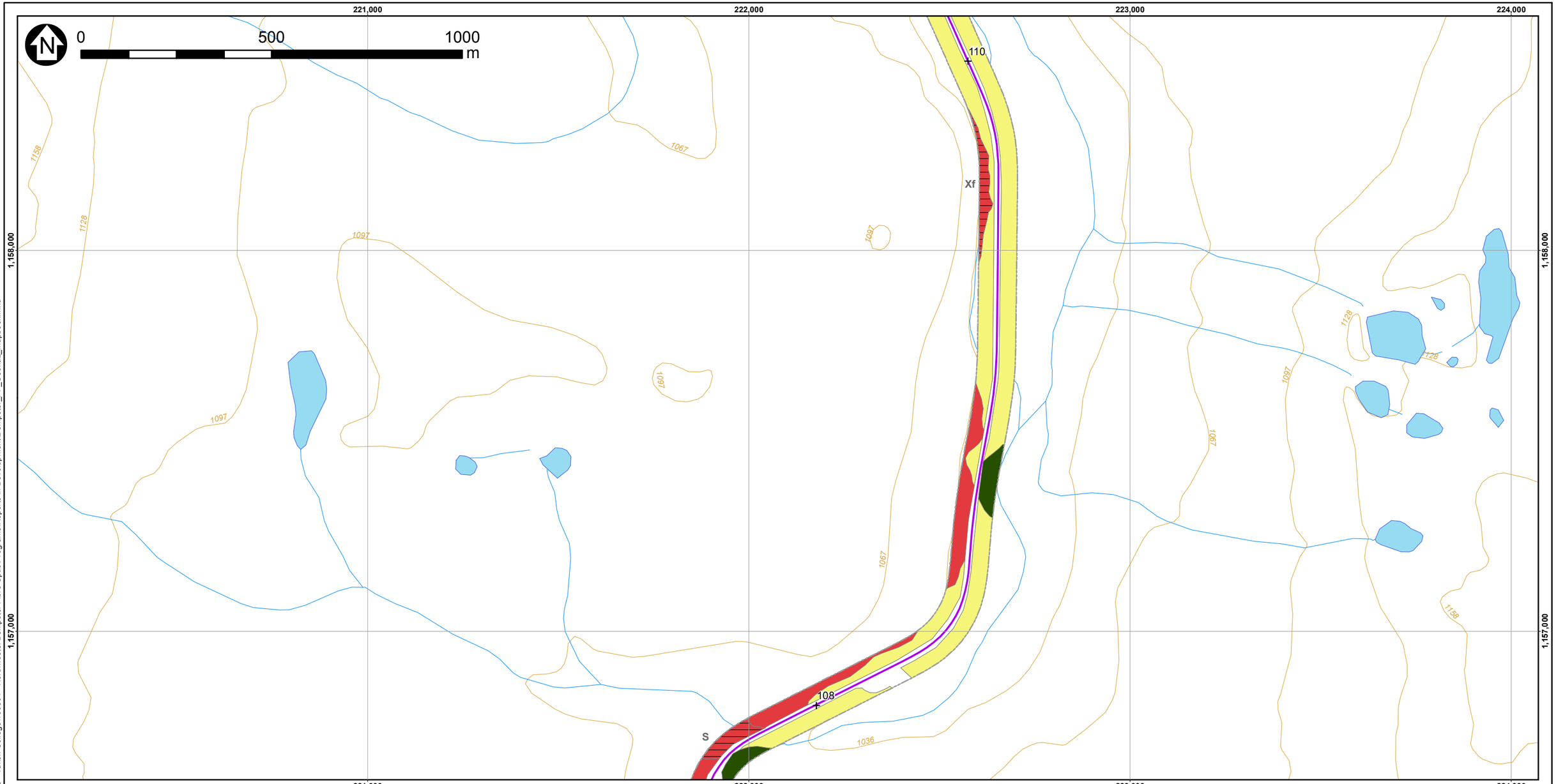
## Preliminary Permafrost and Geohazard Mapping





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Northern Climate ExChange
YUKON RESEARCH CENTRE • Yukon College

| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
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| | Low | Thick |
| | Anthropogenic | |

## Mass Movement Geohazard

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
- ***RTS*** - Retrogressive Thaw Slump
- ***RF*** - Rockfall
- ***DF*** - Debris Flow
- ***TKs*** - Thermokarst Subsidence (active, >1 m relief)
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## Periglacial Process/Feature

- ***Xs*** - Slopewash
- ***Xe*** - Thermal Erosion
- ***Xp*** - Palsa
- ***Xt*** - Thermokarst Subsidence
- ***S*** - Solifluction
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- ***Xf*** - Active Layer Detachment
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- ***Xw*** - Ice-wedge Polygon

## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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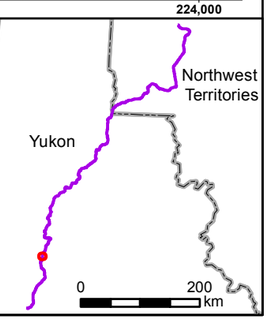
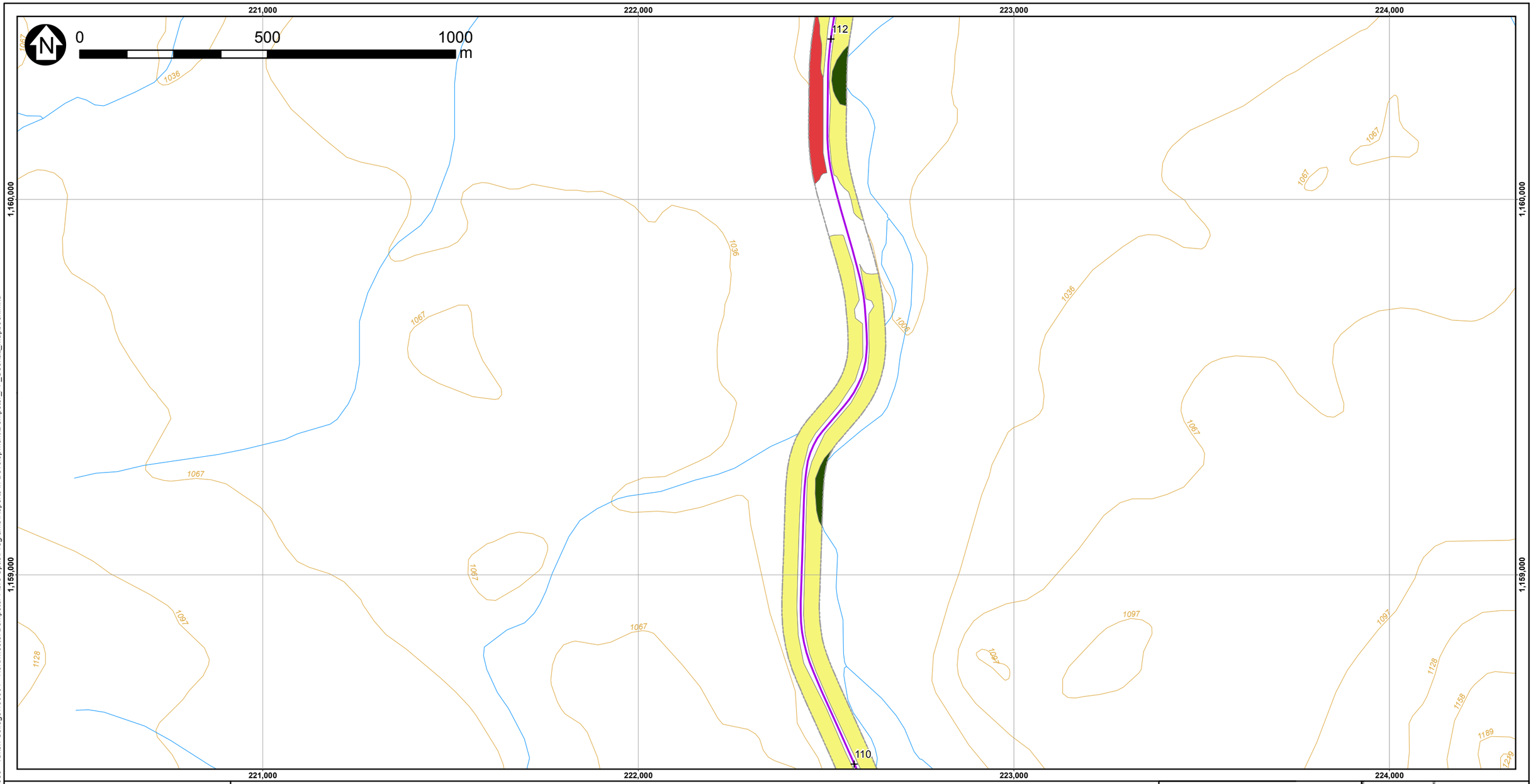
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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Horizontal | Vertical | Both

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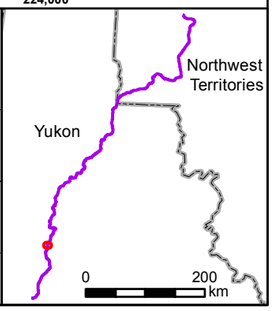


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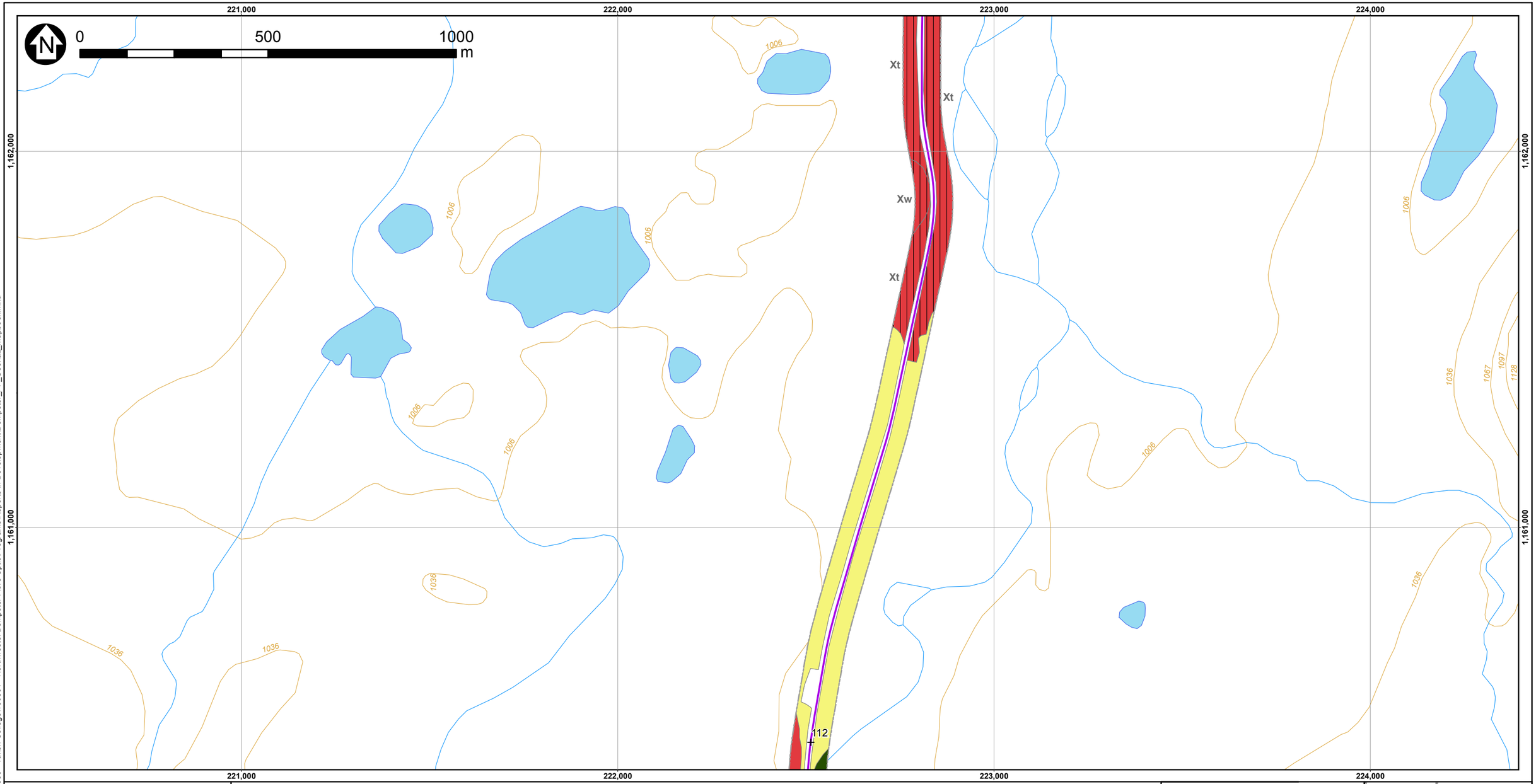


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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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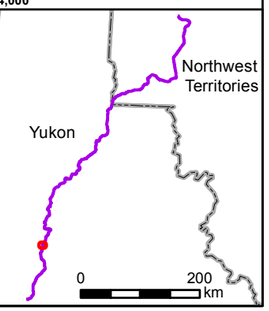

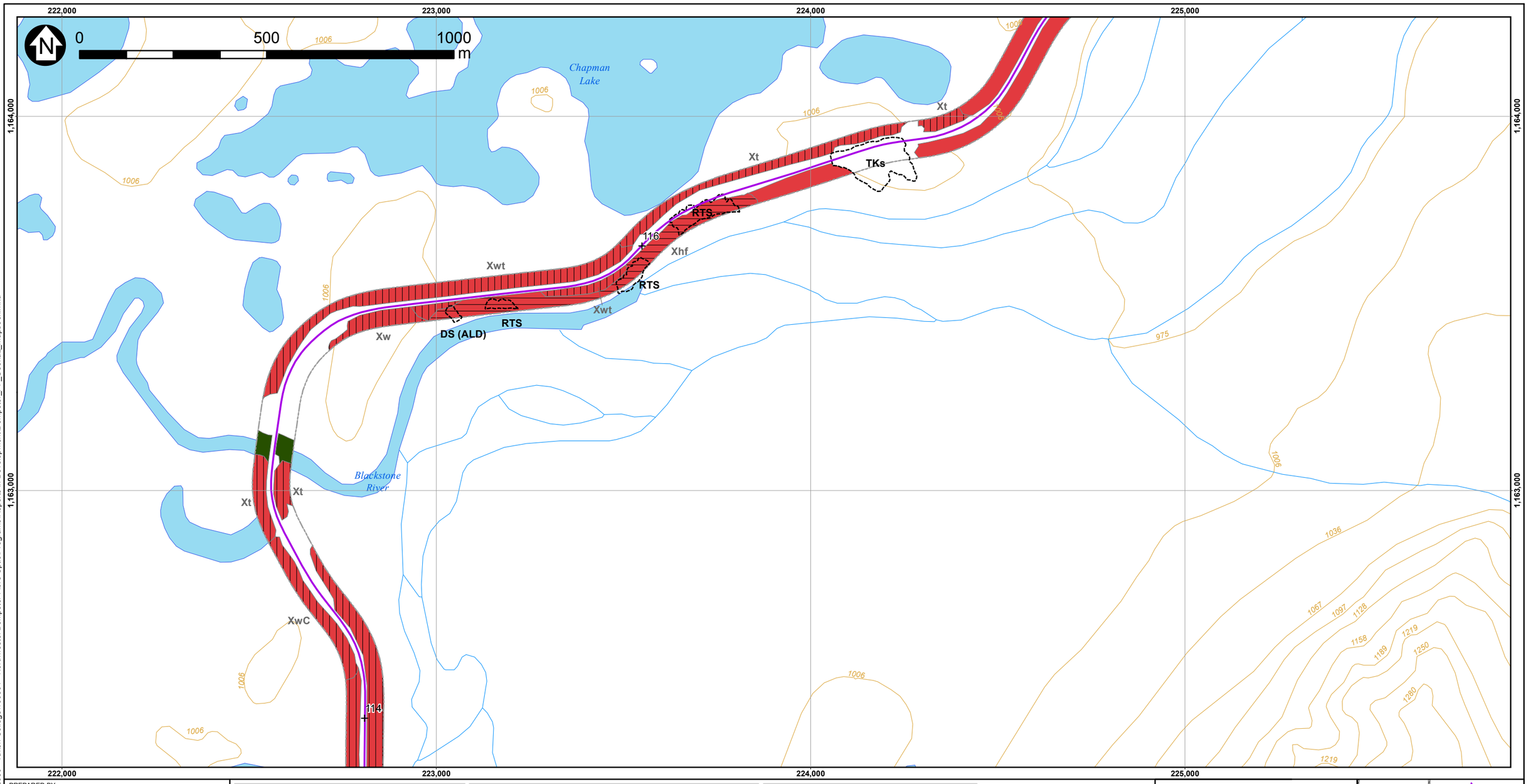


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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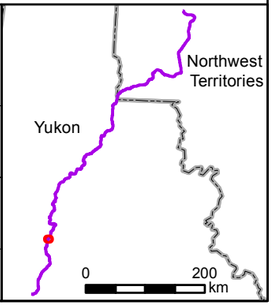
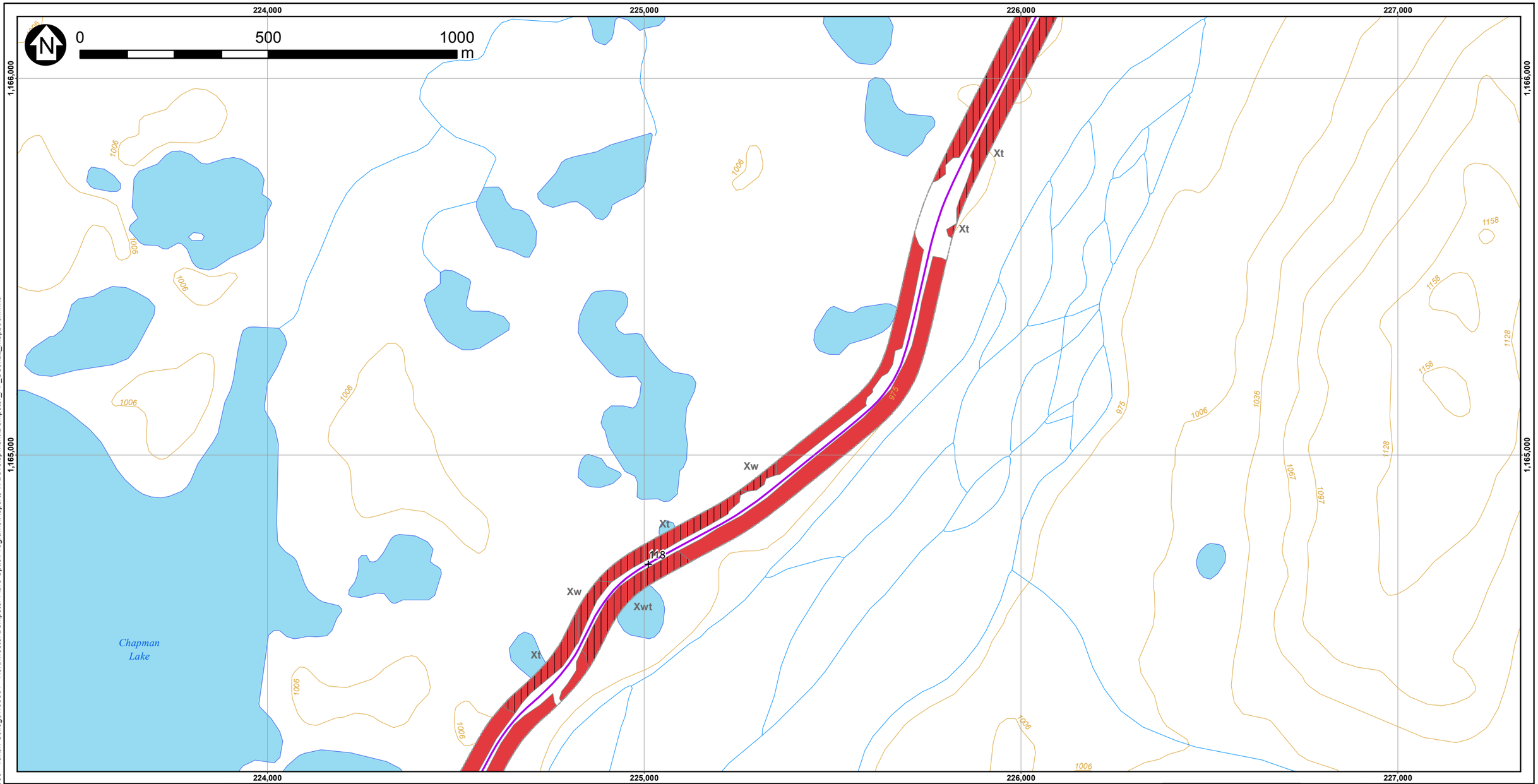
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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# Dempster Highway Fibre Optic Line

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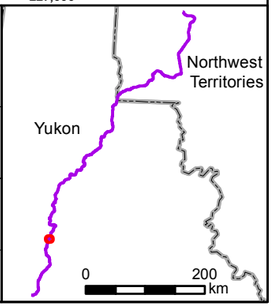

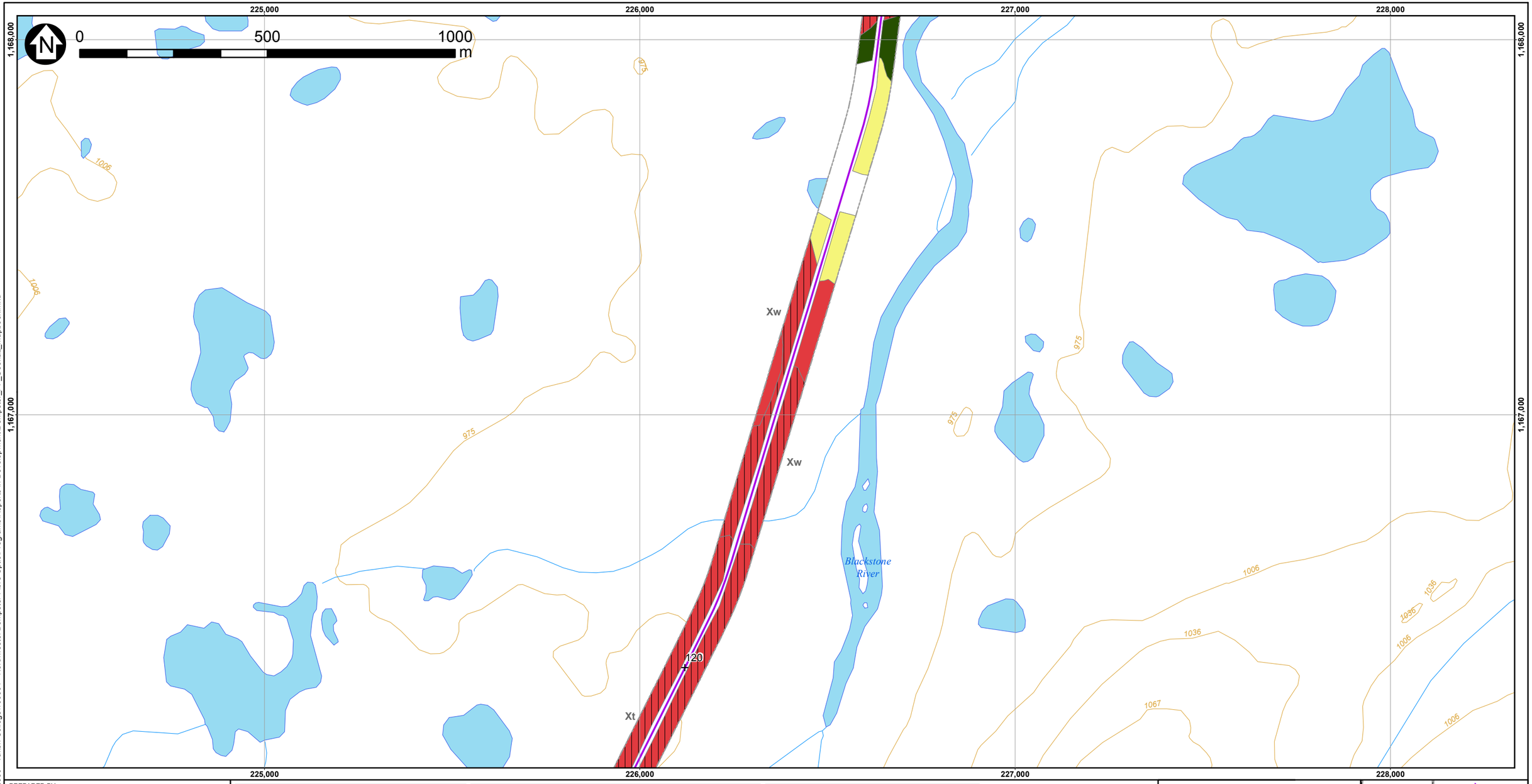


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**Potential Movement Direction**

Horizontal | Vertical | Both

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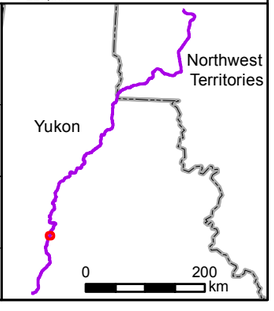


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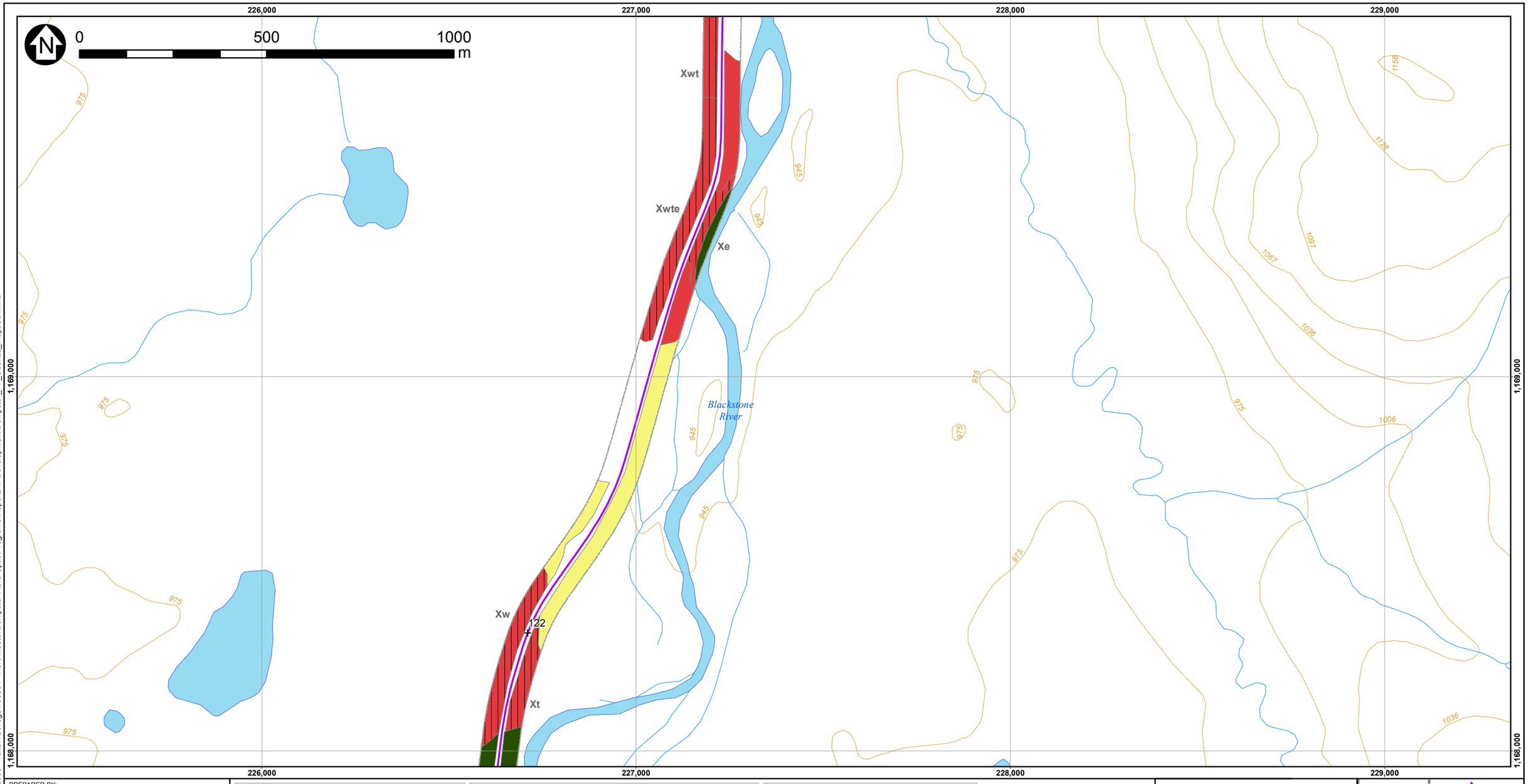


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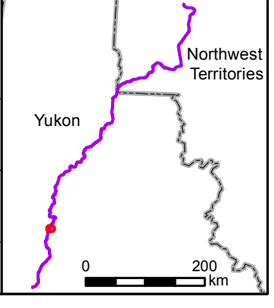

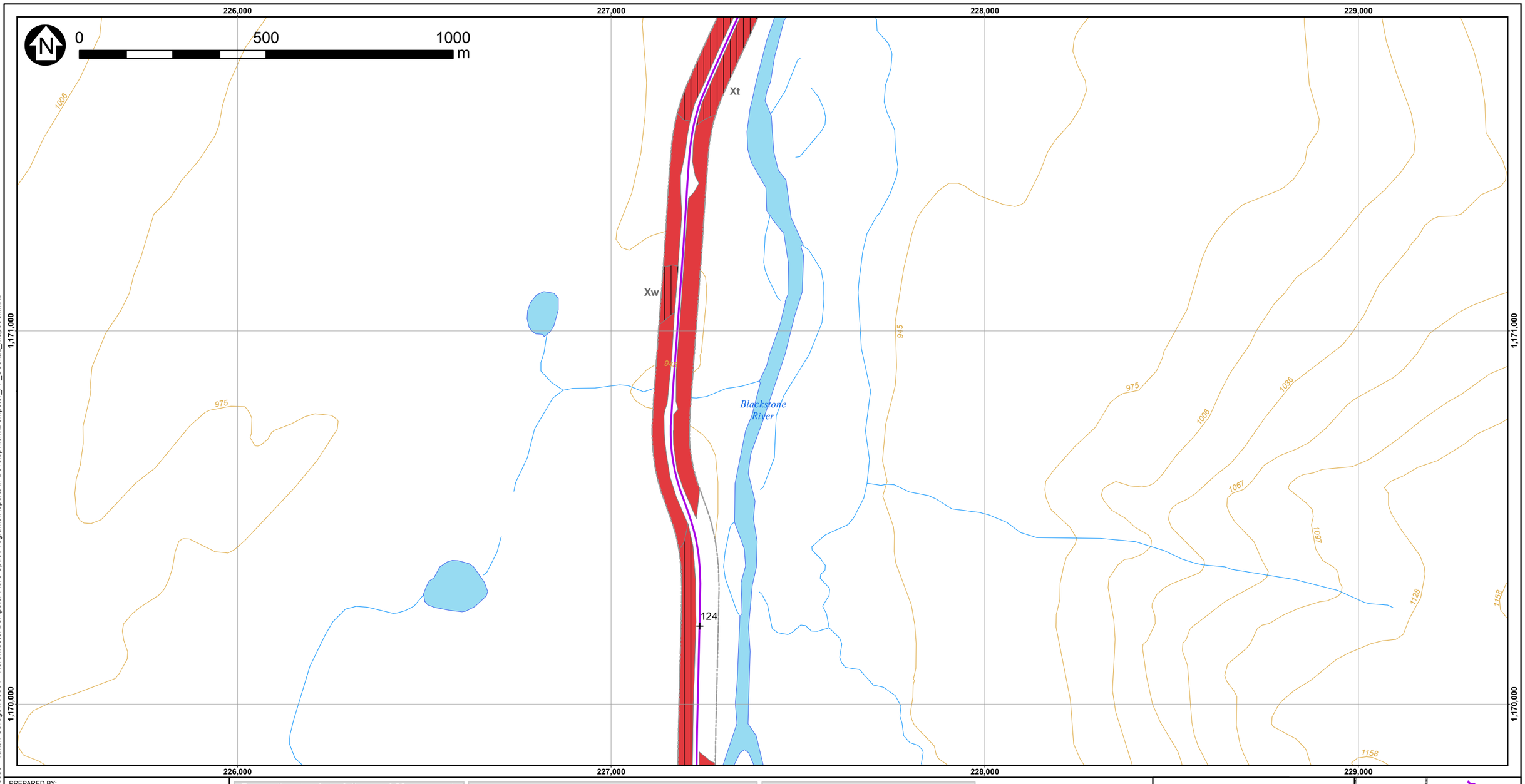


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- ***Xh*** - Retrogressive Thaw Slump
- ***Xw*** - Ice-wedge Polygon

## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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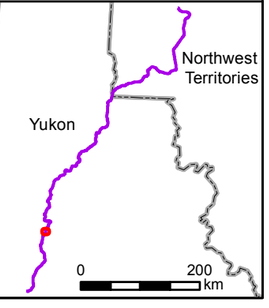
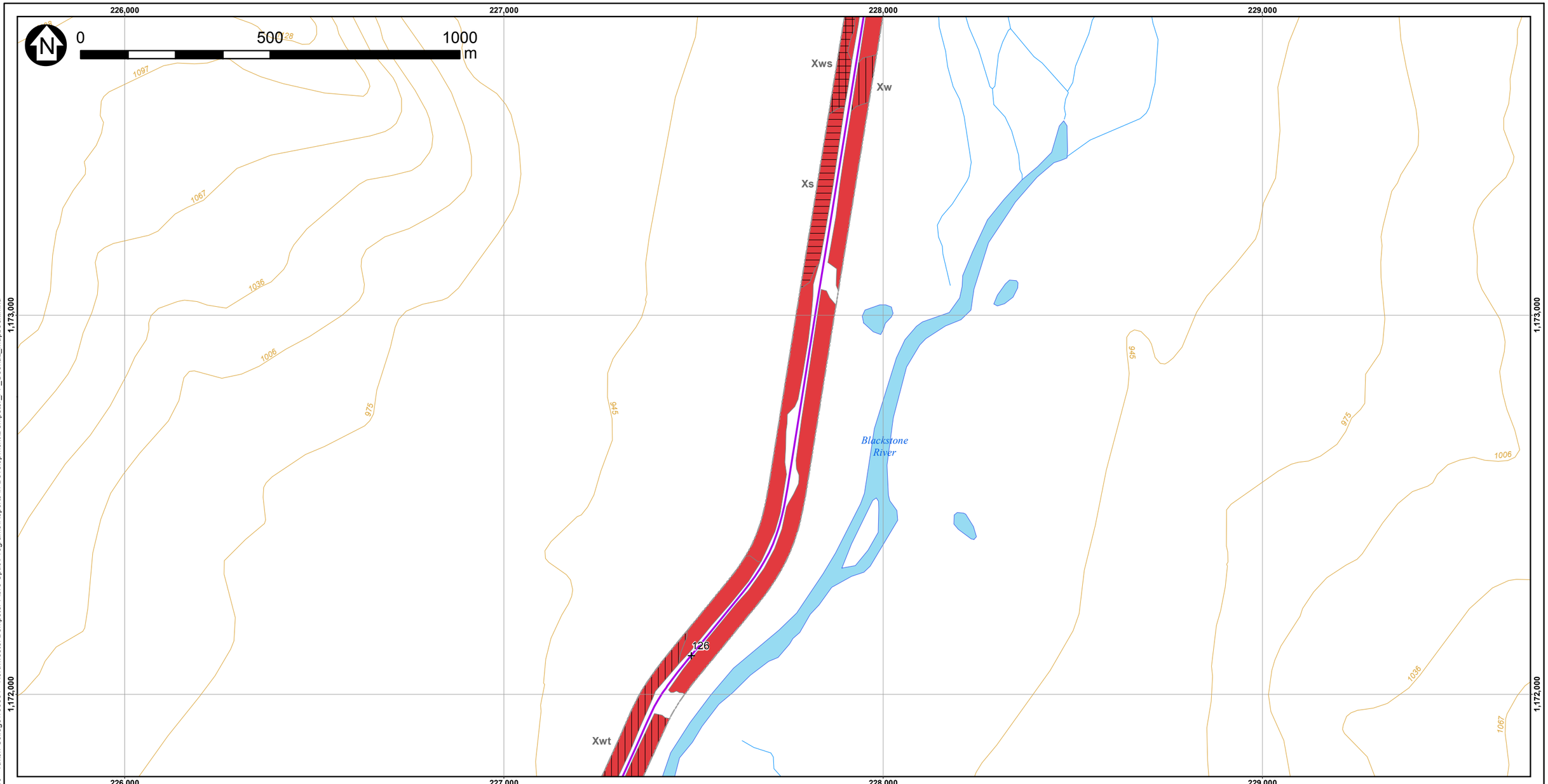
NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
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## Mass Movement Geohazard

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# Dempster Highway Fibre Optic Line

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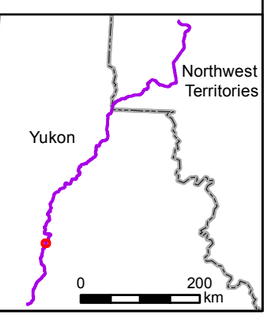

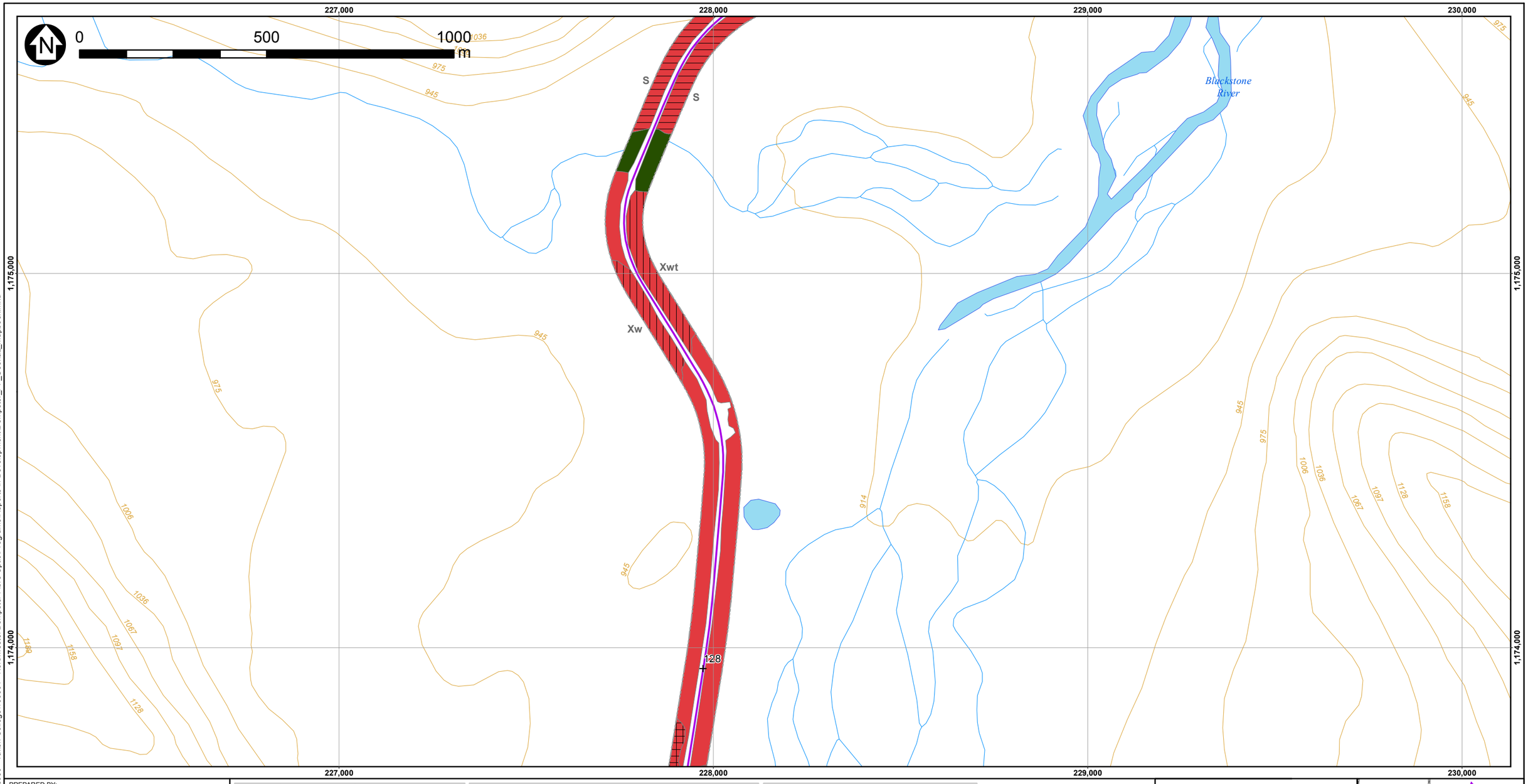


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**Potential Movement Direction**

Horizontal | Vertical | Both

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**Dempster Highway Fibre Optic Line**

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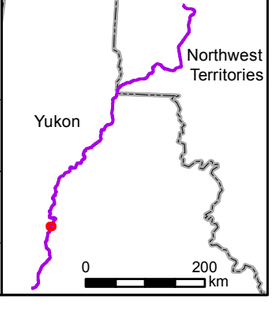

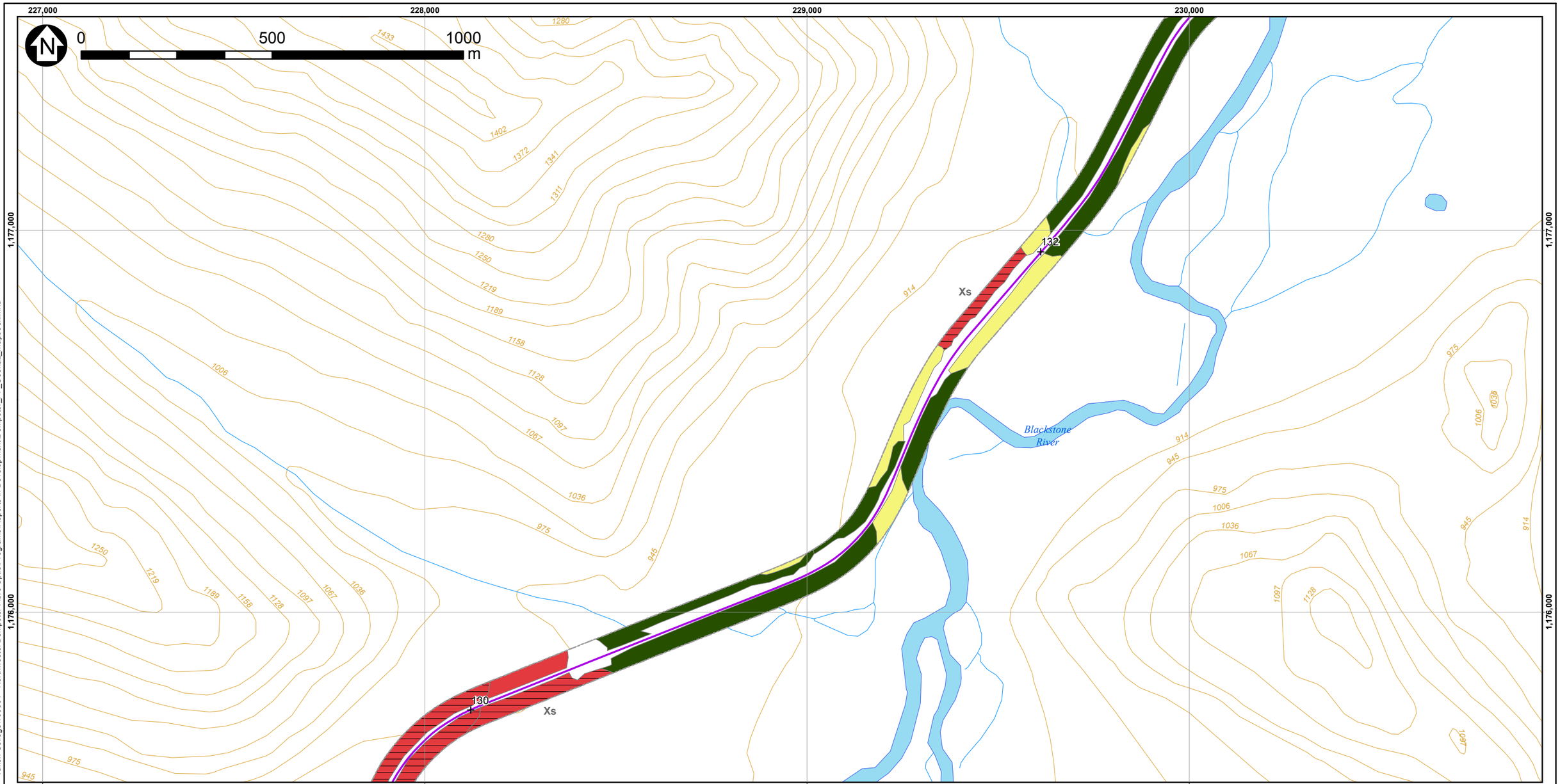


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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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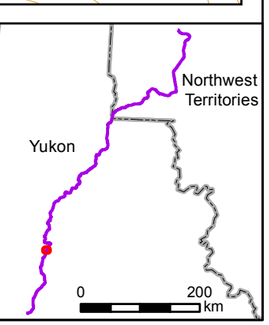

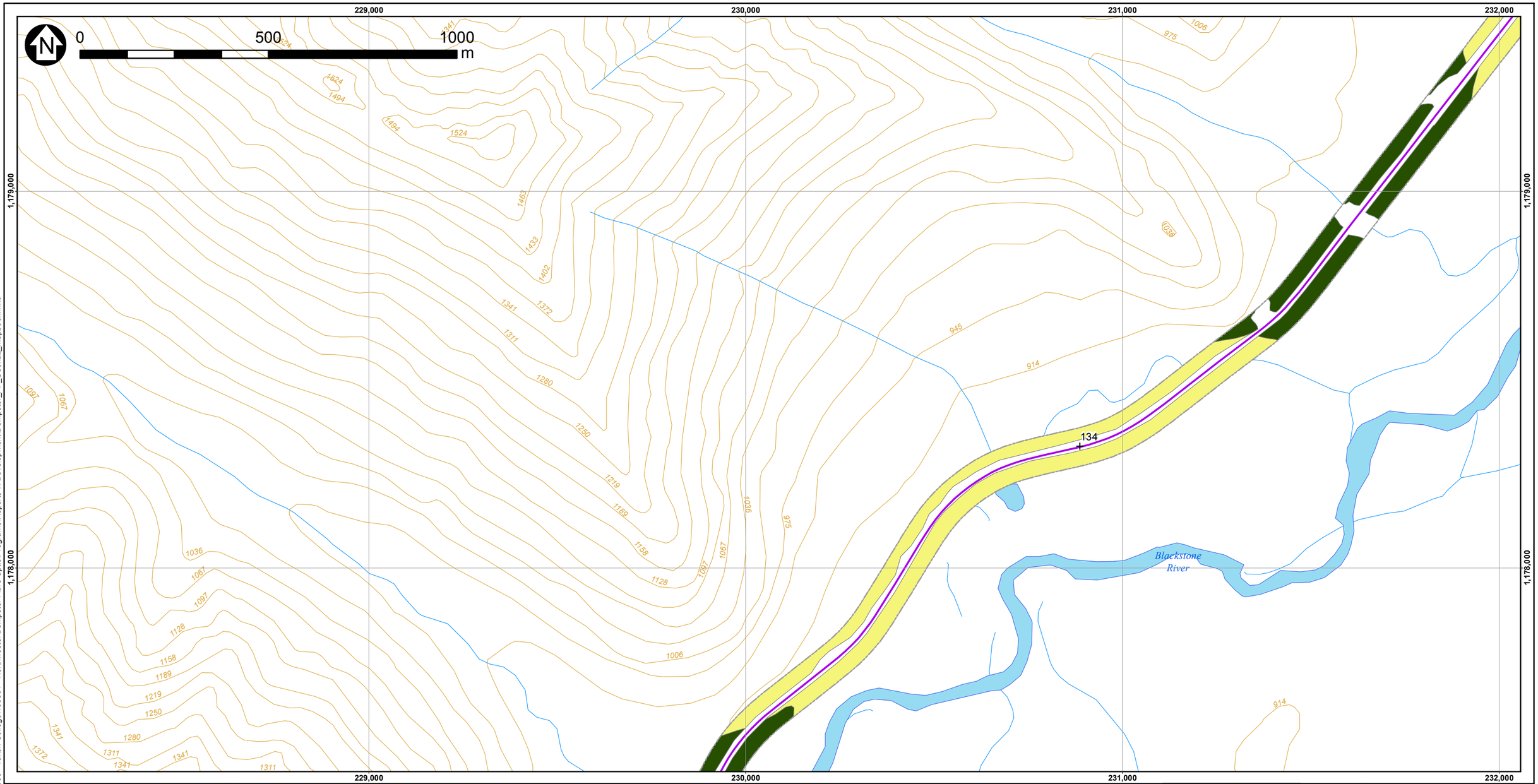


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## Potential Movement Direction

Horizontal | Vertical | Both

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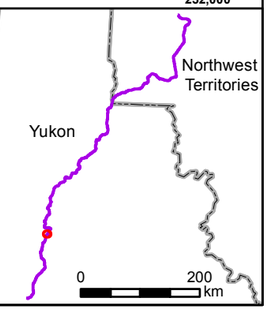
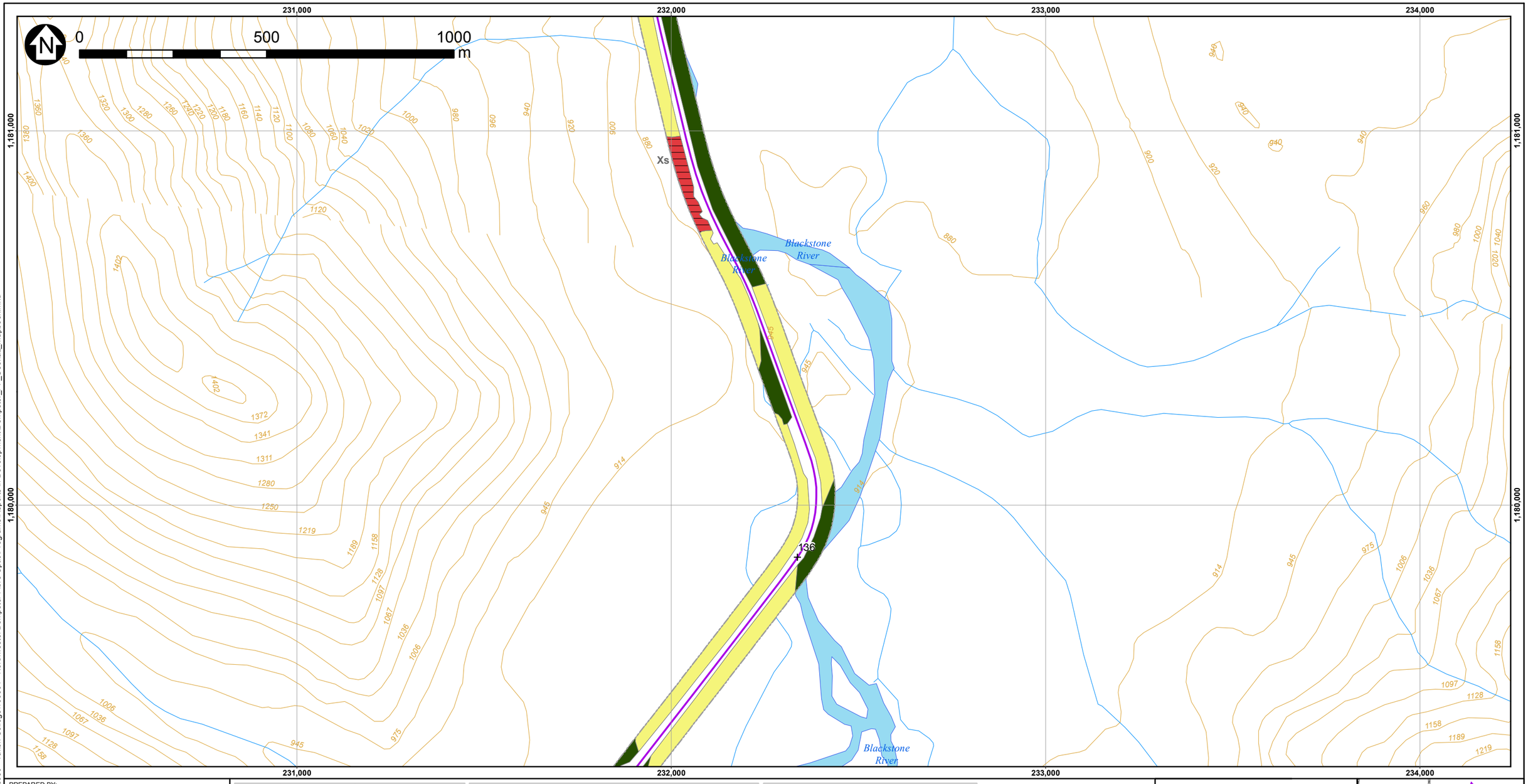
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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**Potential Movement Direction**

Horizontal | Vertical | Both

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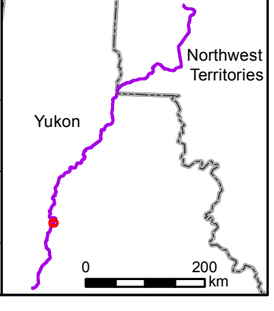

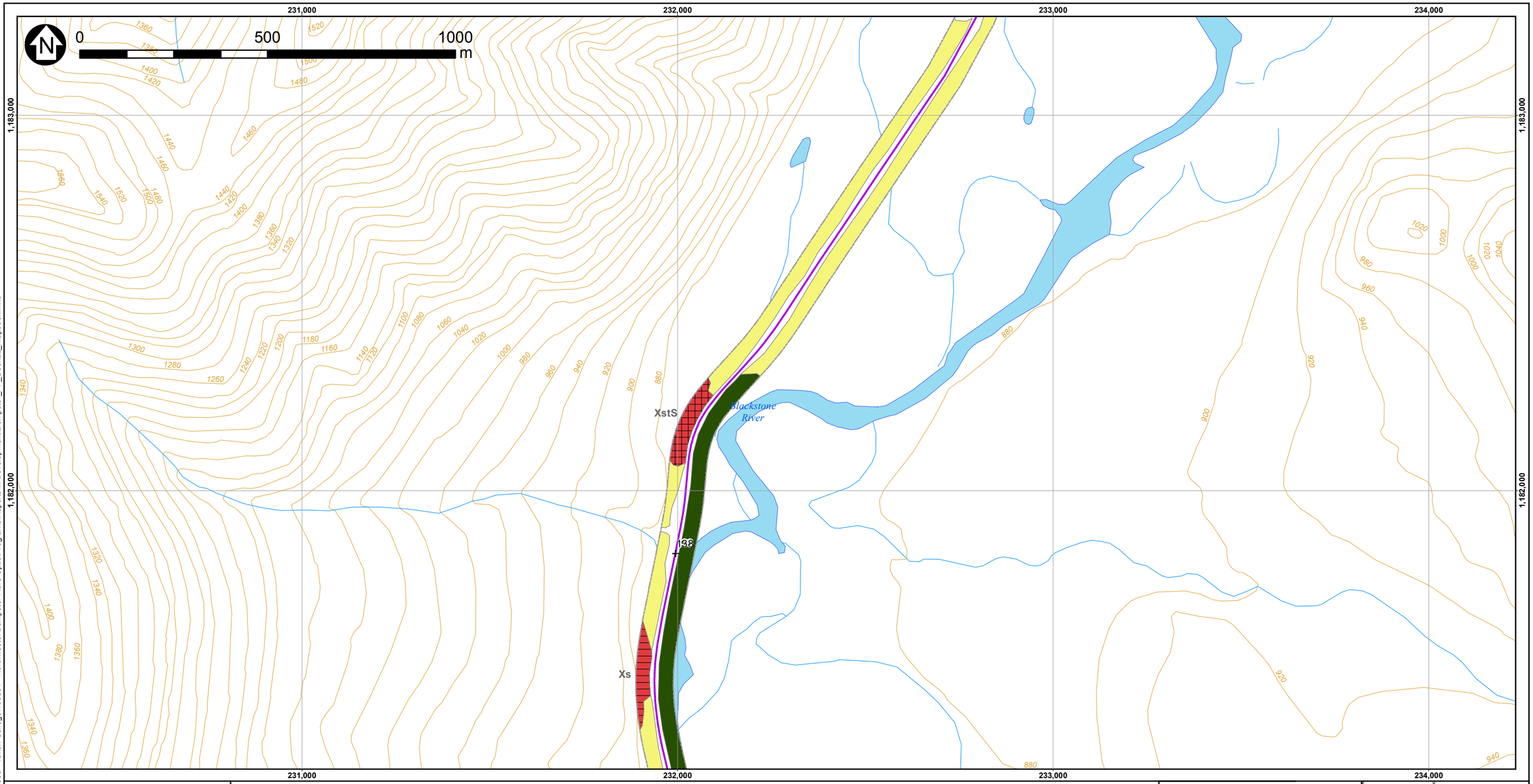


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# Dempster Highway Fibre Optic Line

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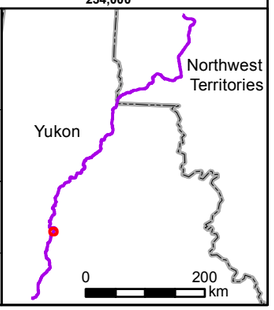

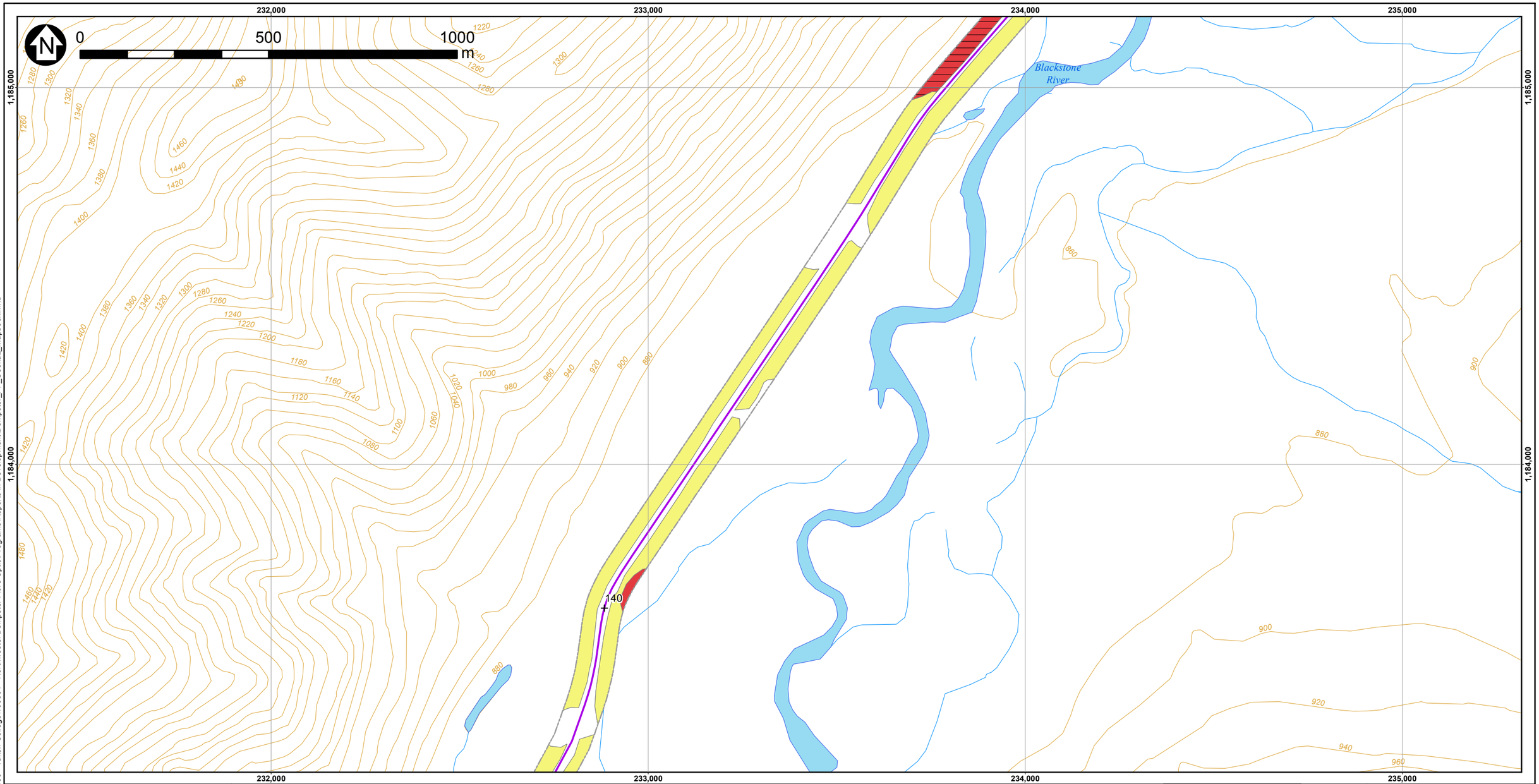


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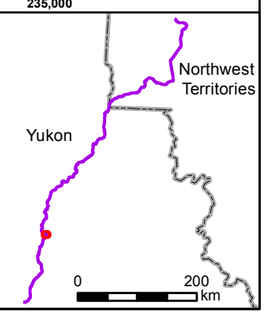


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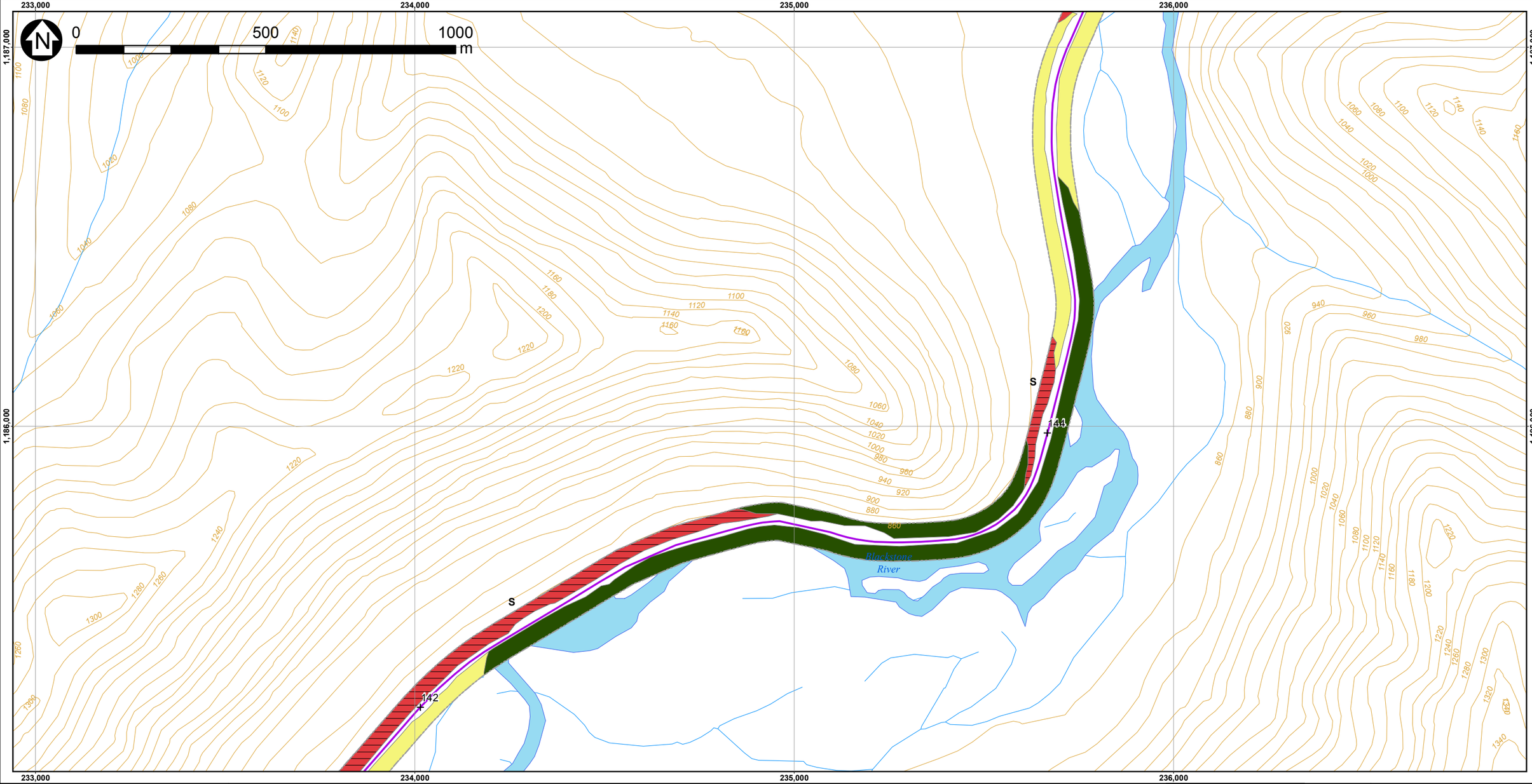


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| | Moderate | Thin |
| | Moderate | Thick |
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| | Low | Thick |
| | Anthropogenic | |

**Mass Movement Geohazard**

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
- ***RTS*** - Retrogressive Thaw Slump
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- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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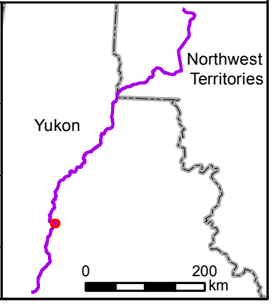
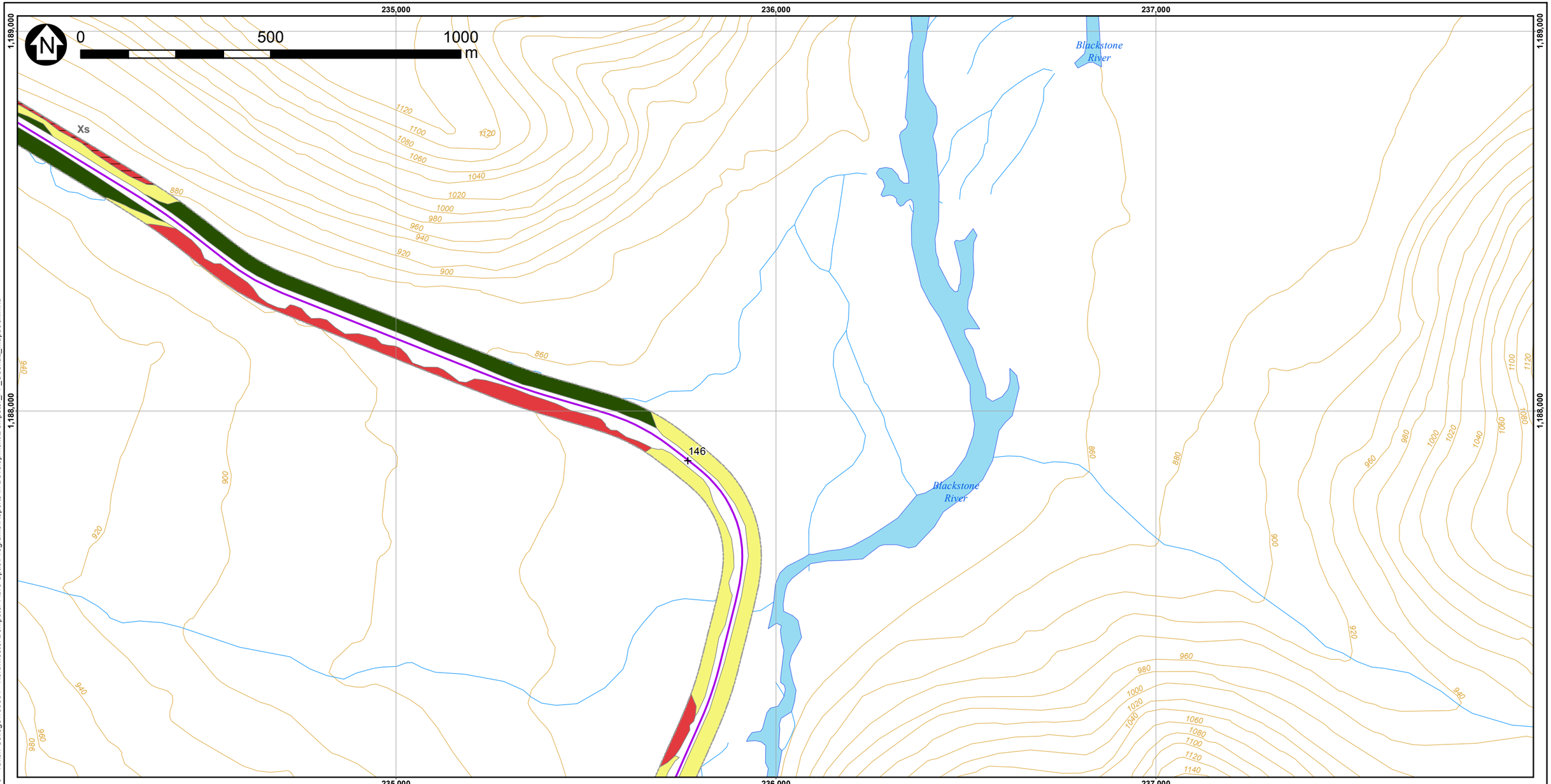
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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YUKON RESEARCH CENTRE • Yukon College

| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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| Symbol | PGMP | Active Layer Thickness |
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Horizontal | Vertical | Both

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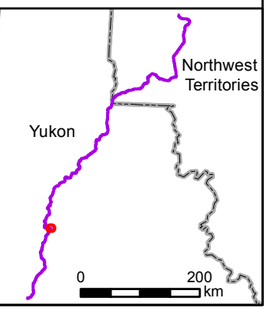
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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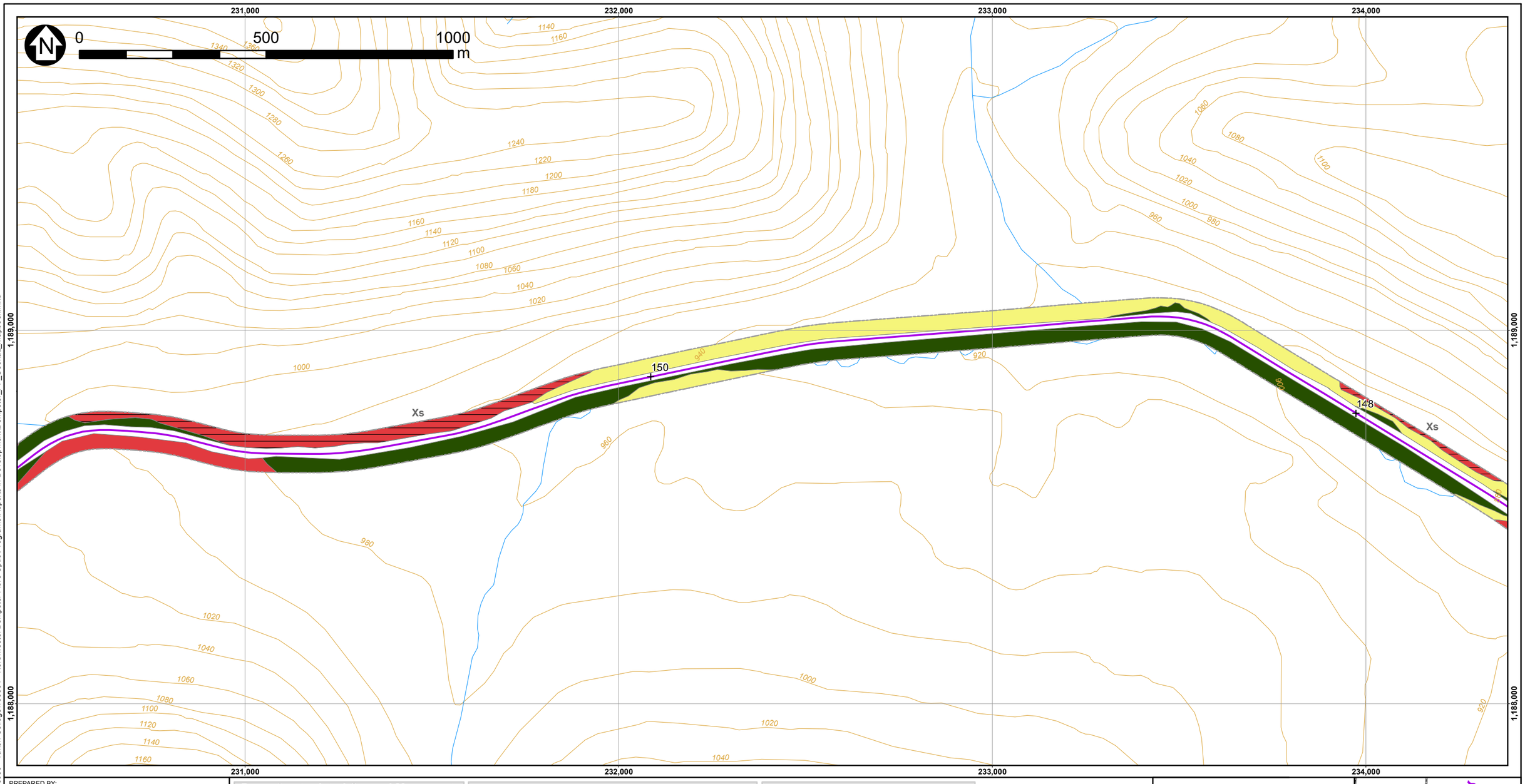


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| GEOLOGY | DS/RM/CB |
|---|---|
| DRAWN | DS |
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| DATE | 20Jul'16 |

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Horizontal | Vertical | Both

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- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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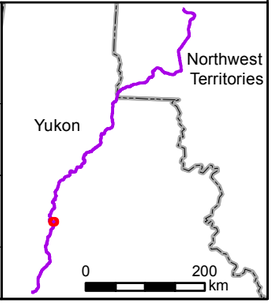
NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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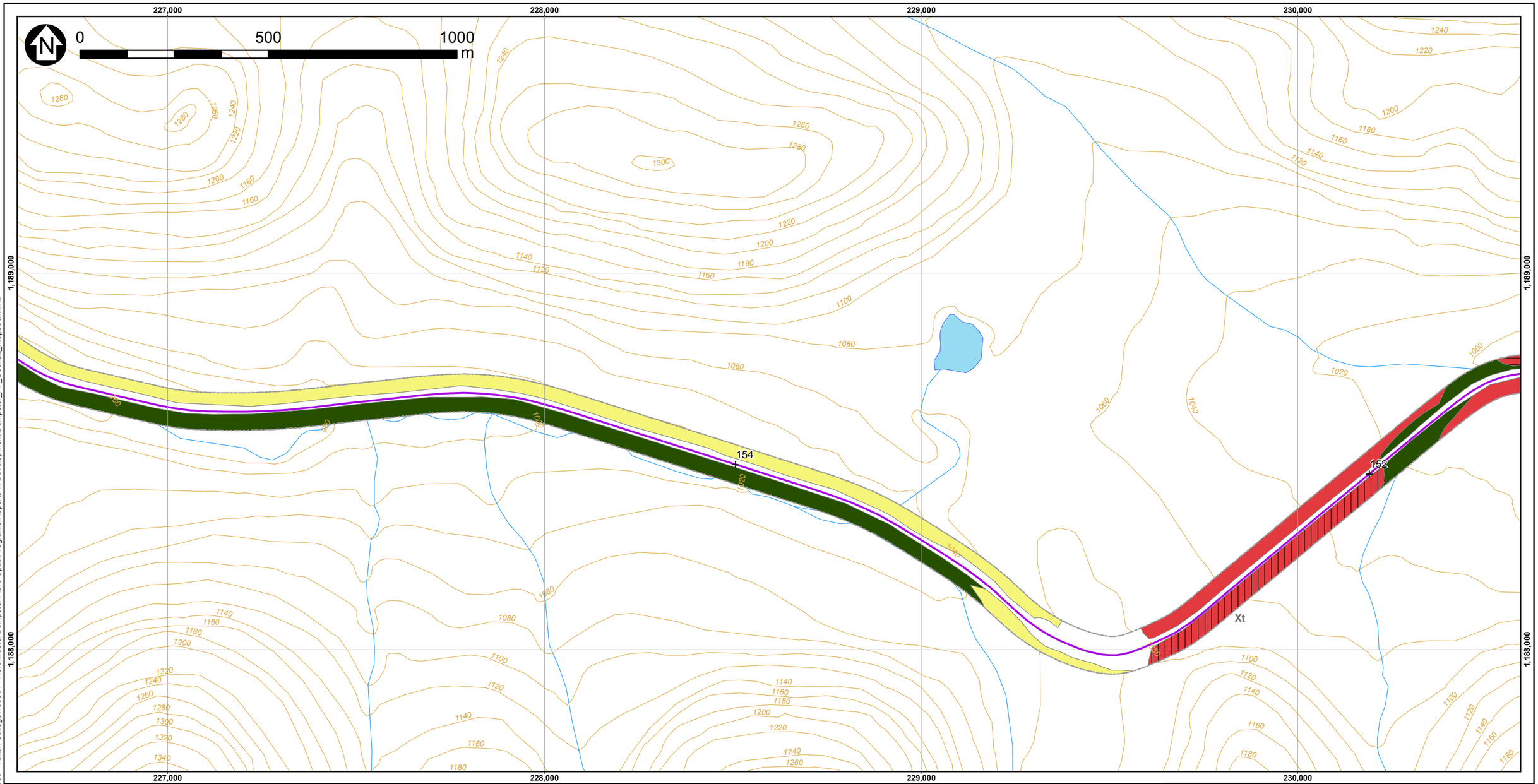


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| | | | |
|---|---|---|---|
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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
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Contour (m)
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**Dempster Highway Fibre Optic Line**

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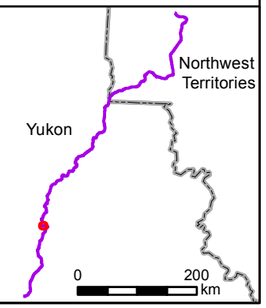


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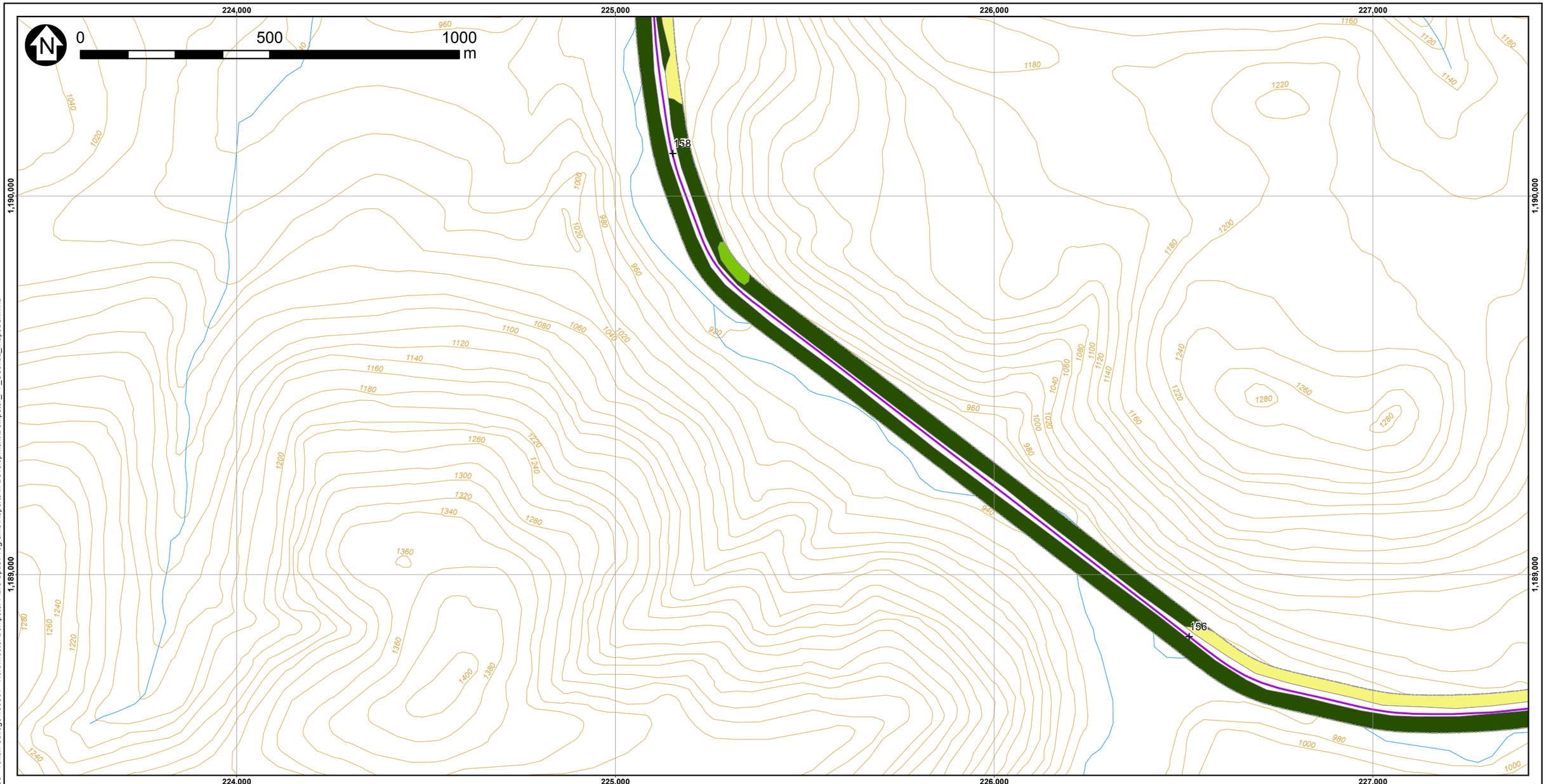


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Horizontal | Vertical | Both

PGMP Mapping Boundary
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Contour (m)
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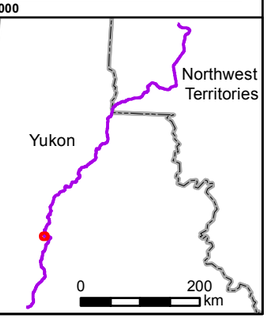
LEDCOR GROUP | NorthwesTel

# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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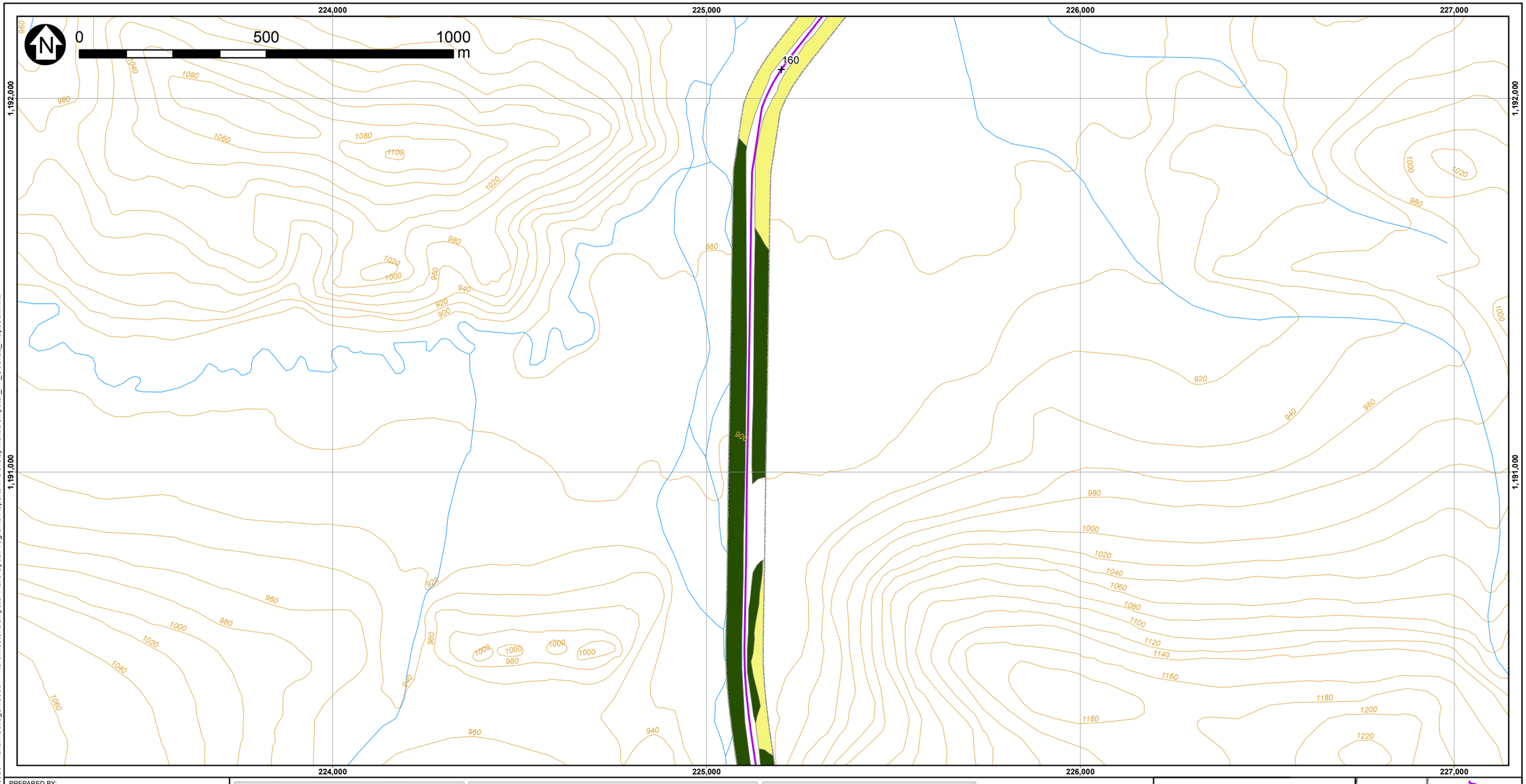


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YUKON RESEARCH CENTRE • Yukon College

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| DRAWN | DS |
| CHK'D | RM |
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| DATE | 20Jul'16 |

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**Potential Movement Direction**

Horizontal | Vertical | Both

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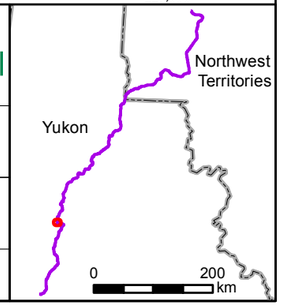
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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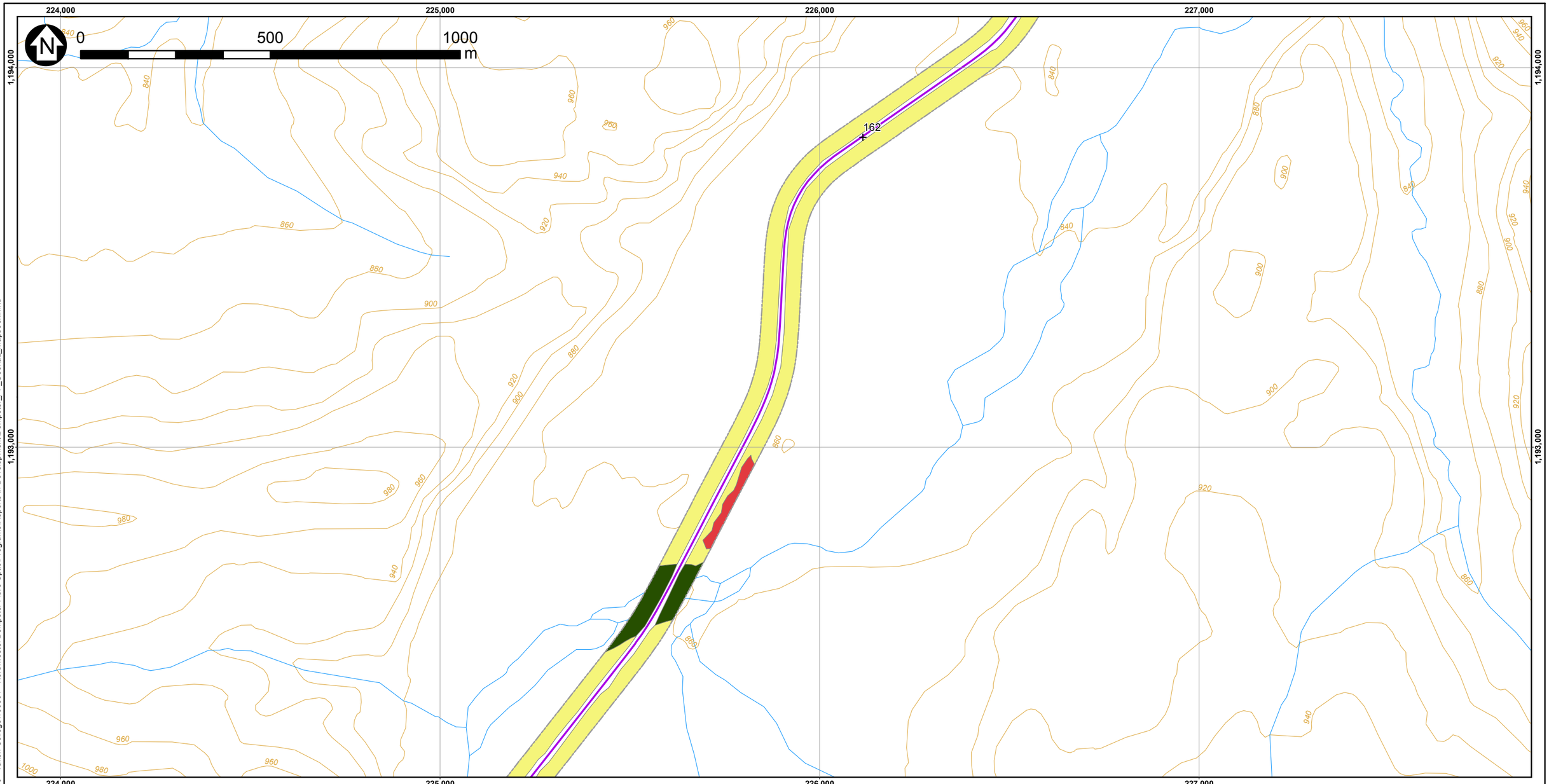


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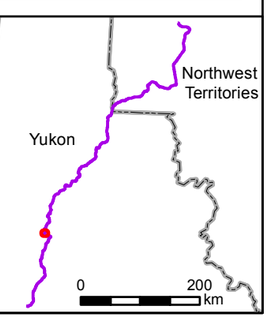


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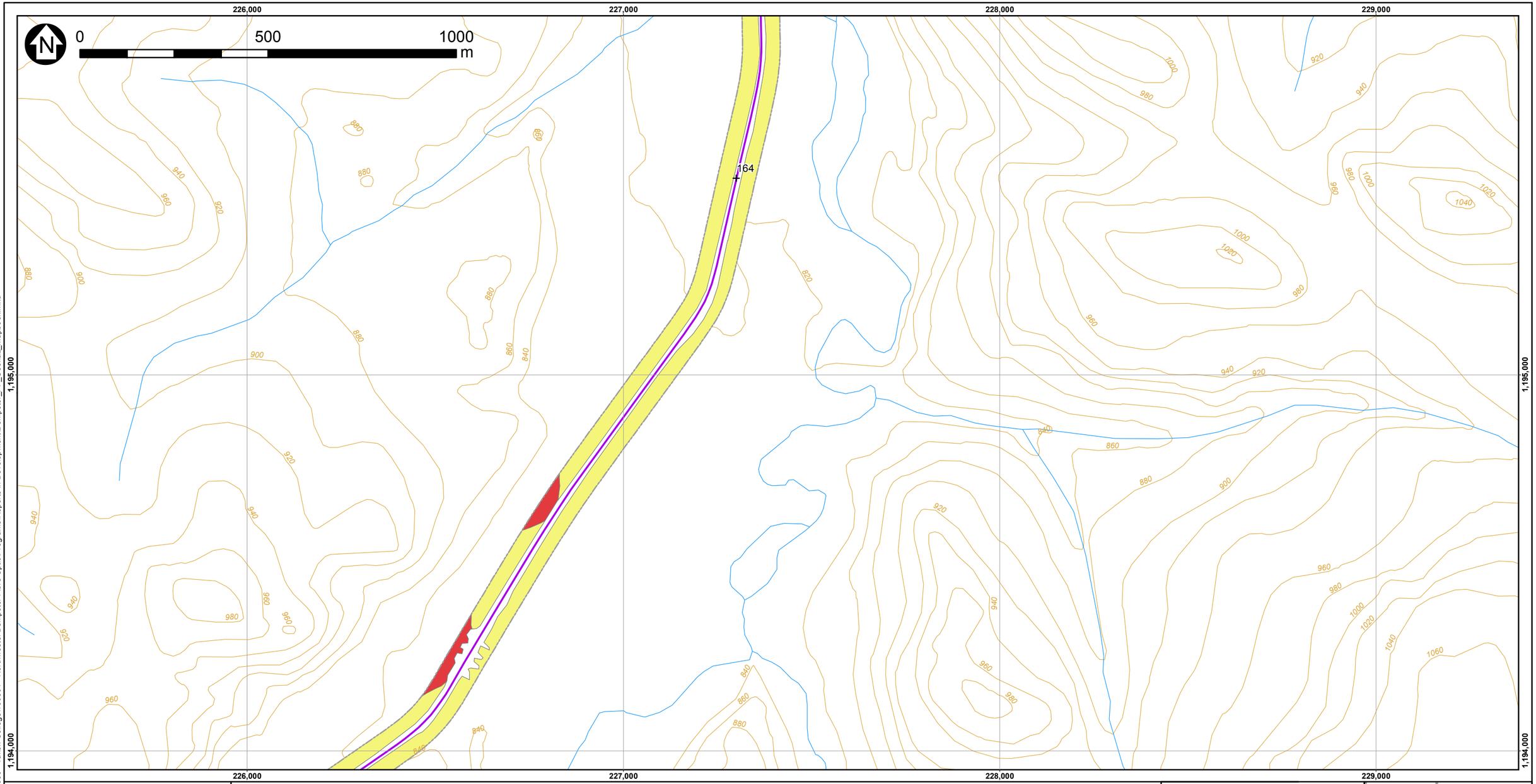


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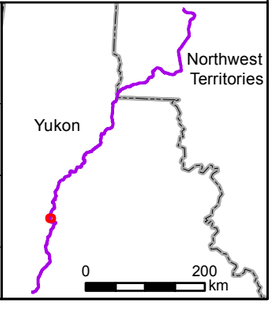


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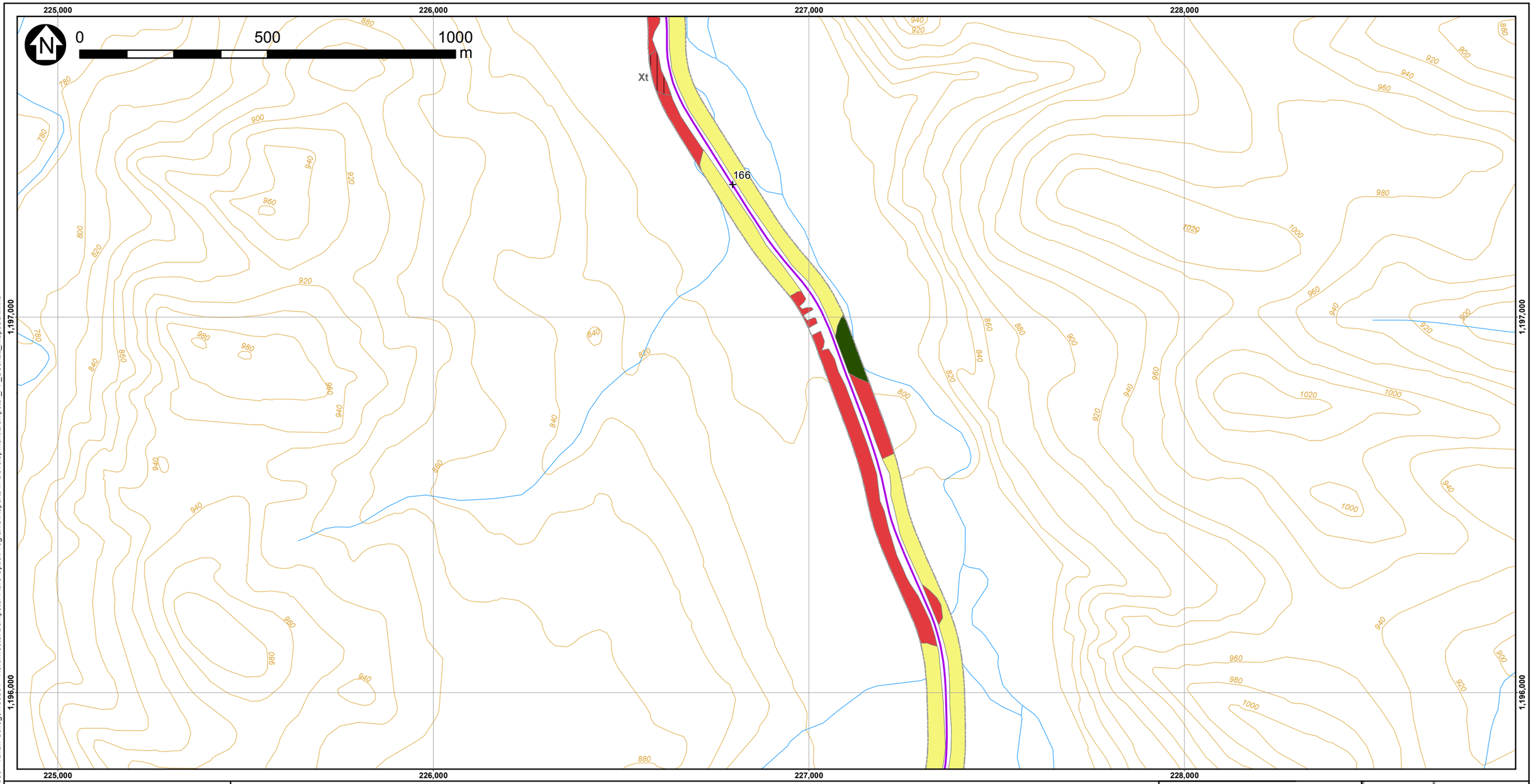


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
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**Periglacial Process/Feature**

- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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**Map Notes:**
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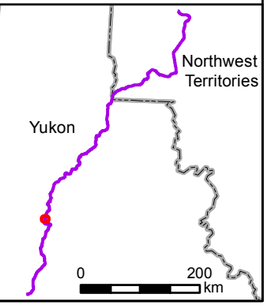
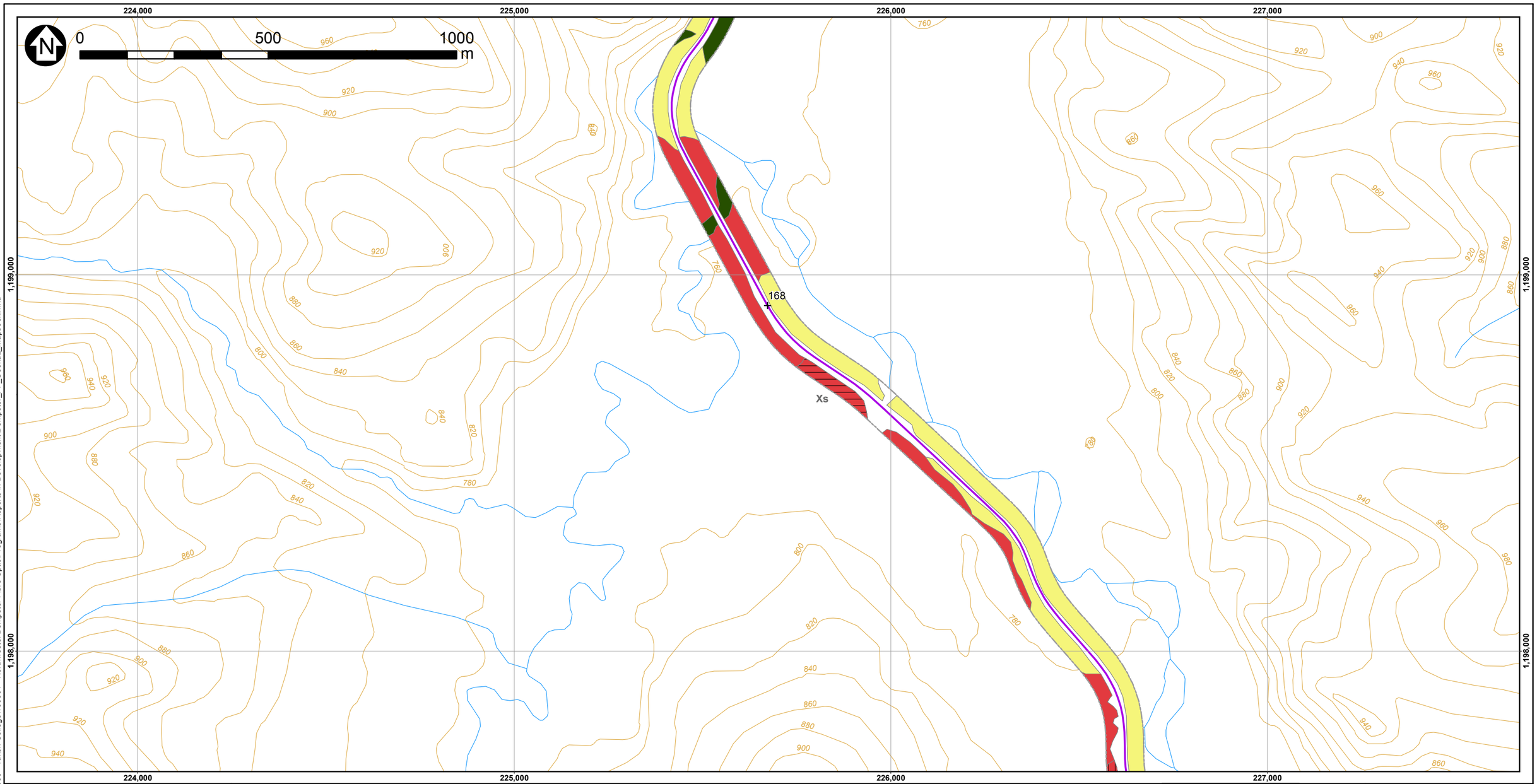
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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| | | | |
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| ***S*** | Solifluction | | |

**Potential Movement Direction**

Horizontal  Vertical  Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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LEDCOR GROUP  NorthwesTel

**Dempster Highway Fibre Optic Line**

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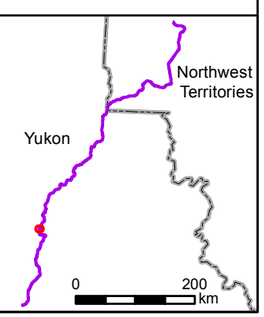


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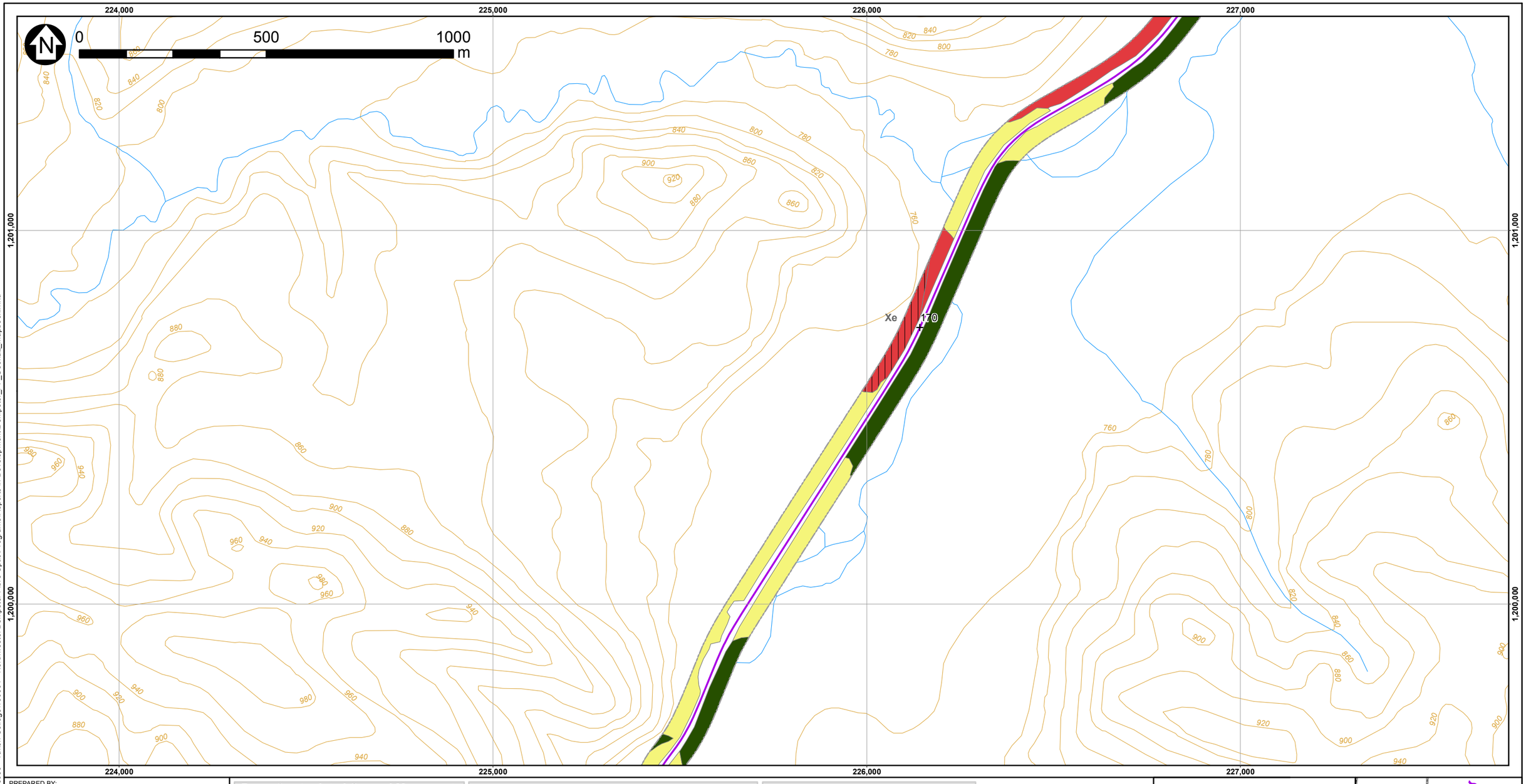


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## Potential Movement Direction

Horizontal | Vertical | Both

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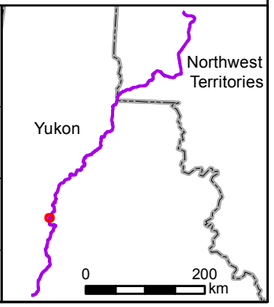
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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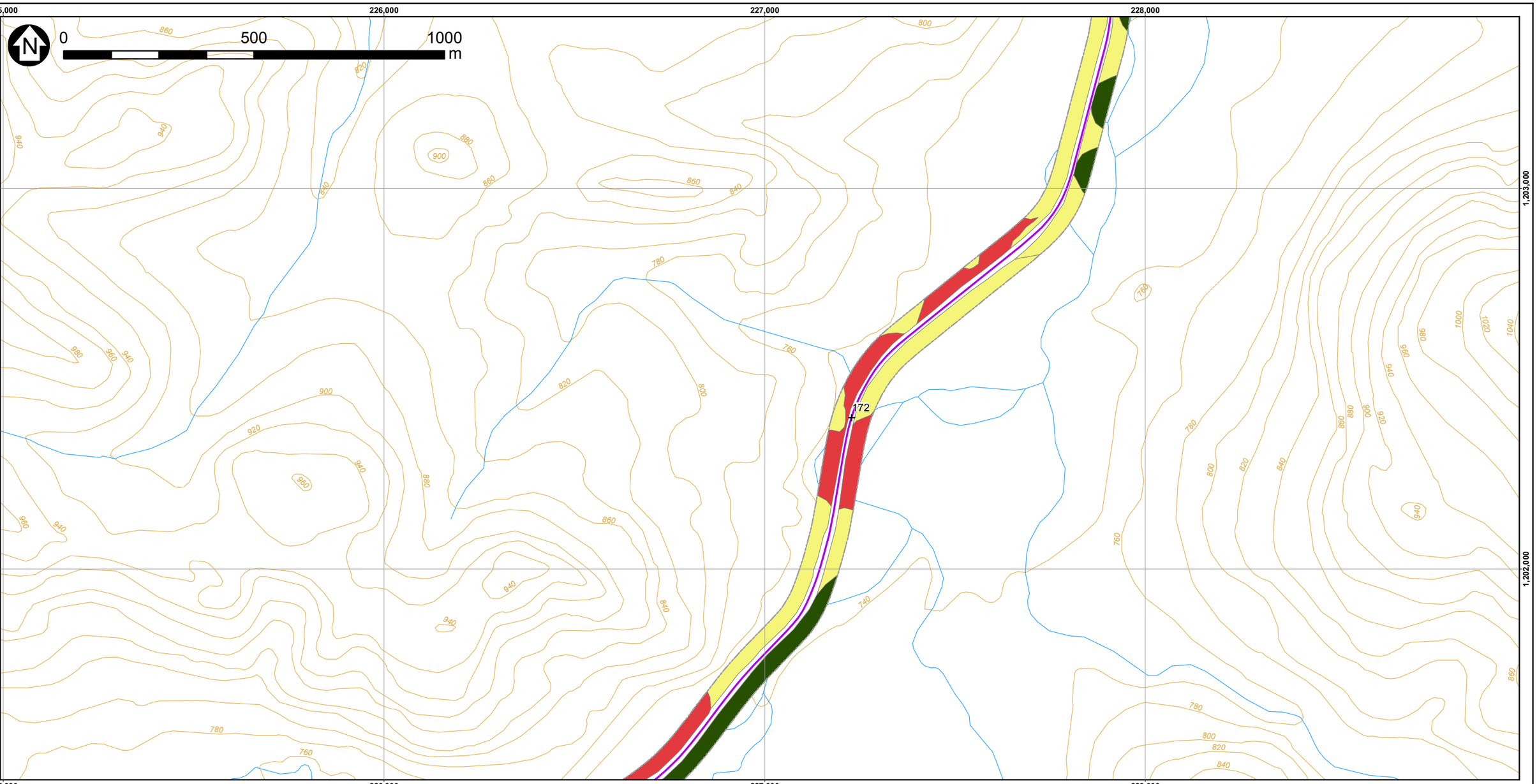


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Horizontal | Vertical | Both

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**Dempster Highway Fibre Optic Line**

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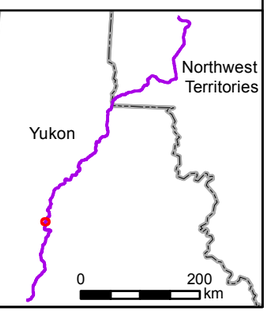

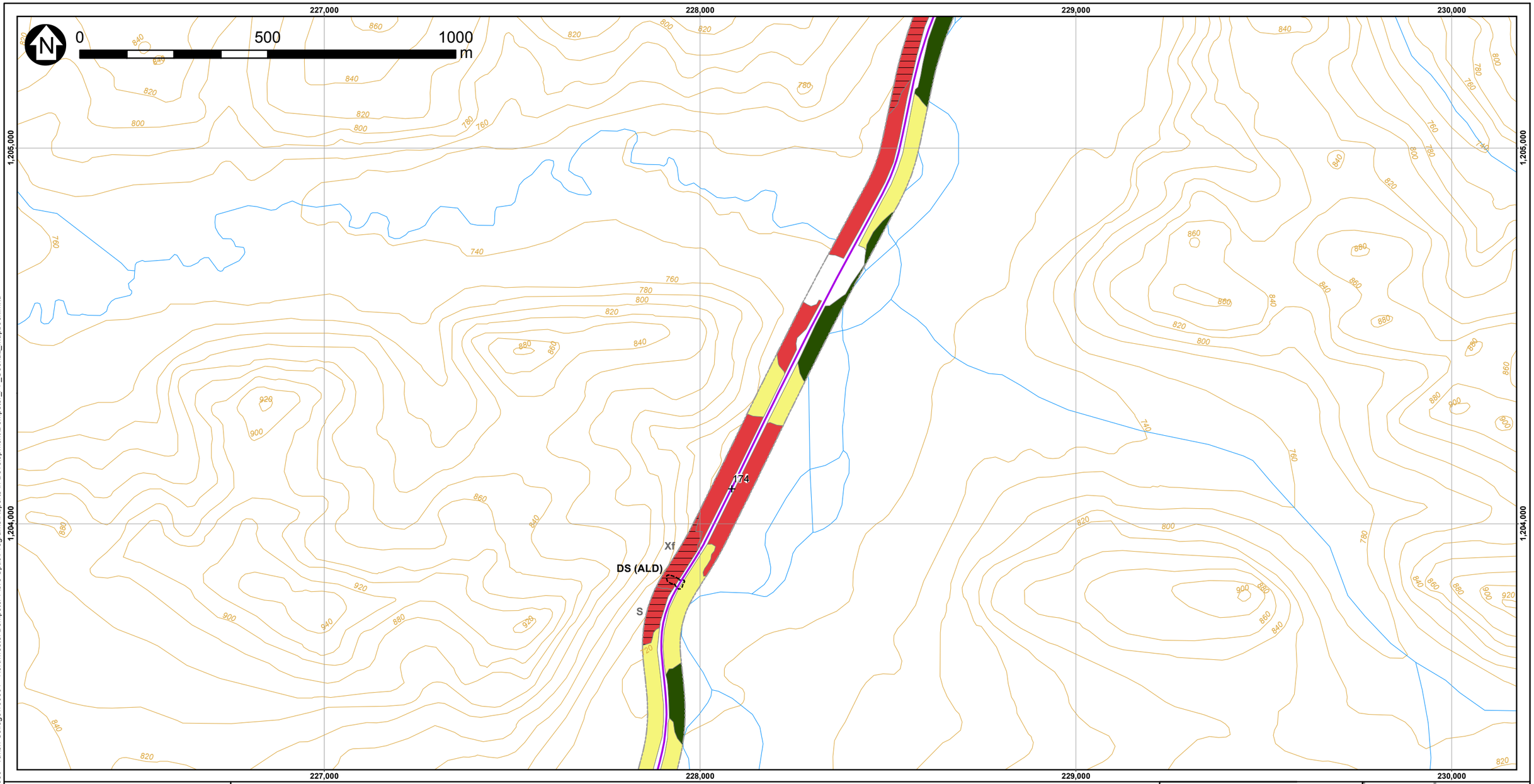


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### Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
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**Map Notes:**
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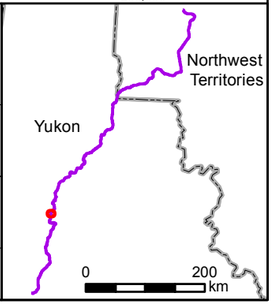
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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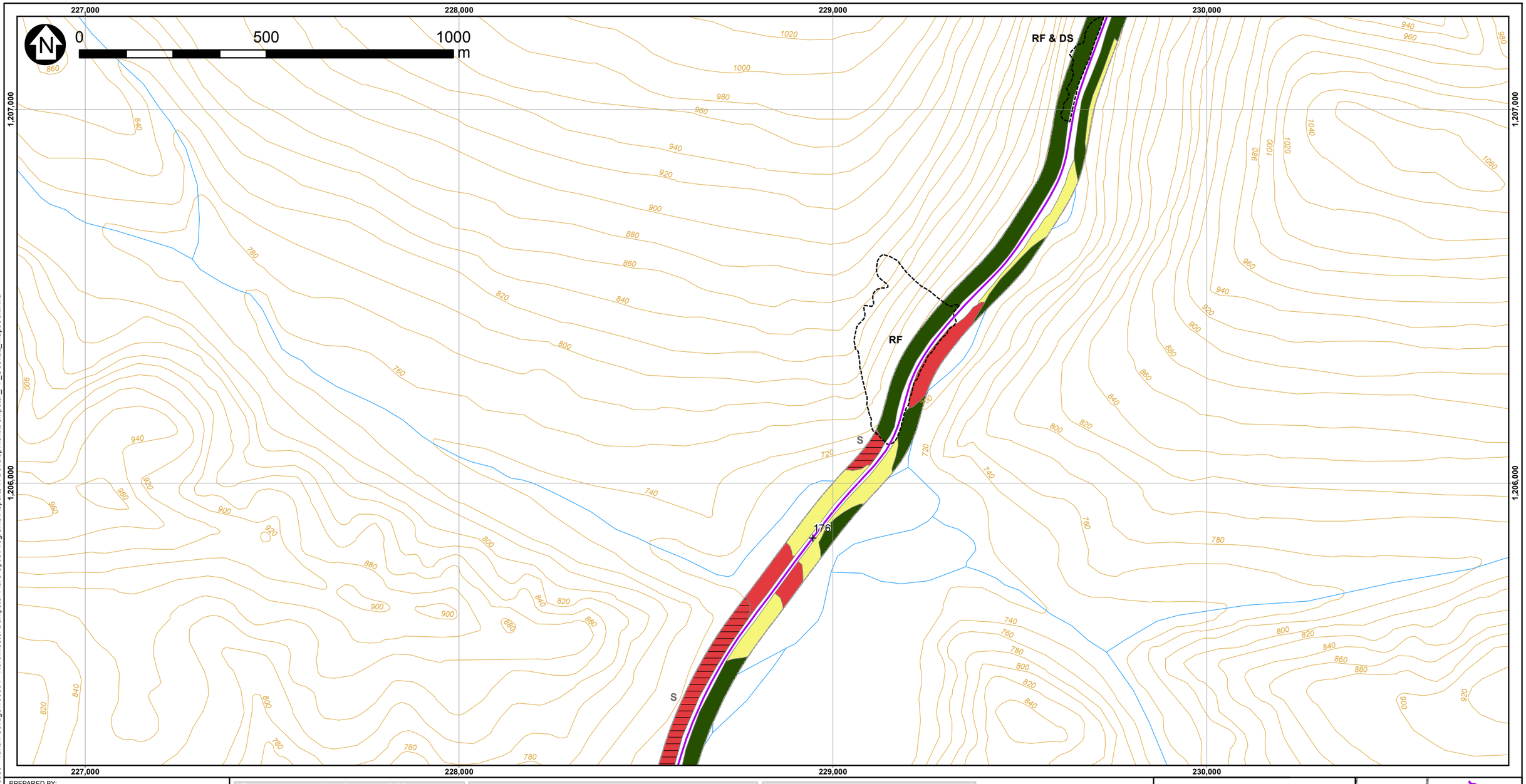


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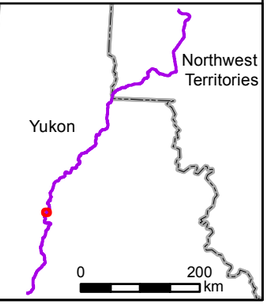


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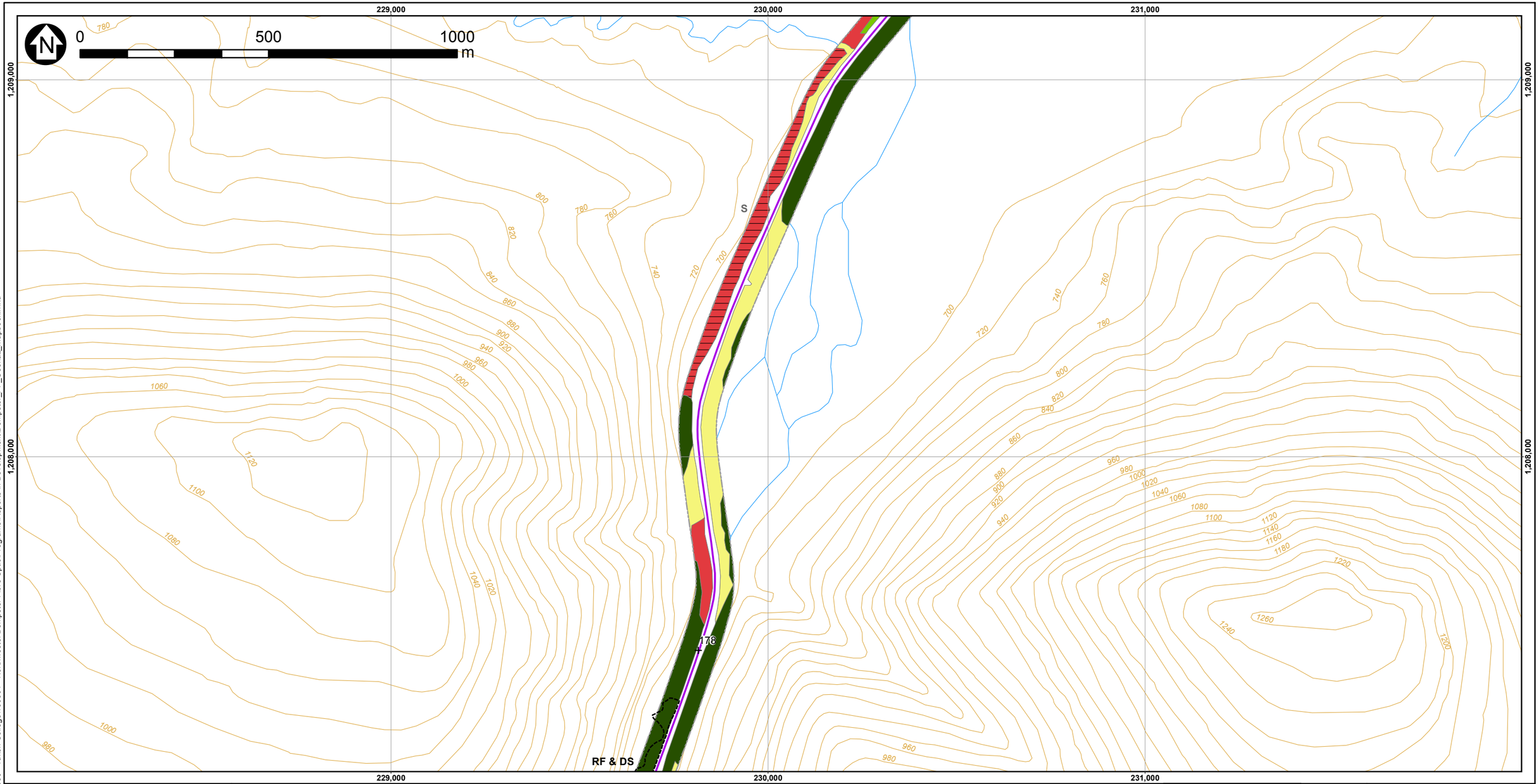


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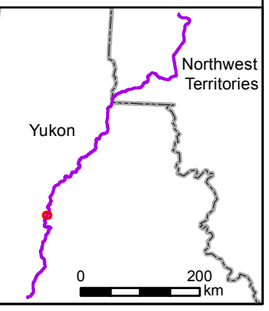


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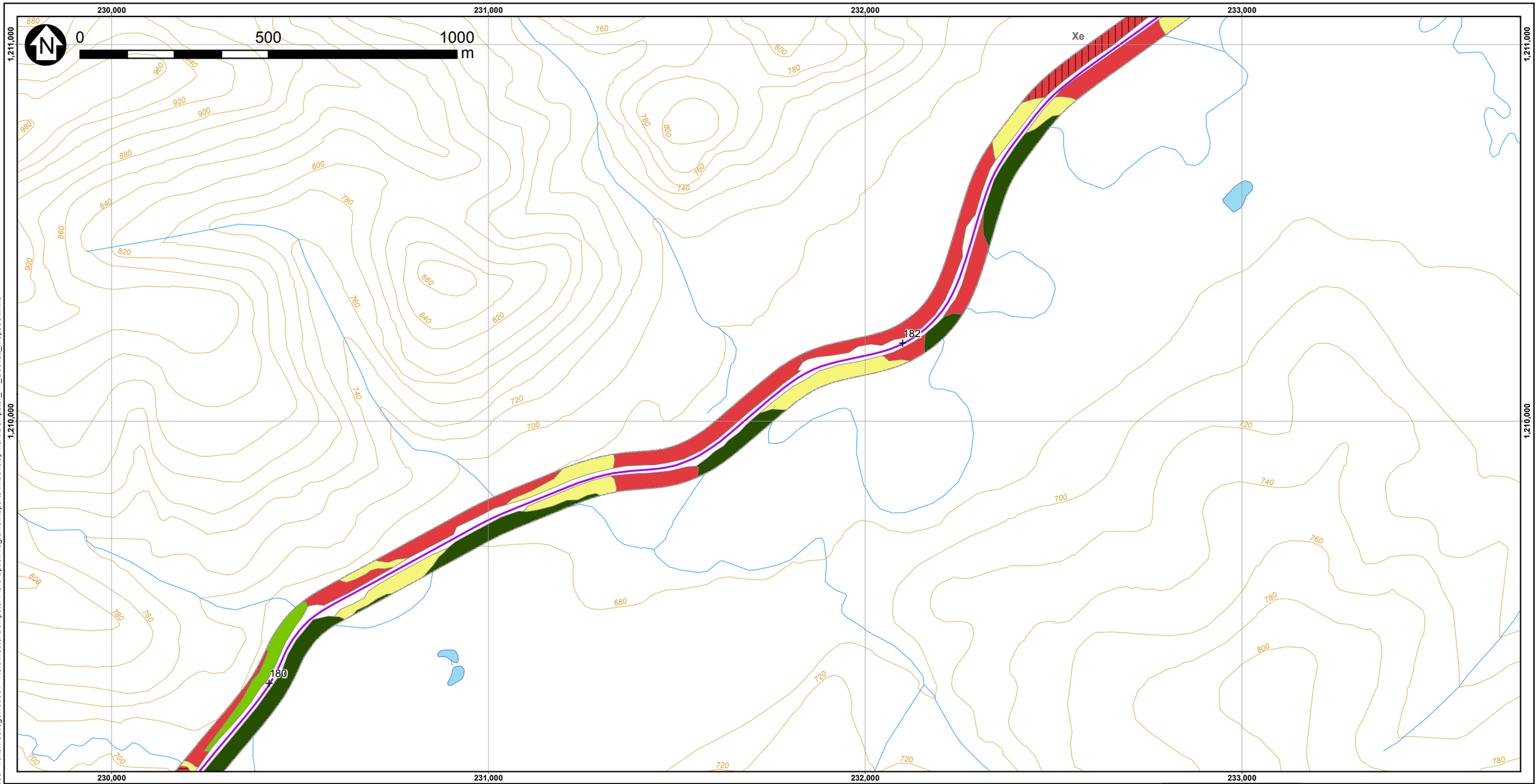


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- ***Xw*** - Ice-wedge Polygon

**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
1. Only existing/imminent mass movement geohazards with potential to impact the highway embankments or ditch are considered. Other hazards may exist that are not identified.
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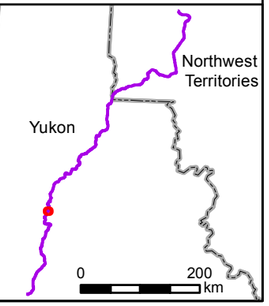
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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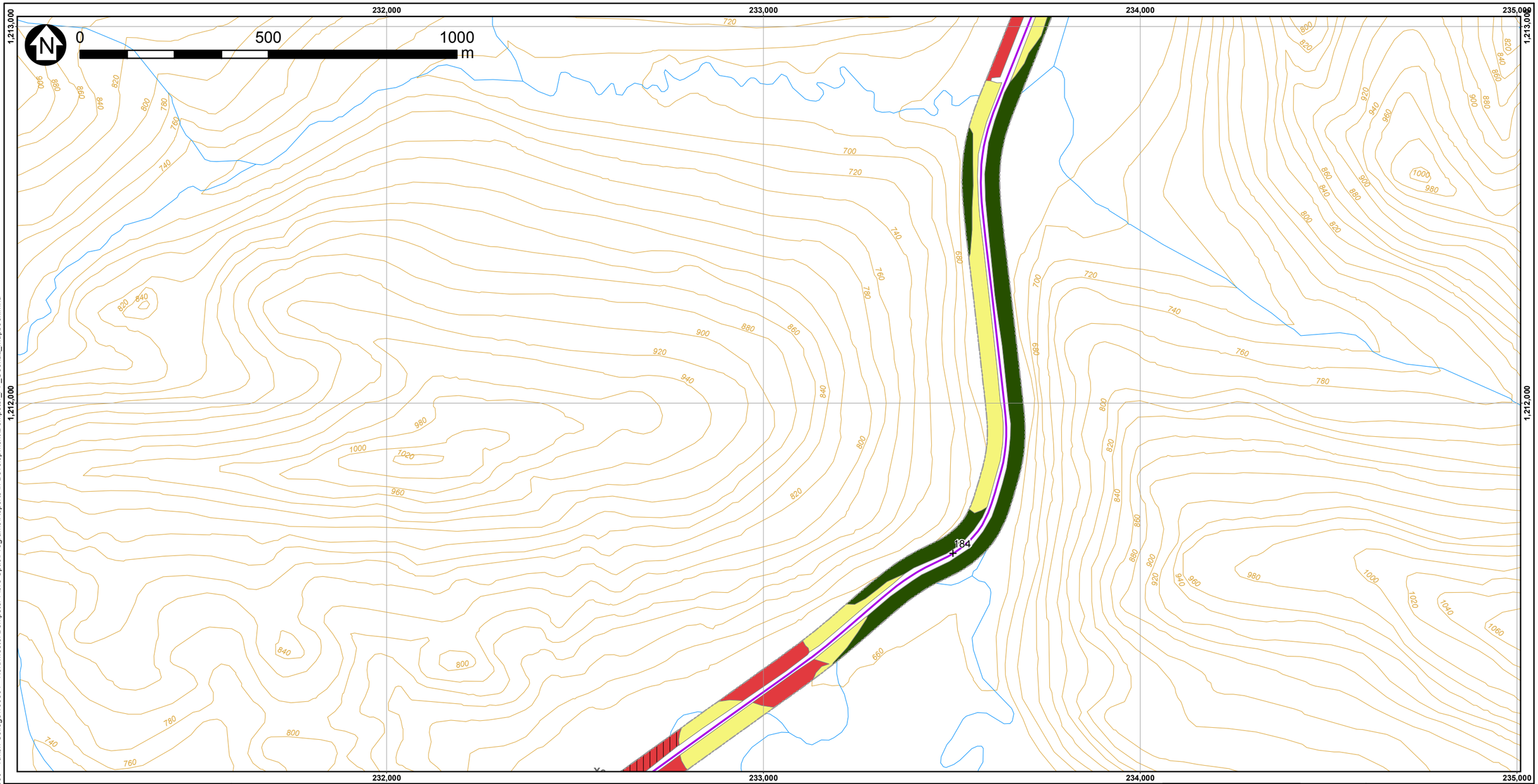


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
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**Mass Movement Geohazard**

| | | |
|---|---|---|
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| | | | |
|---|---|---|---|
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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
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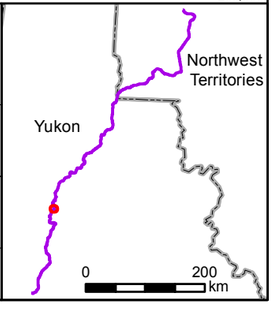


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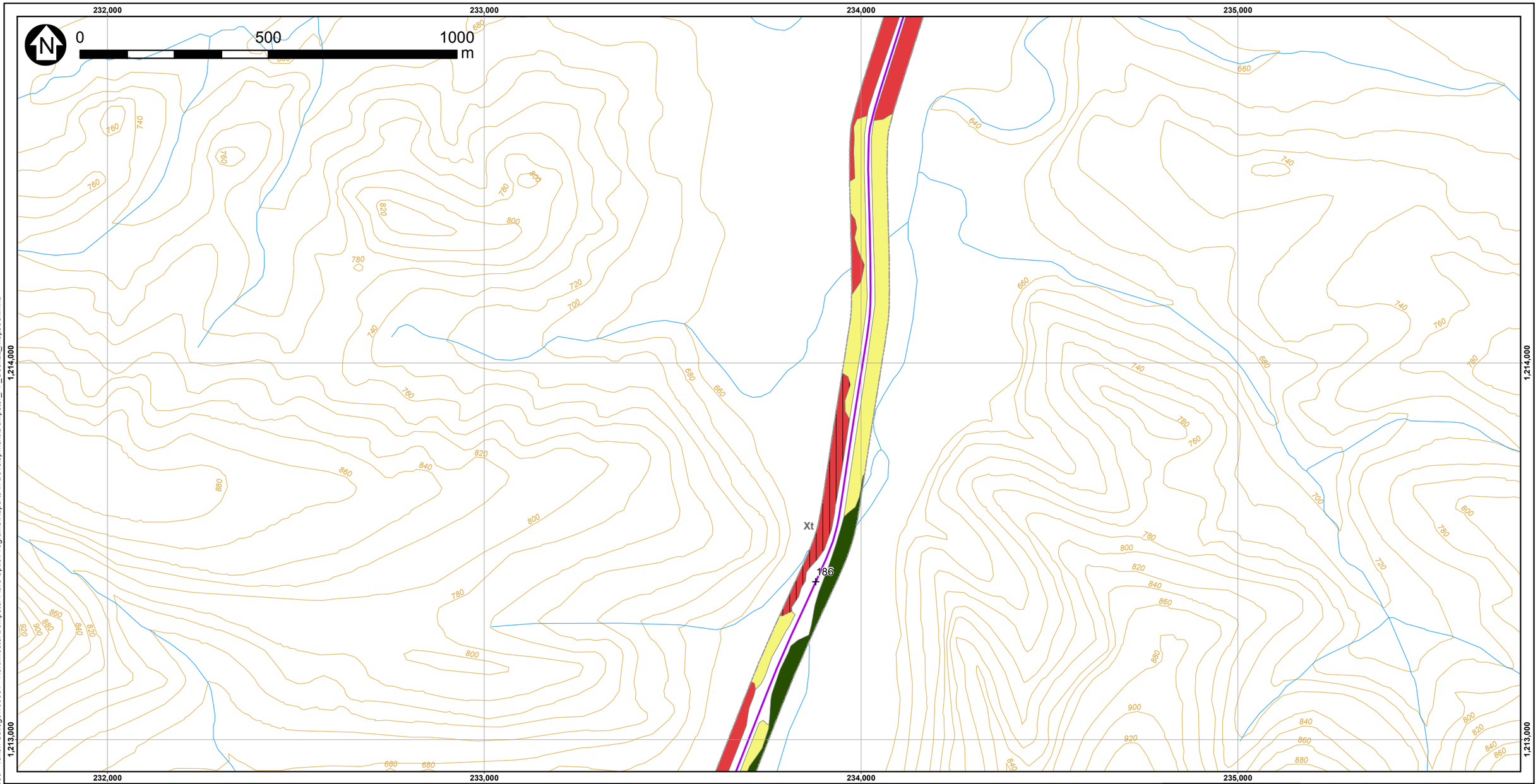


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## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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**Dempster Highway Fibre Optic Line**

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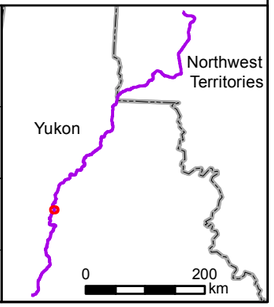


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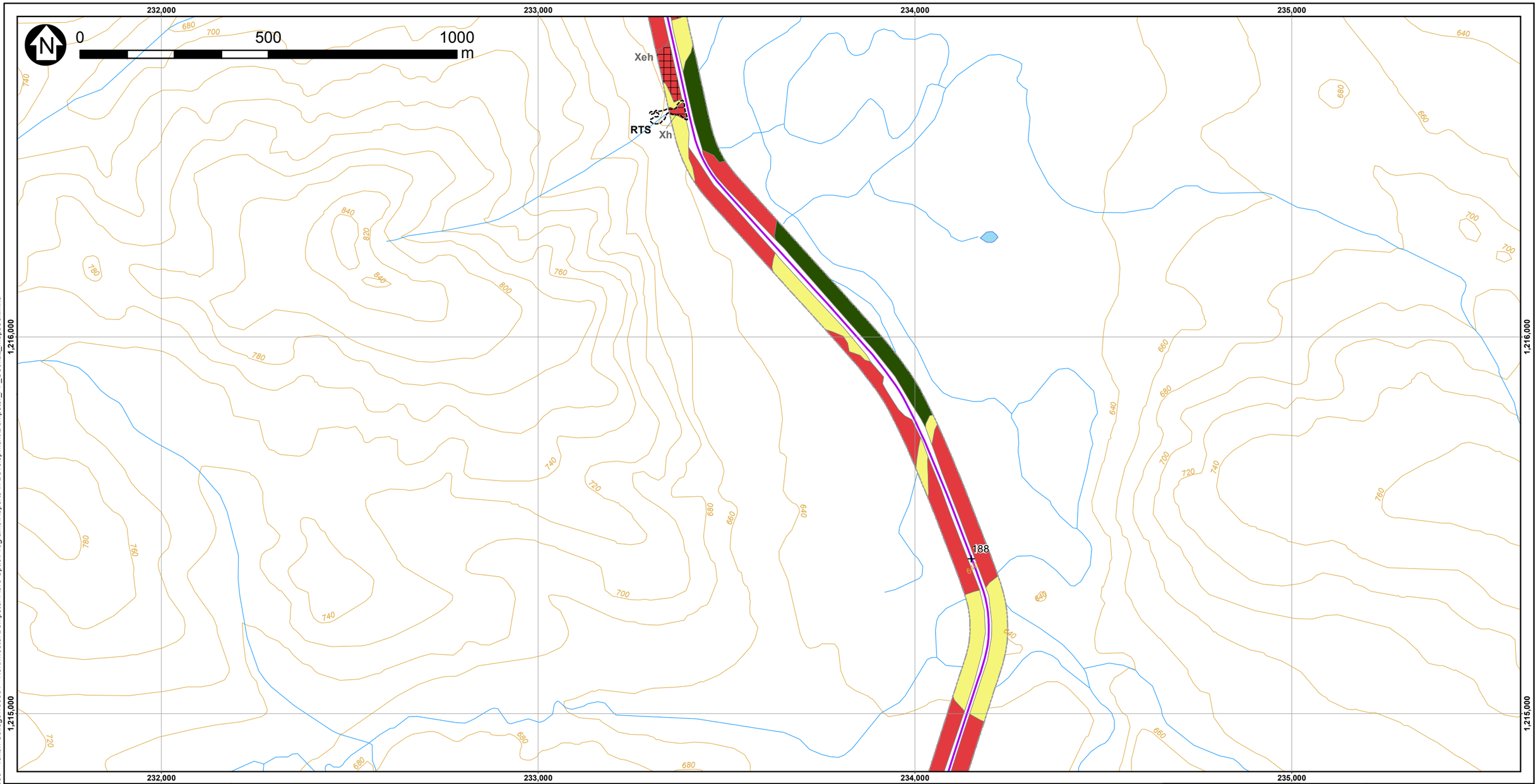


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**Potential Movement Direction**

Horizontal | Vertical | Both

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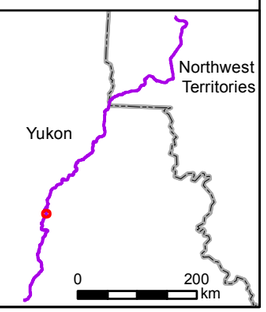

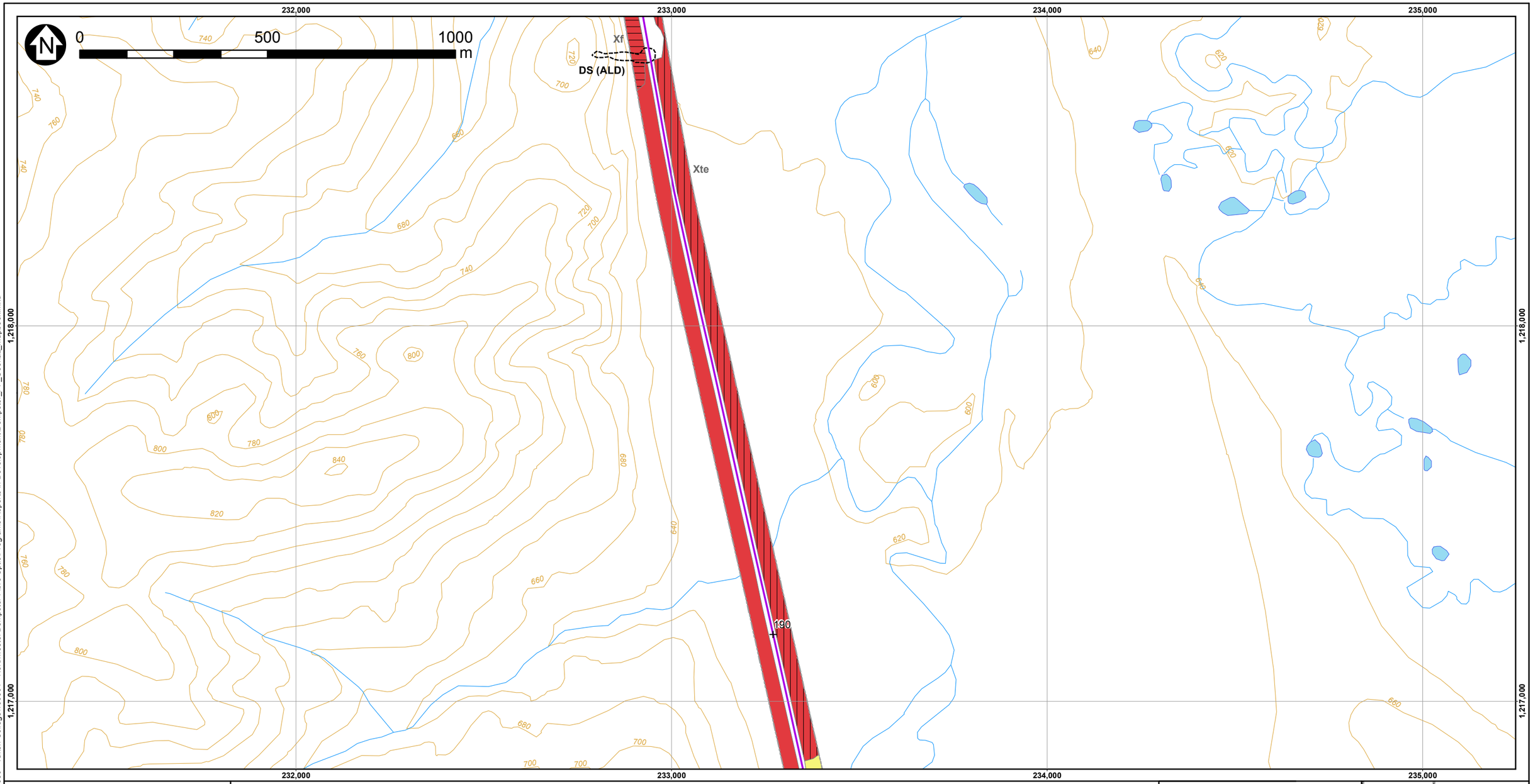


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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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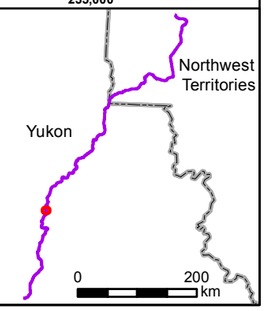
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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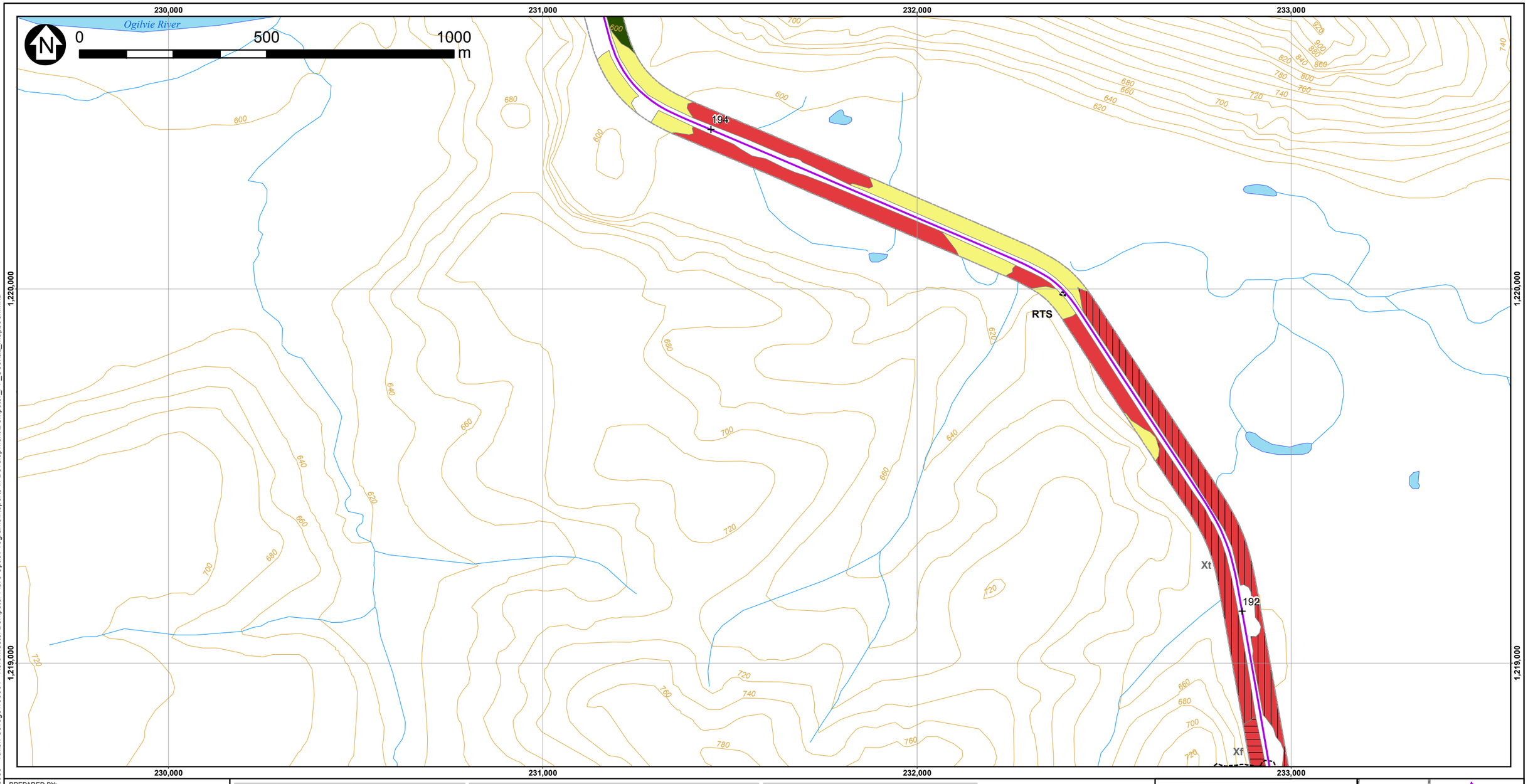


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| | | |
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**Potential Movement Direction**

Horizontal | Vertical | Both

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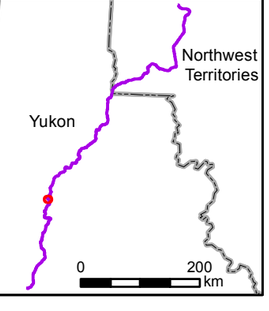

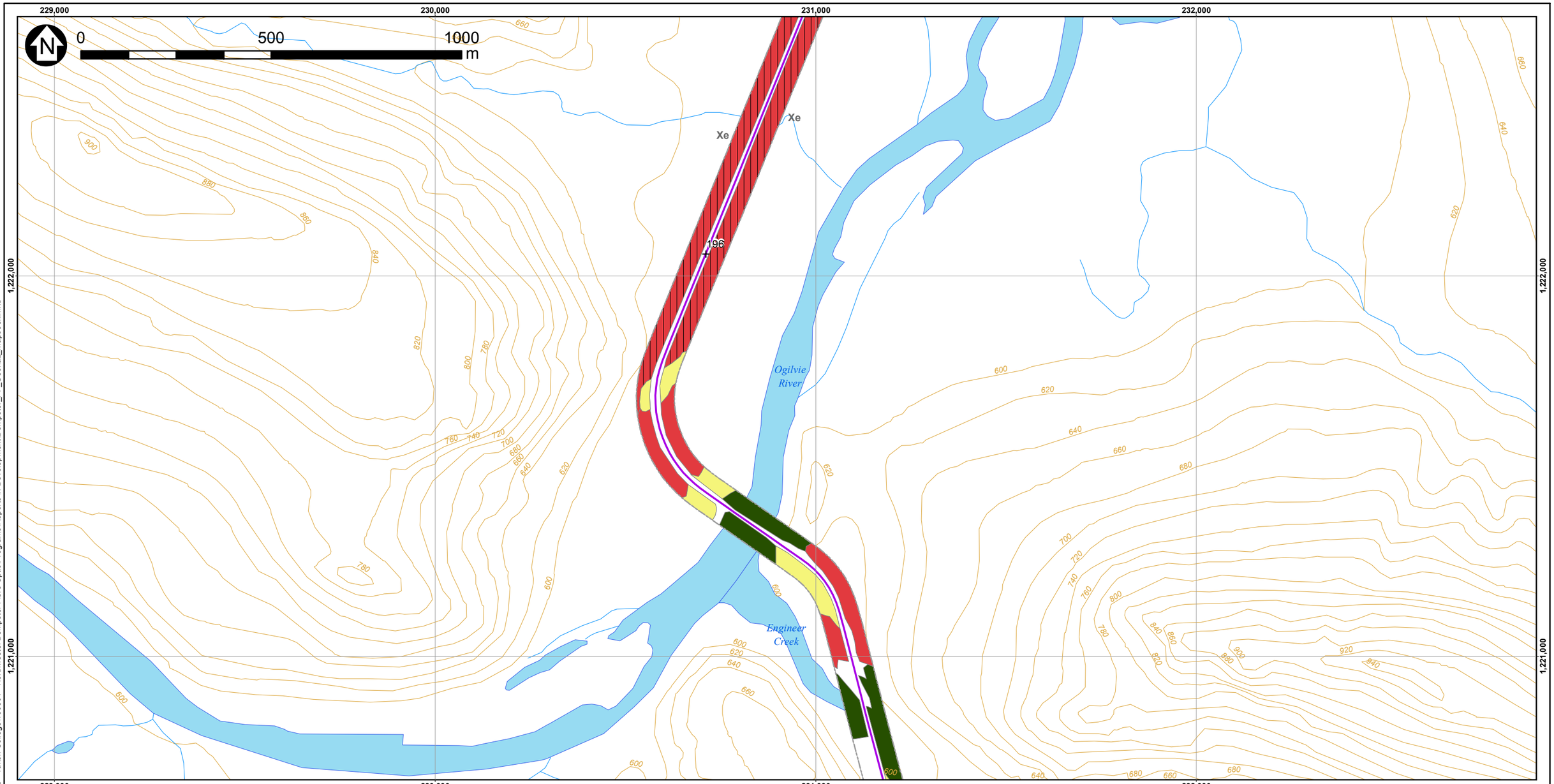


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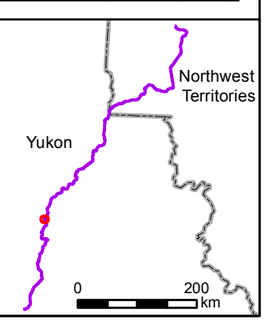
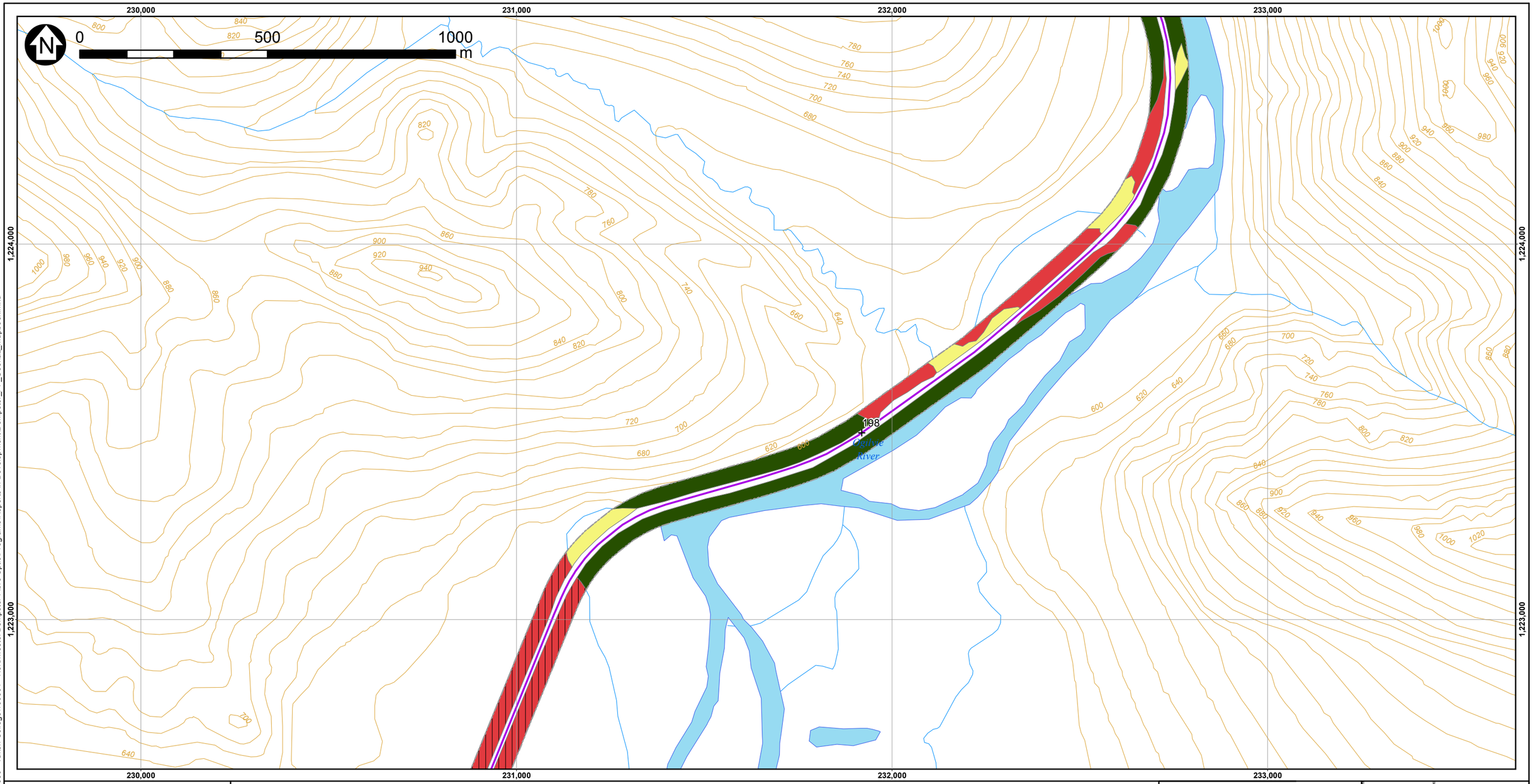
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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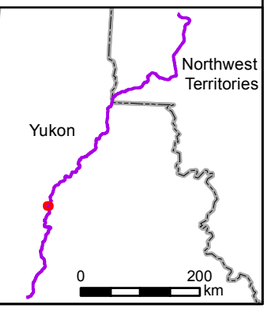

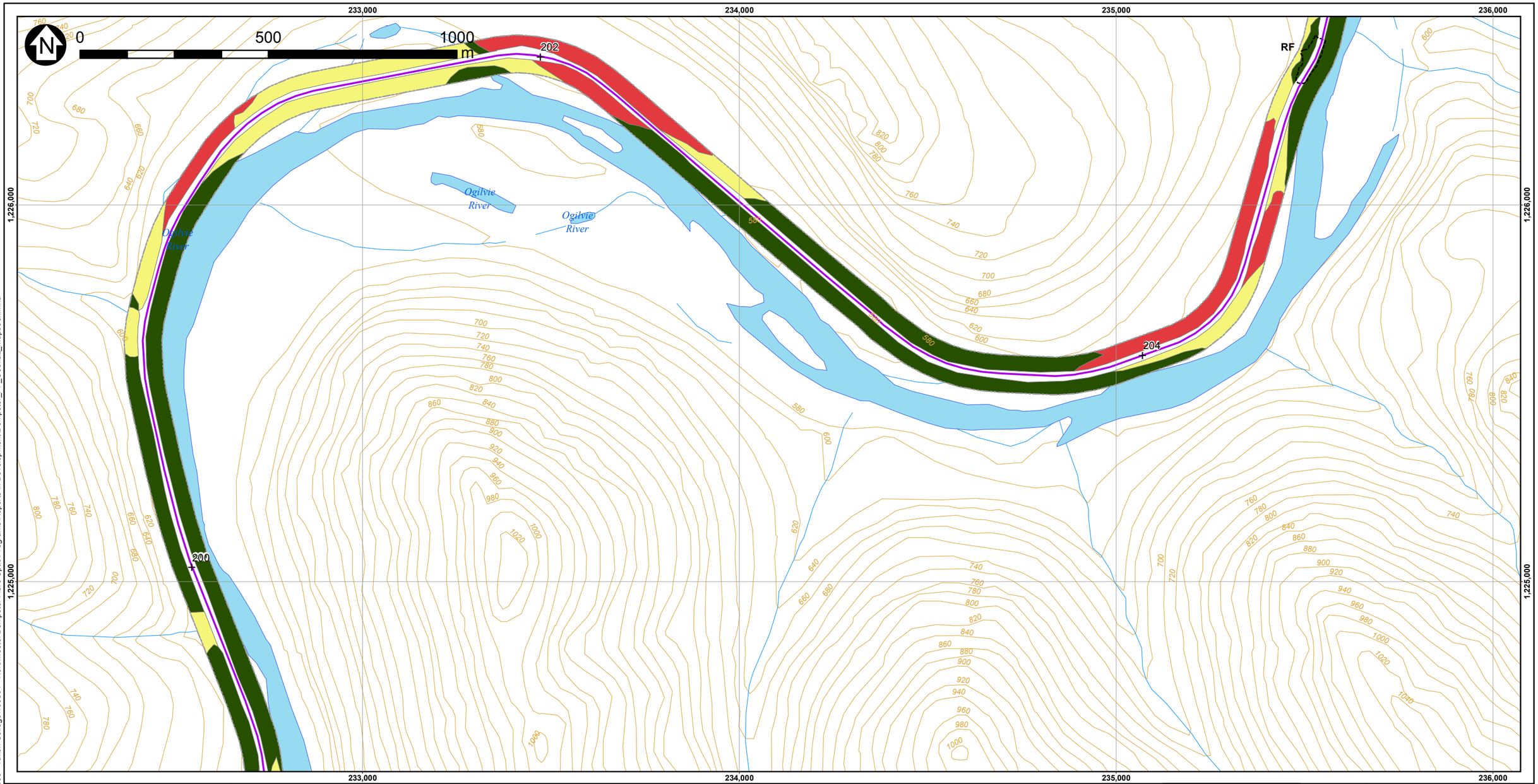


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| GEOLOGY | DS/RM/CB |
|---|---|
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
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| | High | Thick |
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**Mass Movement Geohazard**

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- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
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- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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**Map Notes:**
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**Dempster Highway Fibre Optic Line**

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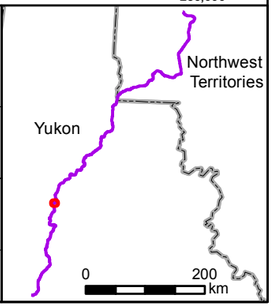


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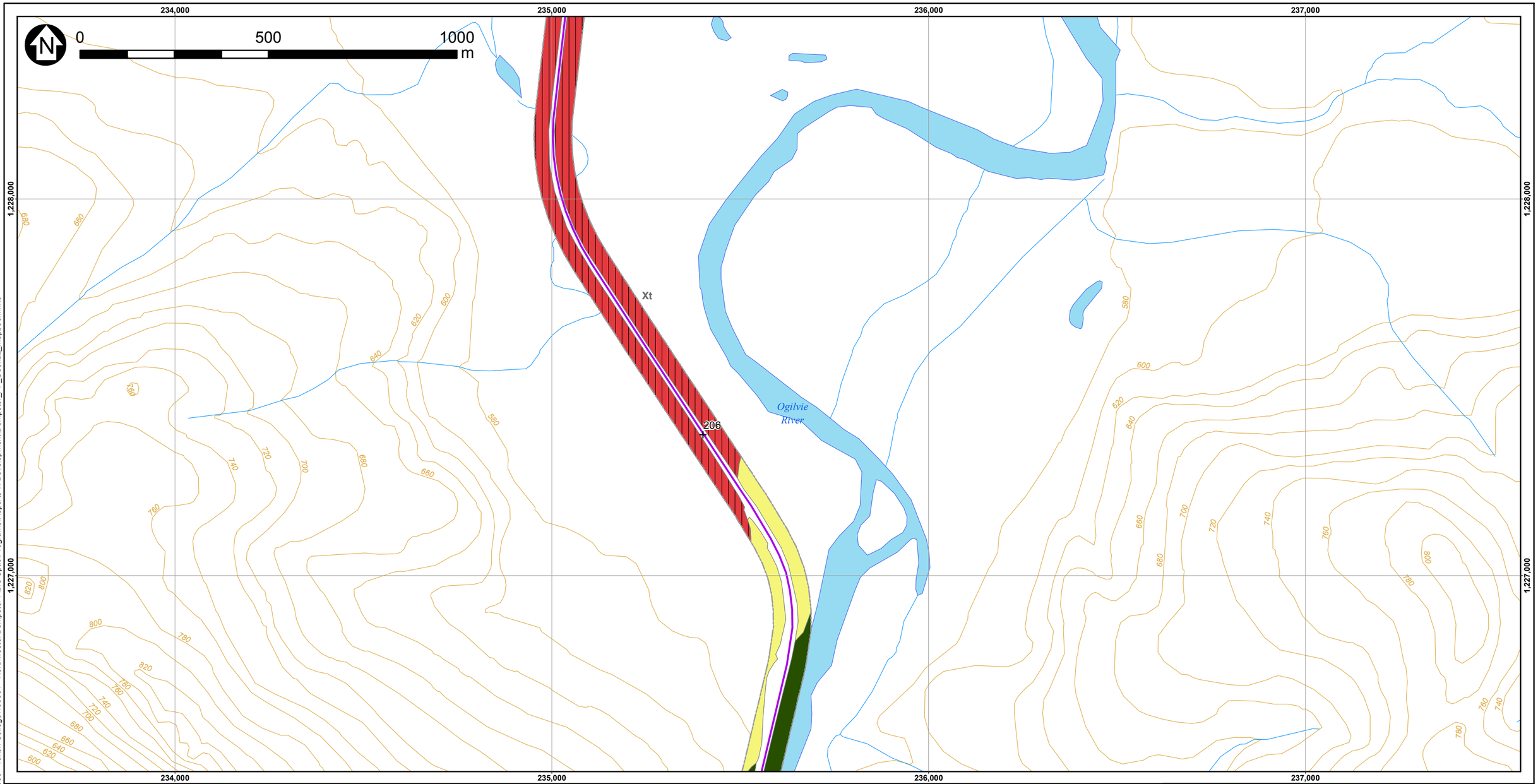


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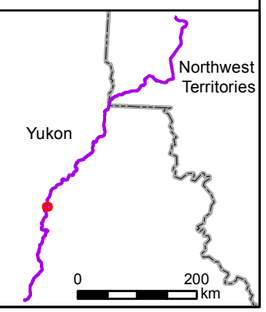

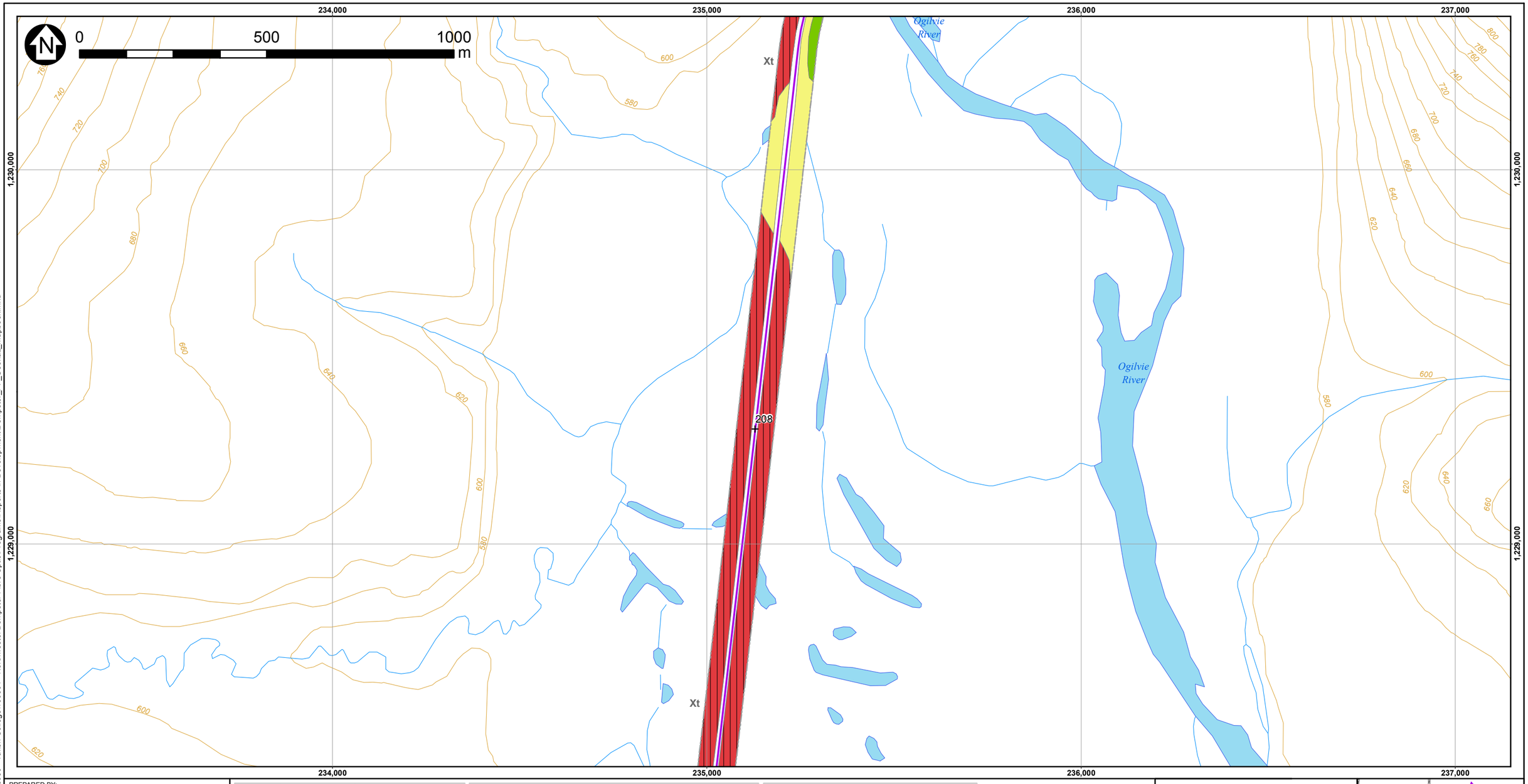


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Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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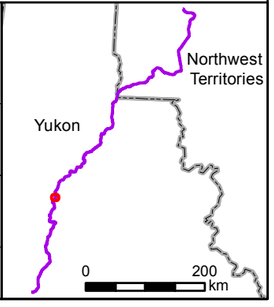

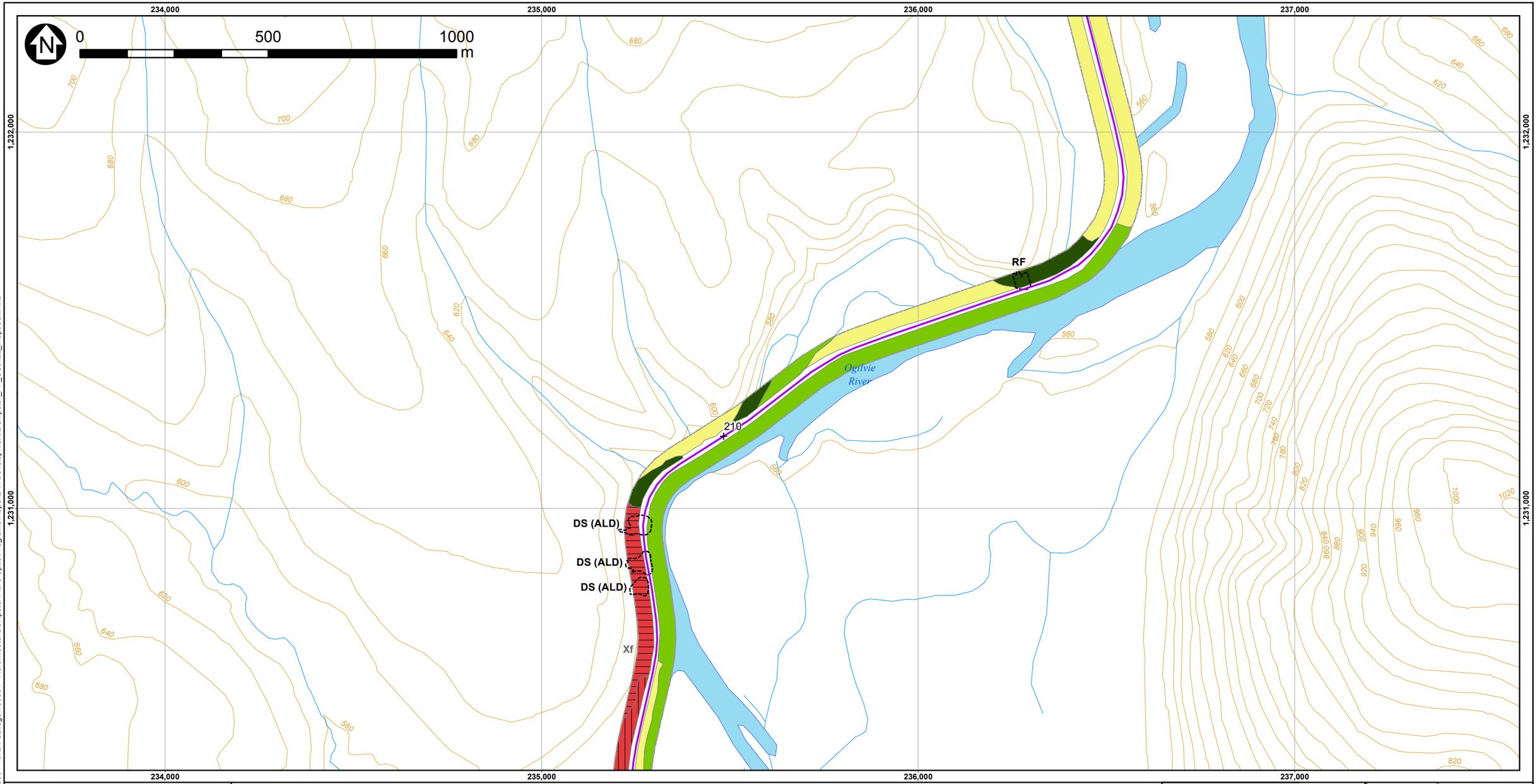


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Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
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Contour (m)
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**Dempster Highway Fibre Optic Line**

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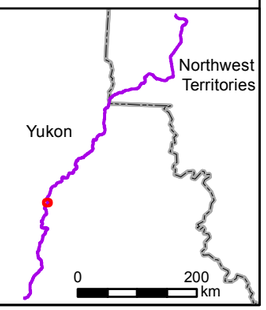


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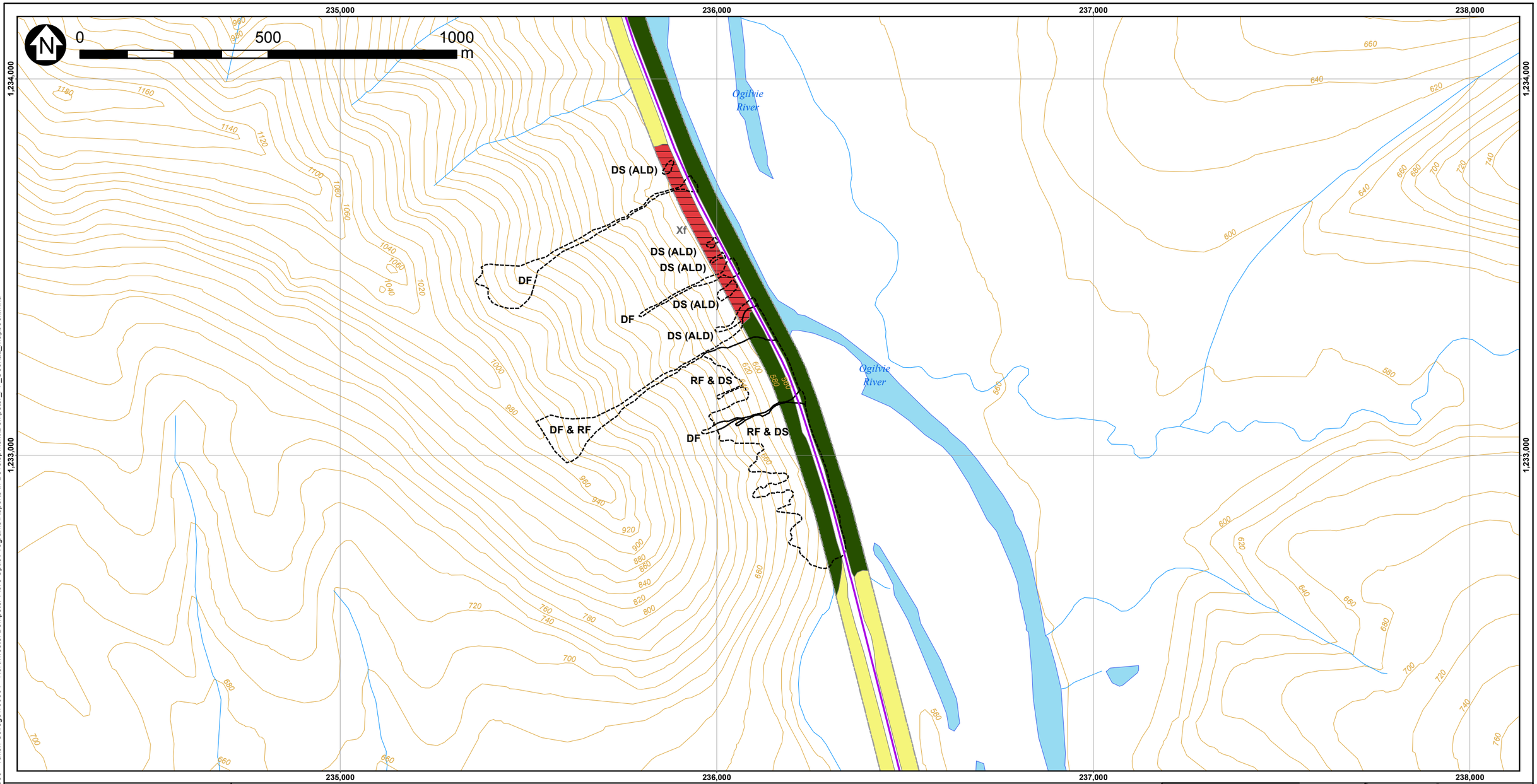


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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
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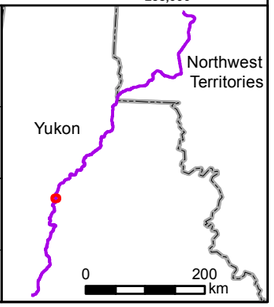


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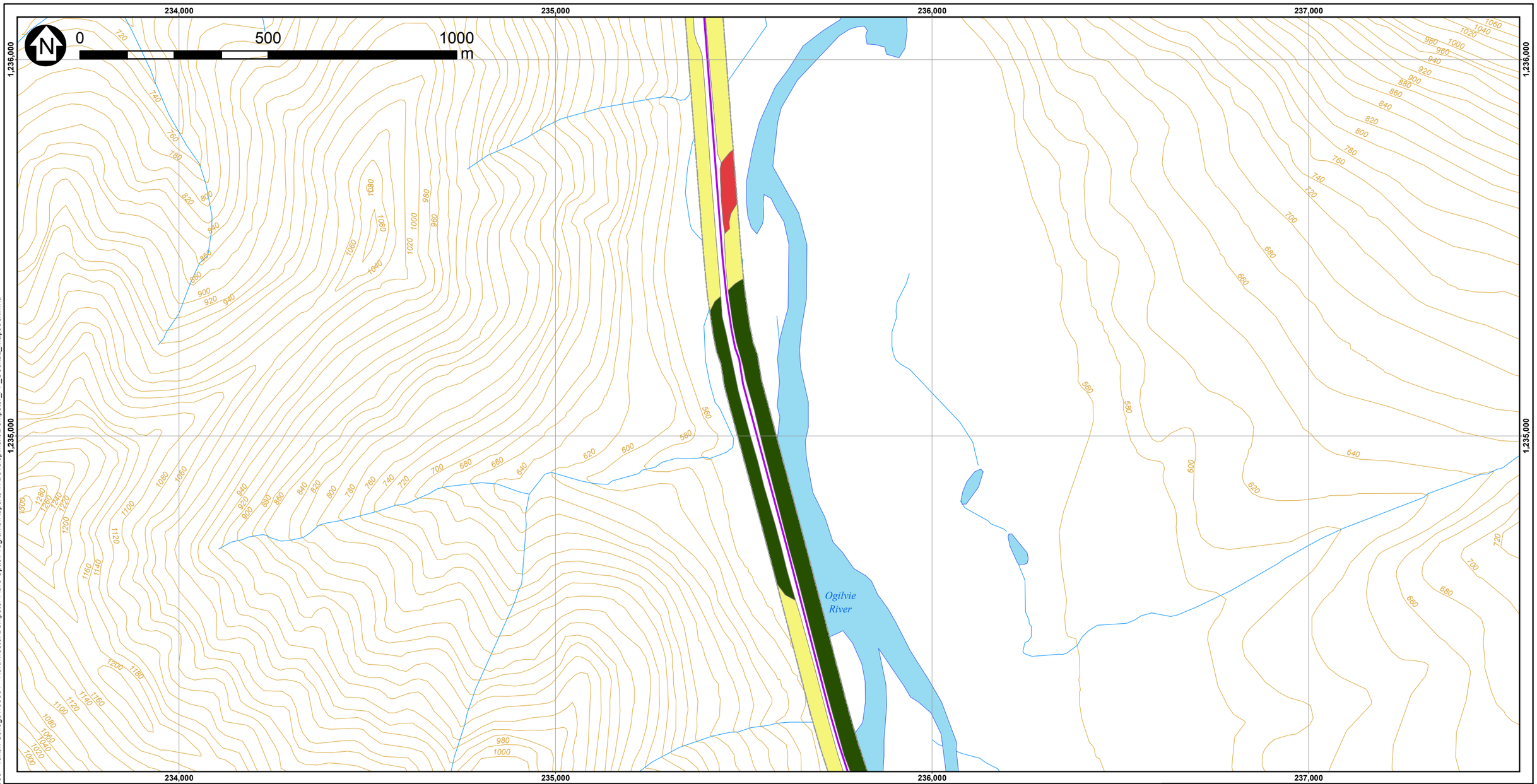


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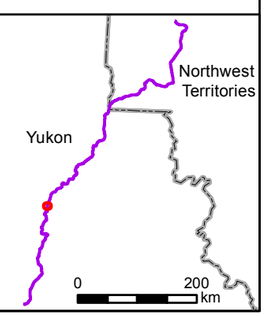

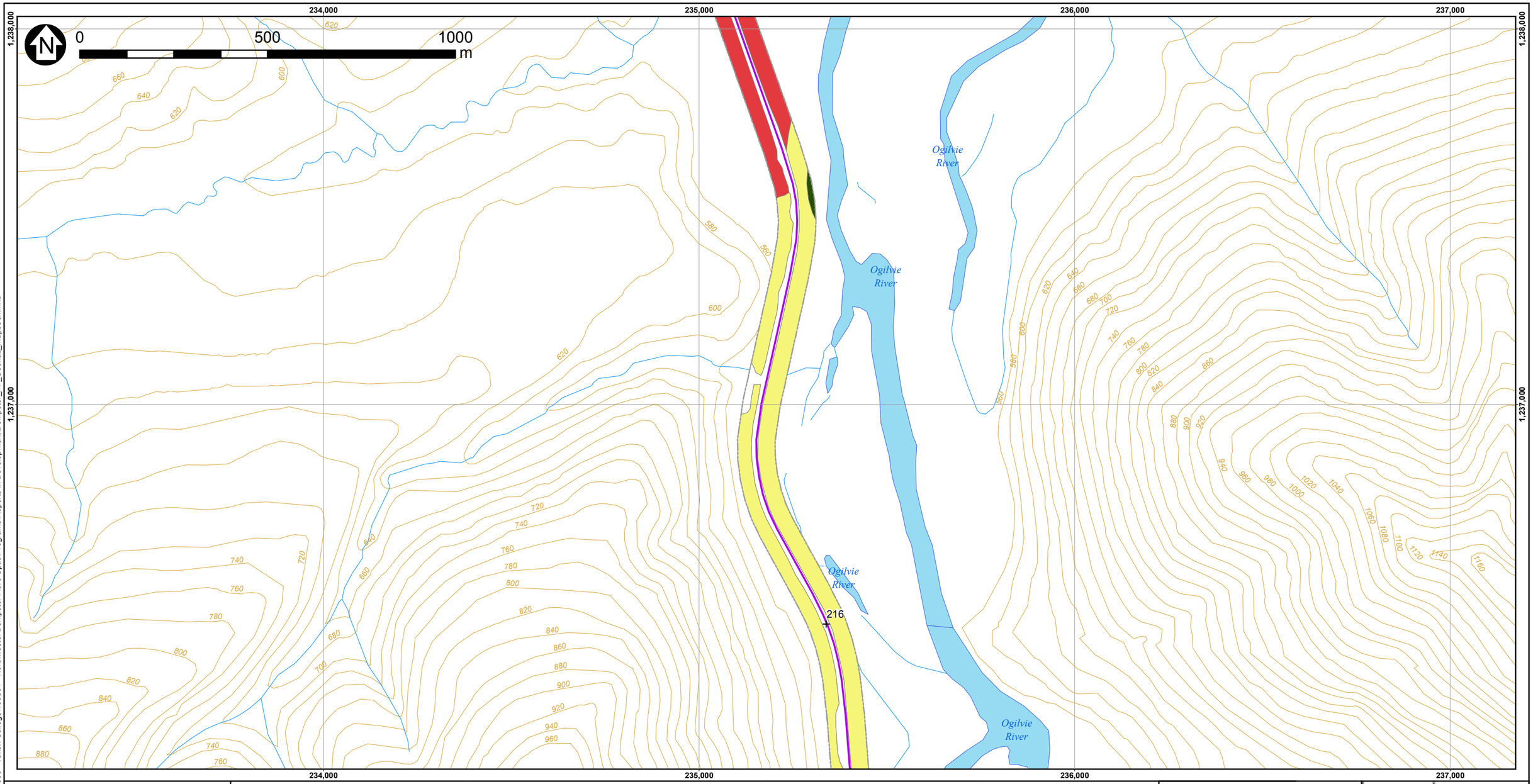


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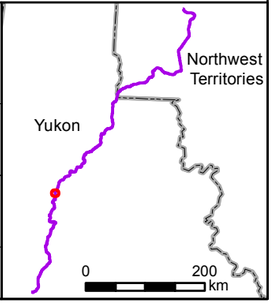

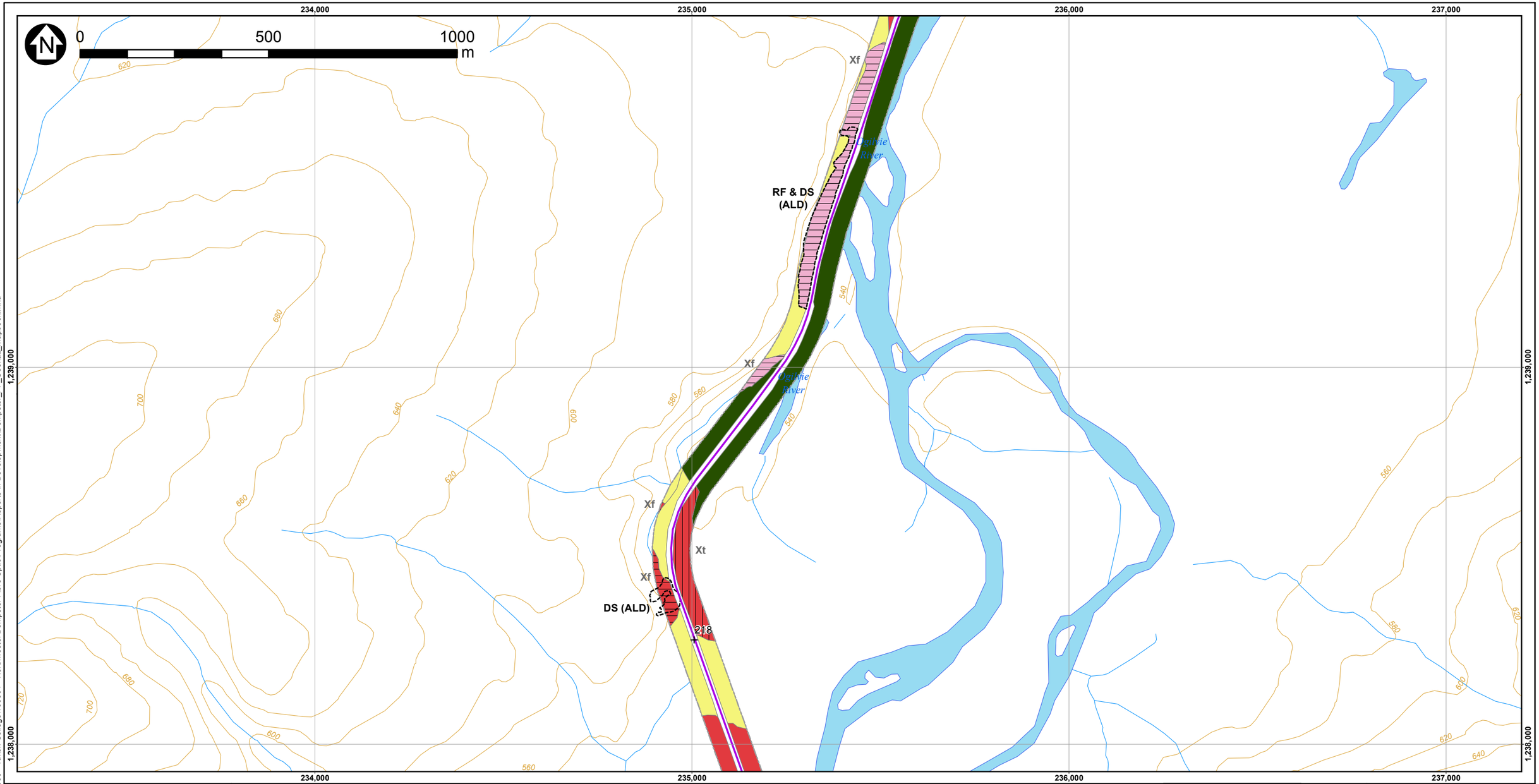


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## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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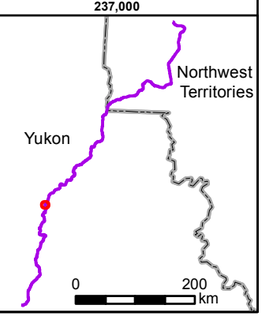
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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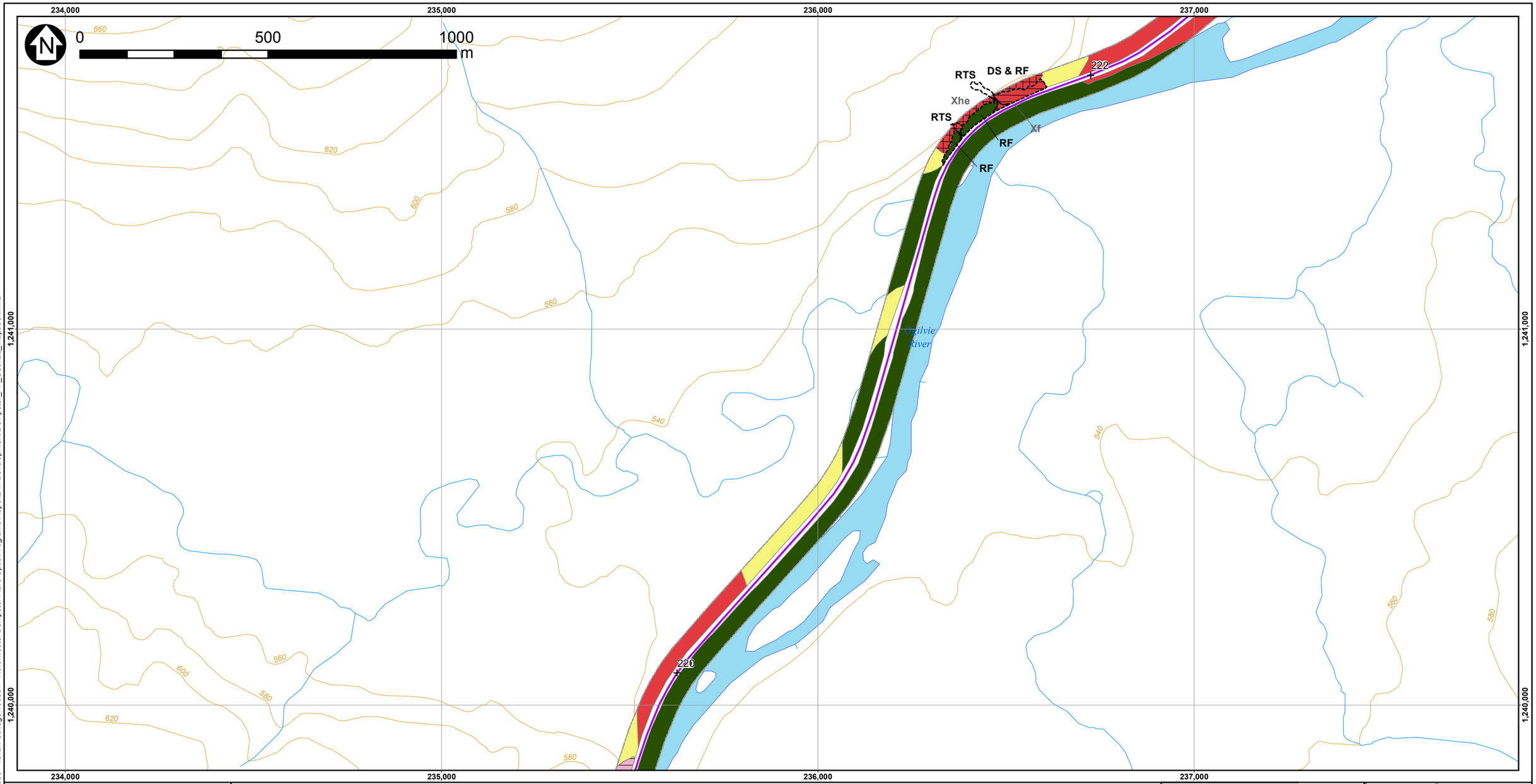


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

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PROJECTION: NAD 1983 Yukon Albers
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SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| Symbol | PGMP | Active Layer Thickness |
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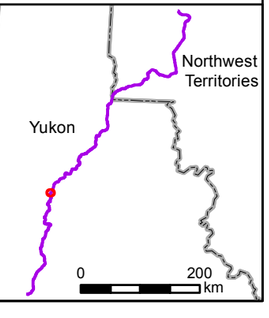


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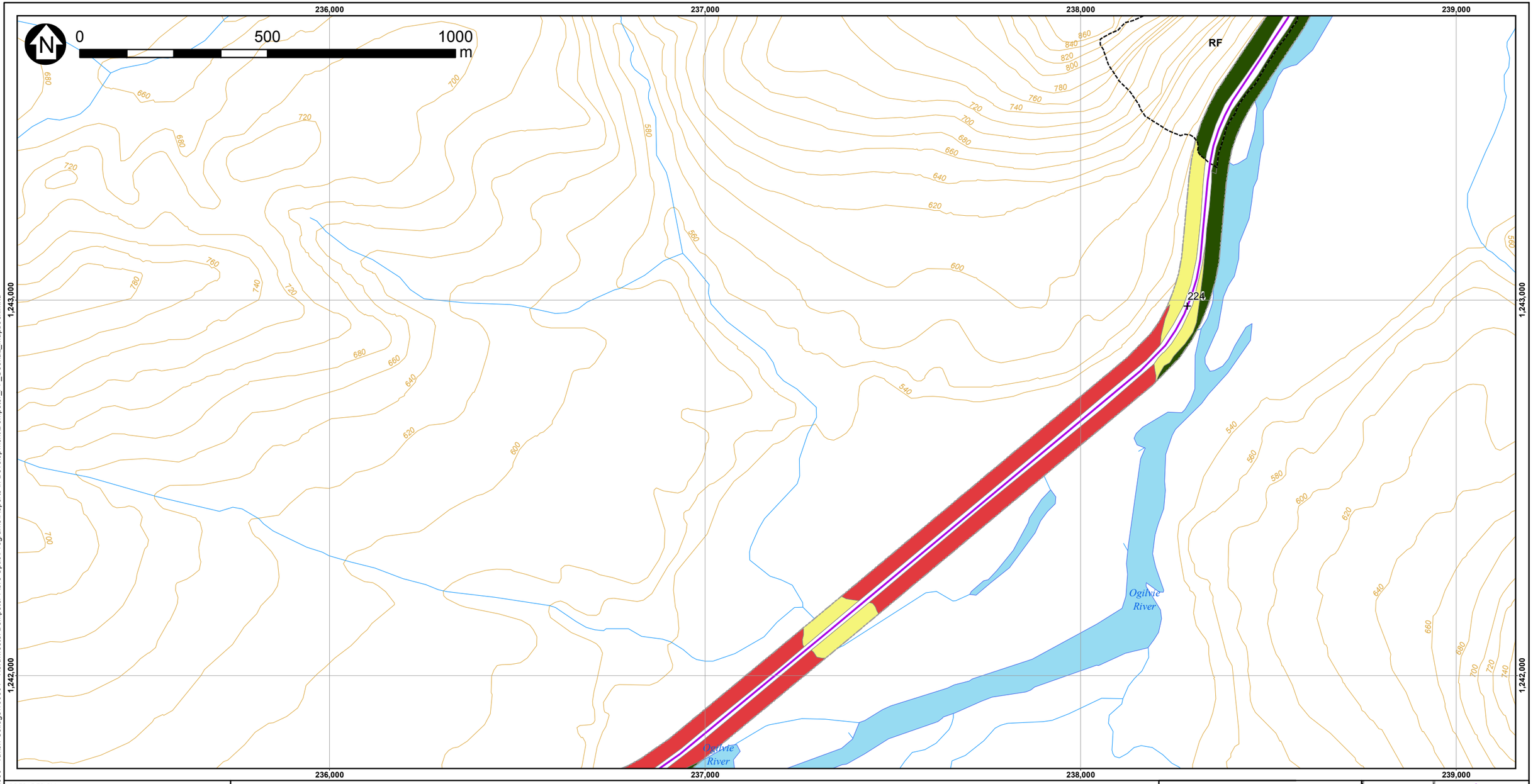


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Horizontal | Vertical | Both

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NorthwesTel

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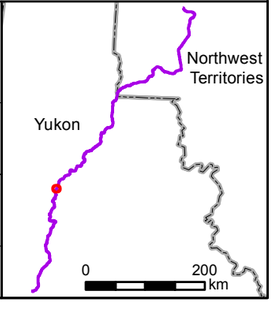


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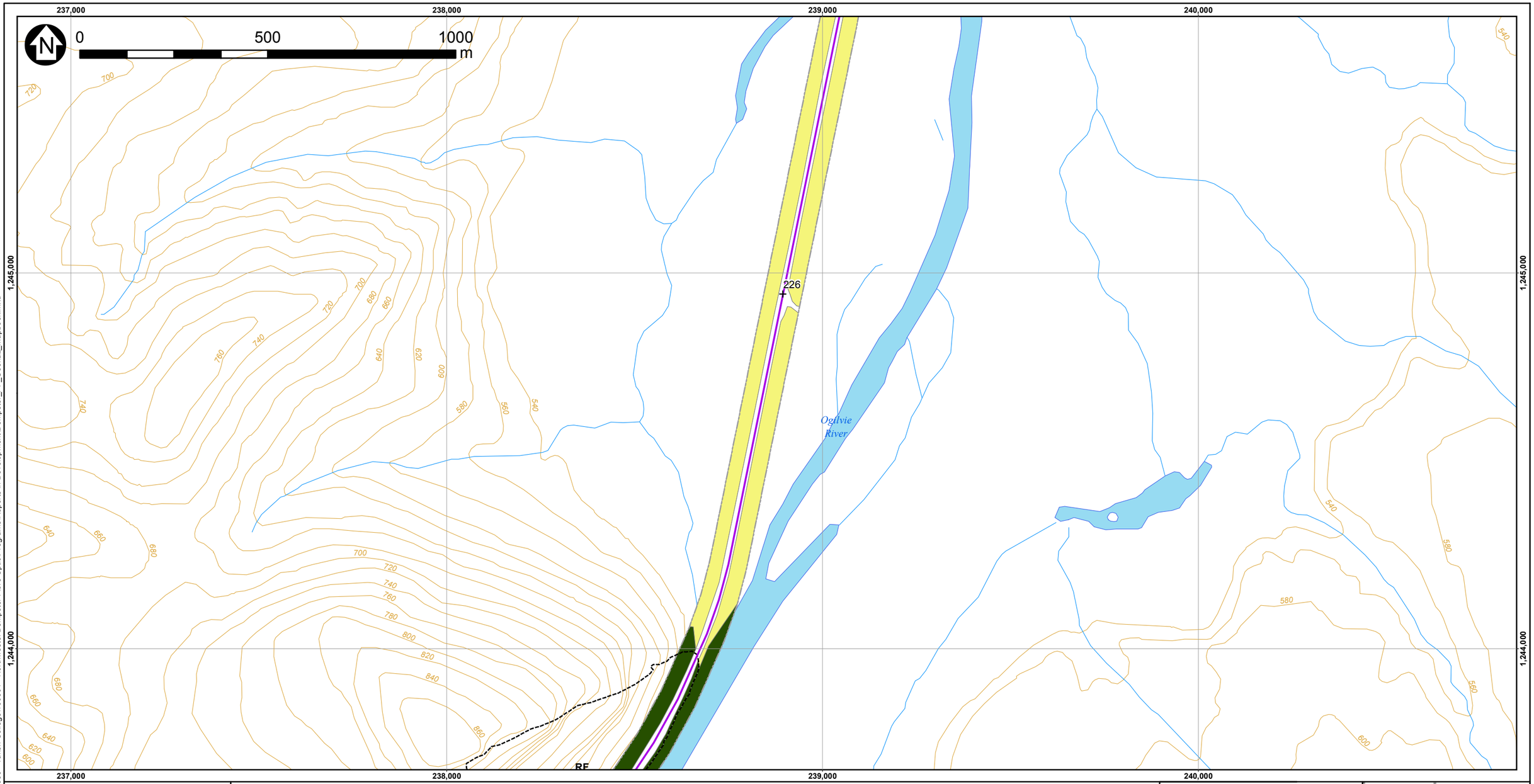


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
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Contour (m)
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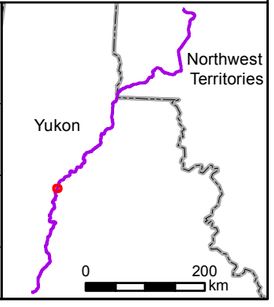


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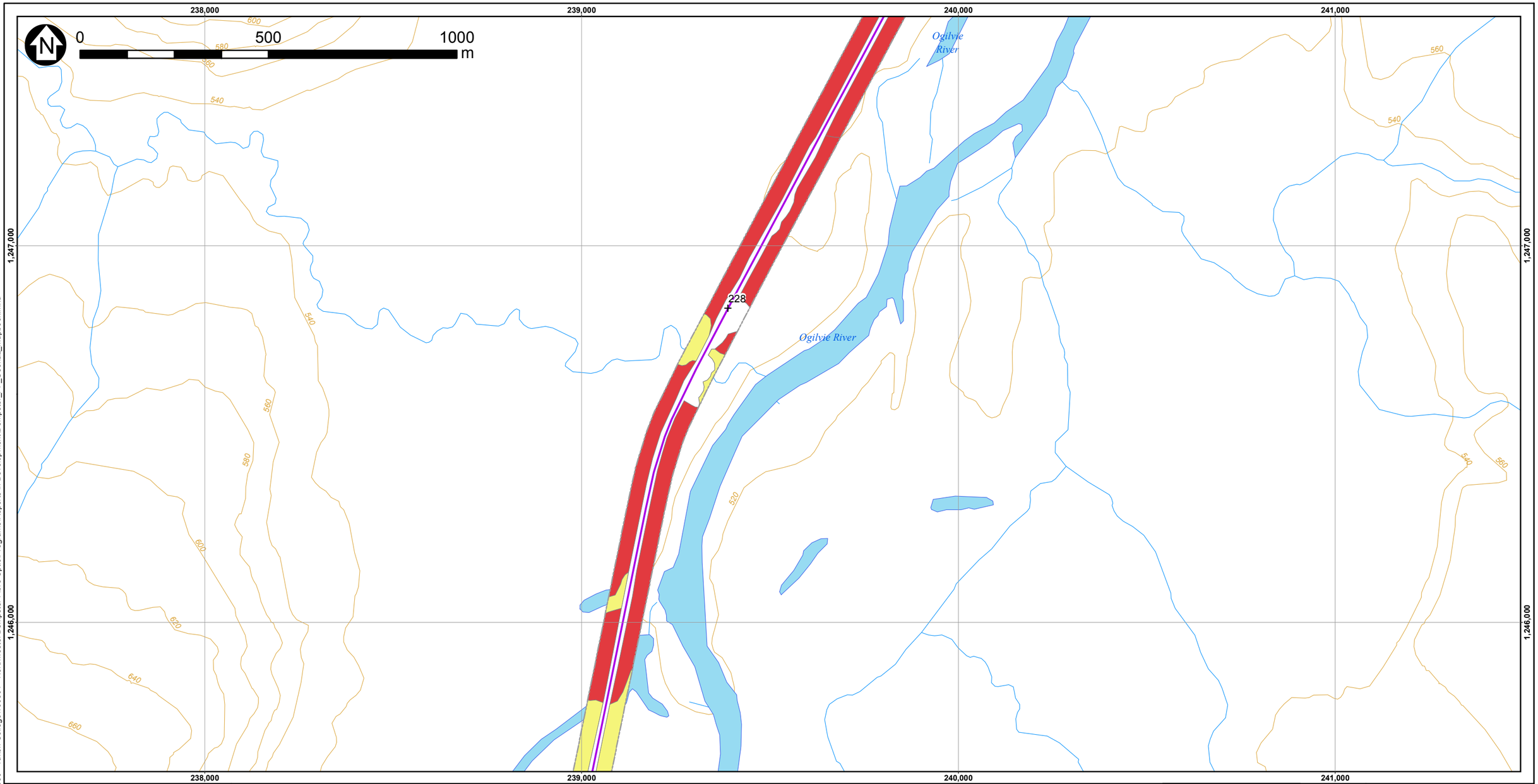


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Horizontal Vertical Both

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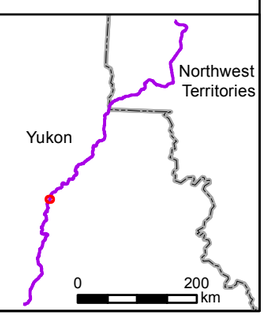

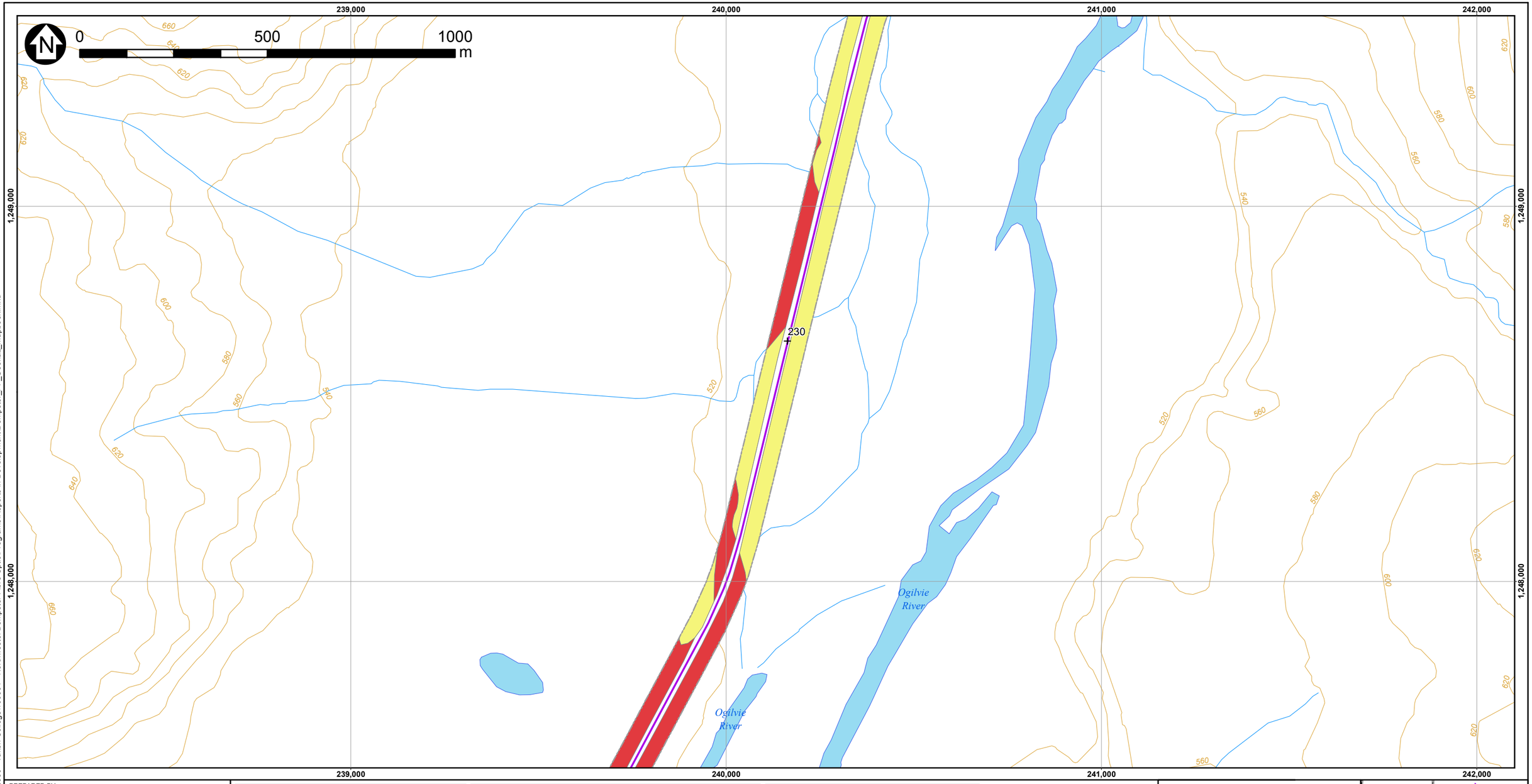


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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
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Contour (m)
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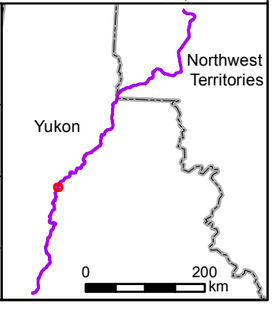


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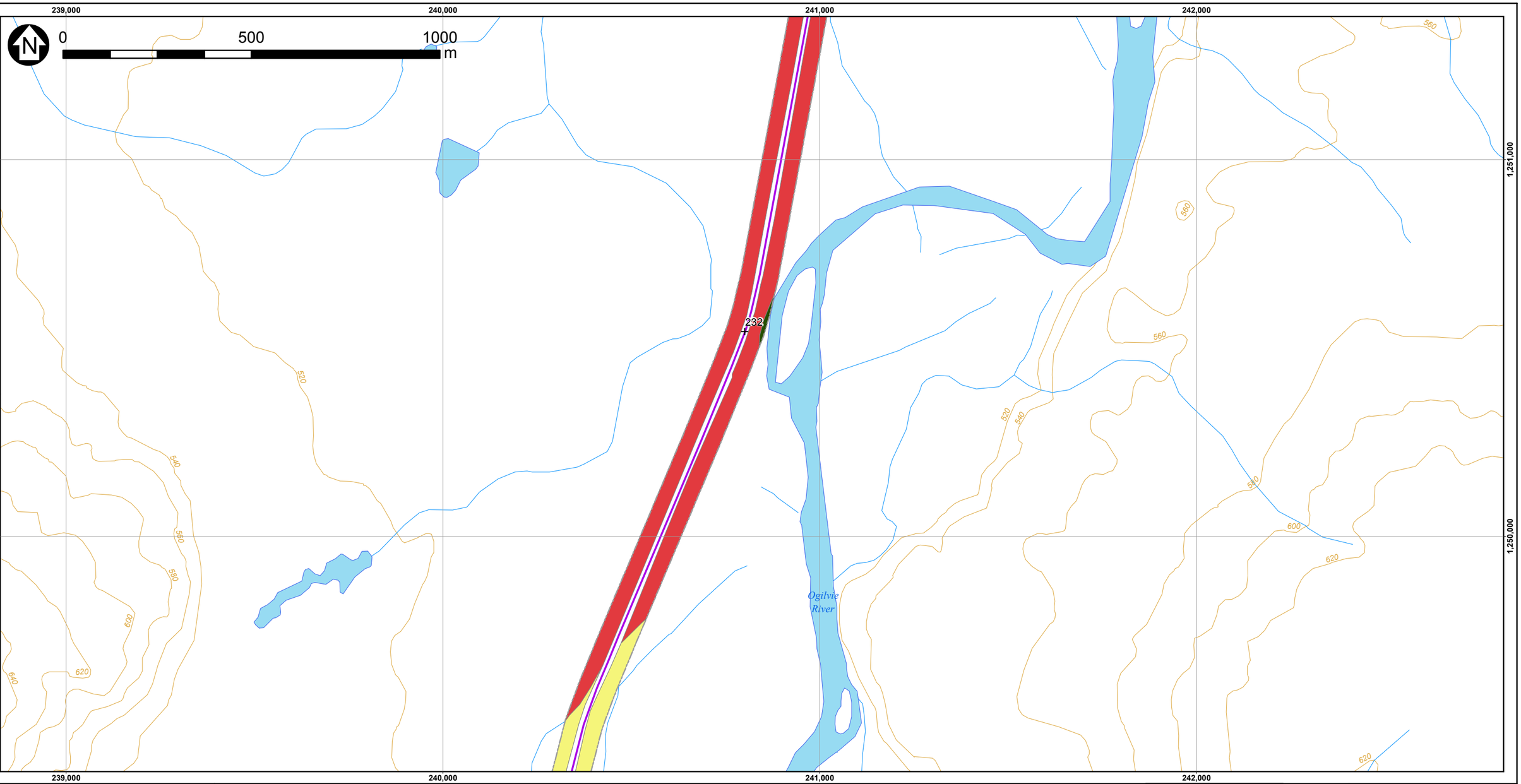


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# Dempster Highway Fibre Optic Line

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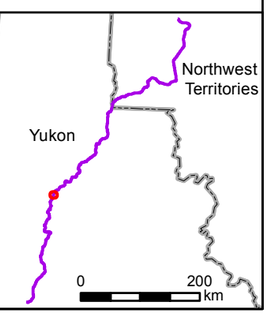

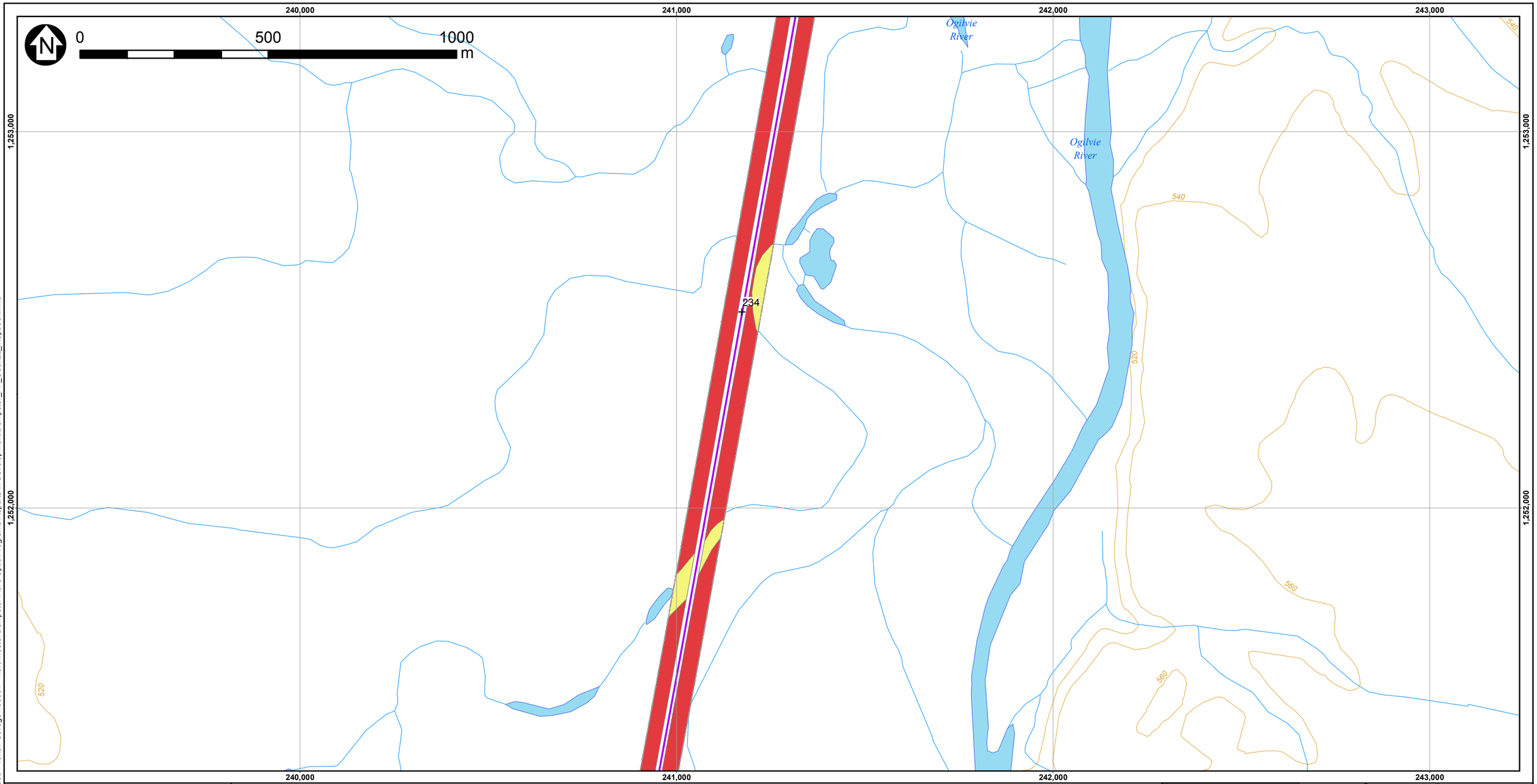


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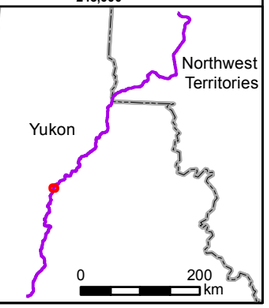

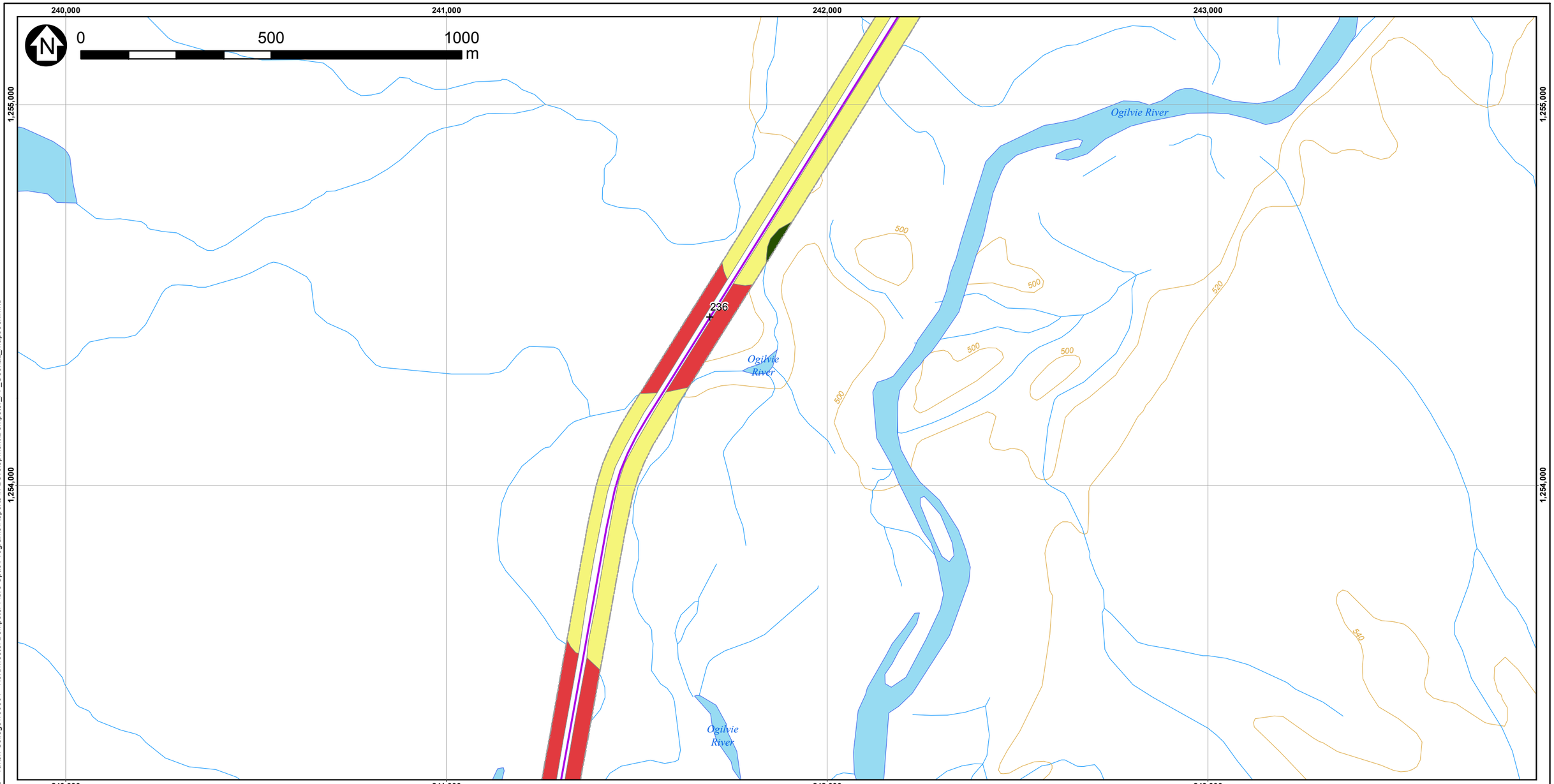


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## Mass Movement Geohazard

- ***DS*** - Debris Slide
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### Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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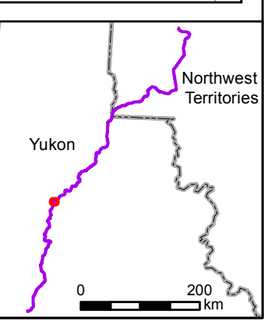
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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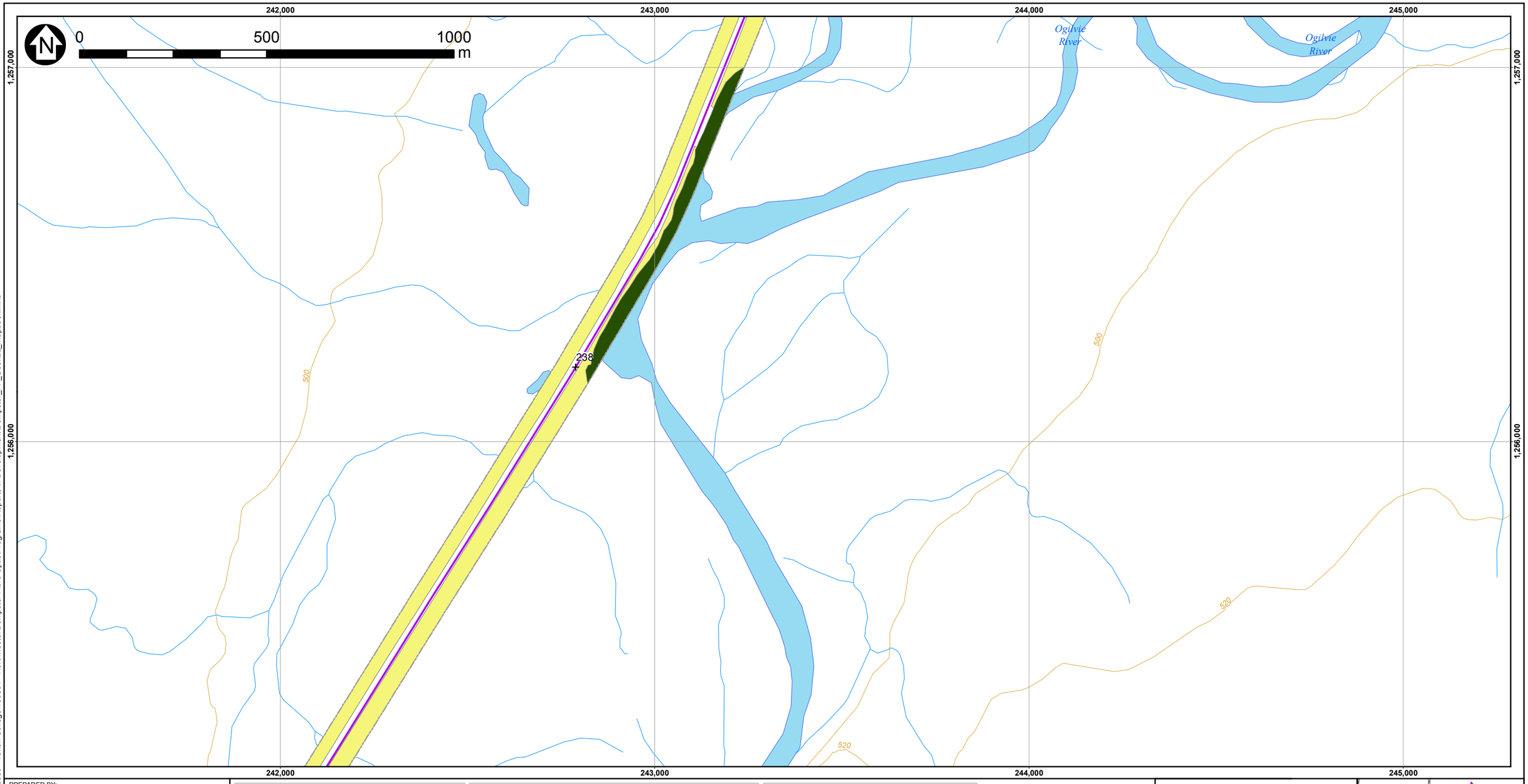


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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
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BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
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Horizontal | Vertical | Both

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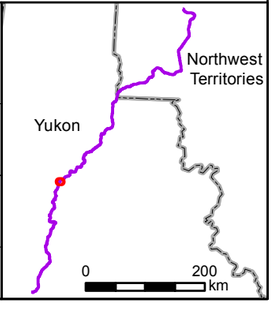


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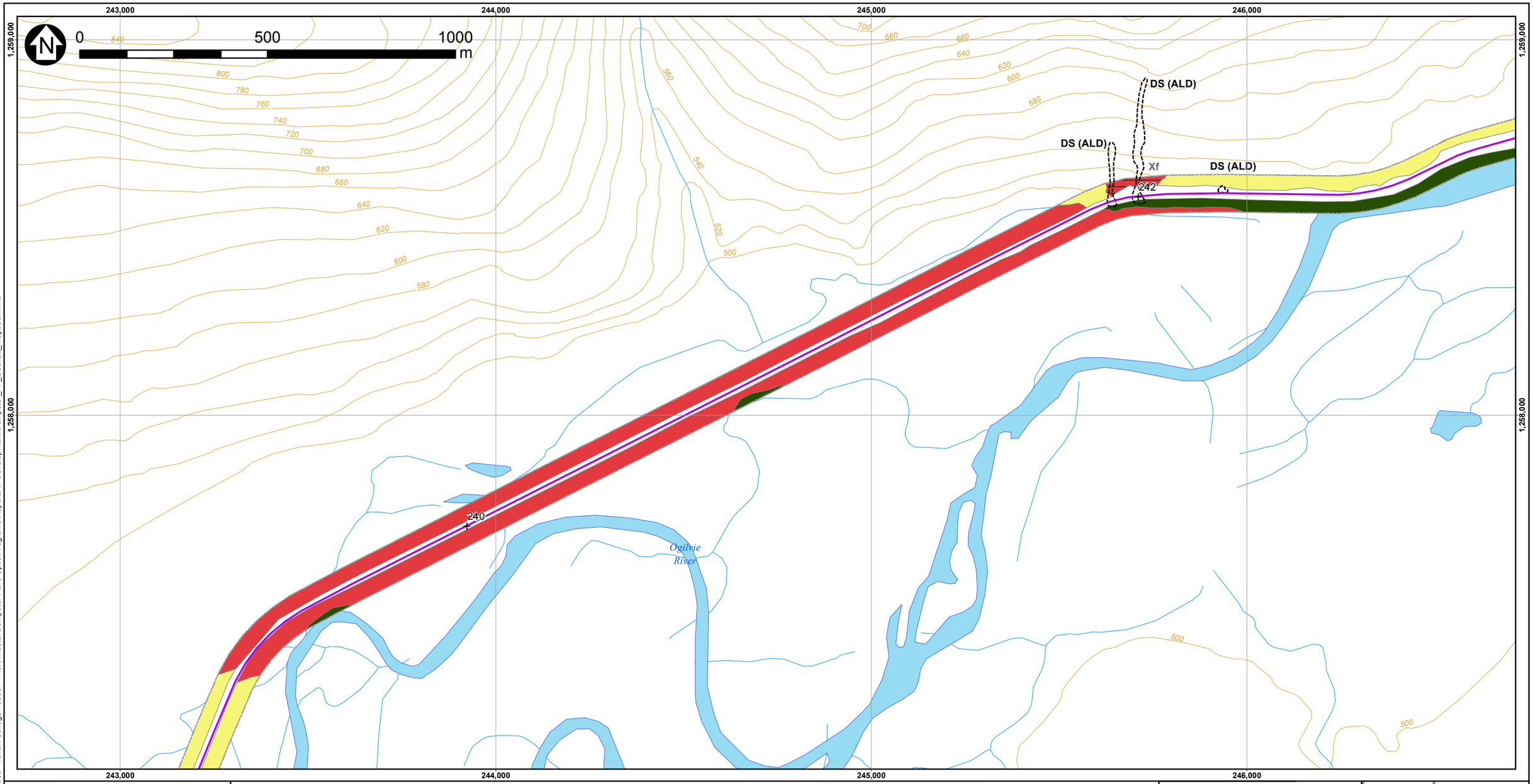


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Horizontal Vertical Both

PGMP Mapping Boundary
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Contour (m)
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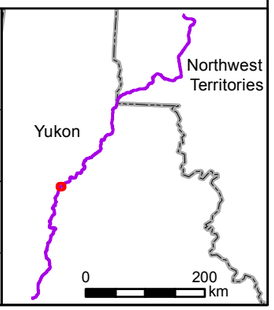


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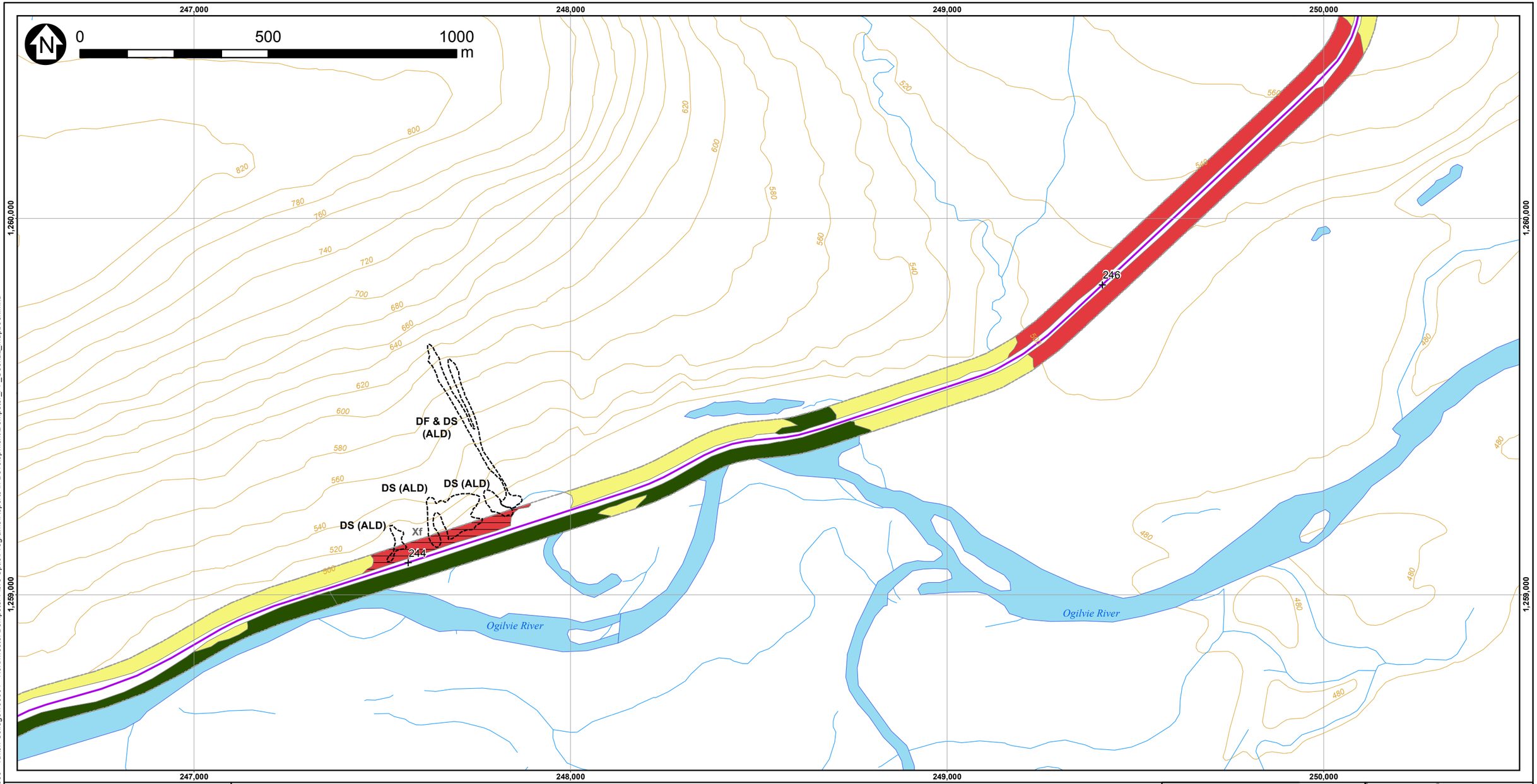


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Horizontal Vertical Both

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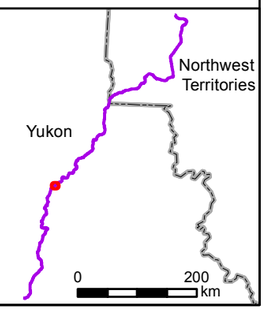

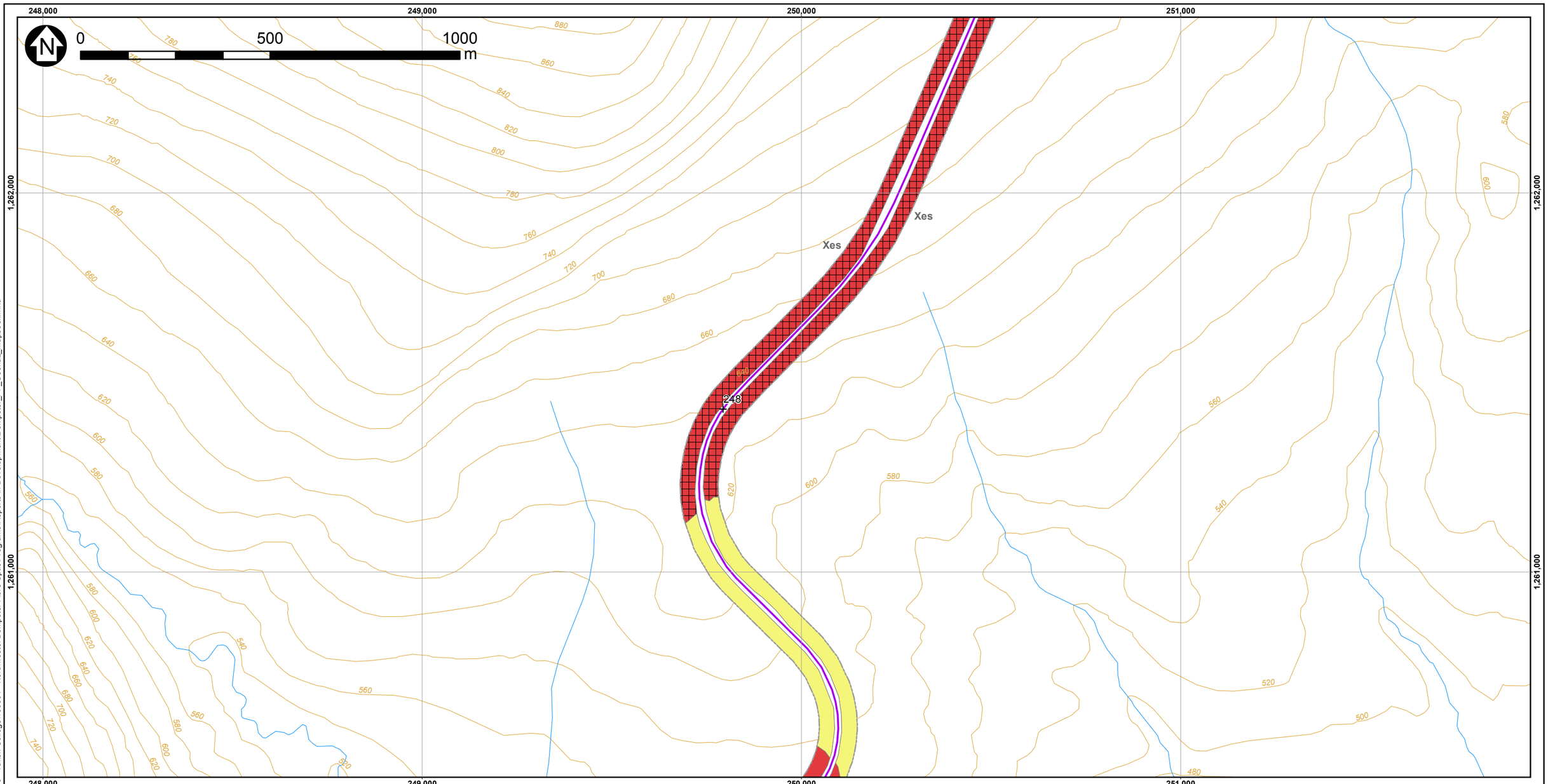


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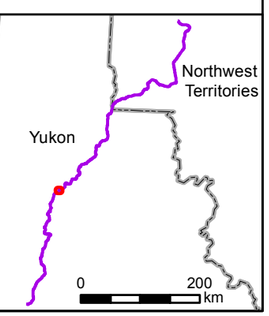


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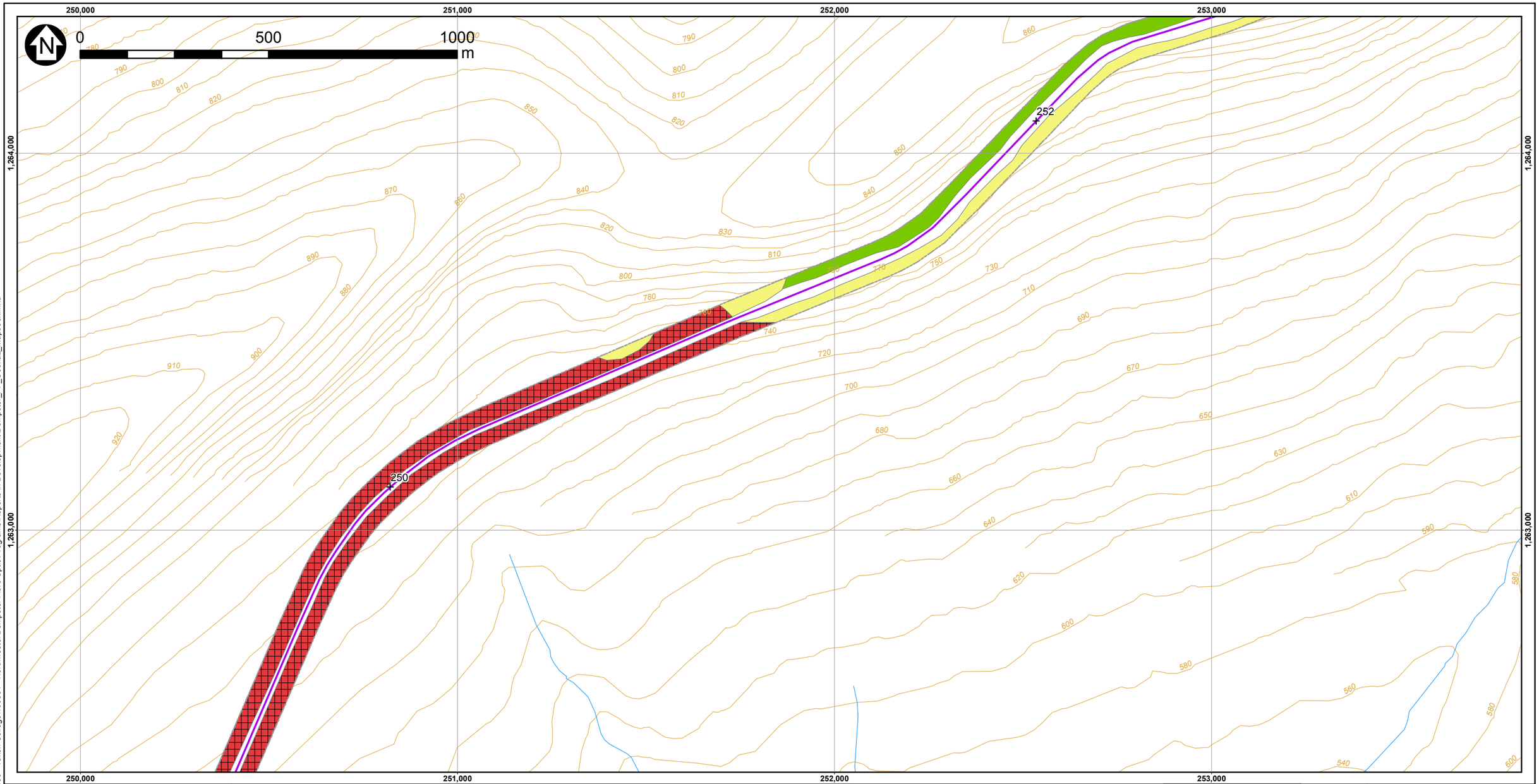


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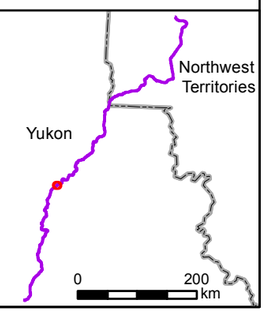

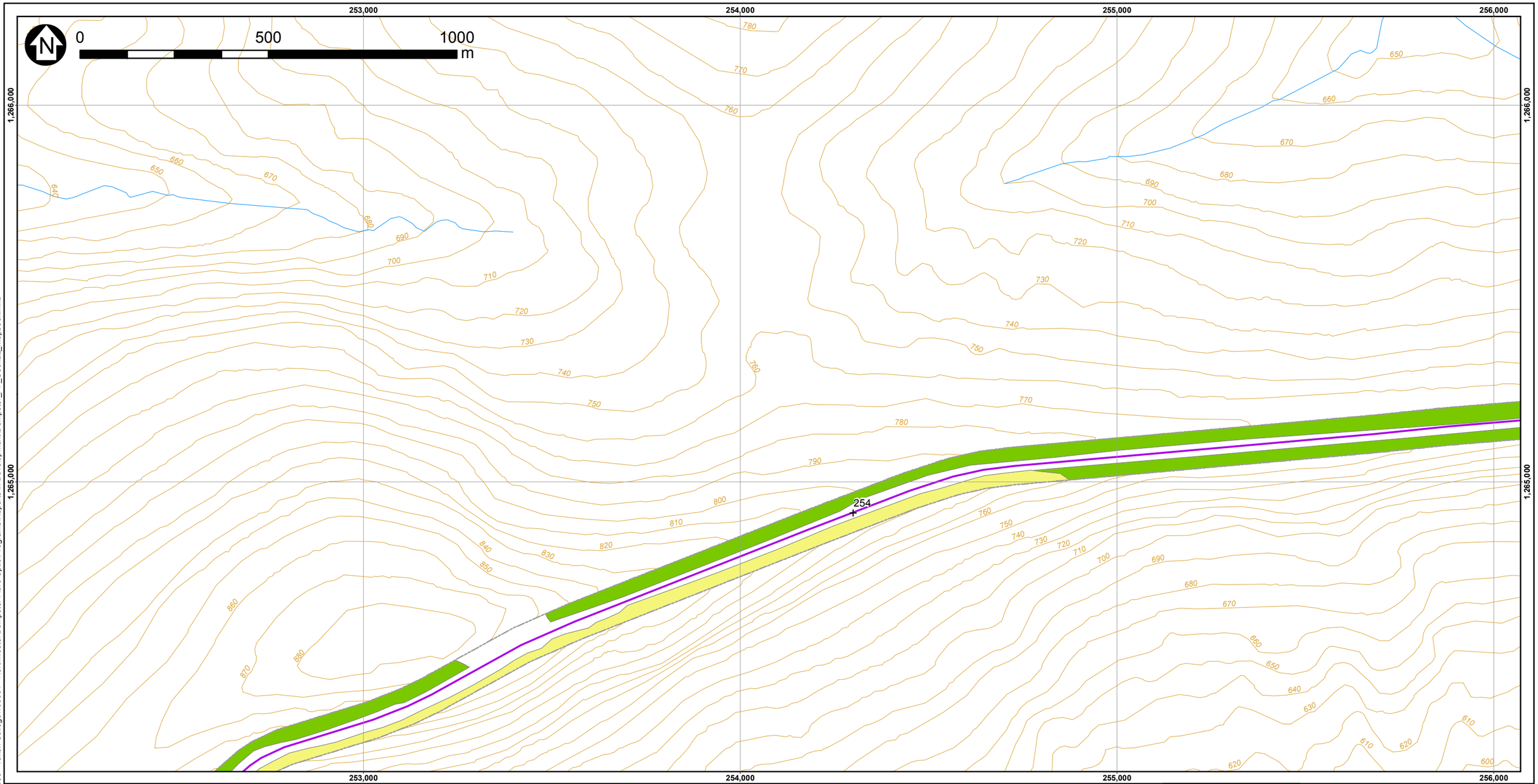


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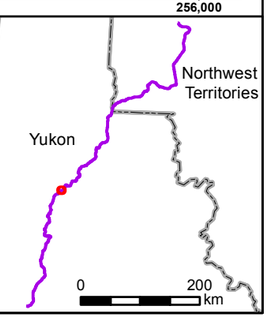


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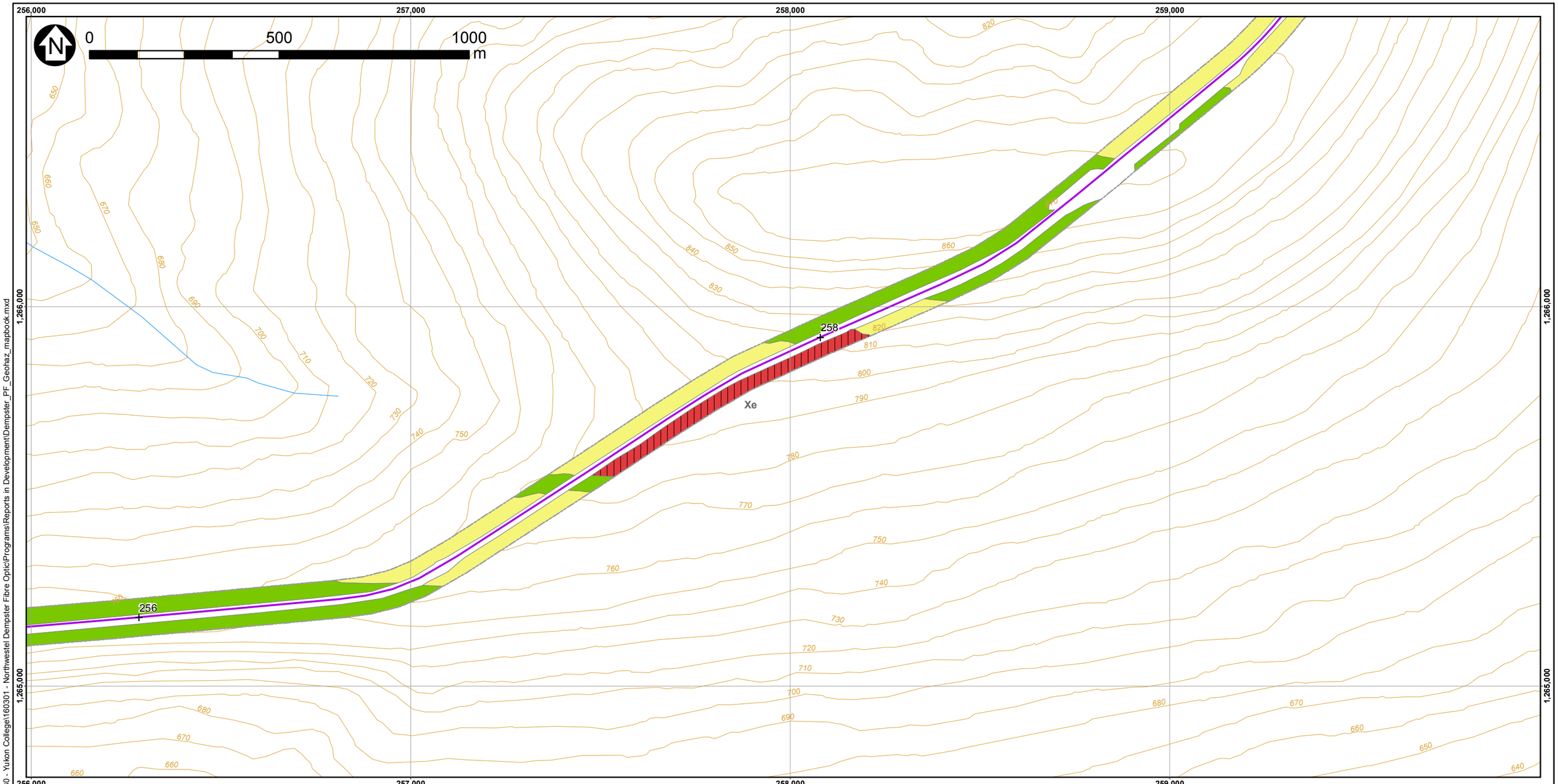


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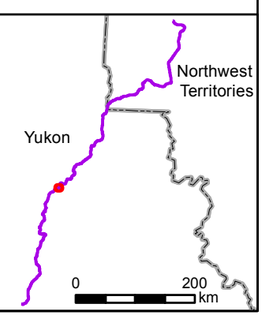


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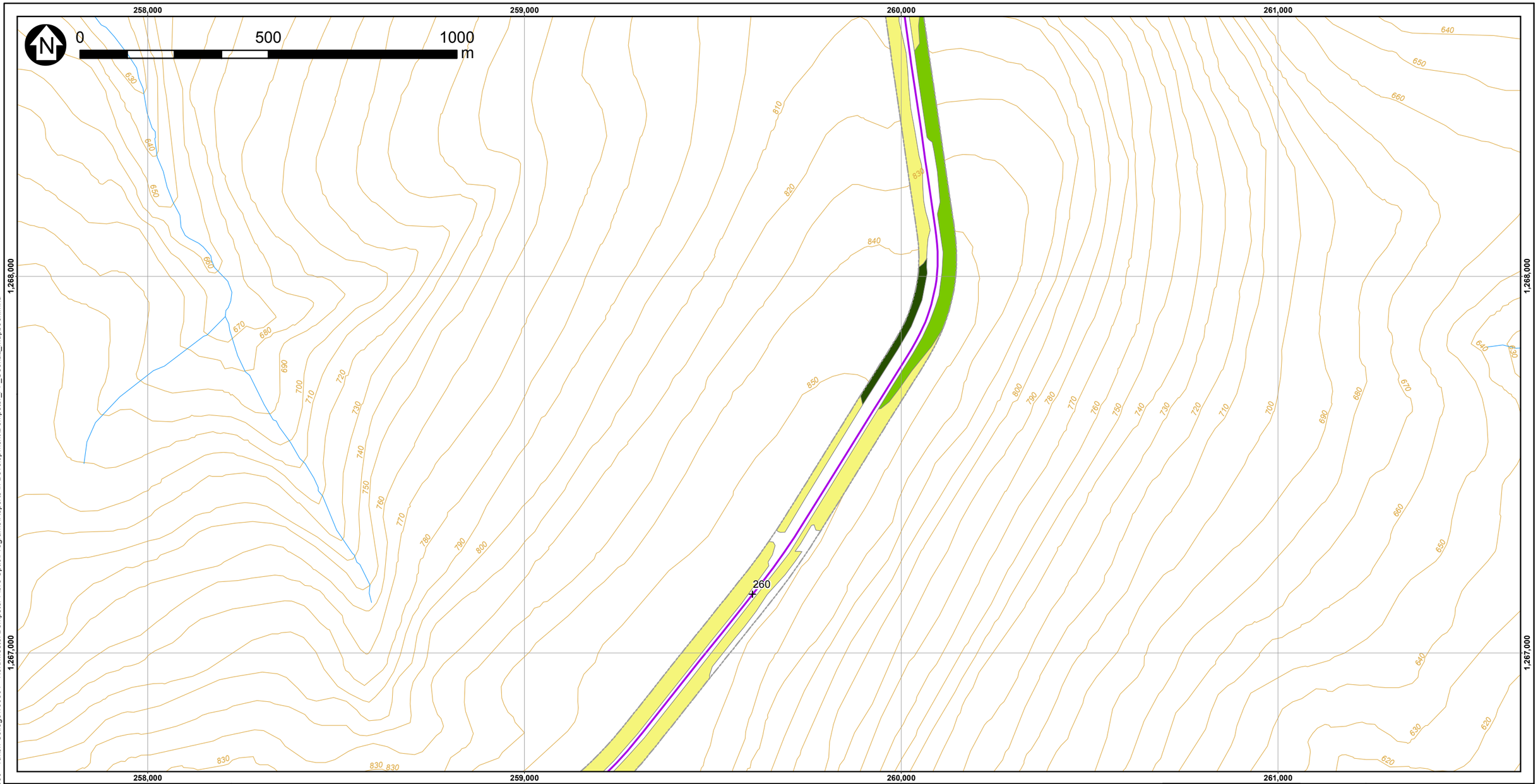


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
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## Mass Movement Geohazard

- **DS** - Debris Slide
- **DS (ALD)** - Debris Slide (Active Layer Detachment)
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- **Xs** - Slopewash
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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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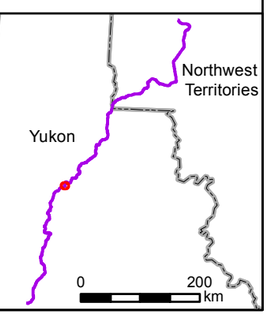
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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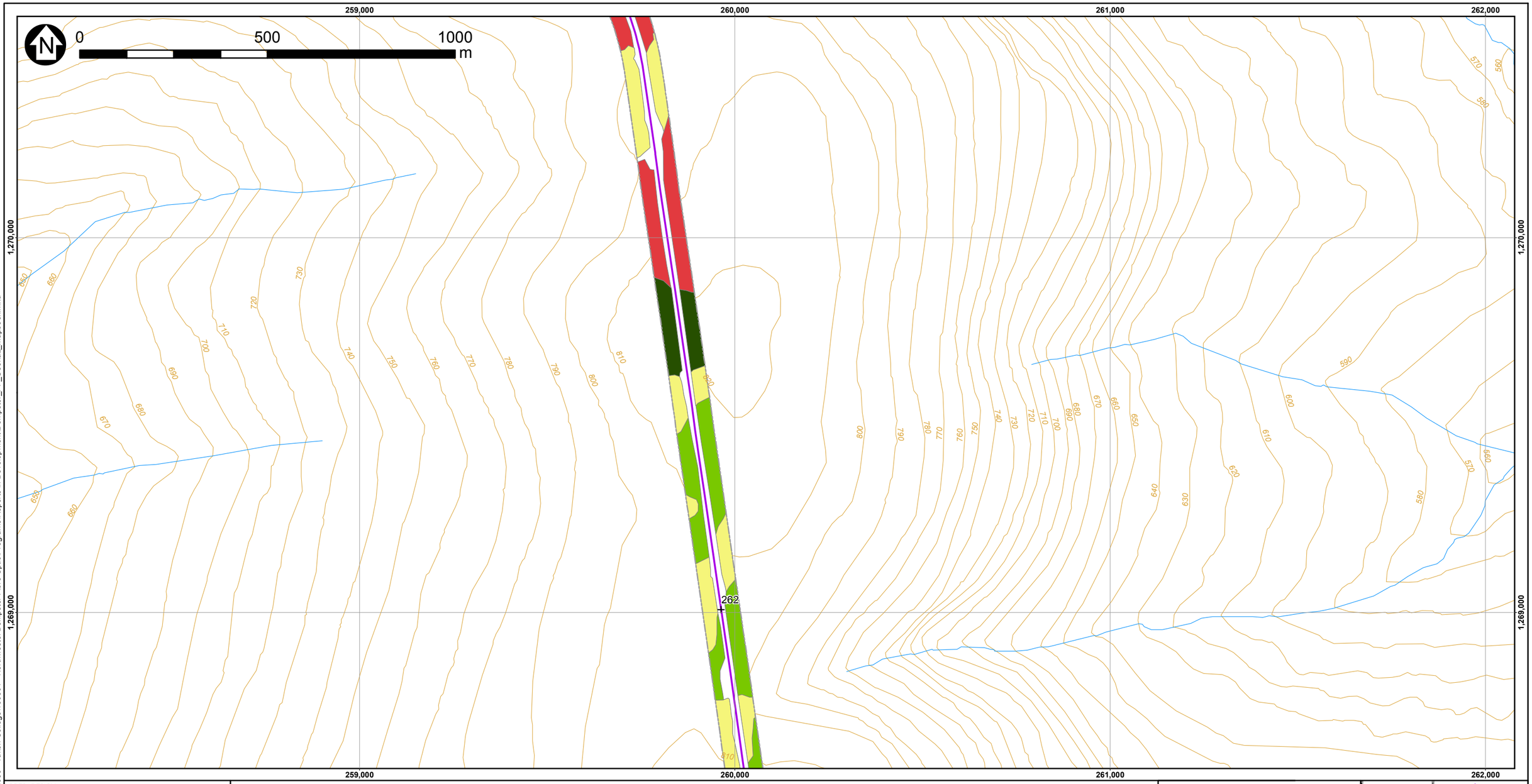


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Horizontal Vertical Both

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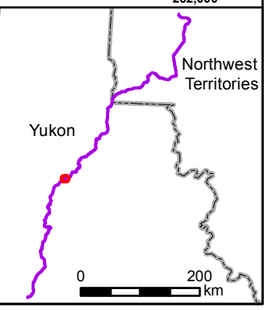
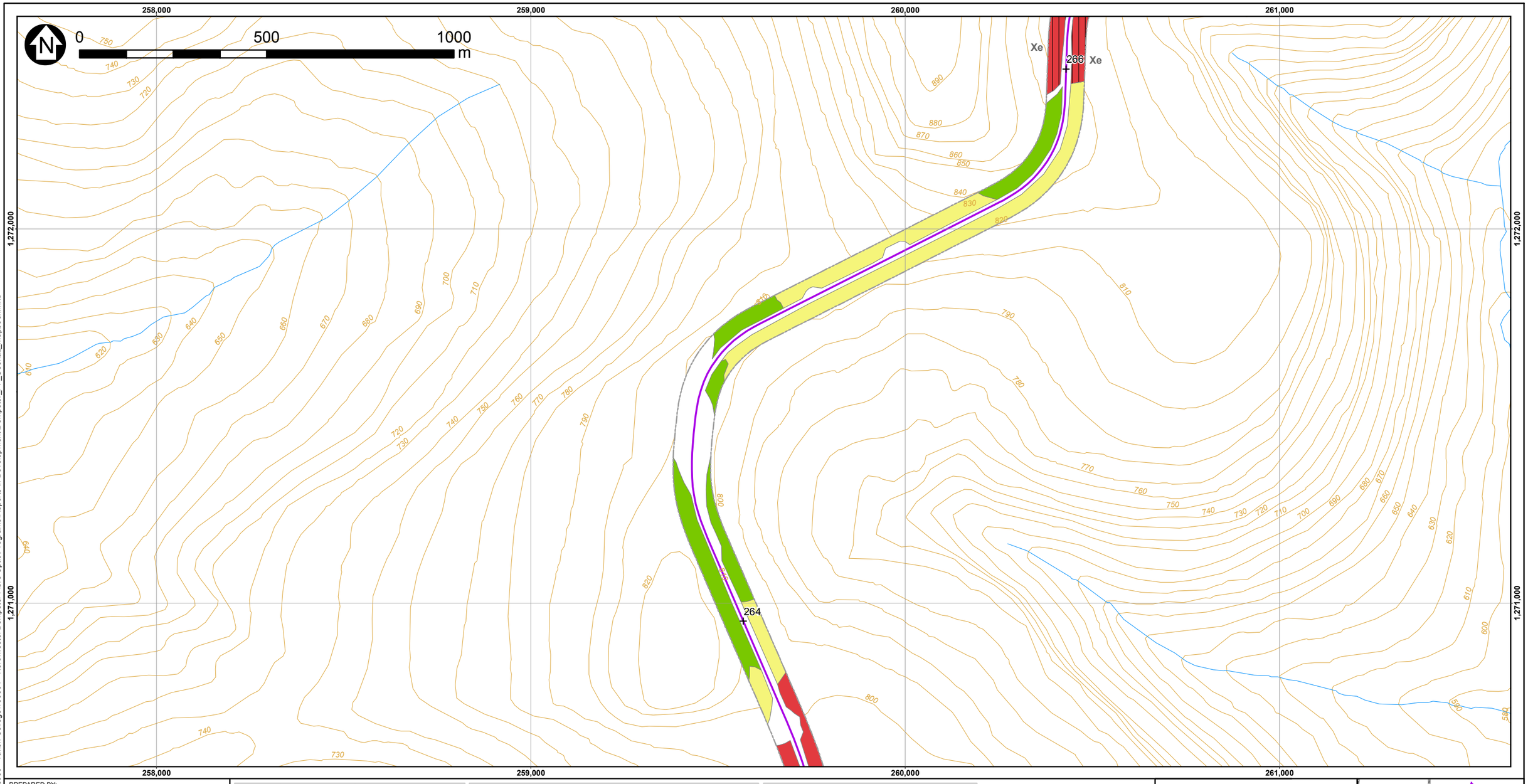
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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**Potential Movement Direction**

Horizontal | Vertical | Both

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Dempster Highway
+234 Kilometre Post
Contour (m)
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**Dempster Highway Fibre Optic Line**

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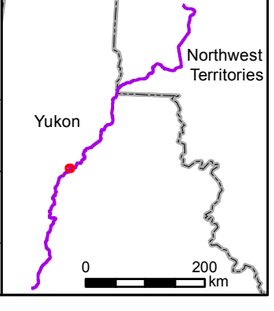


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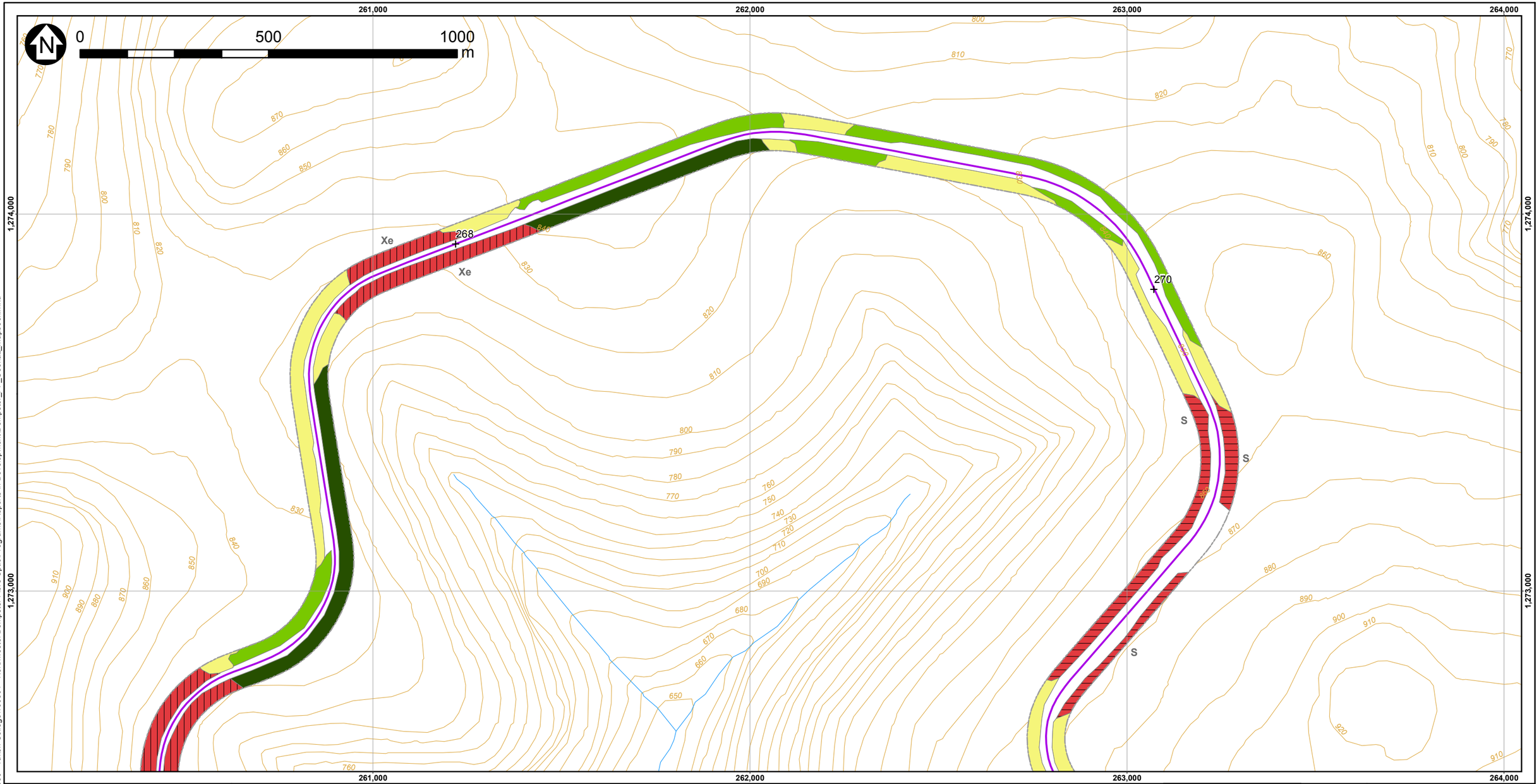


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Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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**Dempster Highway Fibre Optic Line**

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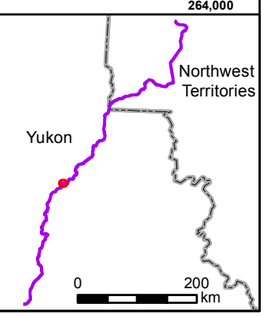


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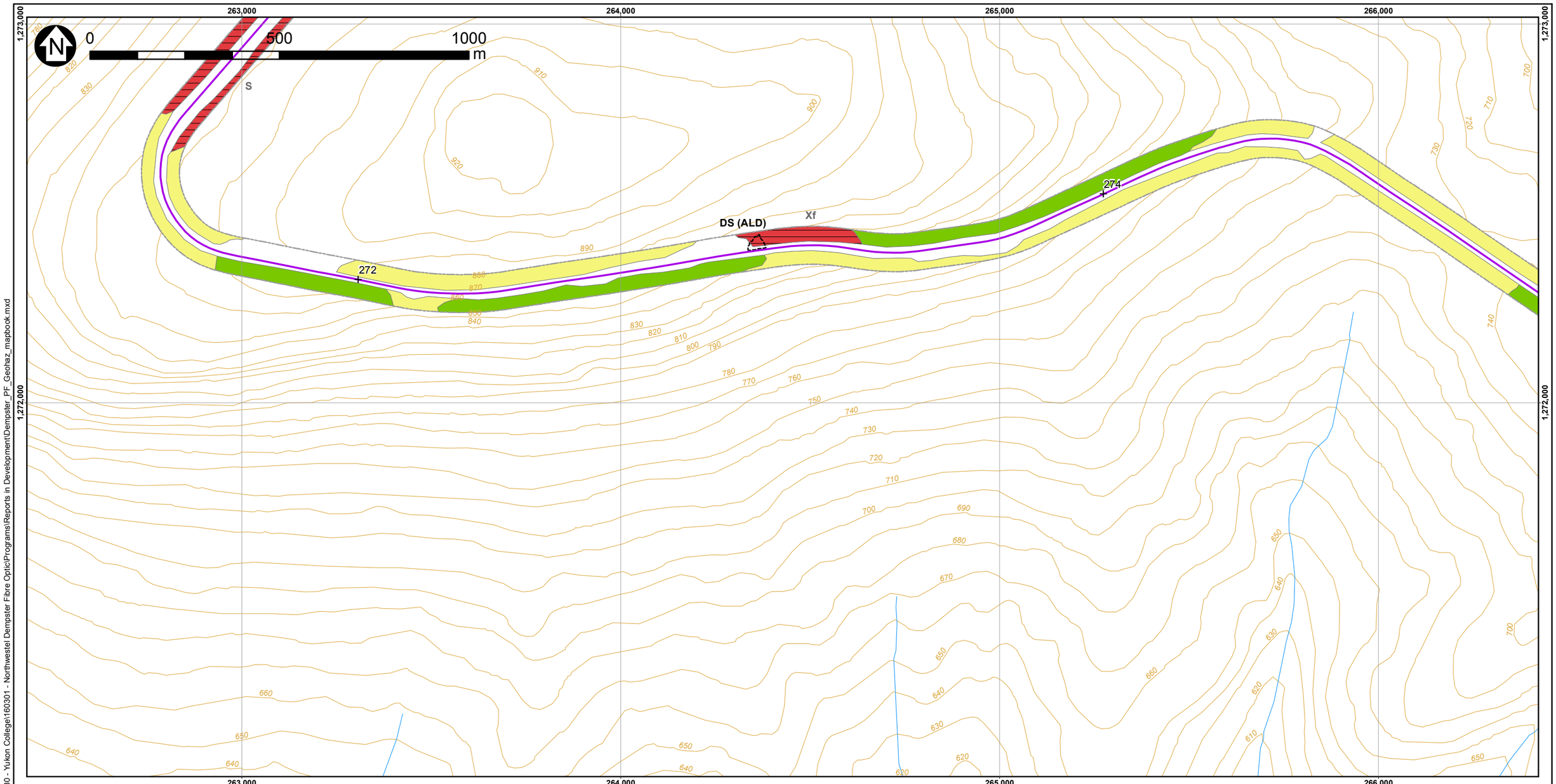


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**Mass Movement Geohazard**

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**Periglacial Process/Feature**

| | | | |
|---|---|---|---|
| ***Xs*** | Slopewash | ***C*** | Cryoturbation |
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| ***S*** | Solifluction | | |

**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
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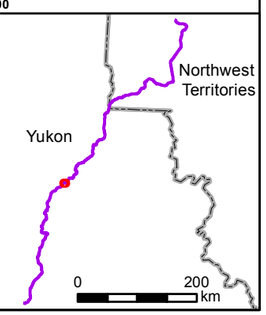


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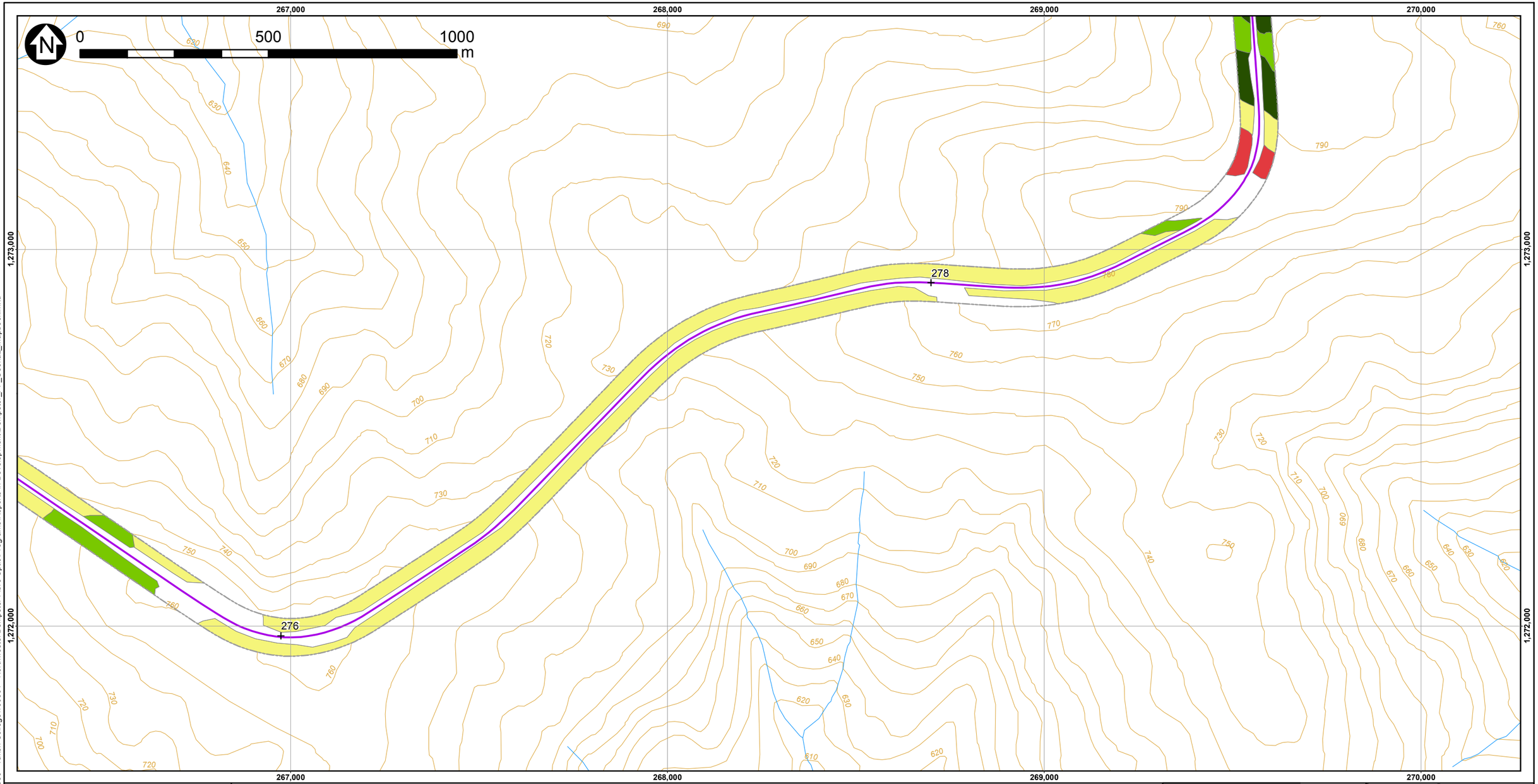


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## Potential Movement Direction

Horizontal | Vertical | Both

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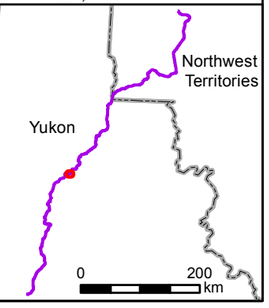


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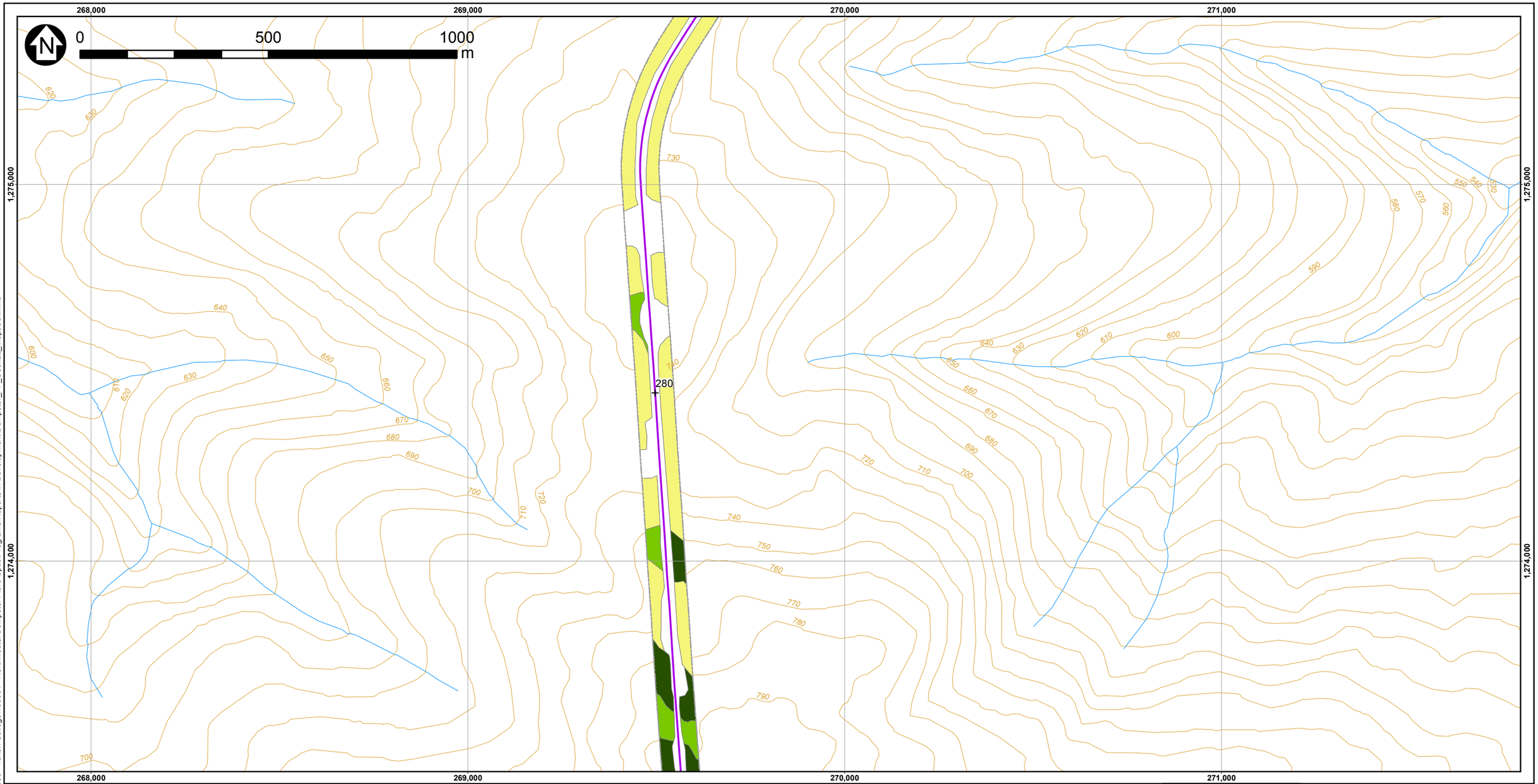


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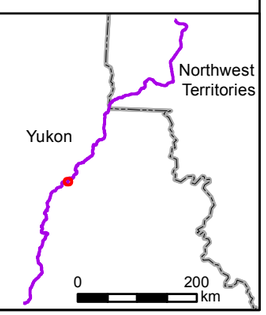


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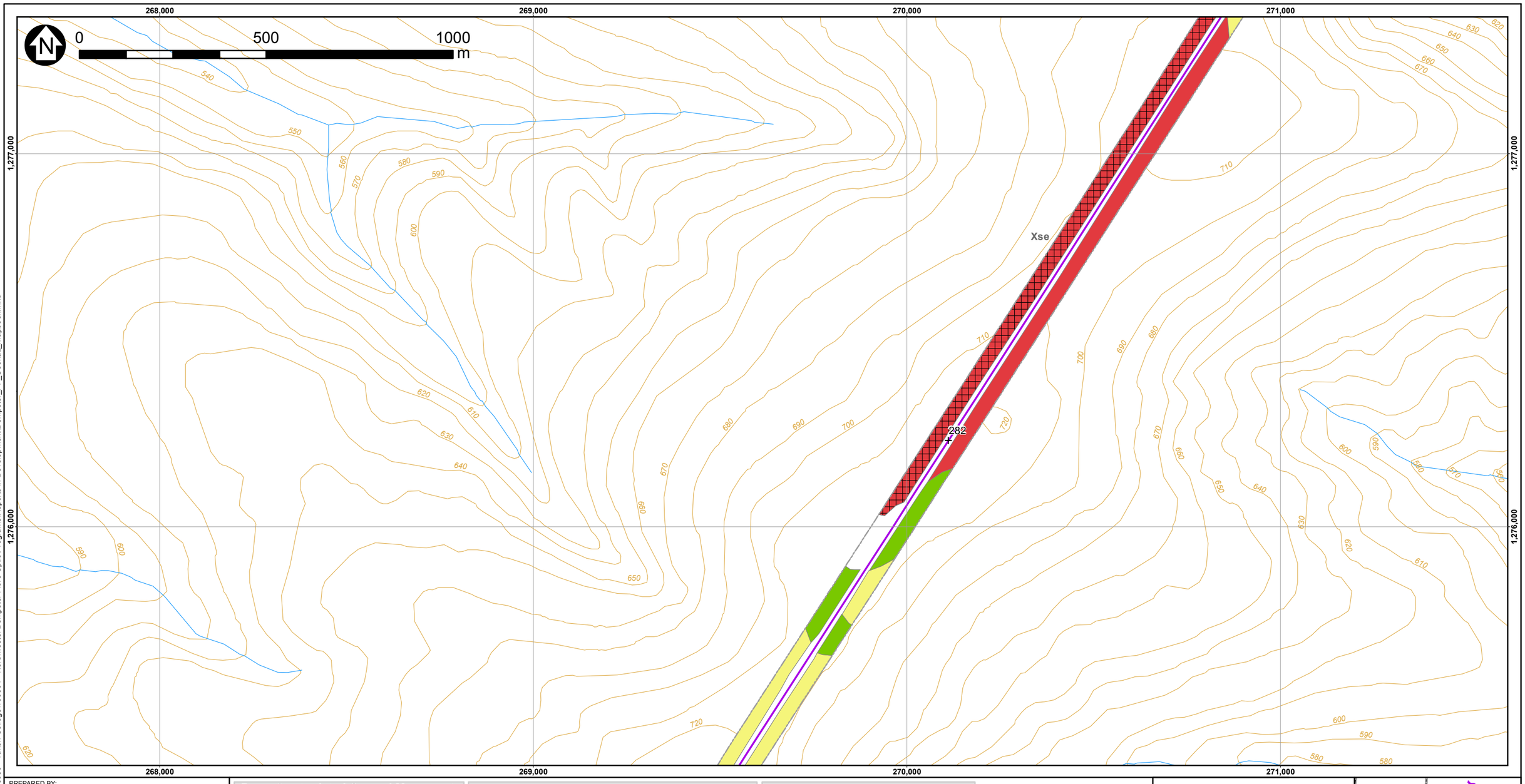


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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
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- Contour (m)
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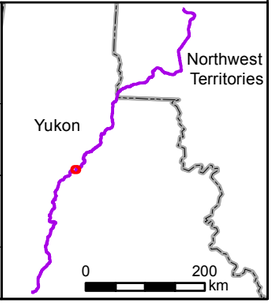
NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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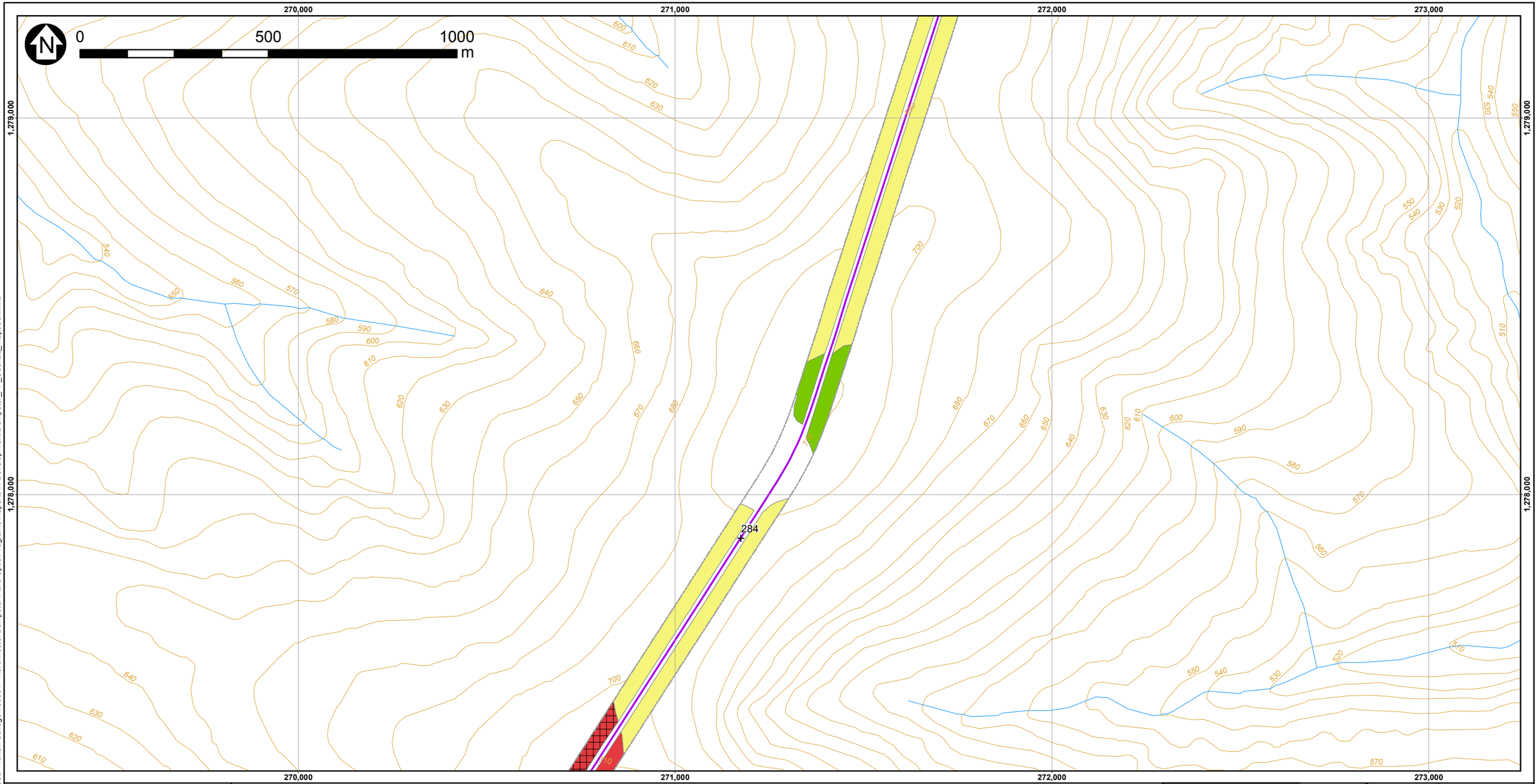


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| | |
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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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| *Symbol* | *PGMP* | *Active Layer Thickness* |
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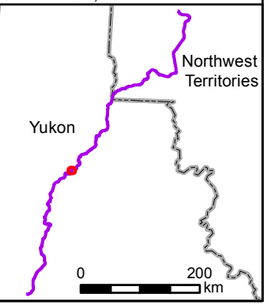


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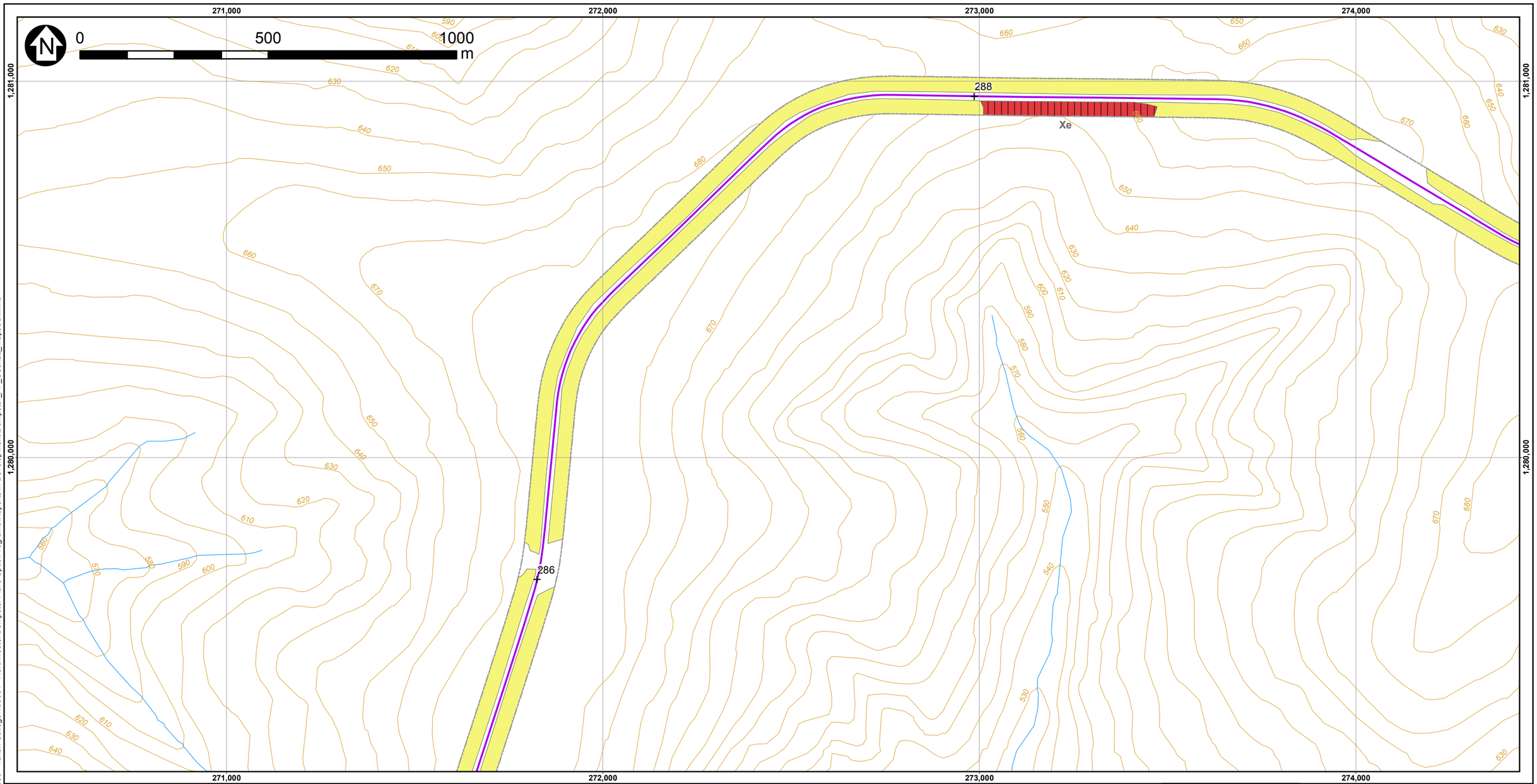


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# Dempster Highway Fibre Optic Line

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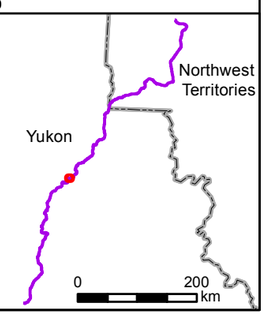


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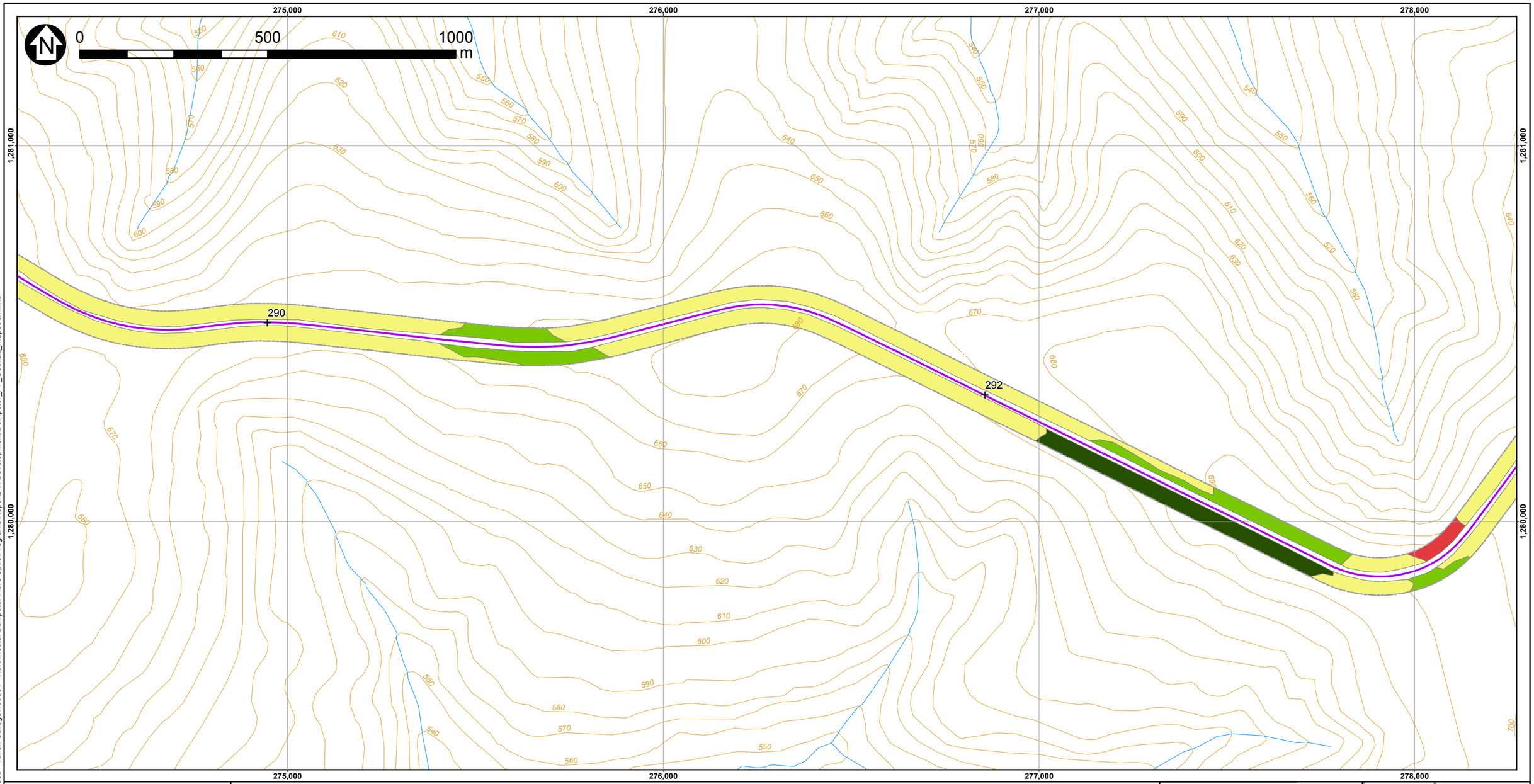


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Horizontal | Vertical | Both

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**Dempster Highway Fibre Optic Line**

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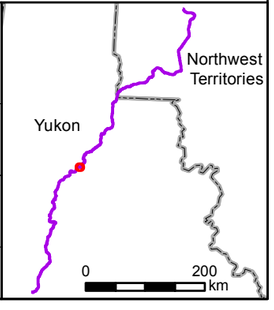


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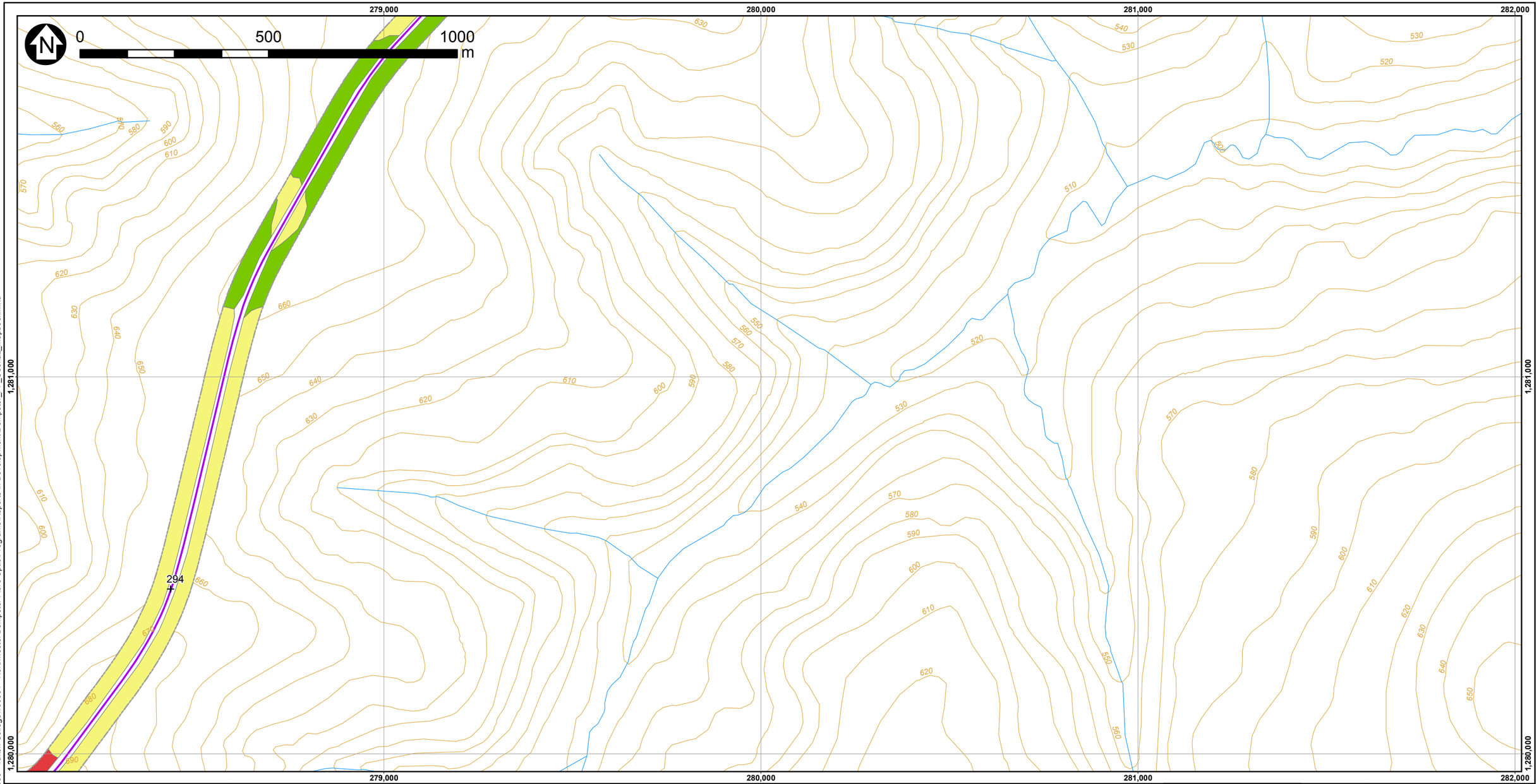


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Horizontal | Vertical | Both

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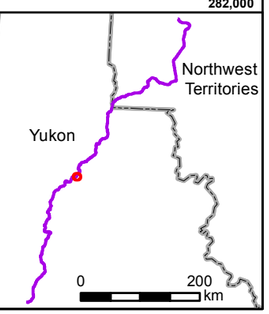


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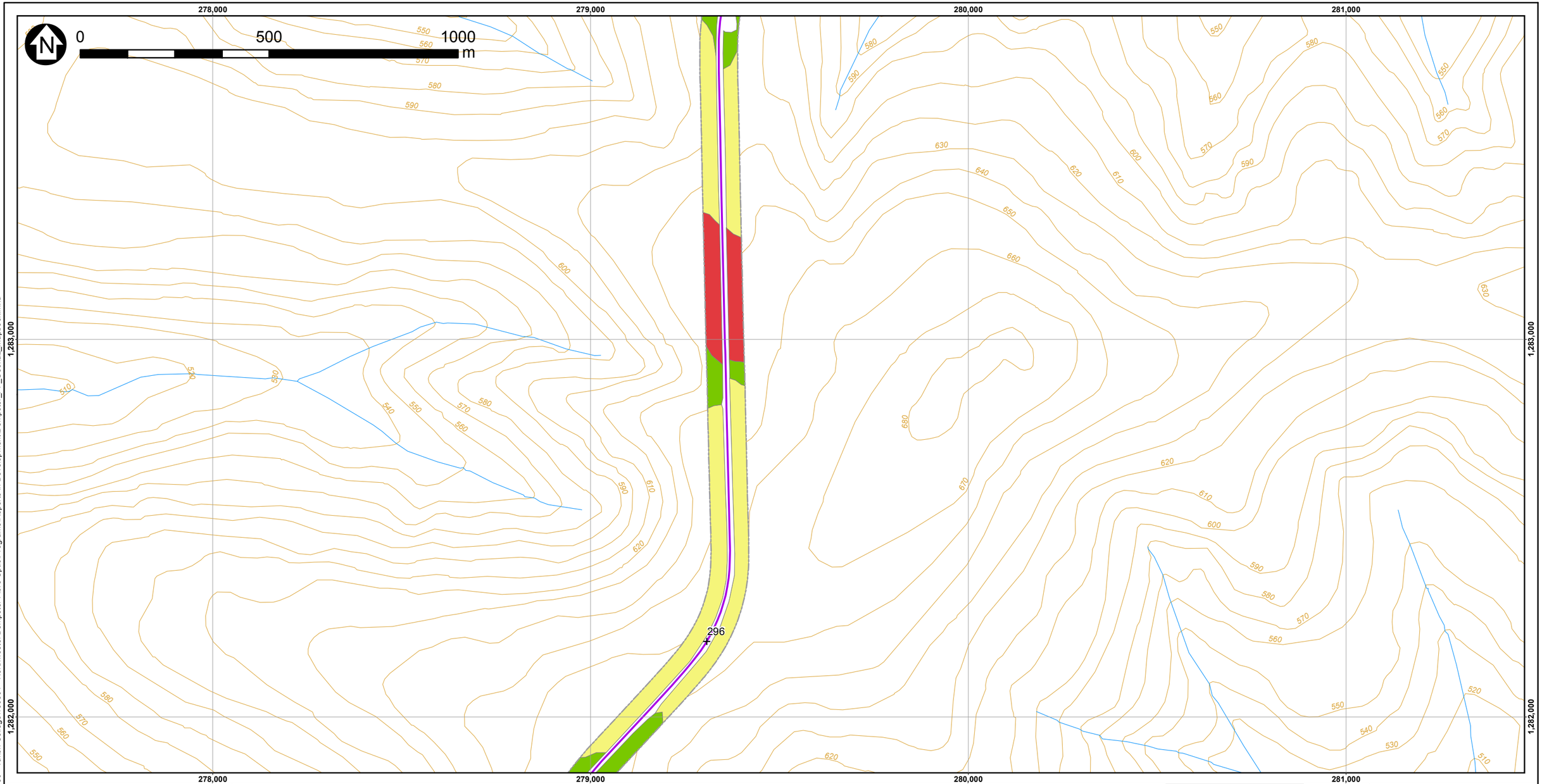


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# Dempster Highway Fibre Optic Line

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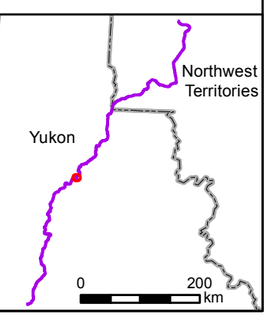


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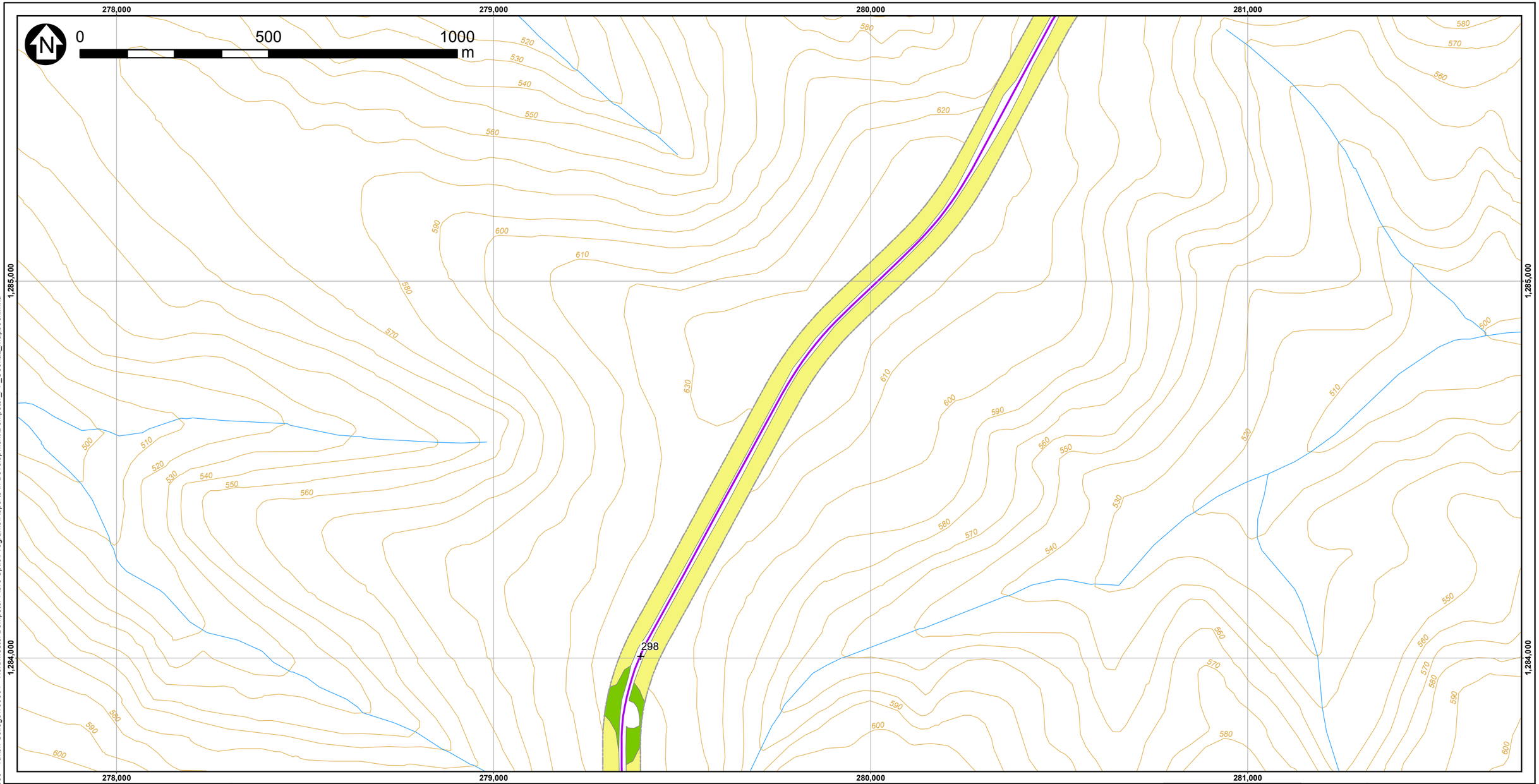


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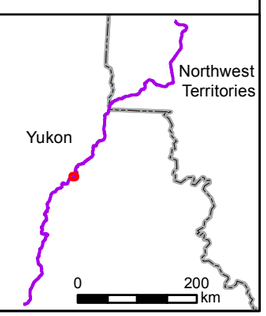


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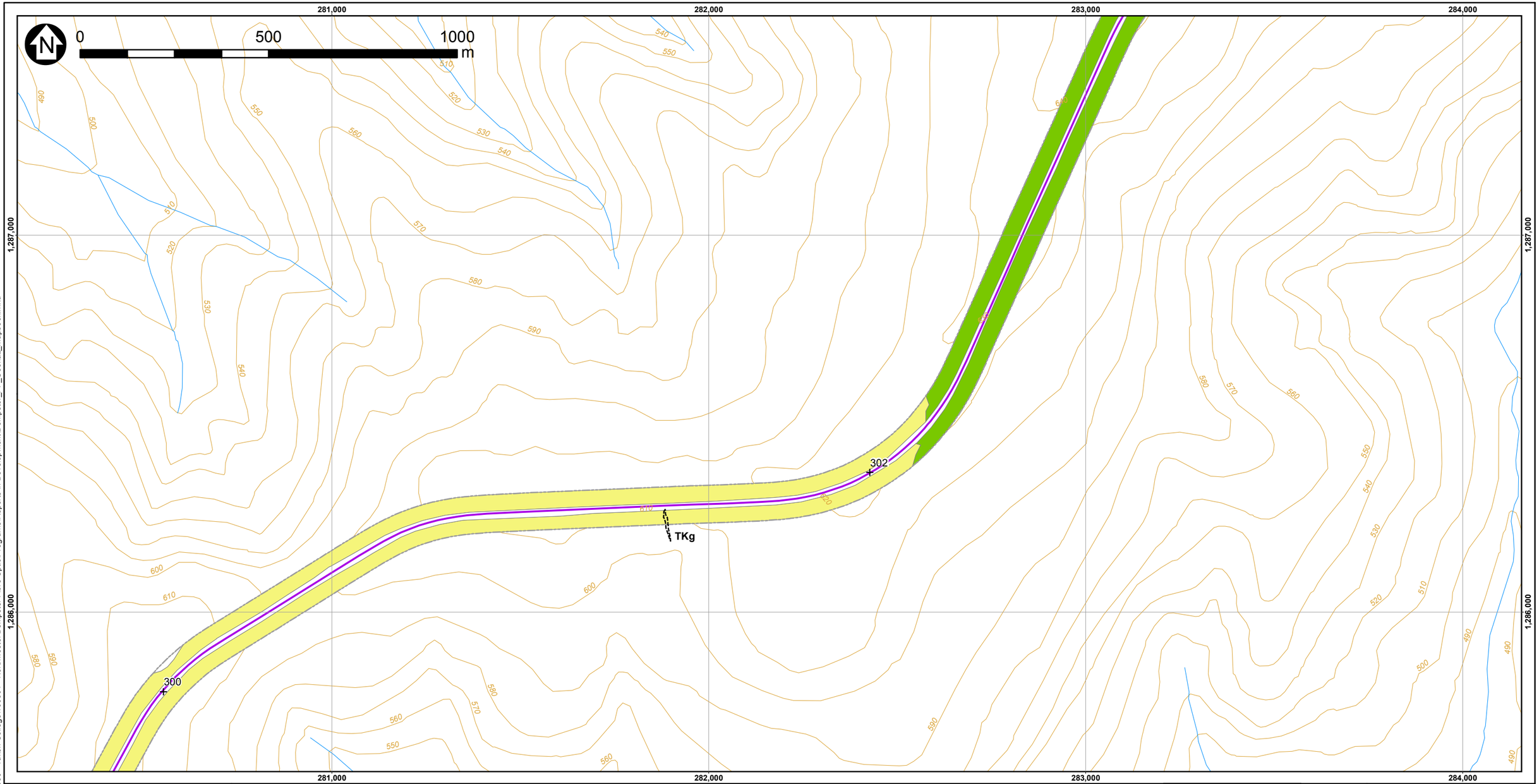


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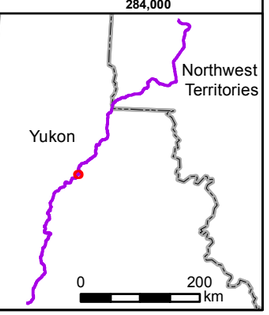

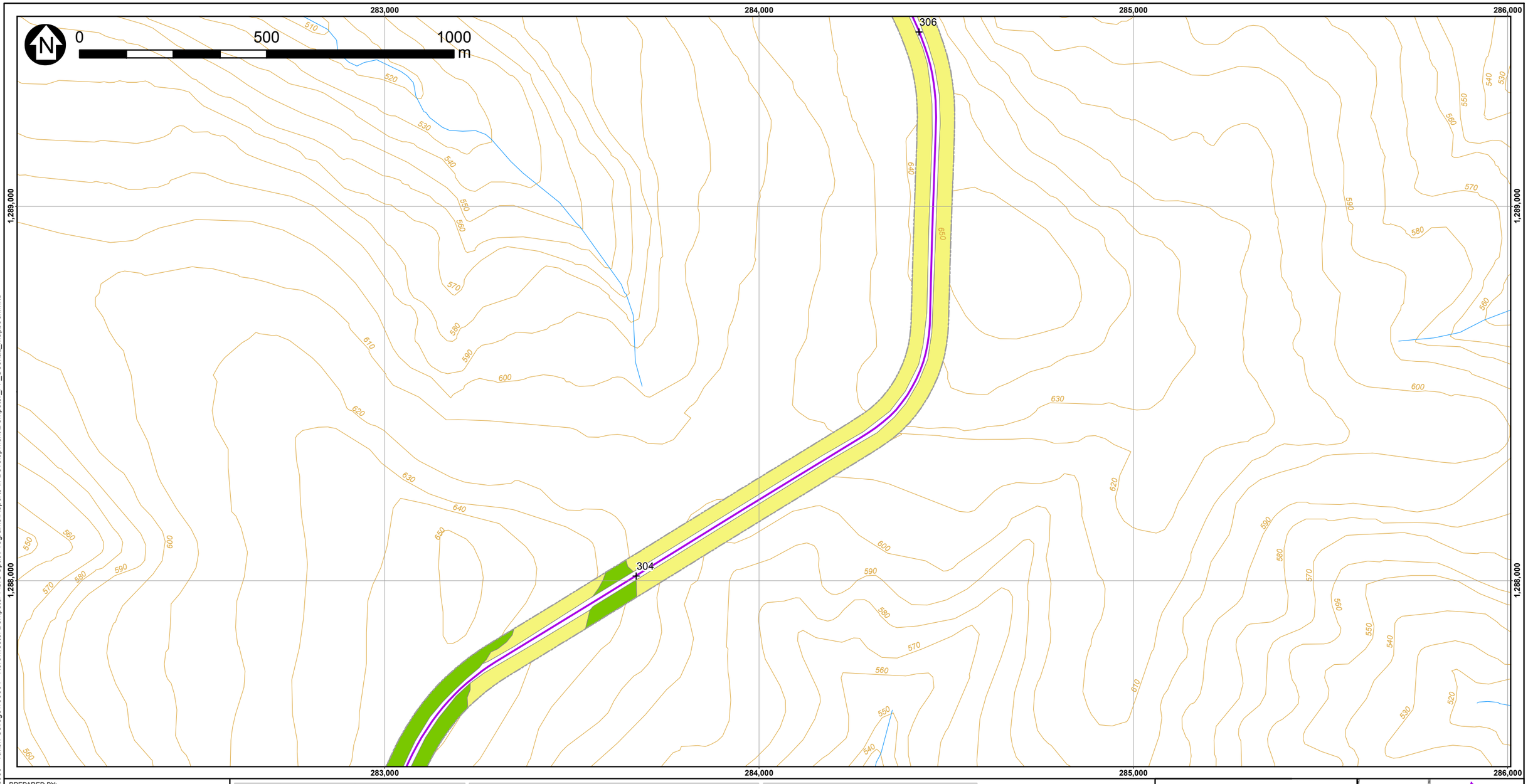


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SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
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| | Anthropogenic | |

**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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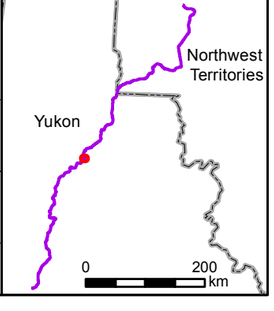
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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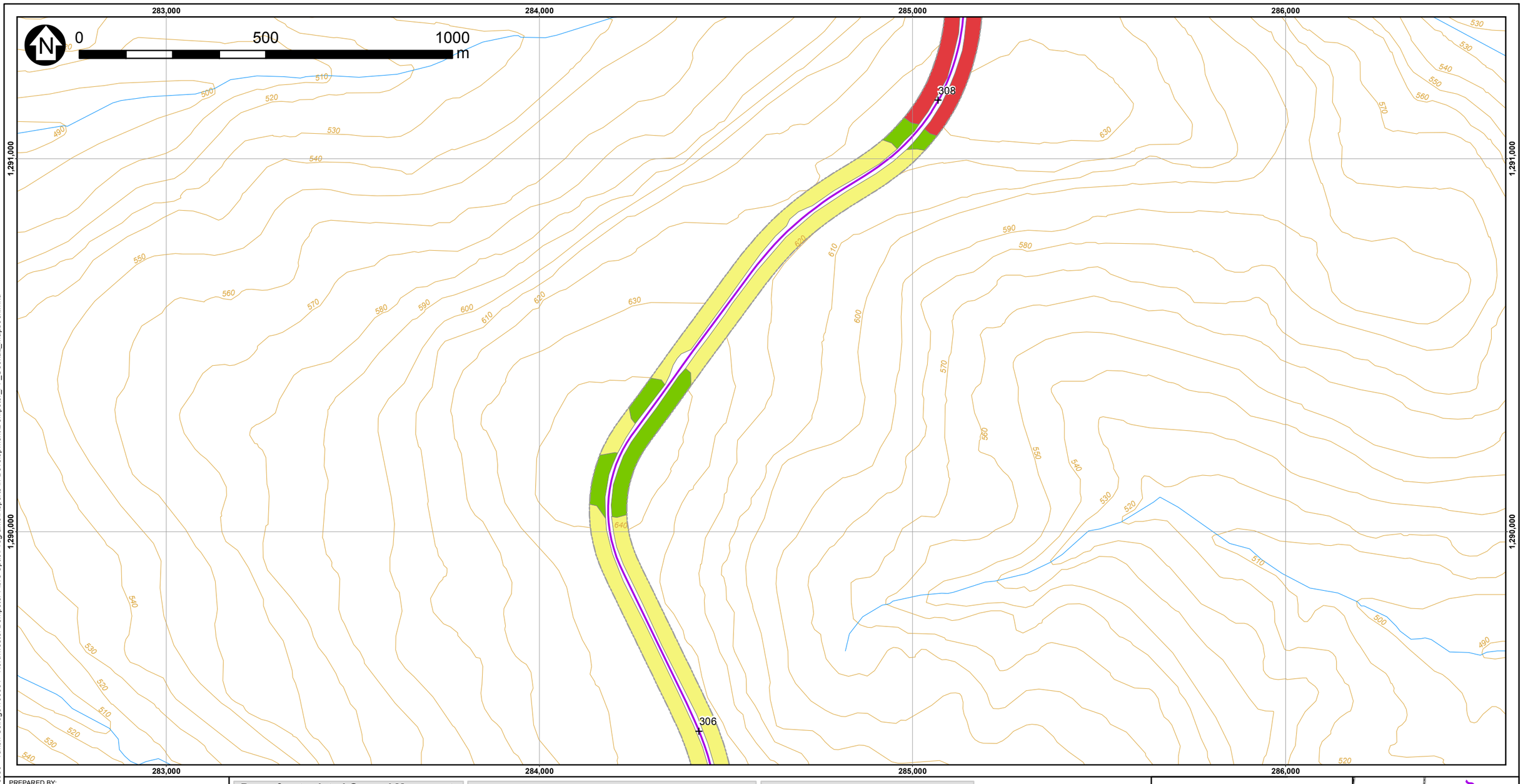


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| | |
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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
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Horizontal | Vertical | Both

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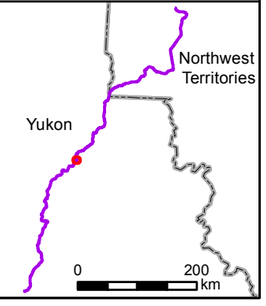


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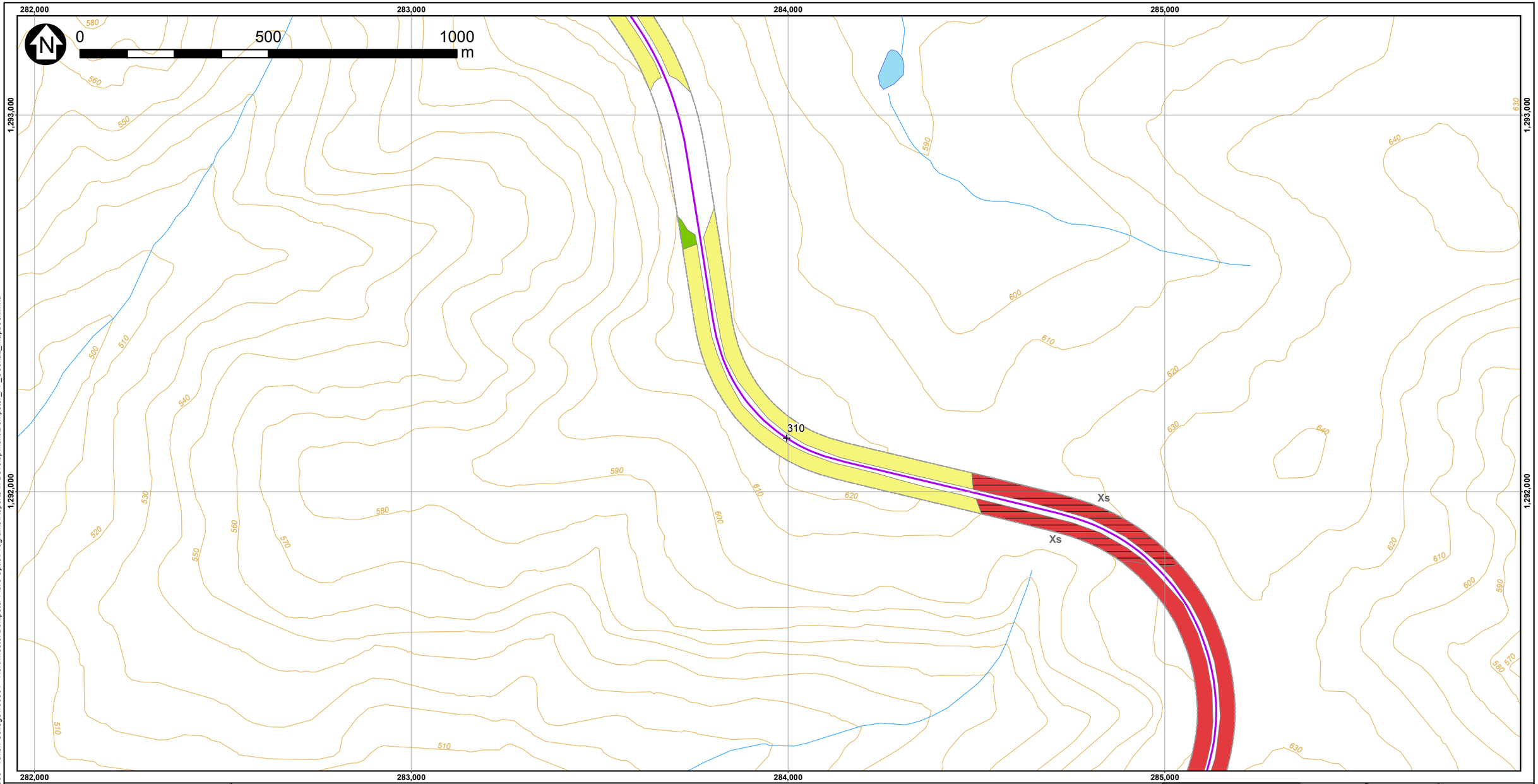


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Horizontal Vertical Both

PGMP Mapping Boundary
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Contour (m)
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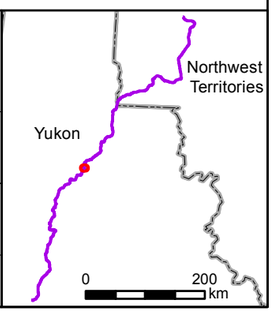

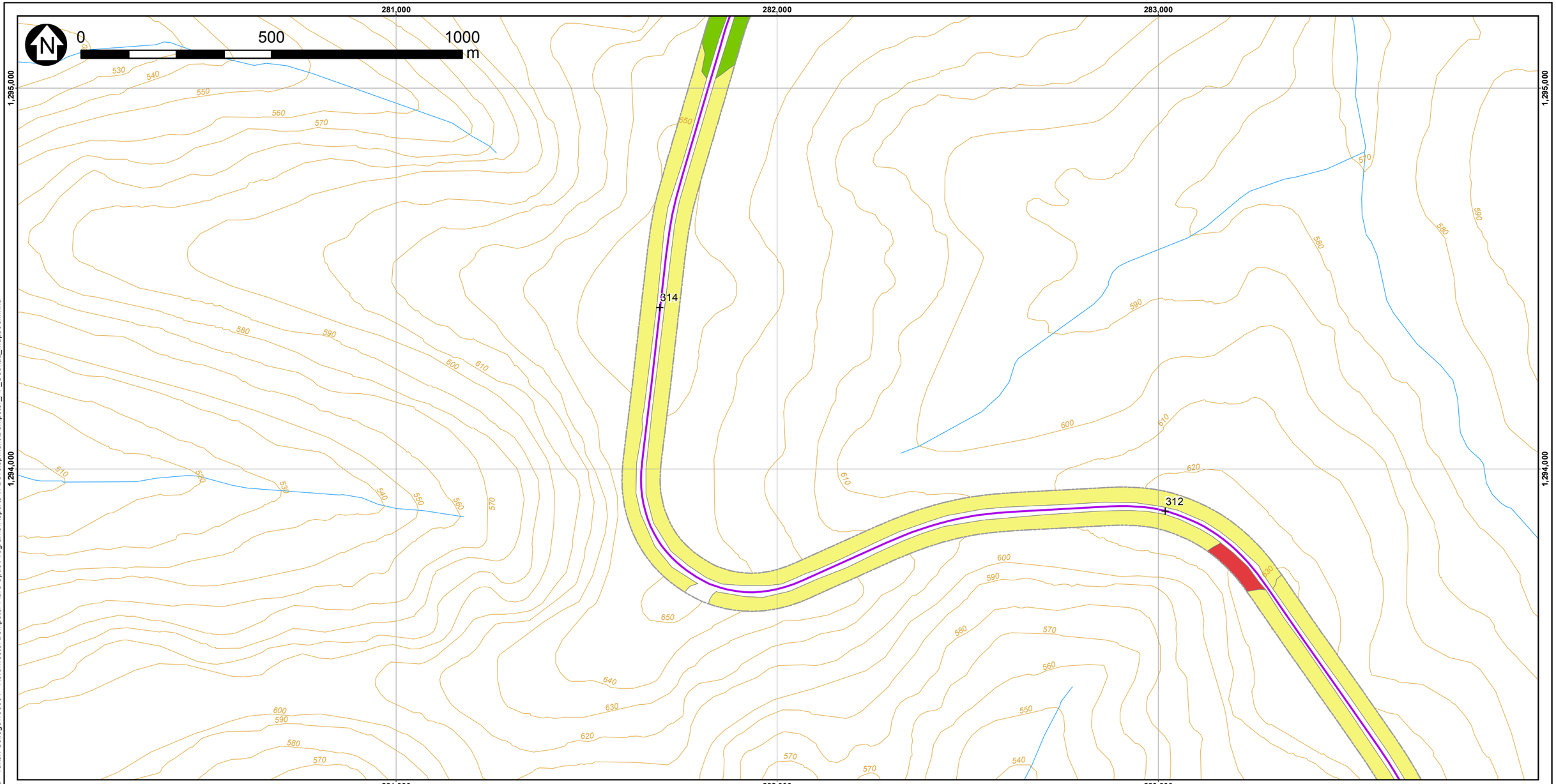


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## Potential Movement Direction

Horizontal | Vertical | Both

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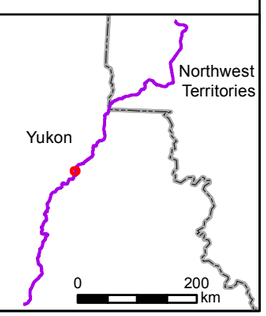
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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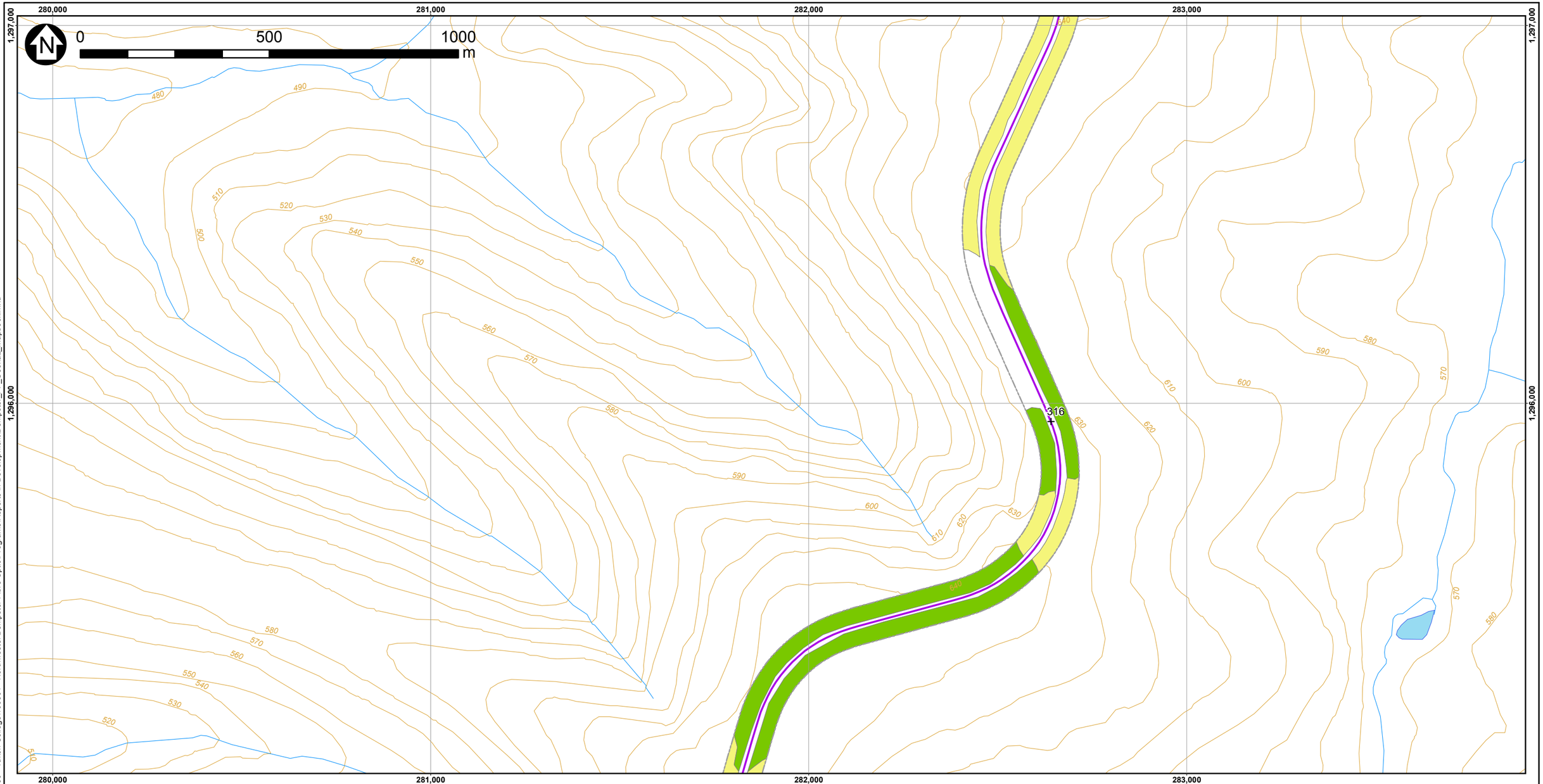


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# Dempster Highway Fibre Optic Line

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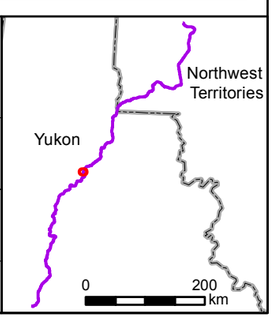

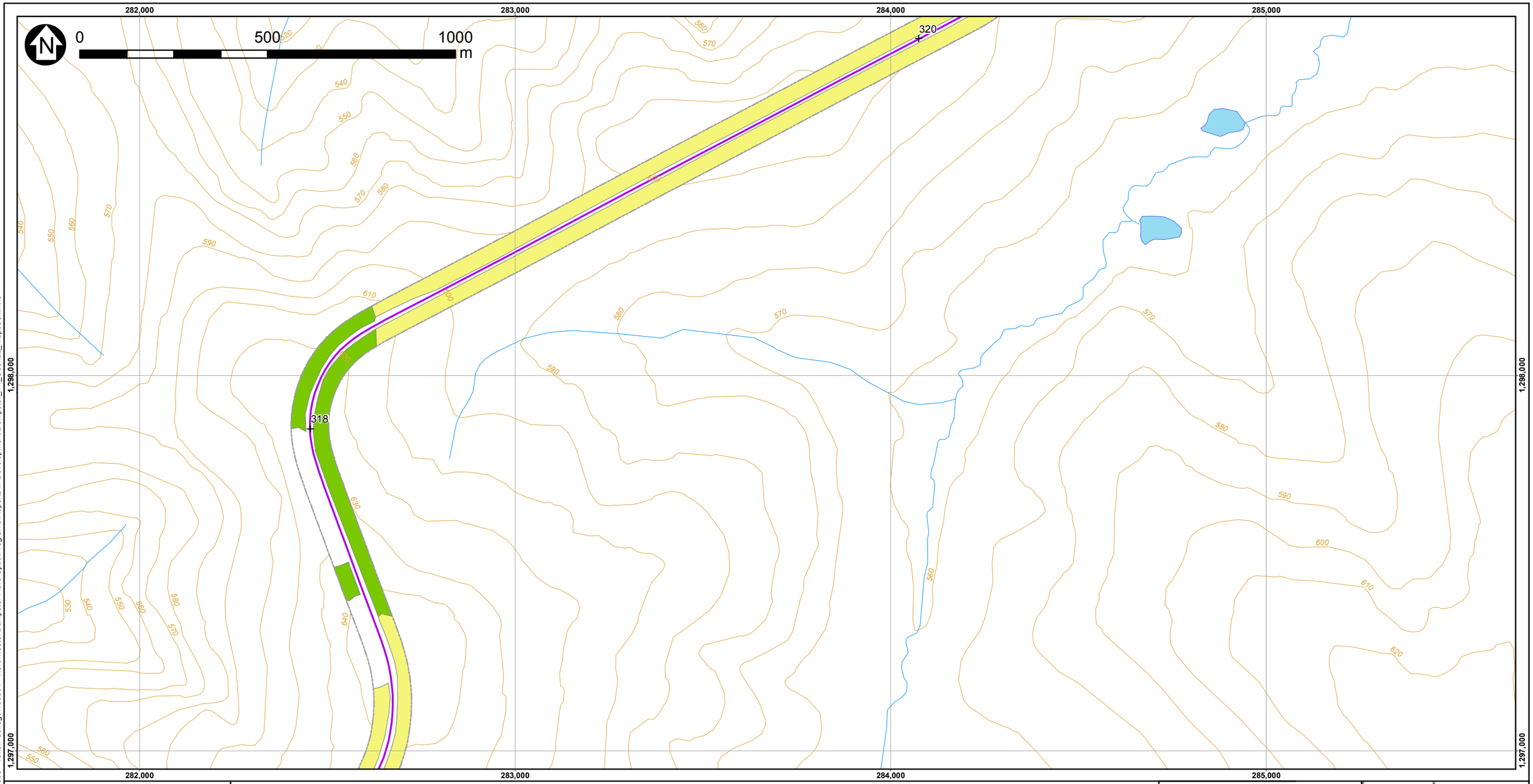


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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
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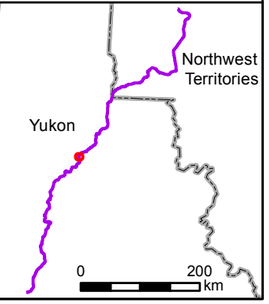
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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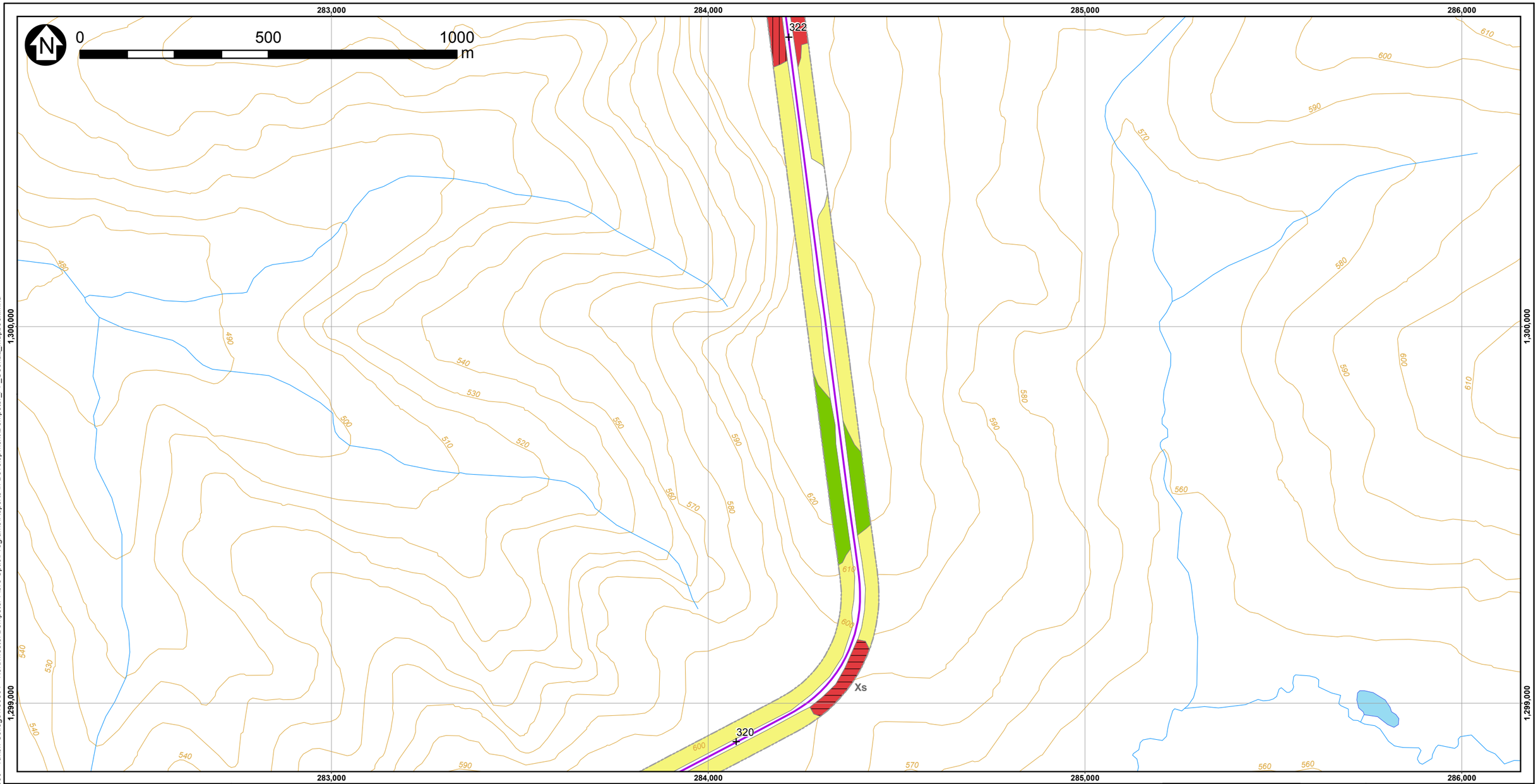


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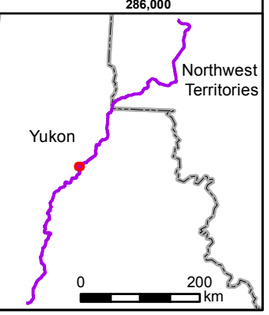

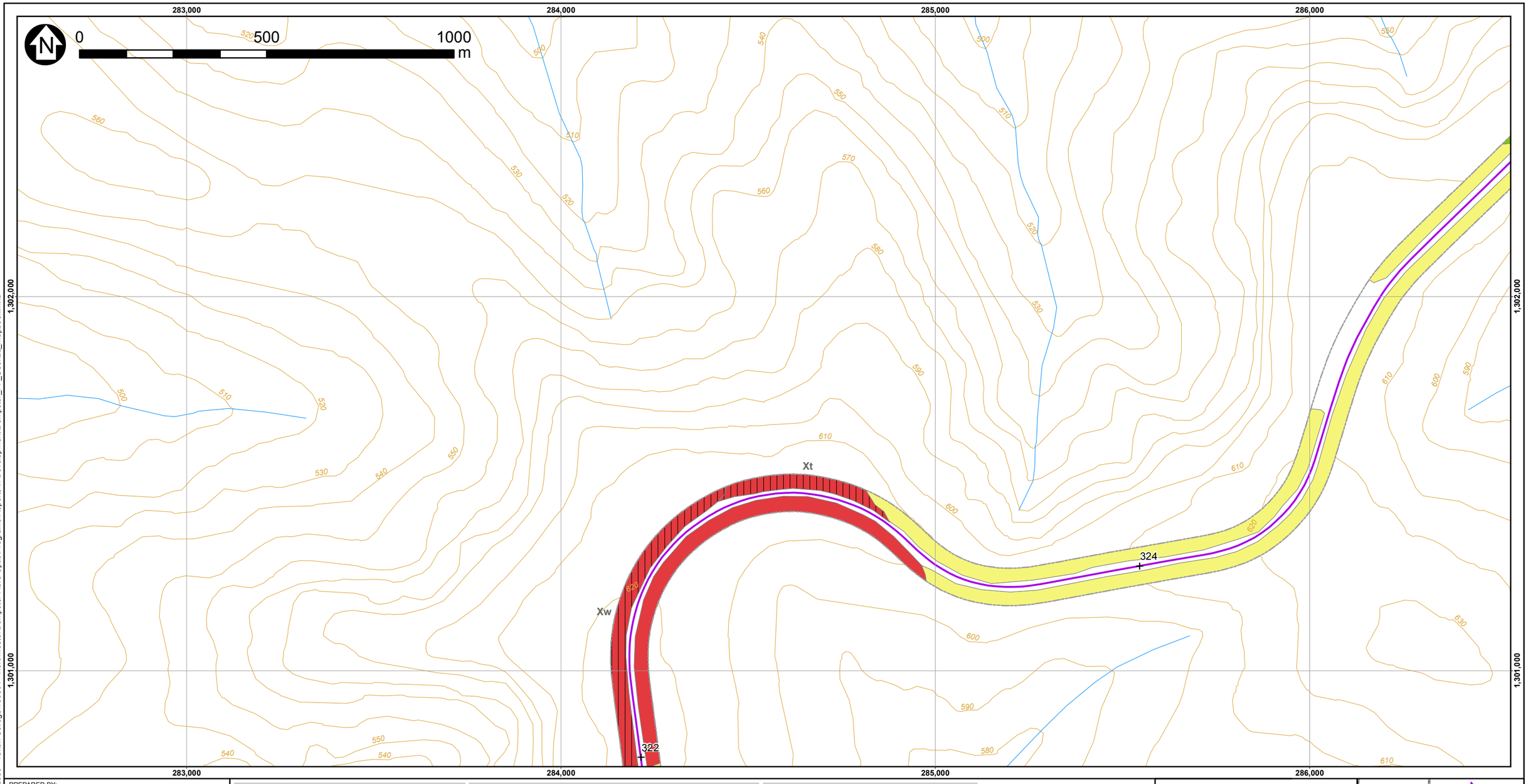


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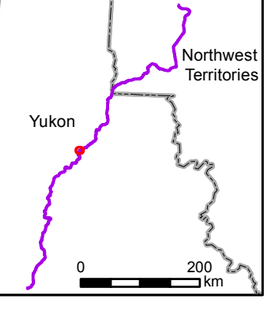
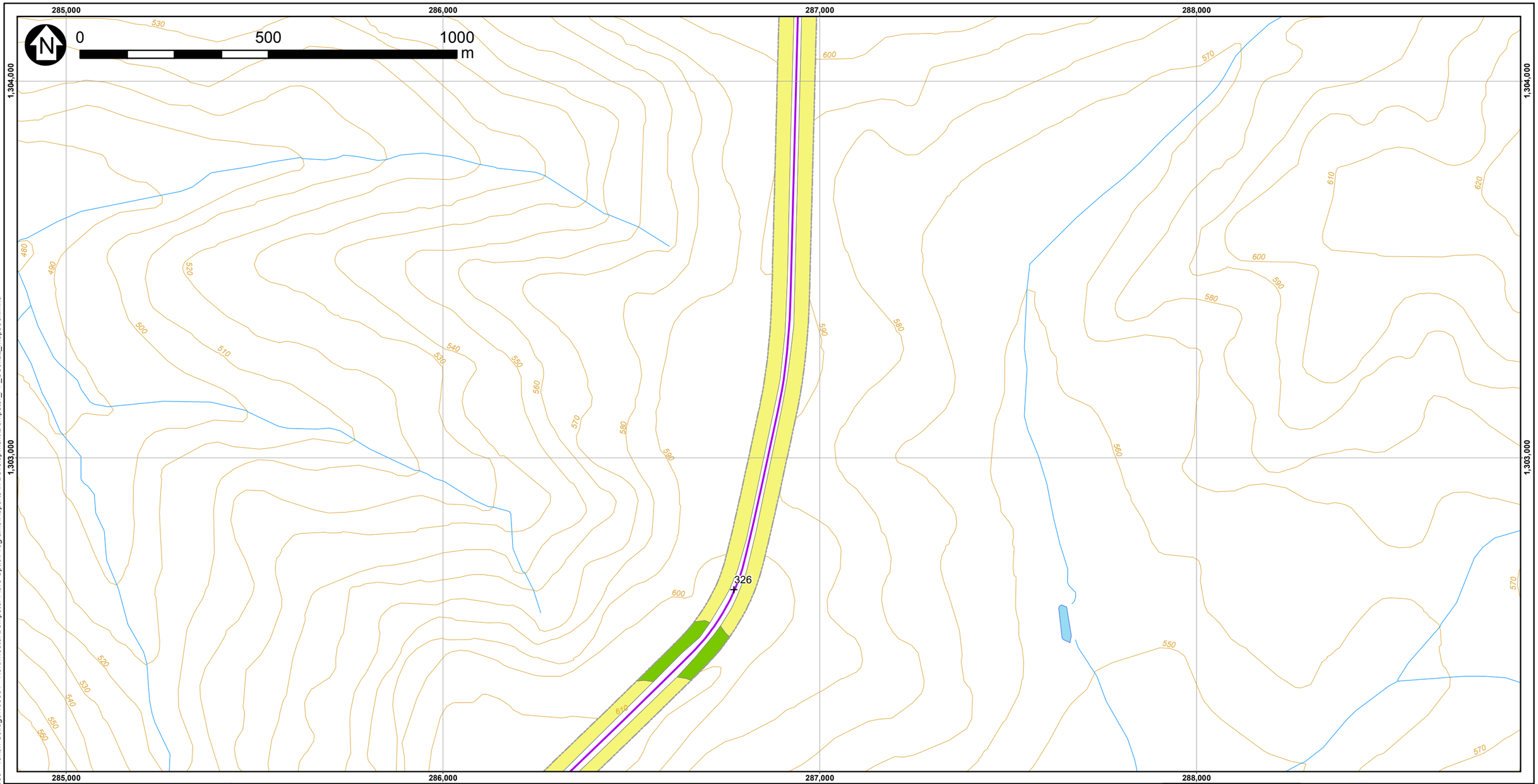
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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Northern Climate ExChange
YUKON RESEARCH CENTRE • Yukon College

| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
| | Anthropogenic | |

## Mass Movement Geohazard

- **DS** - Debris Slide
- **DS (ALD)** - Debris Slide (Active Layer Detachment)
- **RTS** - Retrogressive Thaw Slump
- **RF** - Rockfall
- **DF** - Debris Flow
- **TKs** - Thermokarst Subsidence (active, >1 m relief)
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## Periglacial Process/Feature

- **Xs** - Slopewash
- **Xe** - Thermal Erosion
- **Xp** - Palsa
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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
1. Only existing/imminent mass movement geohazards with potential to impact the highway embankments or ditch are considered. Other hazards may exist that are not identified.
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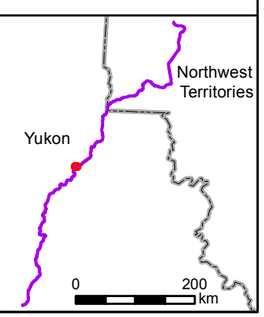

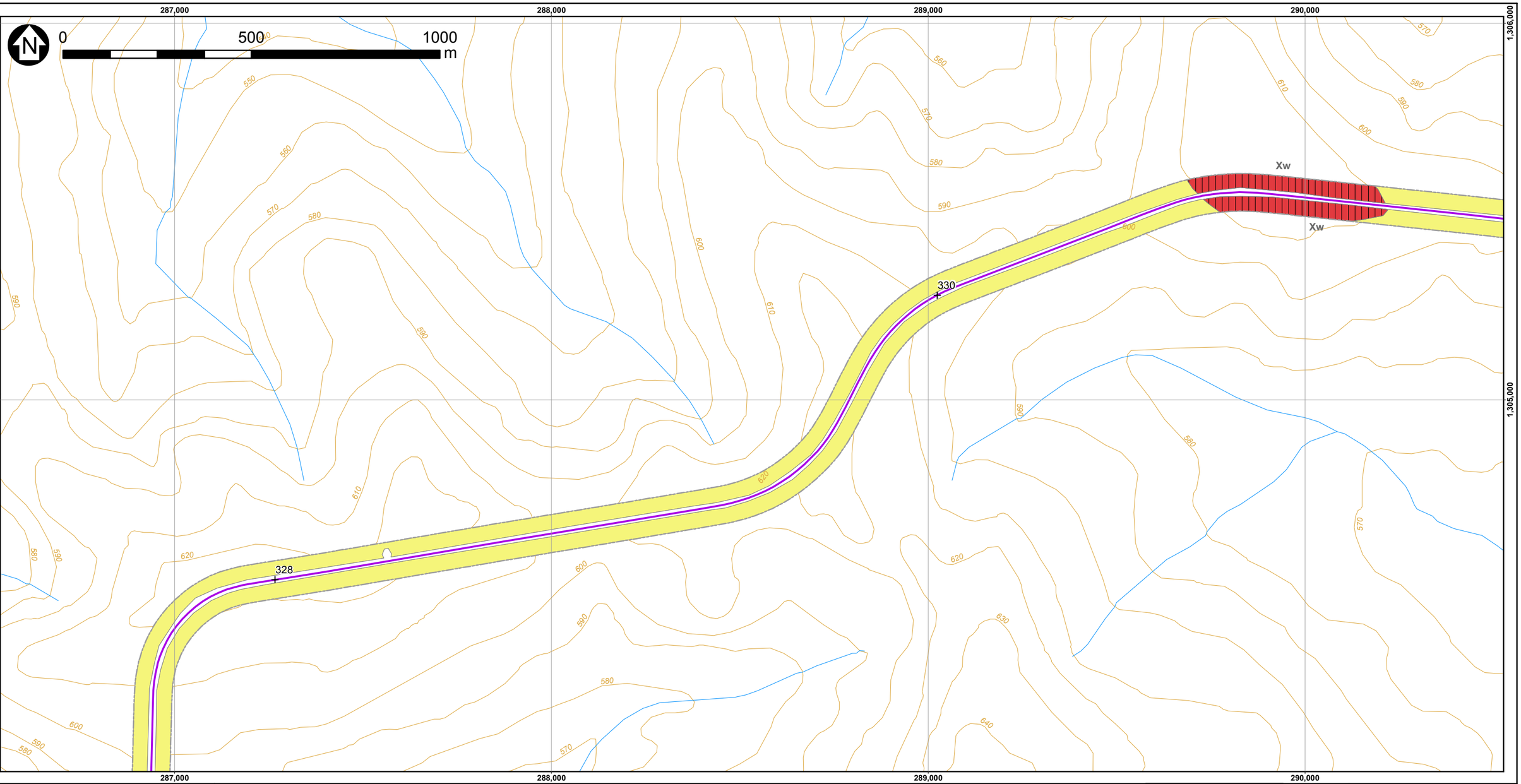


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| | | |
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| | | | |
|---|---|---|---|
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**Potential Movement Direction**

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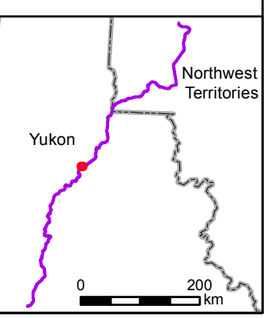

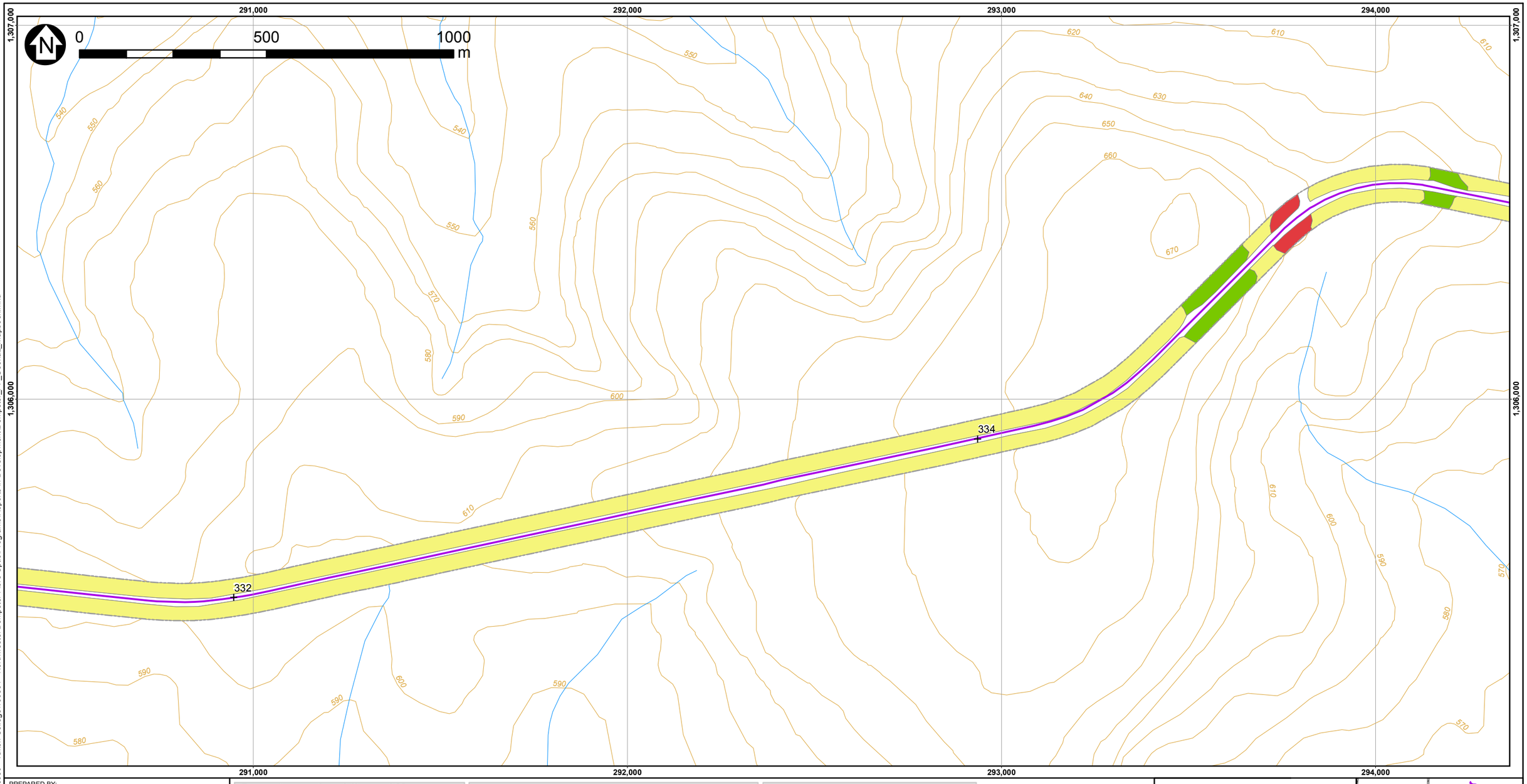


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Horizontal | Vertical | Both

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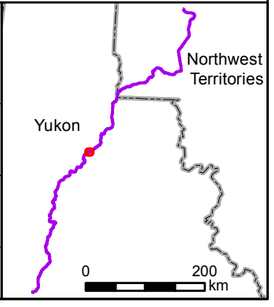


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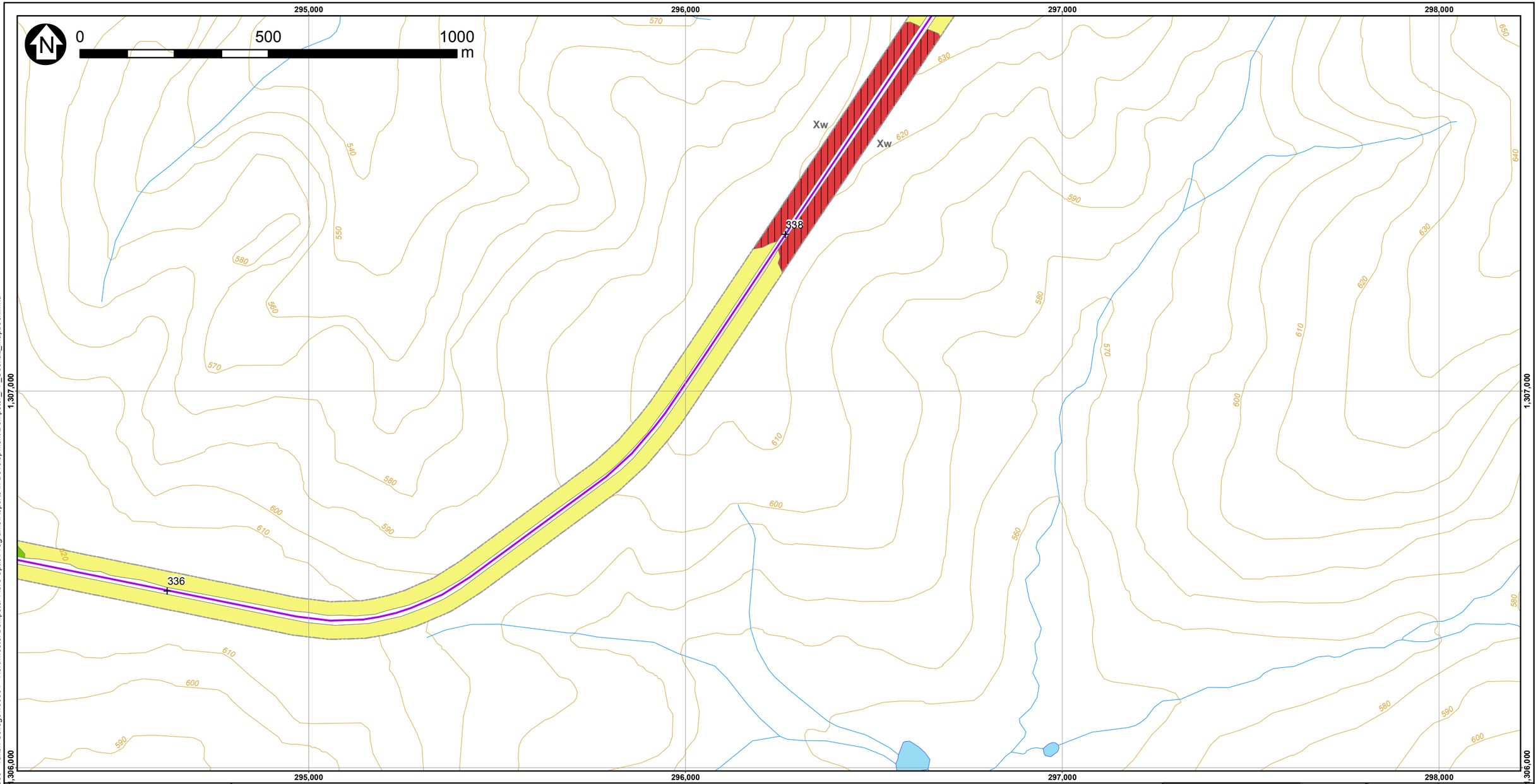


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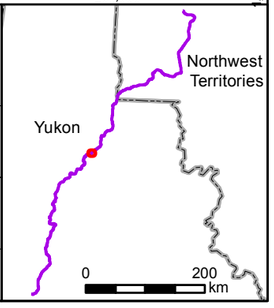


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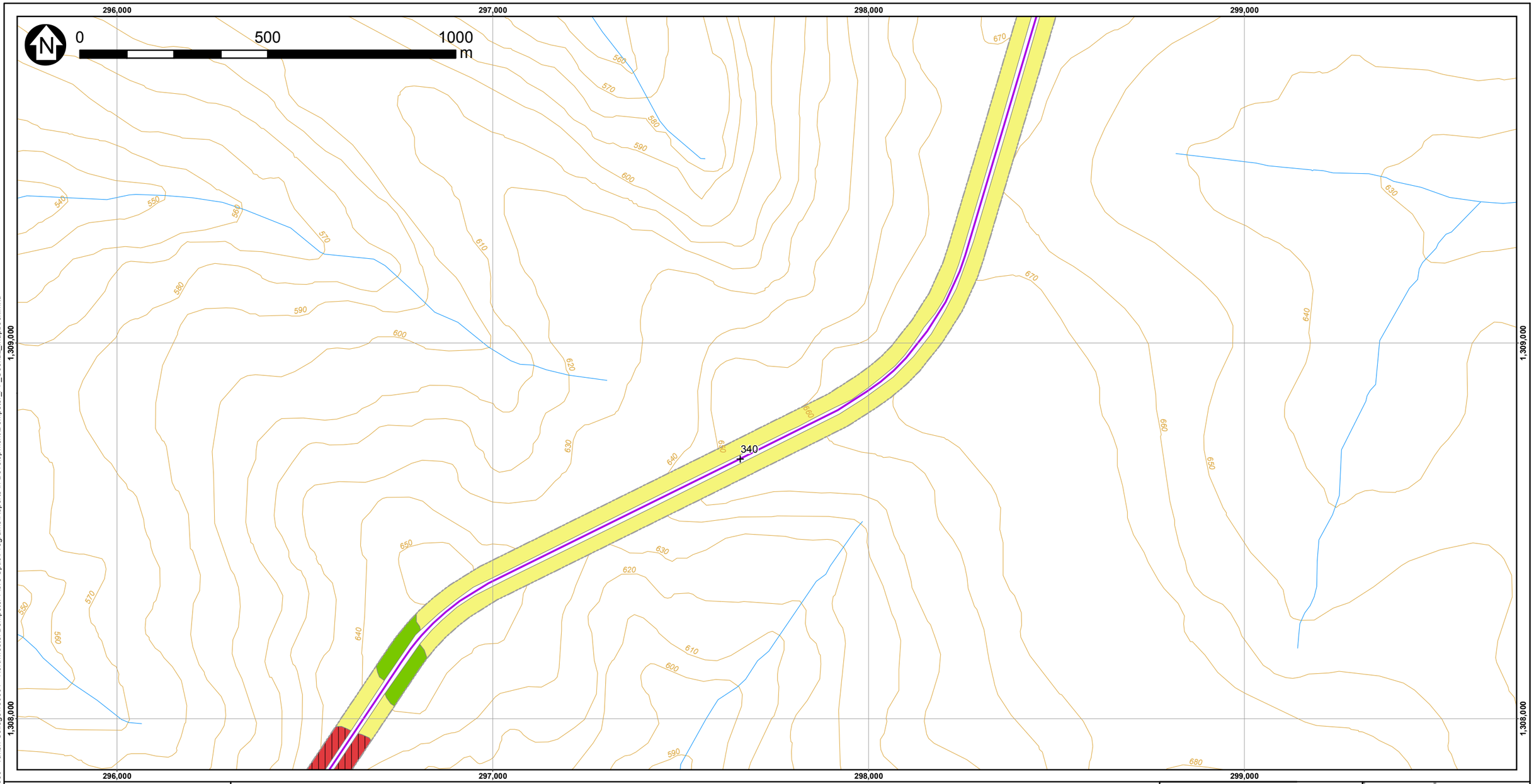


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**Potential Movement Direction**

Horizontal | Vertical | Both

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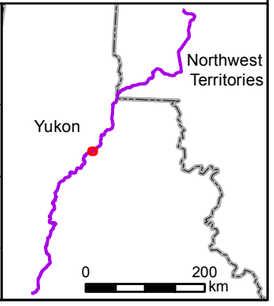

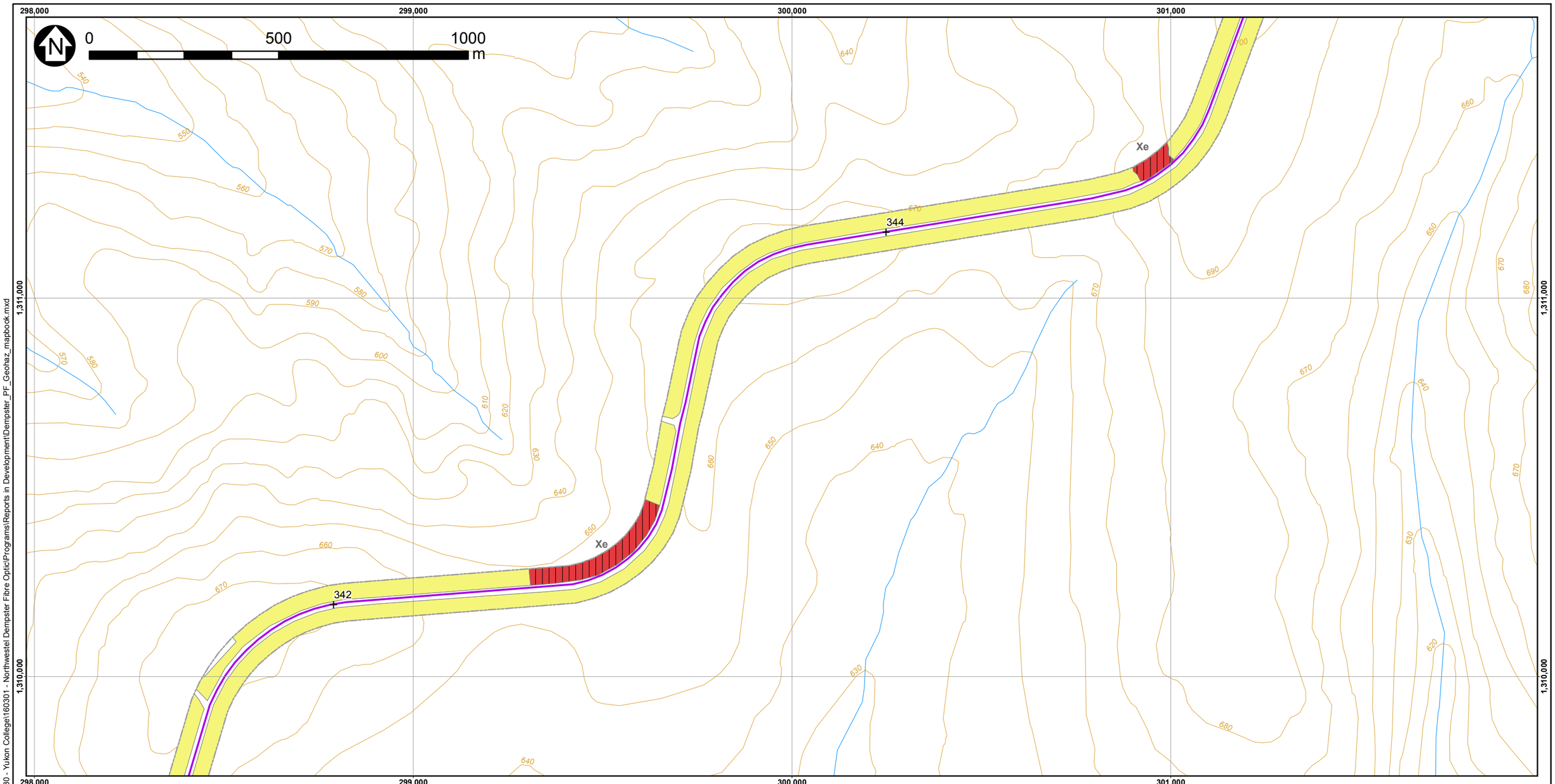


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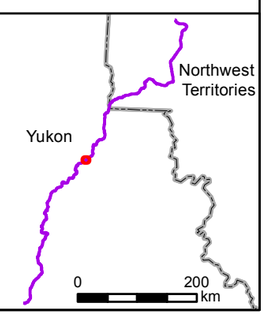

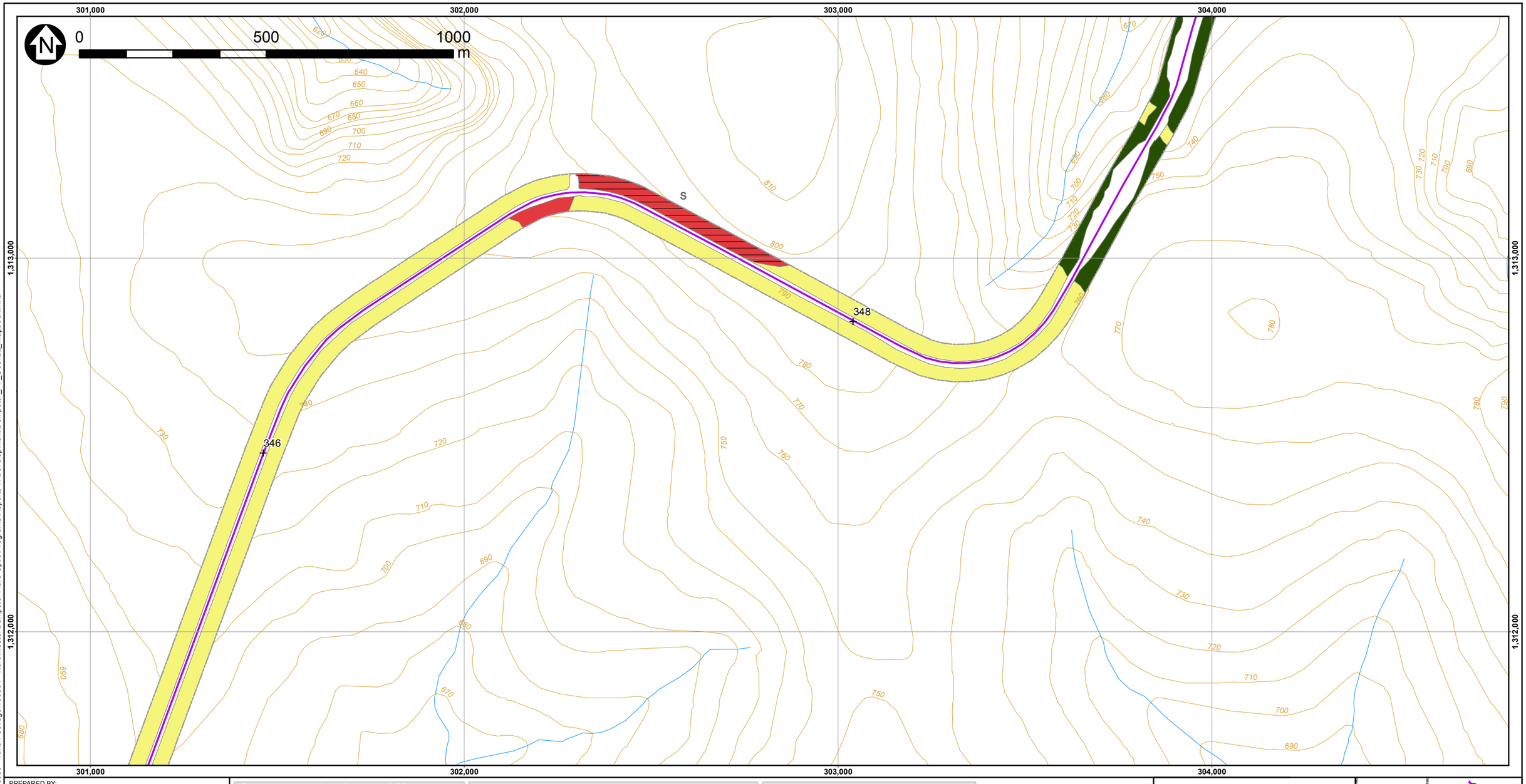


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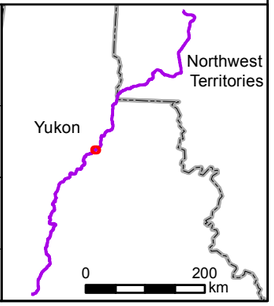


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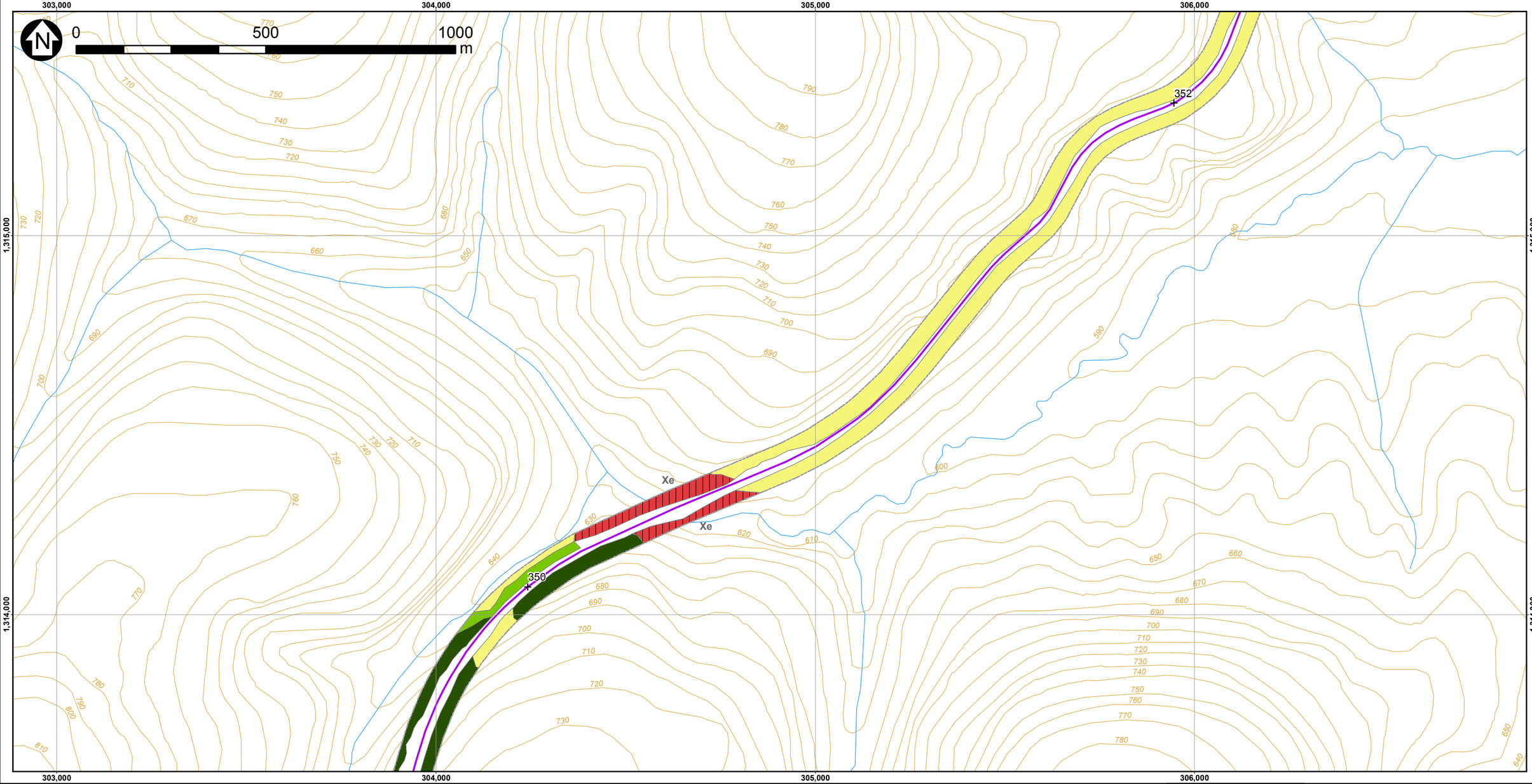


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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
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- Watercourse

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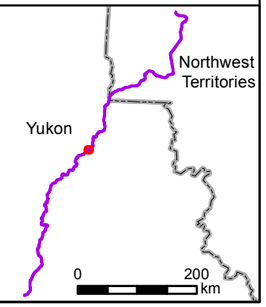
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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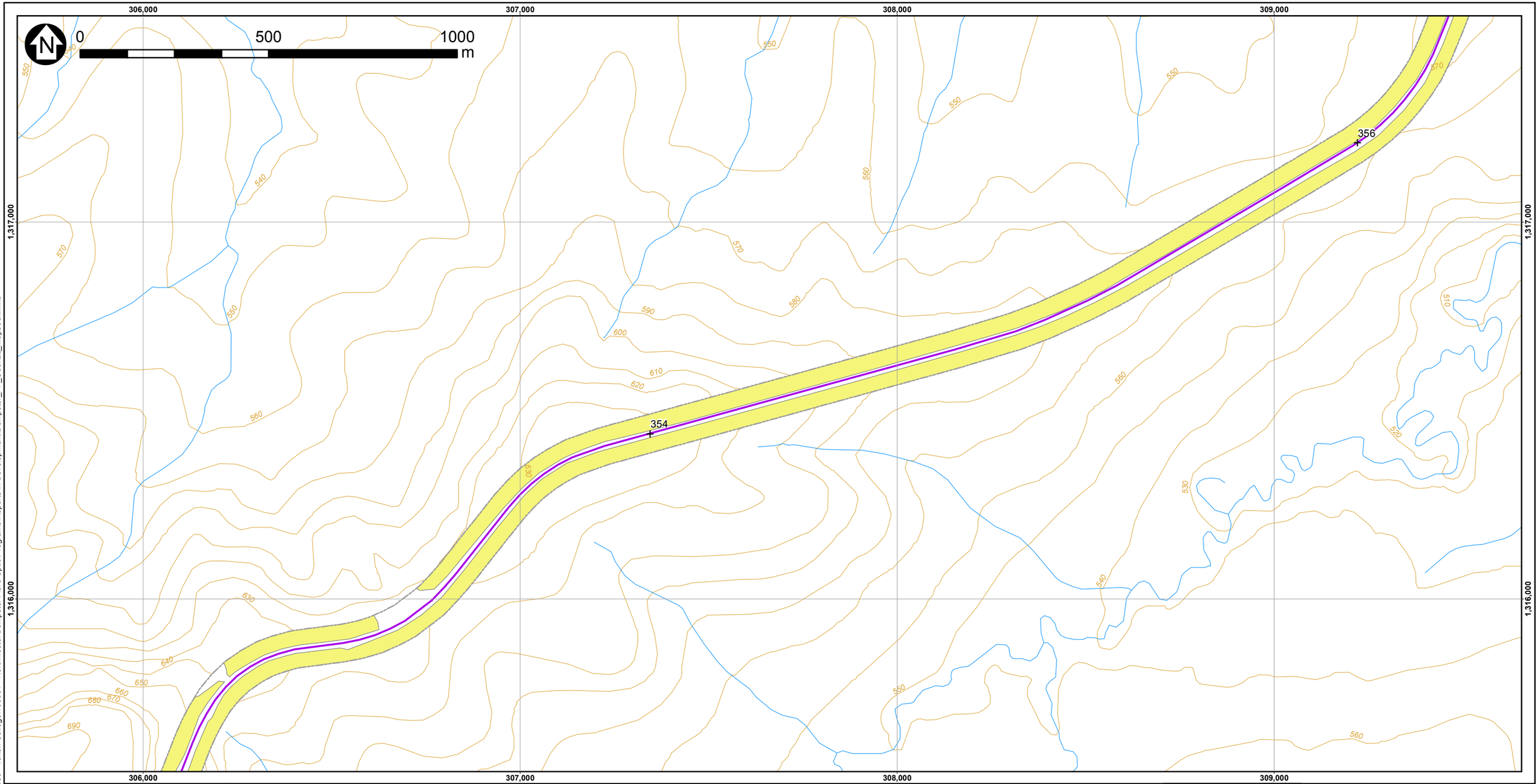


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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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Horizontal  Vertical  Both

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LEDCOR GROUP  NorthwesTel

# Dempster Highway Fibre Optic Line

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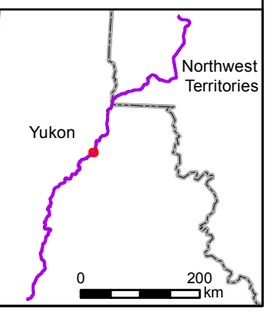


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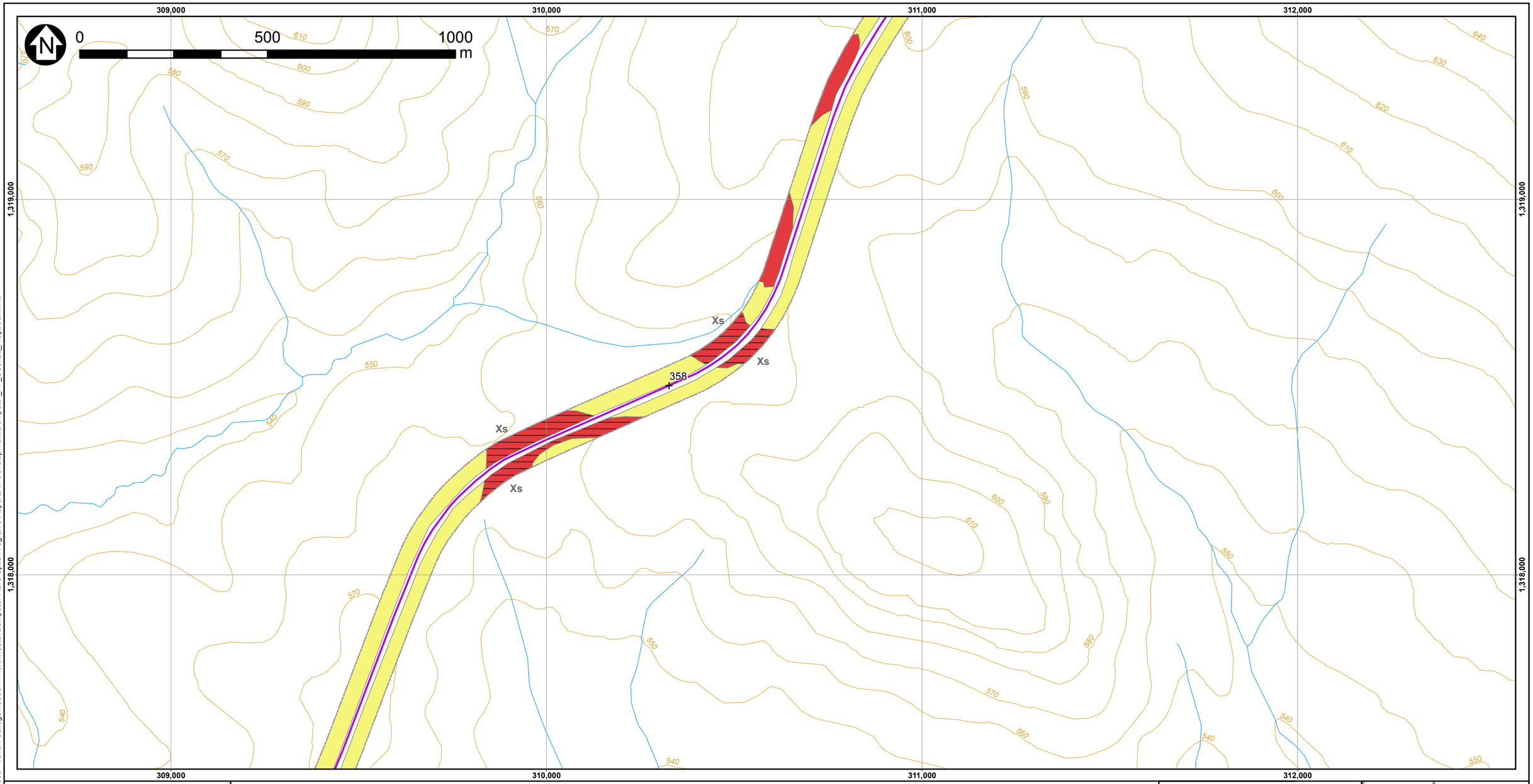


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
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**Dempster Highway Fibre Optic Line**

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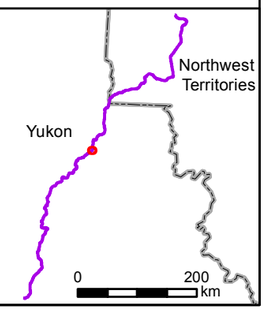


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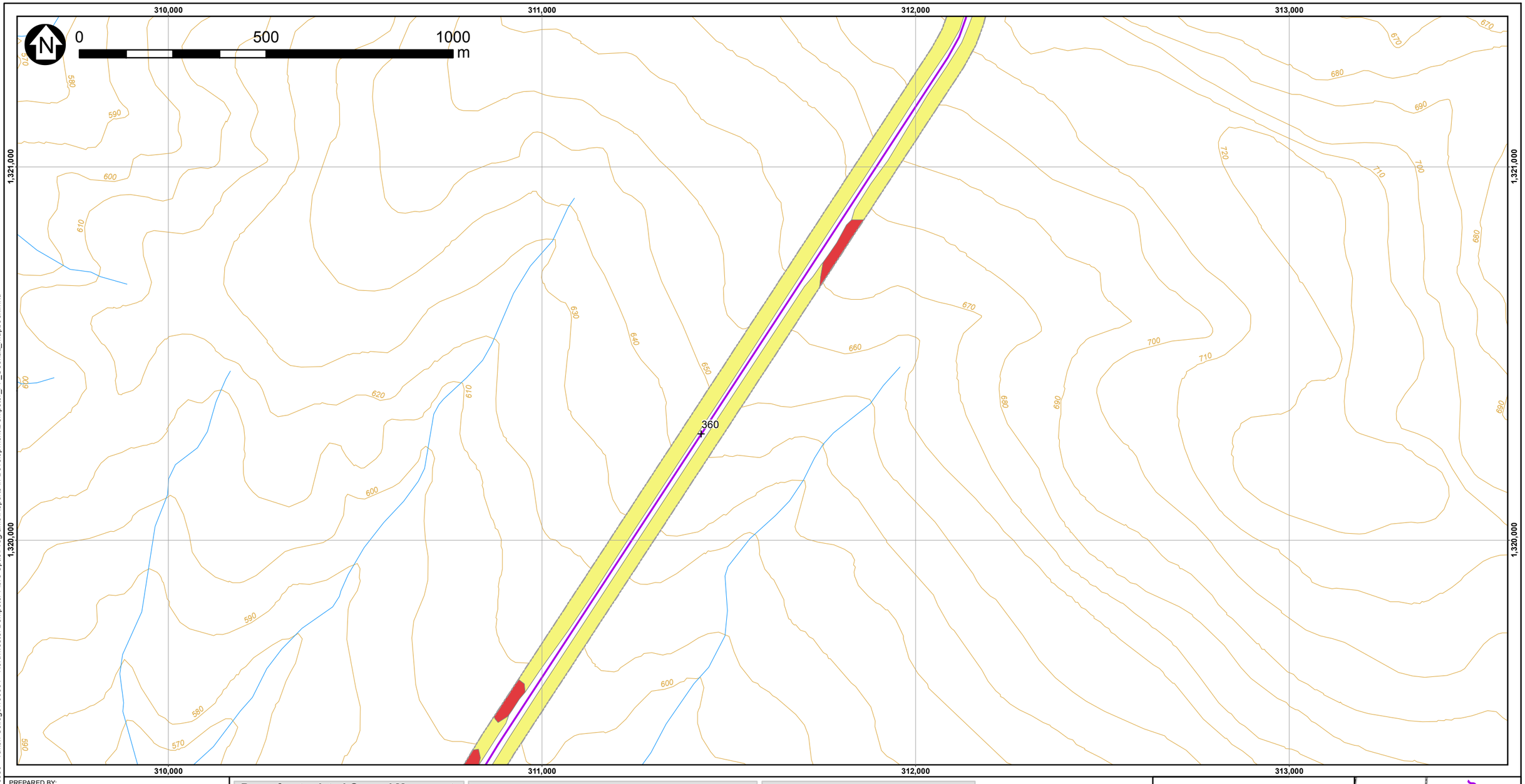


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Horizontal | Vertical | Both

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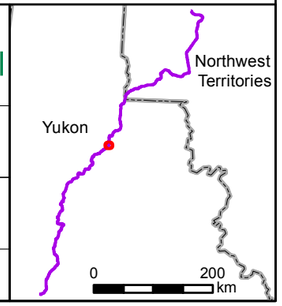
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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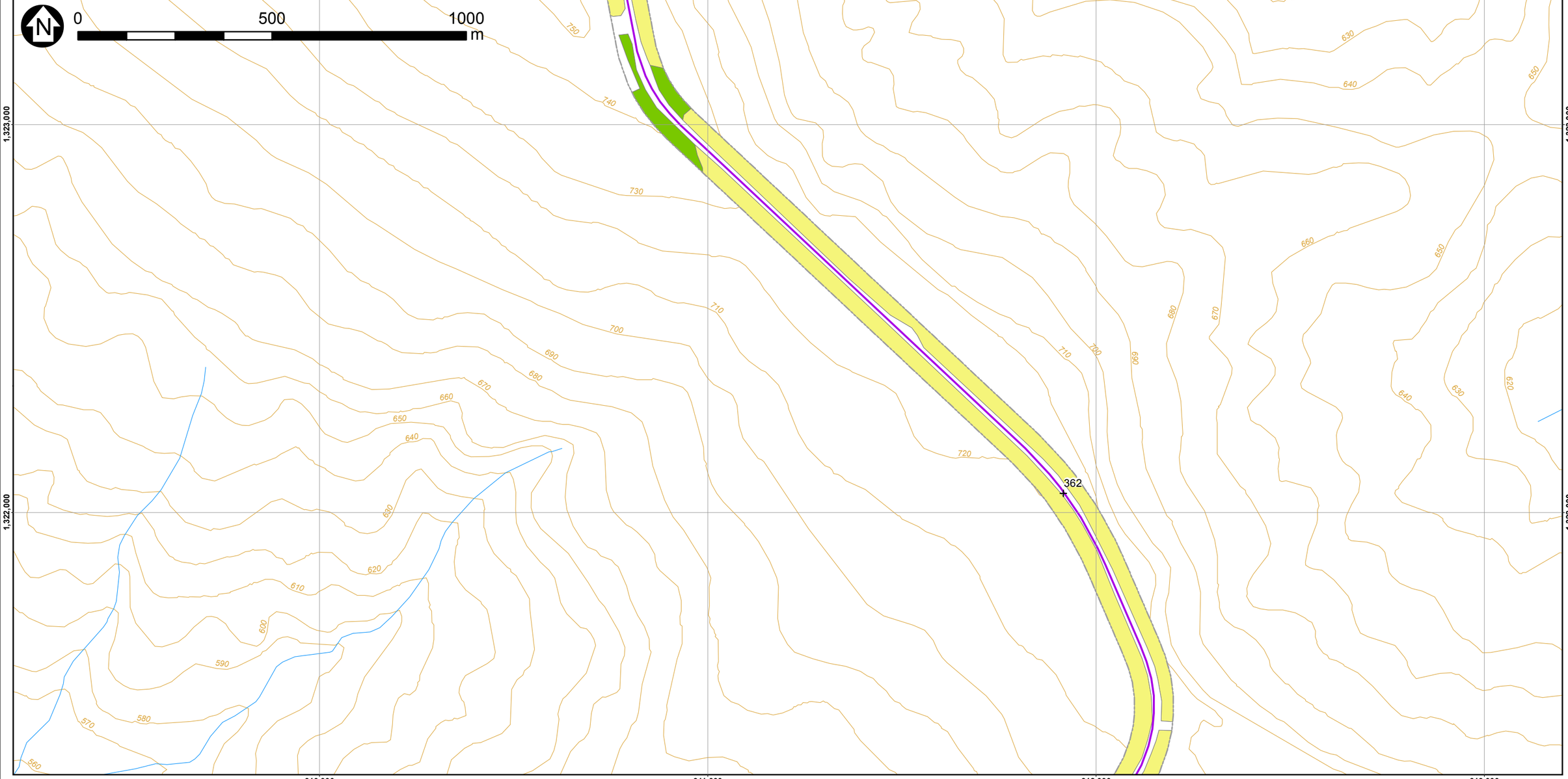


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Horizontal | Vertical | Both

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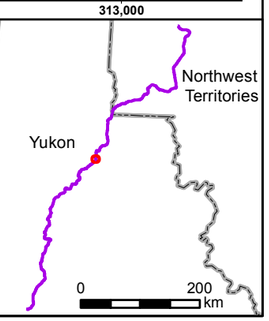


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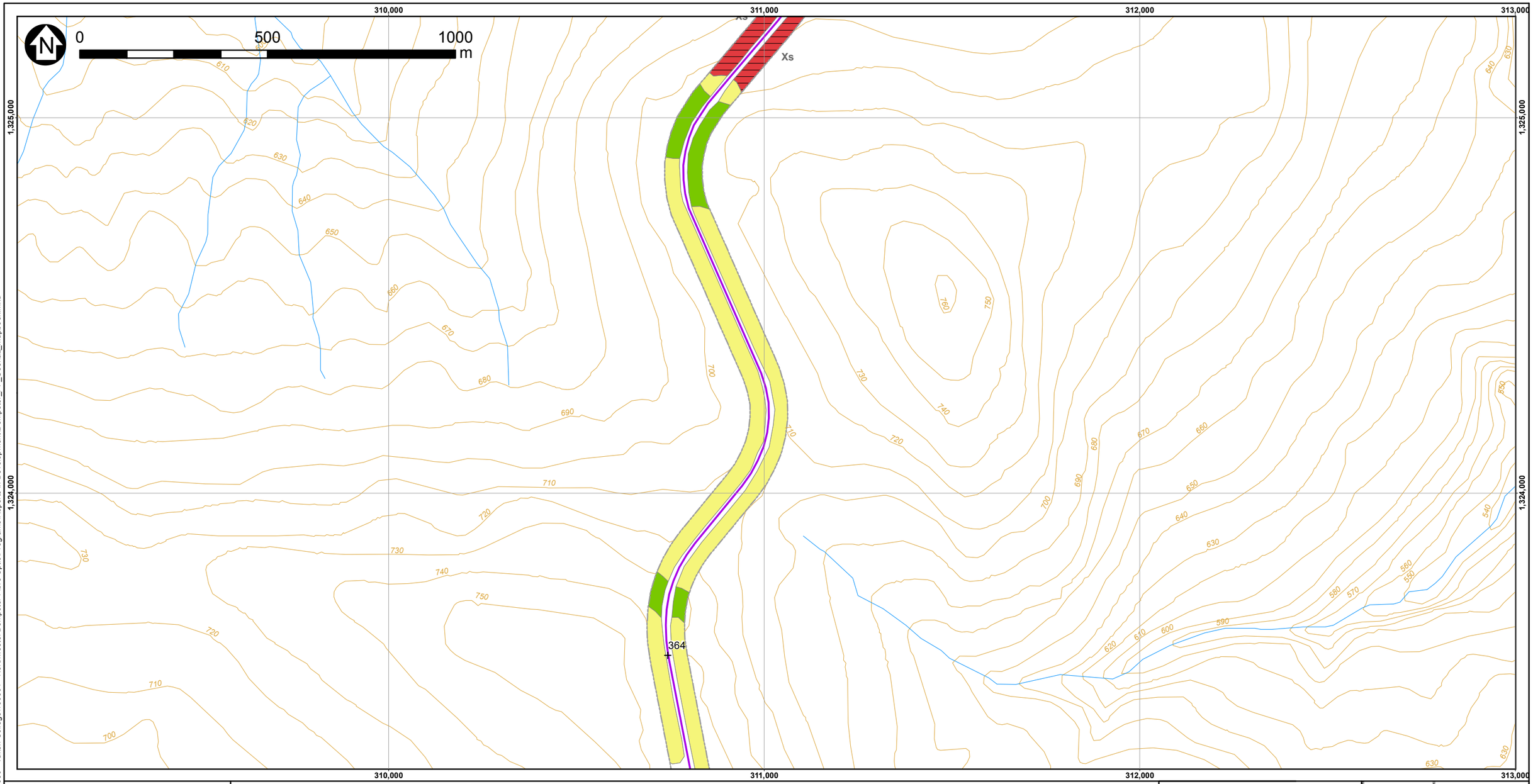


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Horizontal | Vertical | Both

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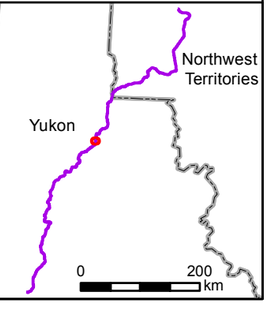


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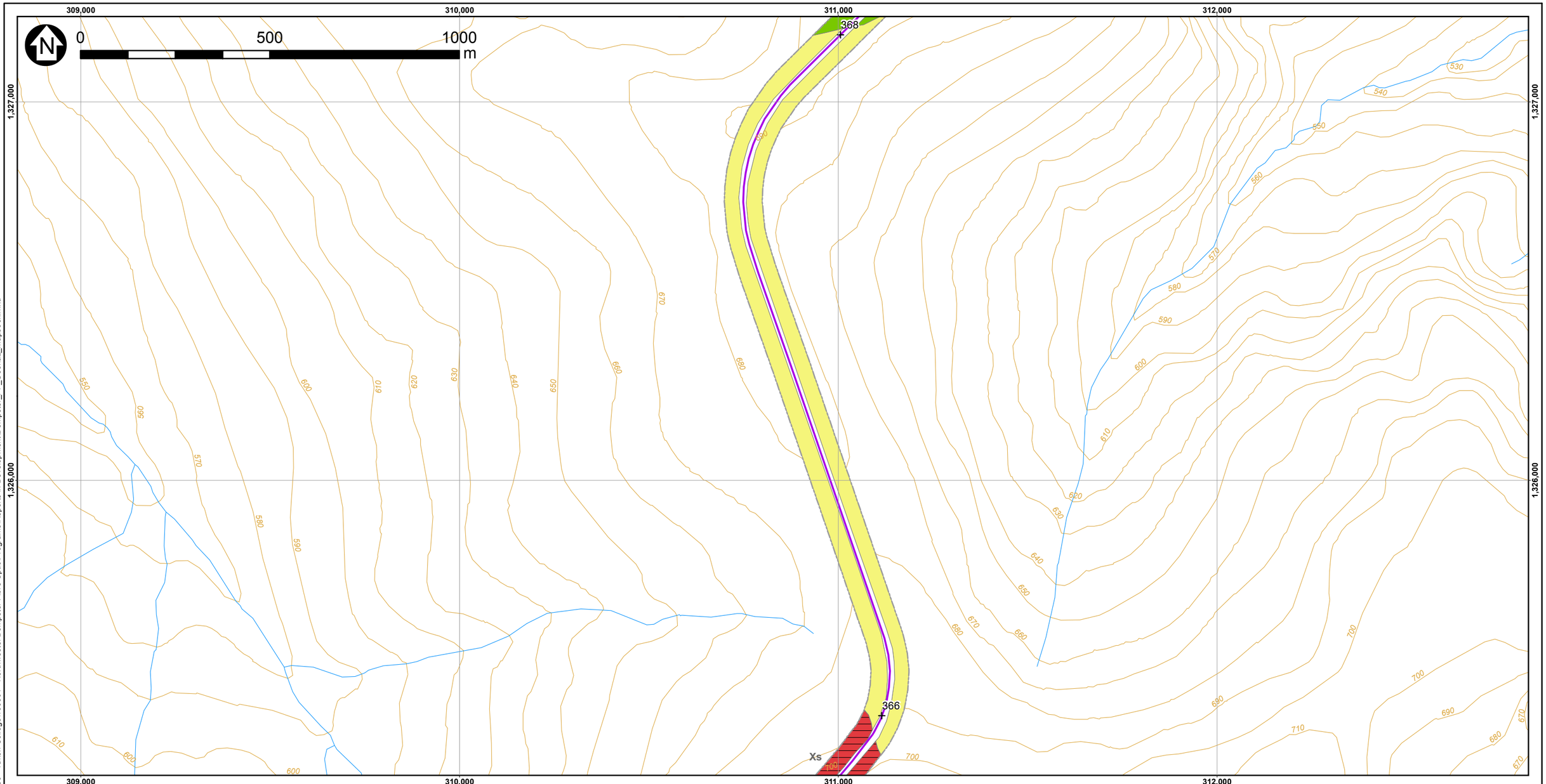


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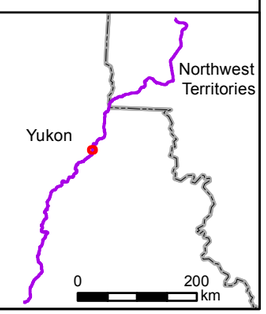

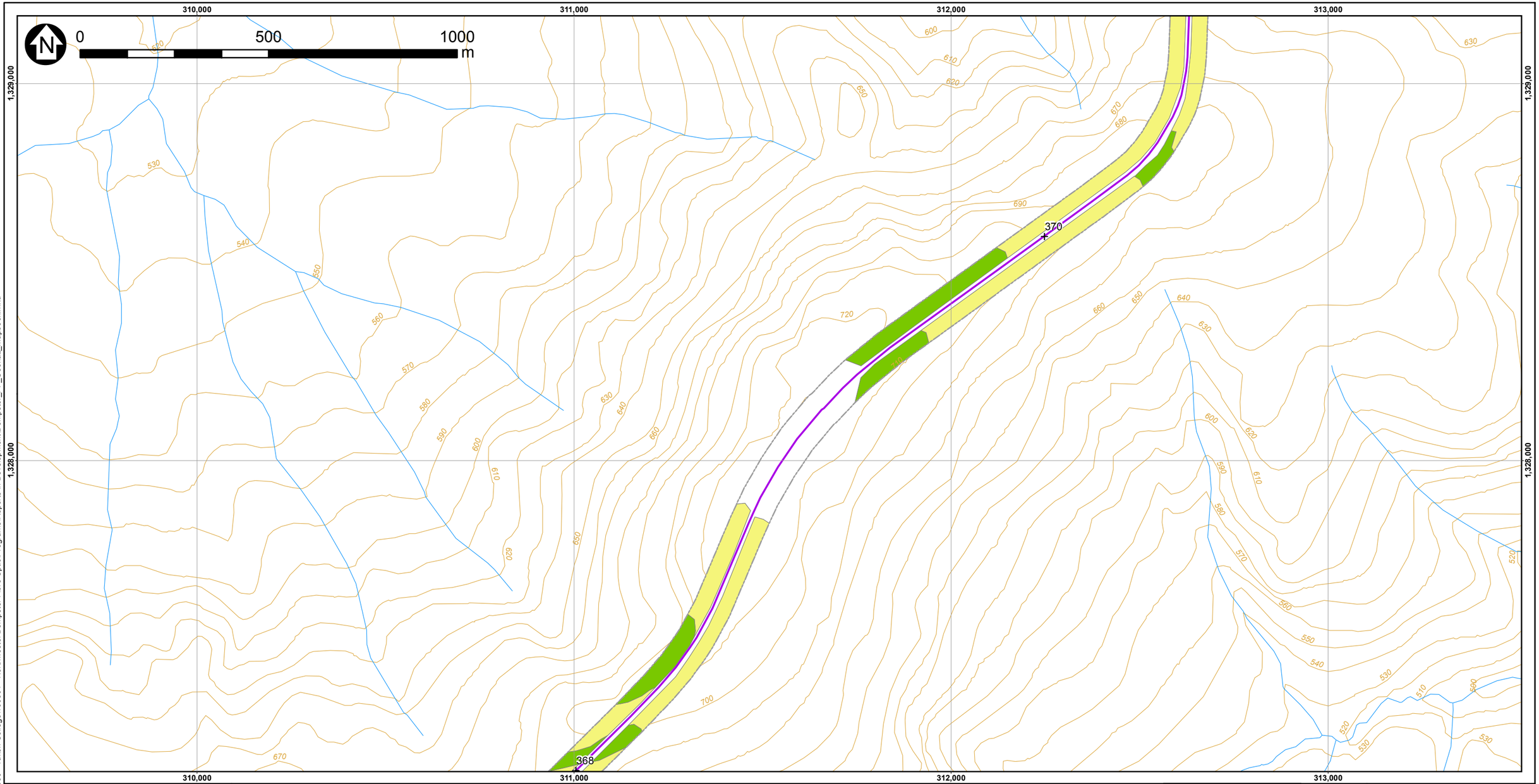


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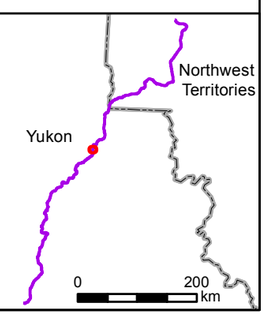


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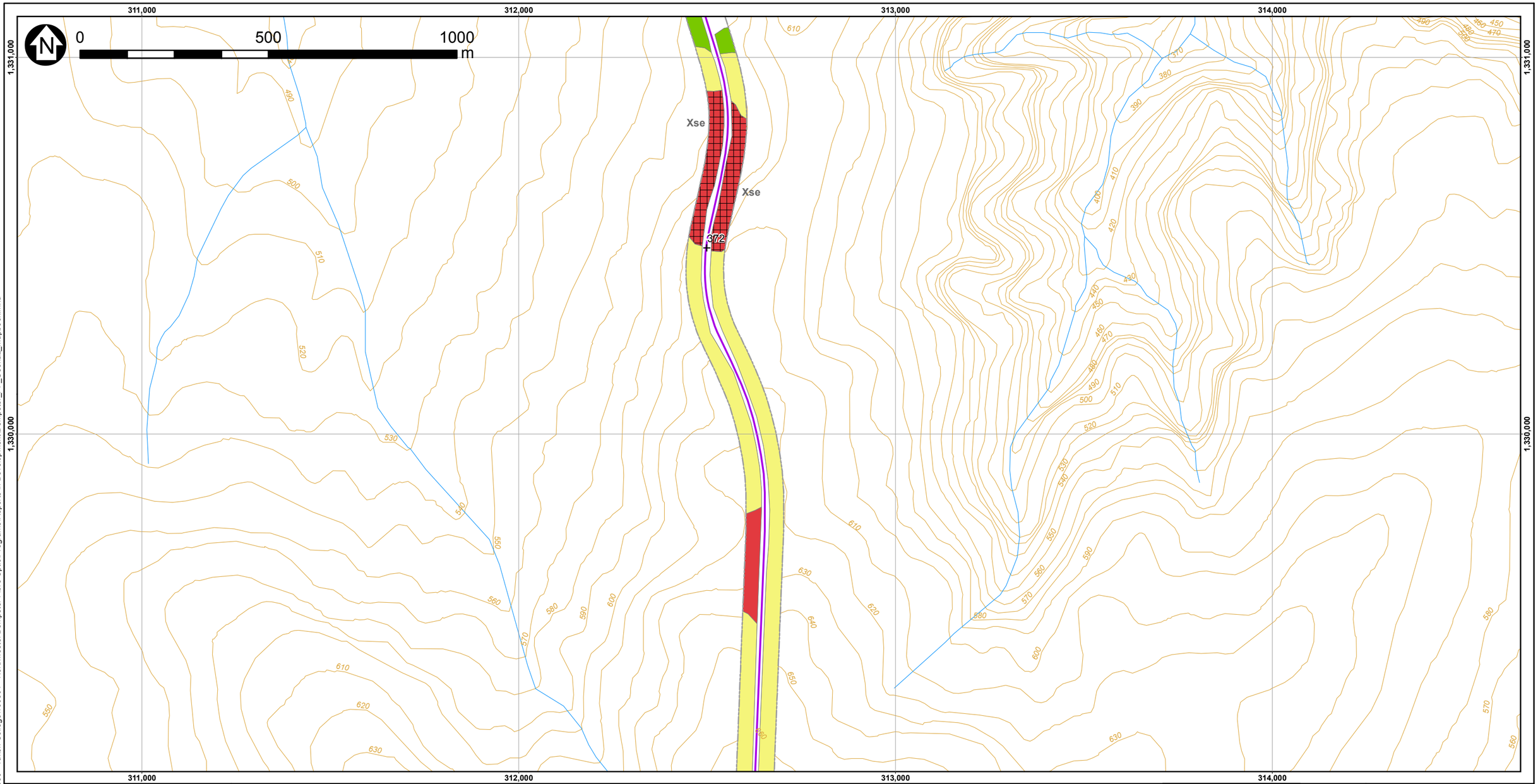


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ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
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| | Low | Thin |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
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**Map Notes:**
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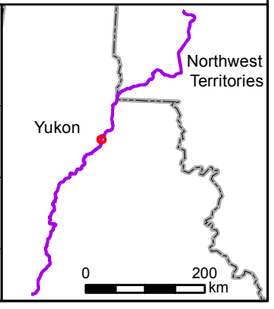
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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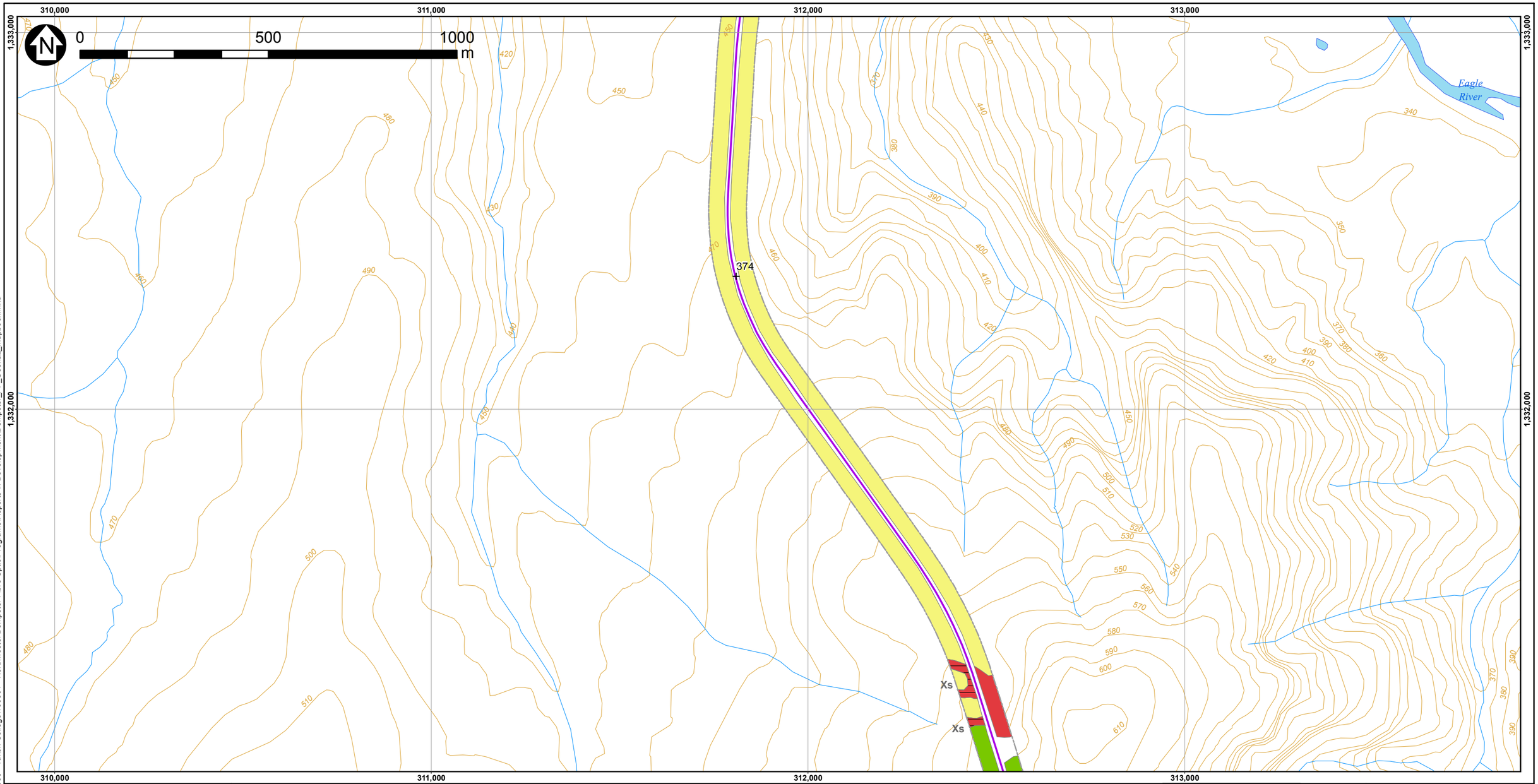


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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
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BASE MAP: http://geogratis.gc.ca/
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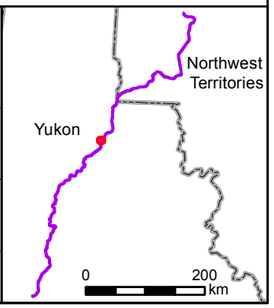


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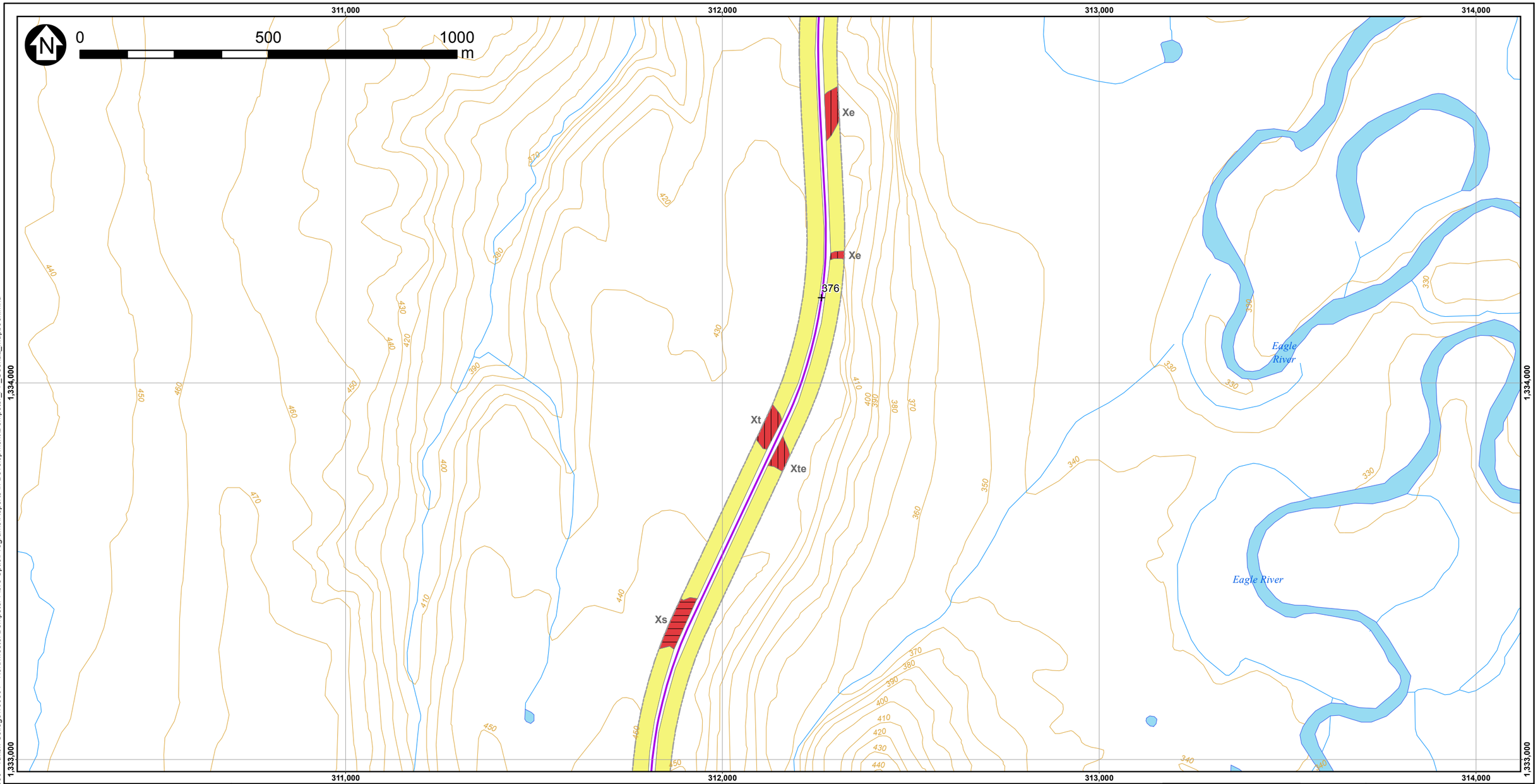


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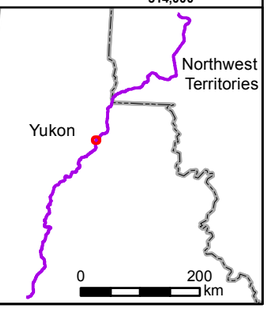

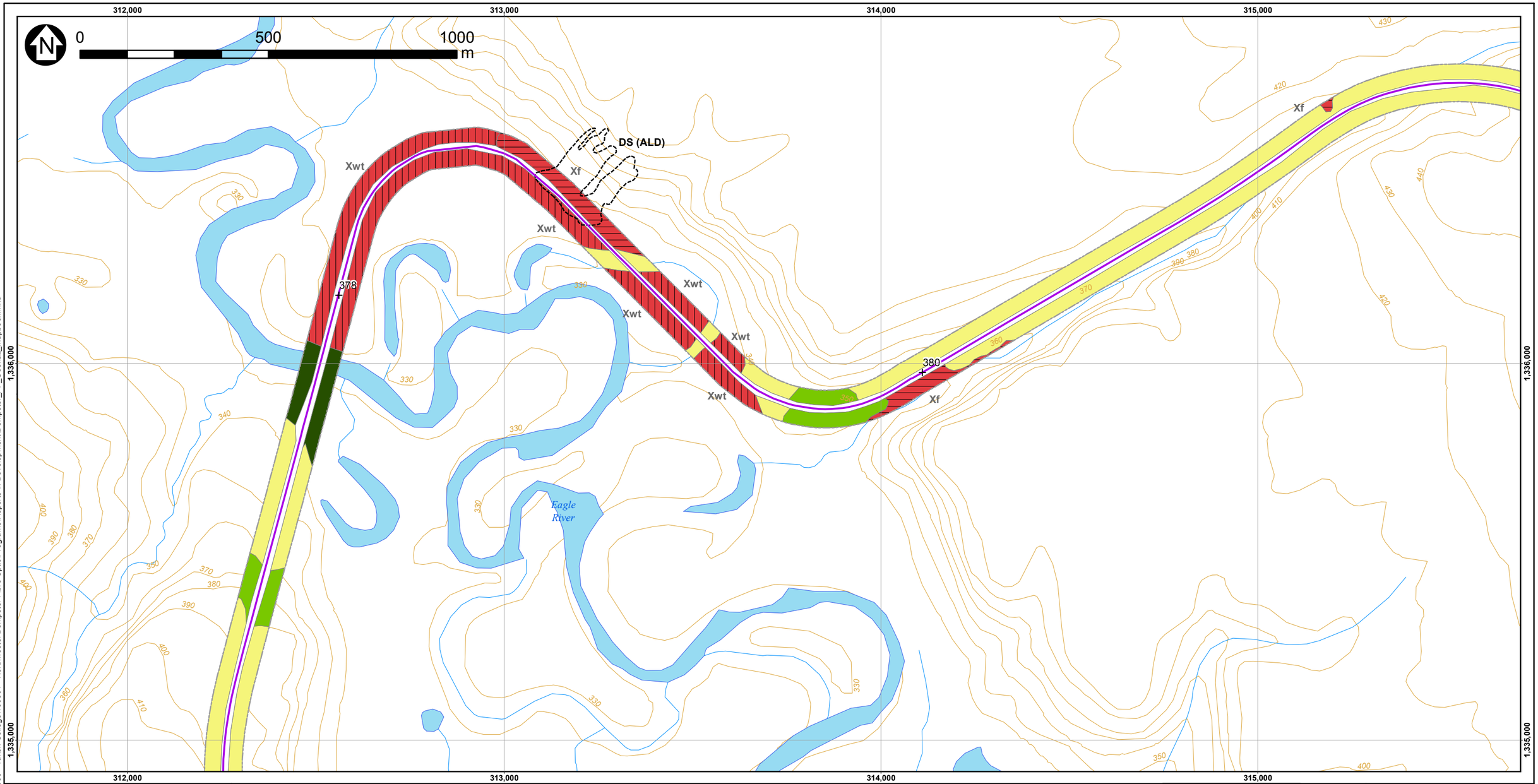


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Horizontal | Vertical | Both

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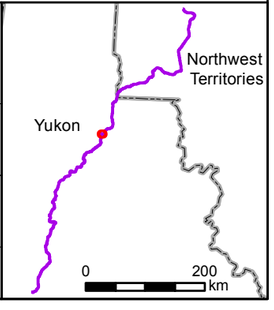


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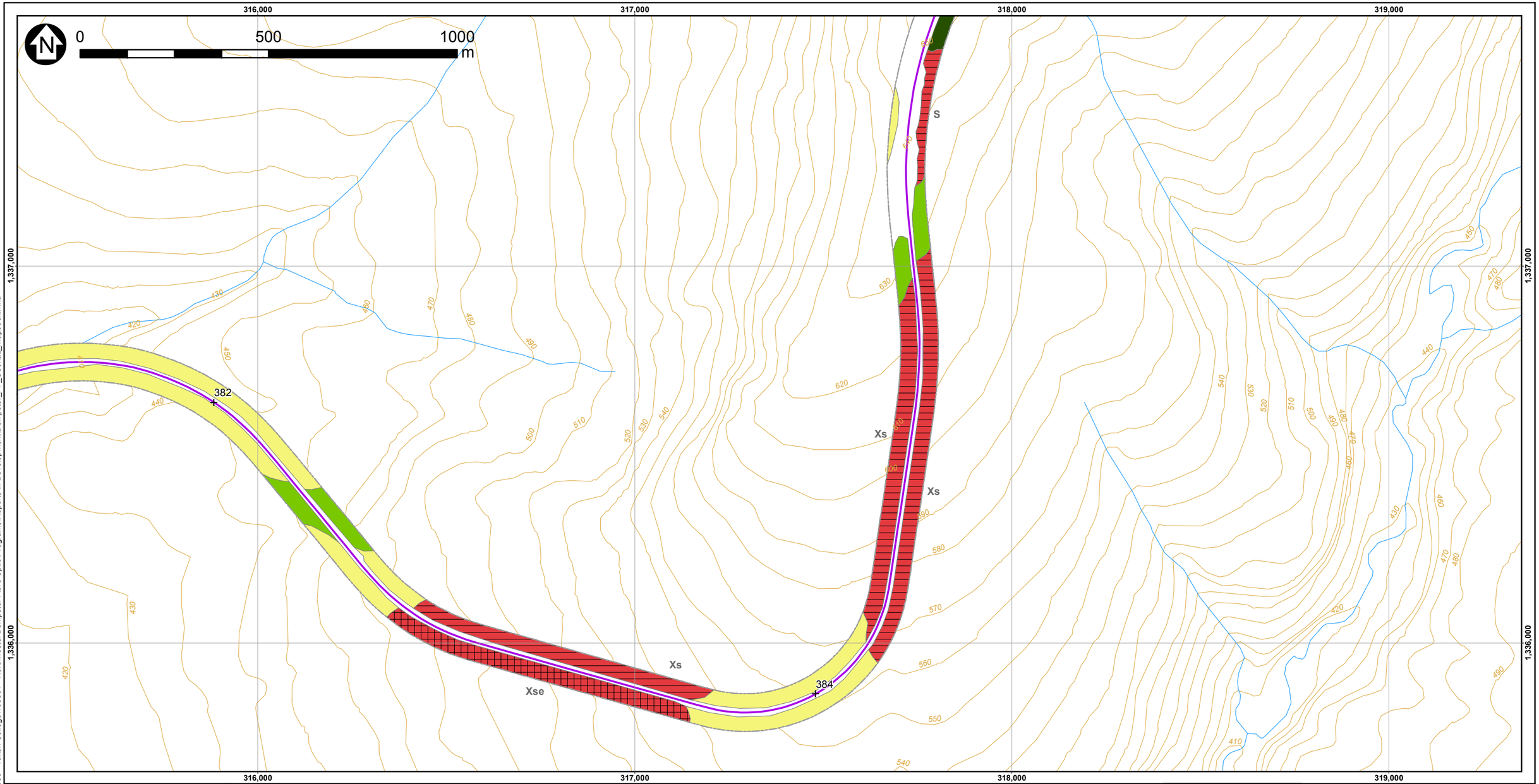


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Horizontal | Vertical | Both

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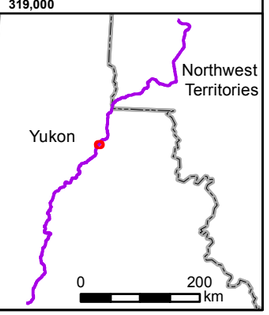


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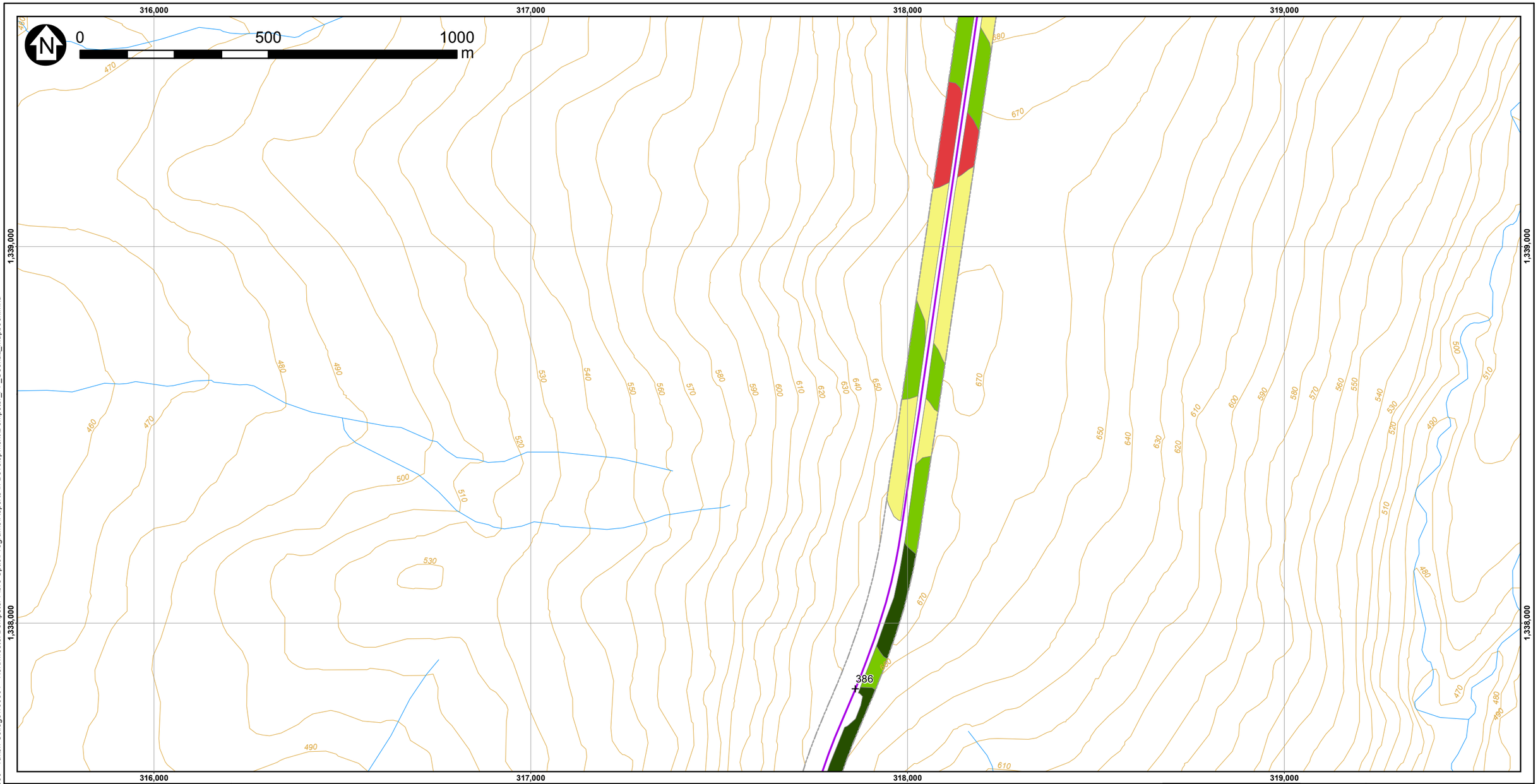


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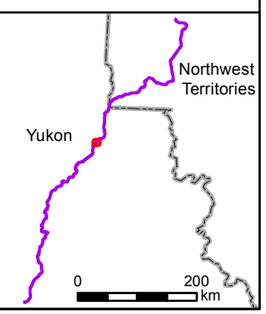
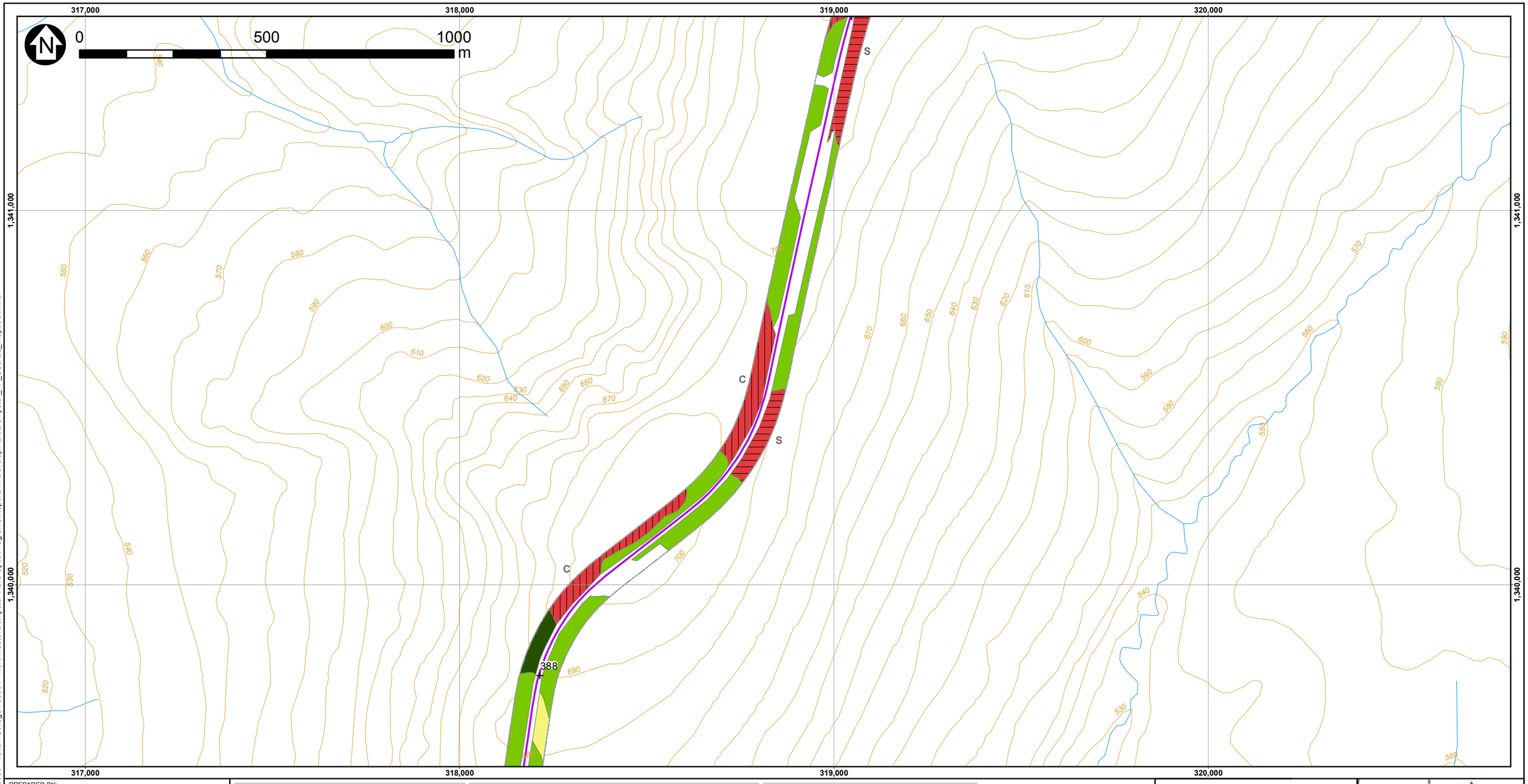
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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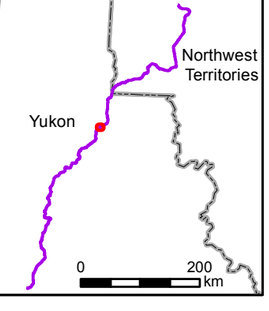


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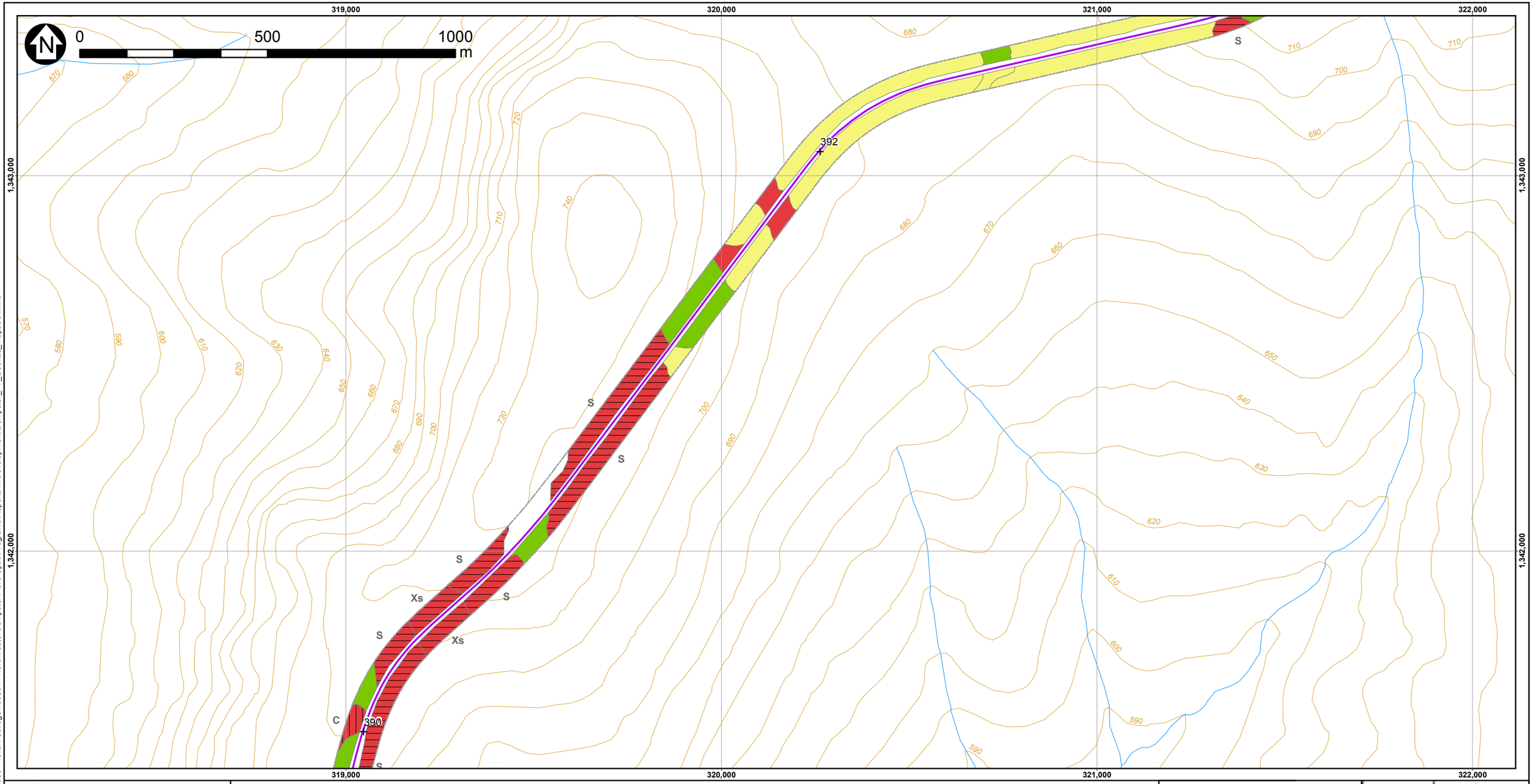


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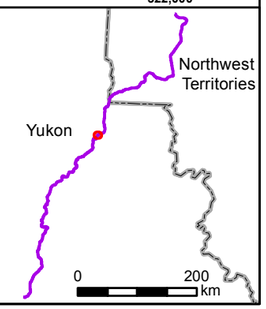

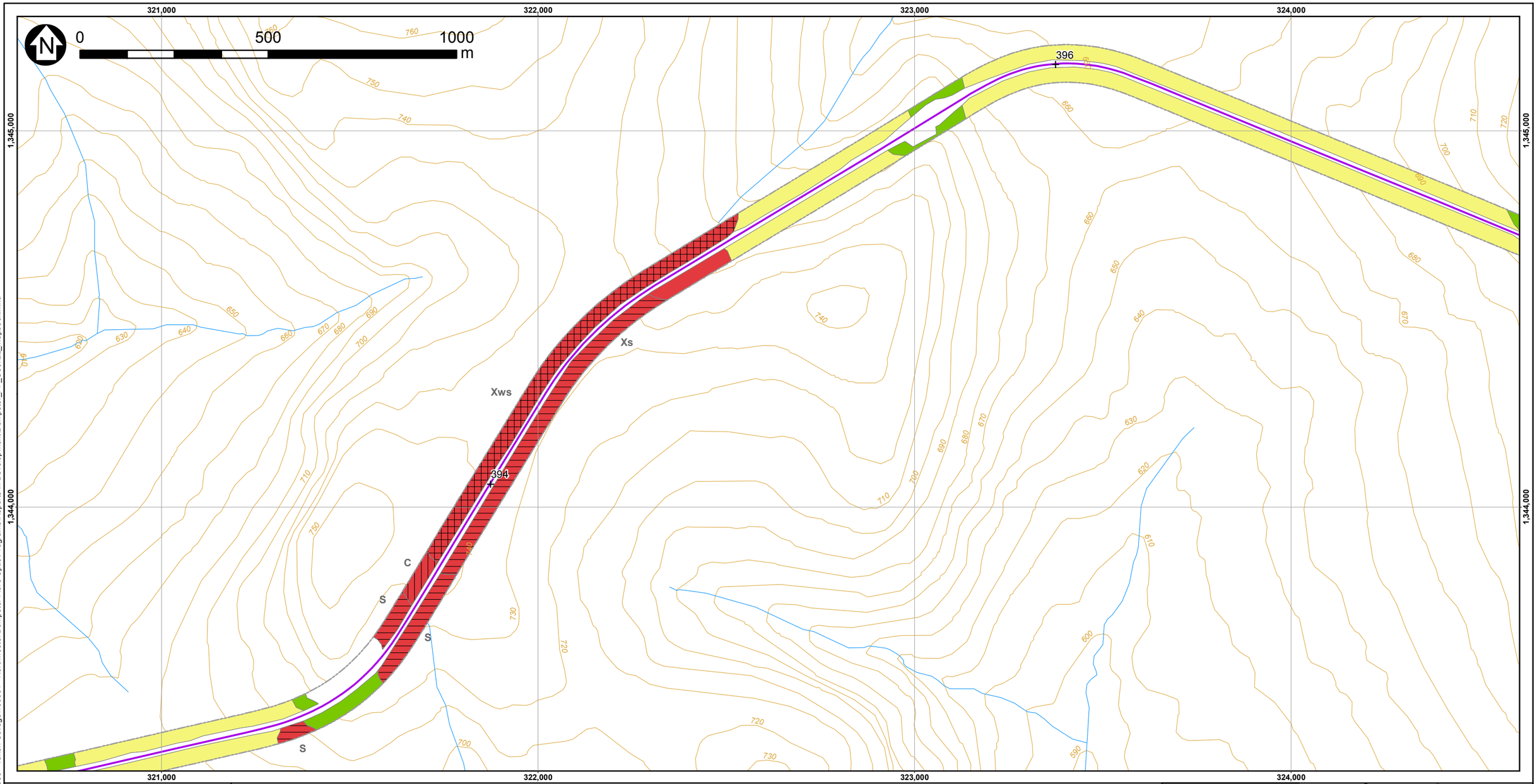


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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**Periglacial Process/Feature**

- ***Xs*** - Slopewash
- ***Xe*** - Thermal Erosion
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- ***Xh*** - Retrogressive Thaw Slump
- ***Xw*** - Ice-wedge Polygon

**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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**Dempster Highway Fibre Optic Line**

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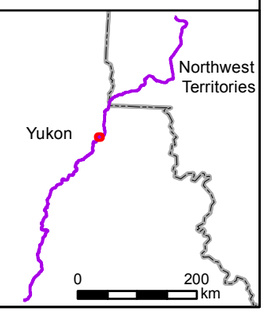


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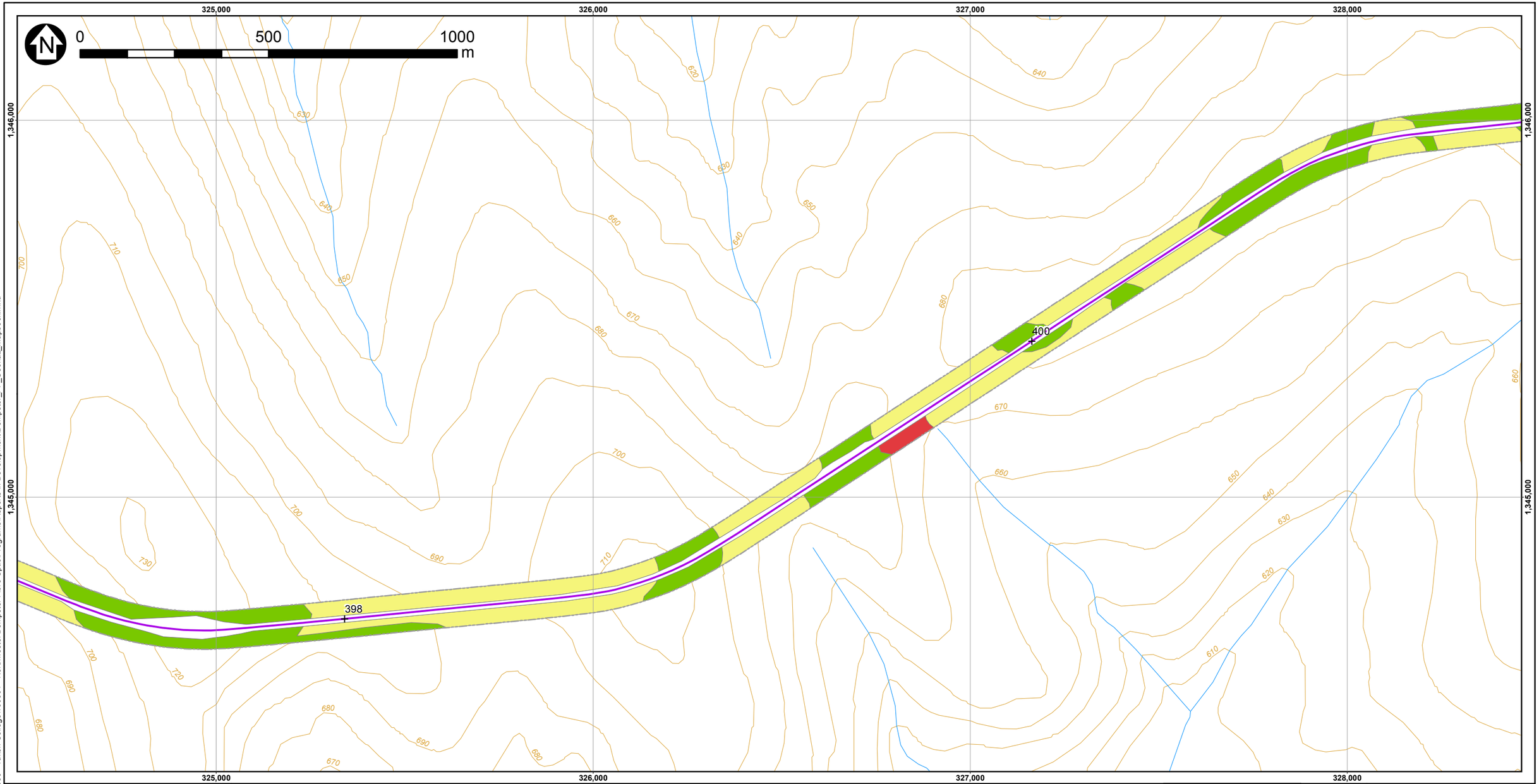


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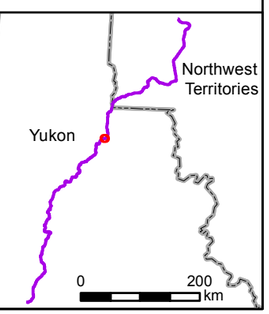

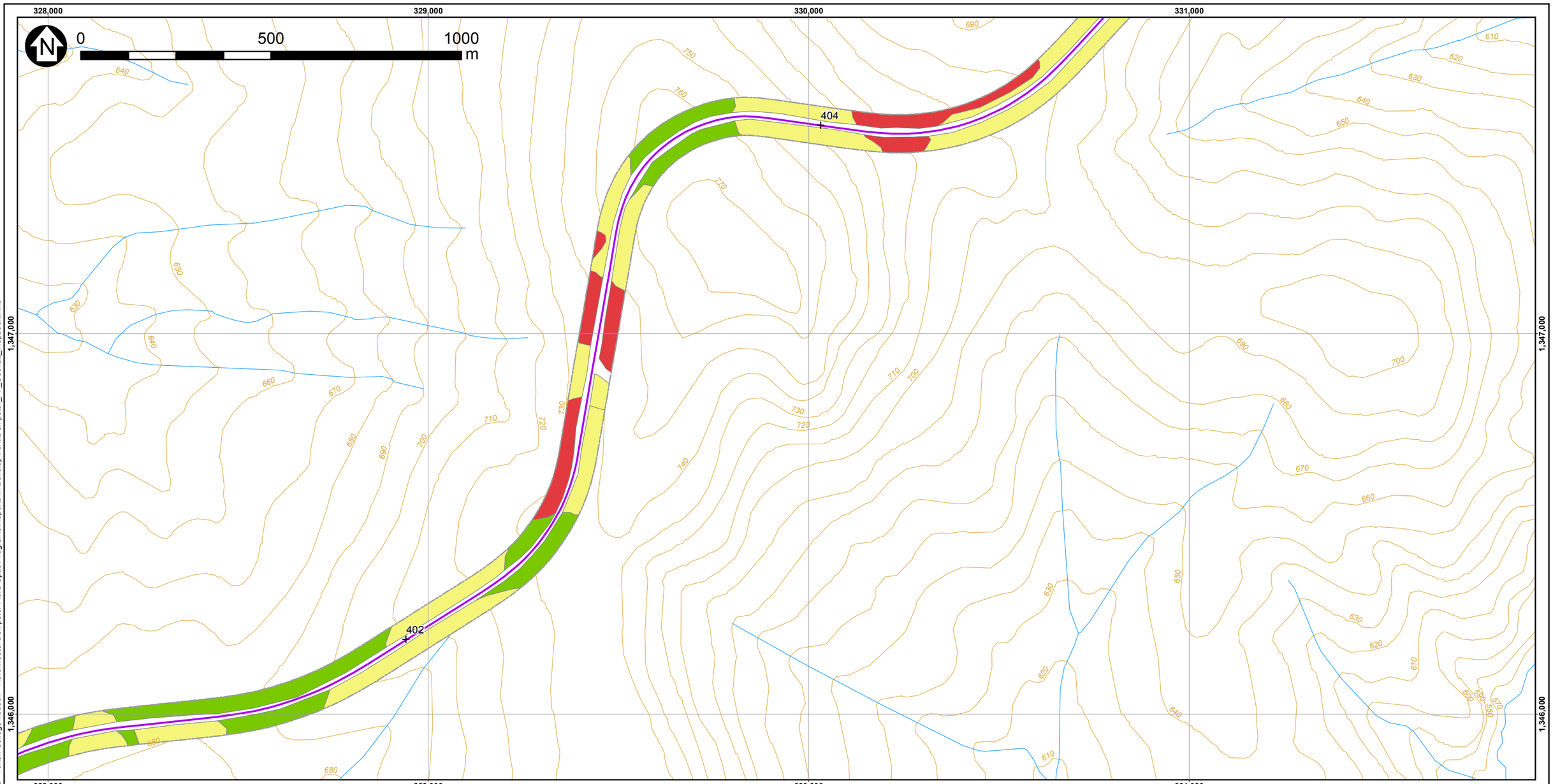


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Horizontal | Vertical | Both

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Contour (m)
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# Dempster Highway Fibre Optic Line

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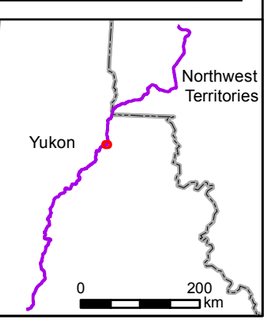


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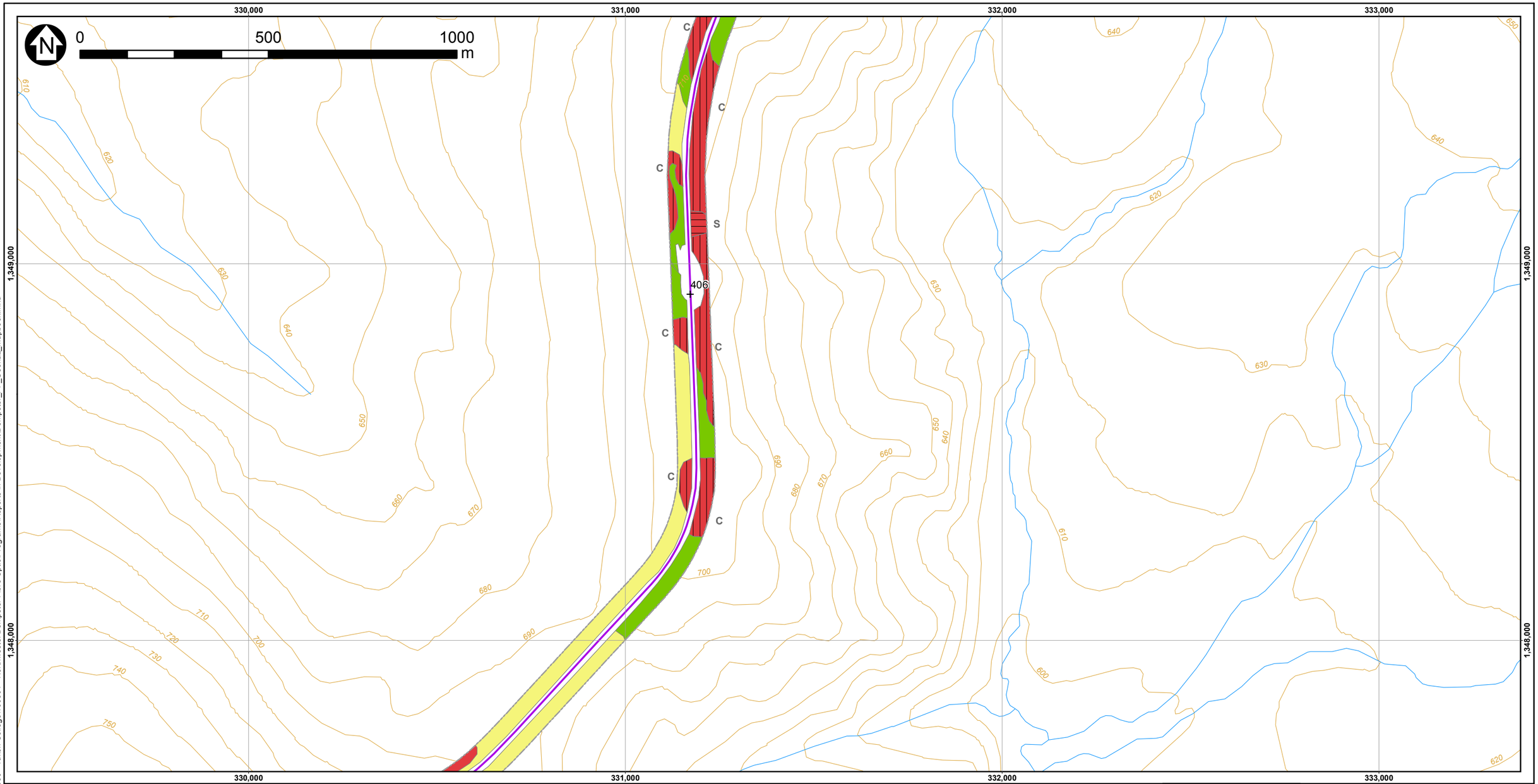


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Horizontal | Vertical | Both

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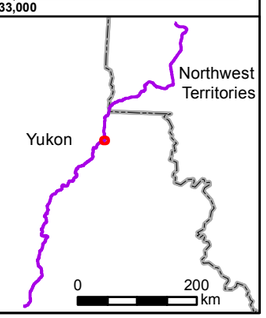


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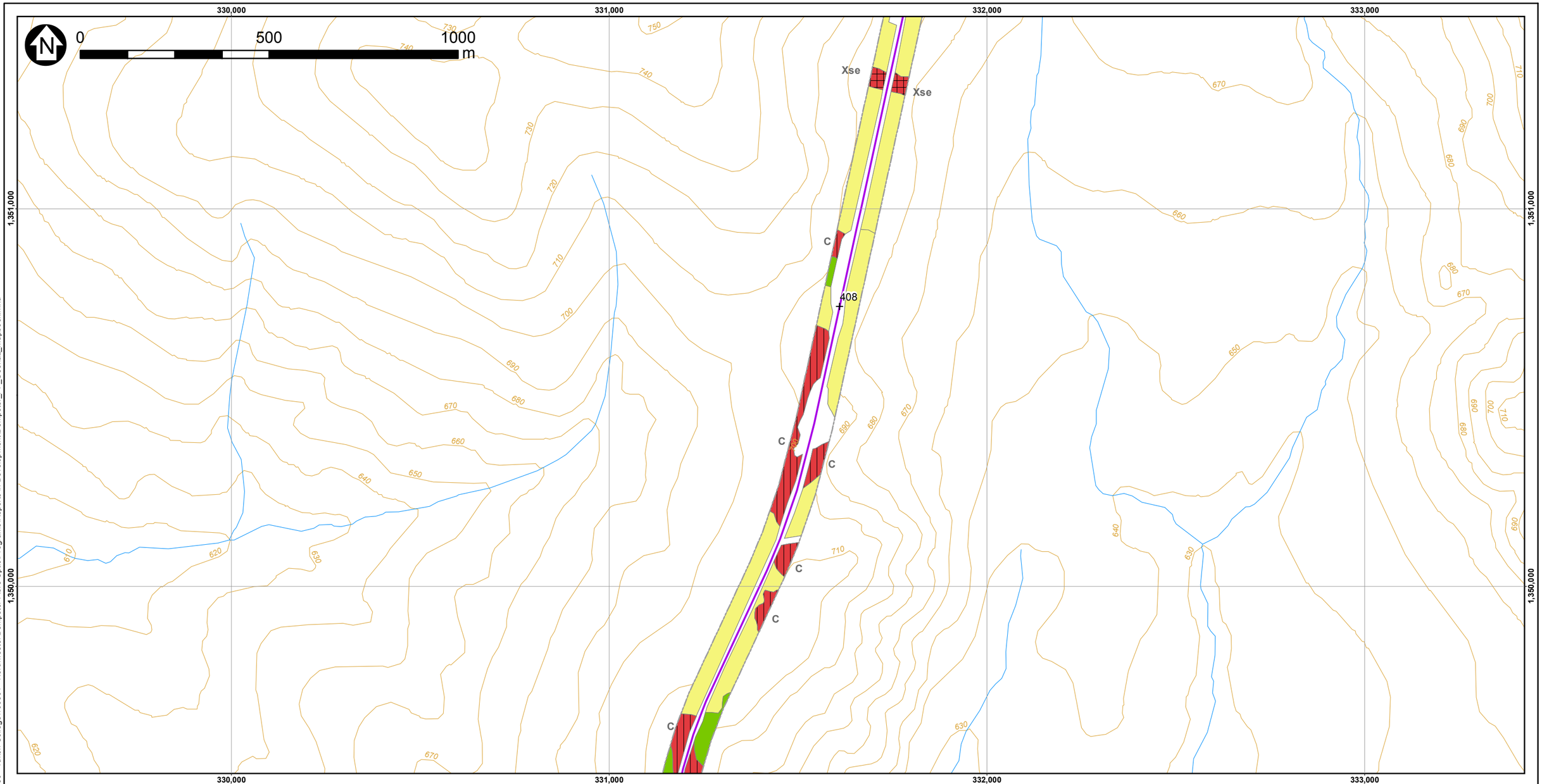


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Horizontal | Vertical | Both

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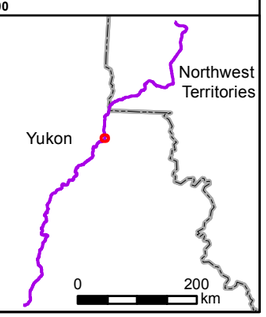


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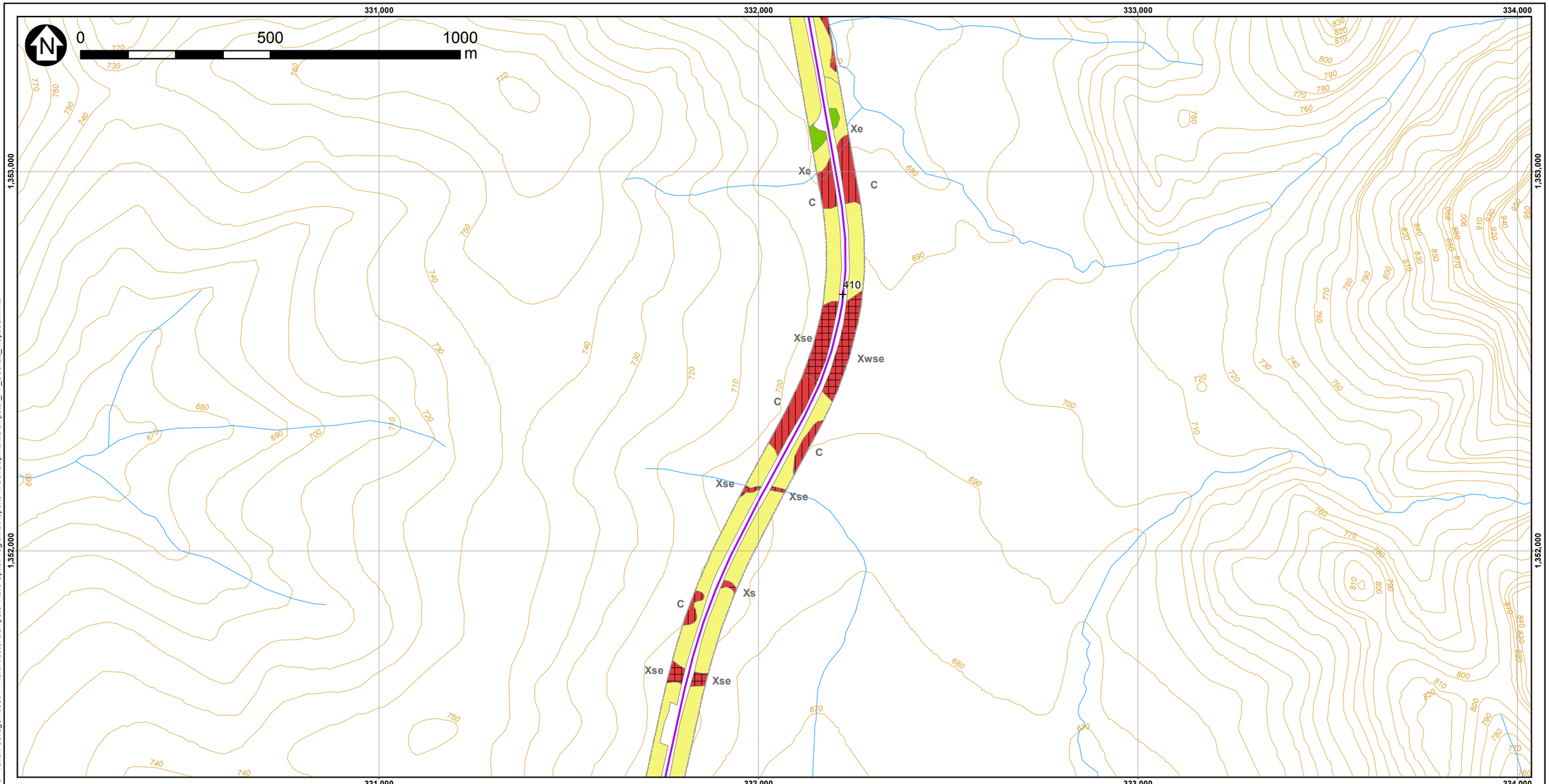


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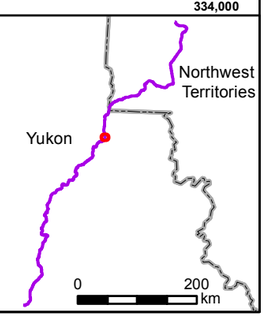


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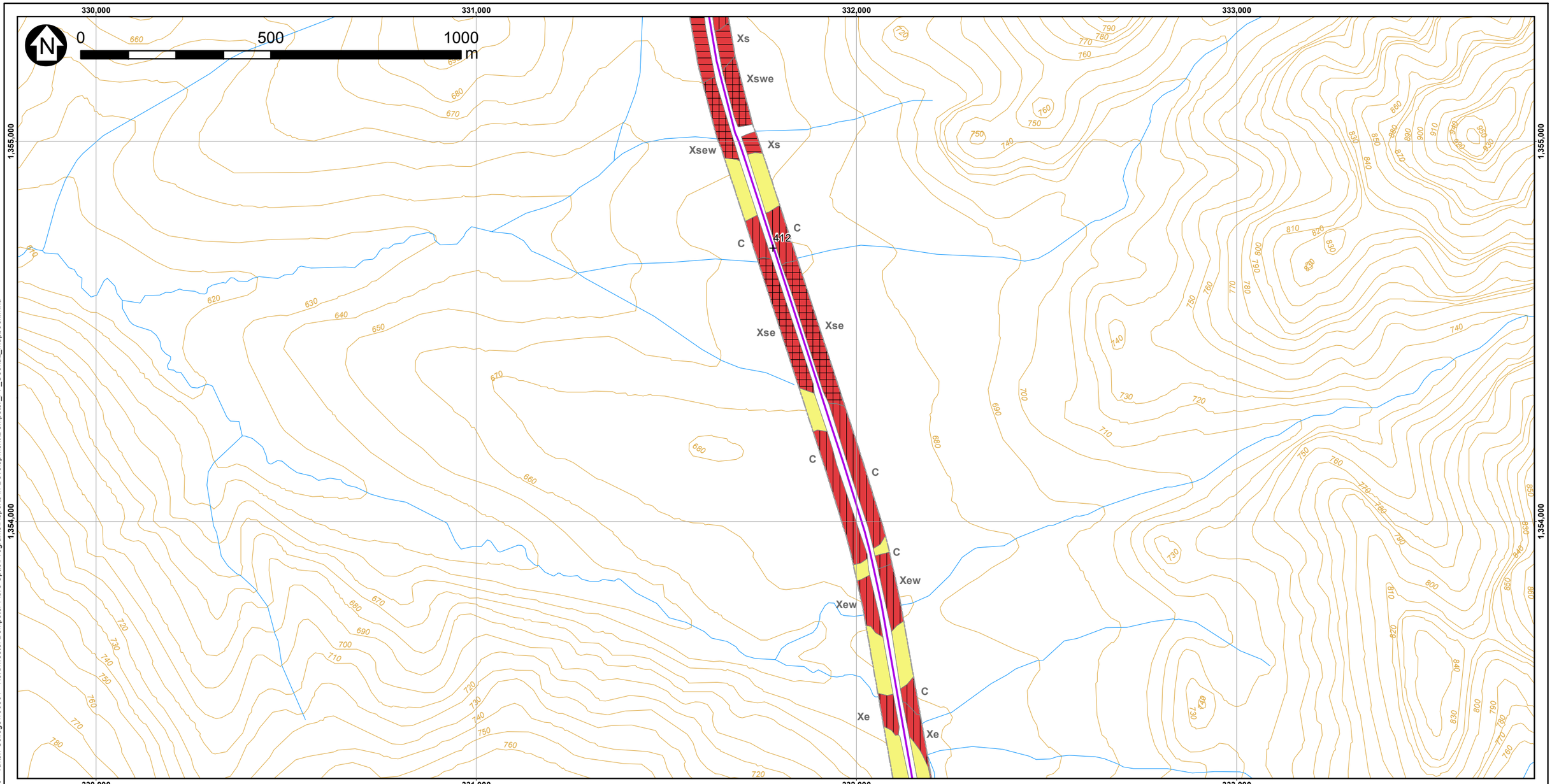


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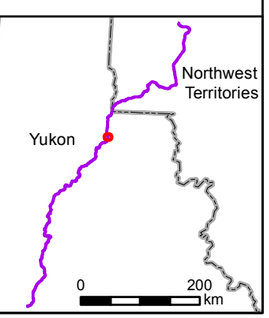

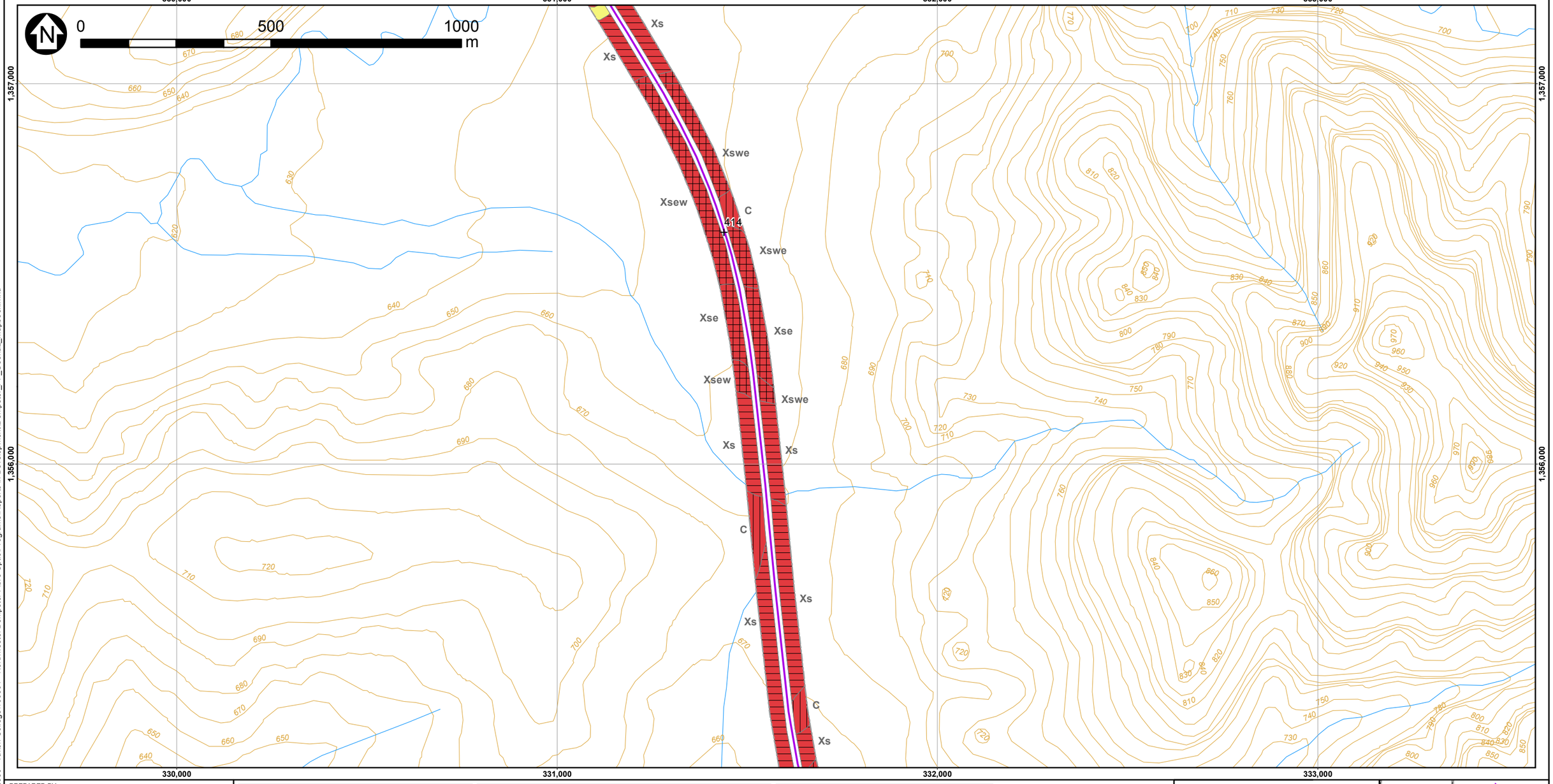


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- Dempster Highway
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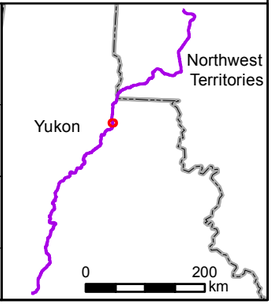
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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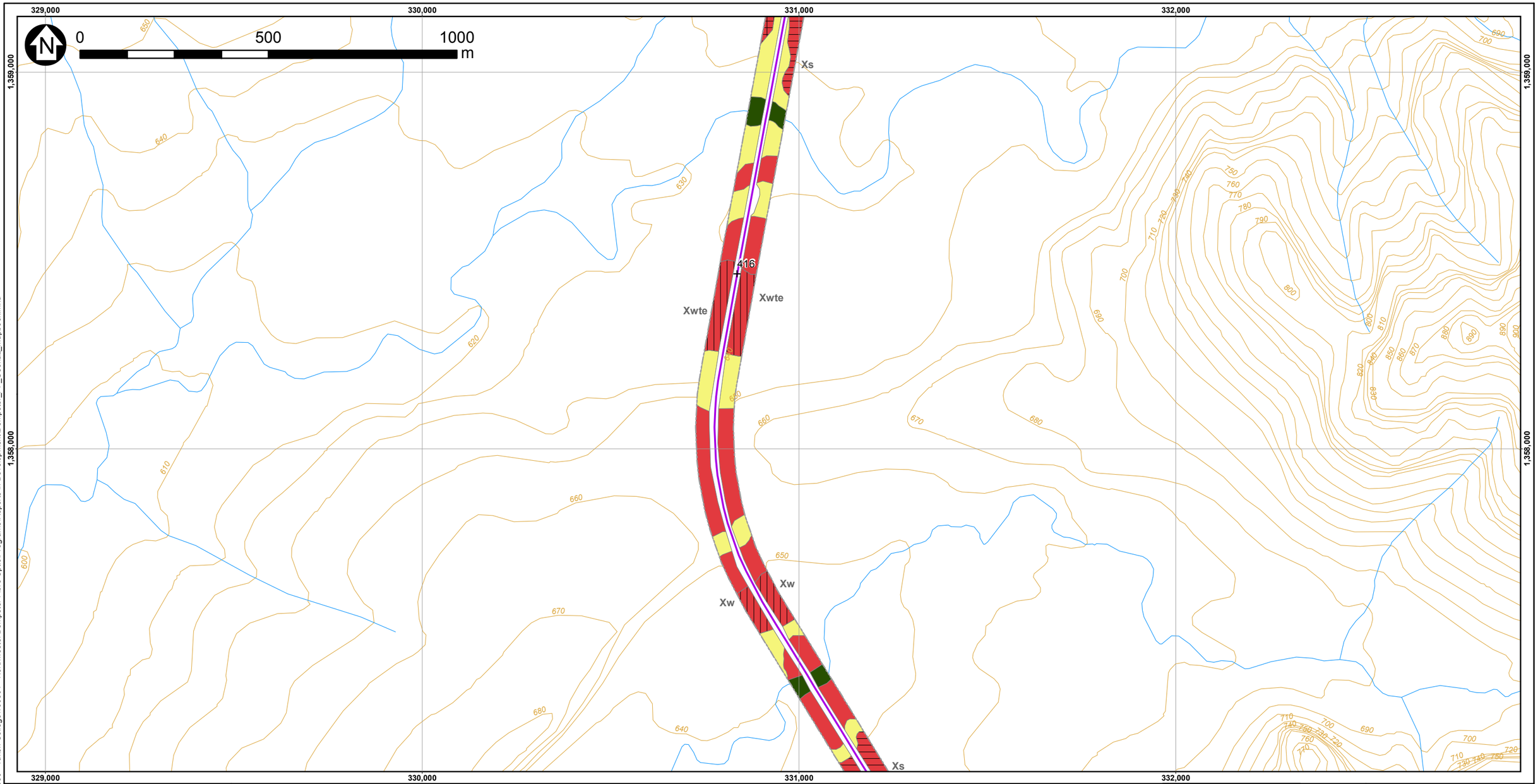


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|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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BASE MAP: http://geogratis.gc.ca/
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| *Symbol* | *PGMP* | *Active Layer Thickness* |
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| | High | Thick |
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**Potential Movement Direction**

Horizontal | Vertical | Both

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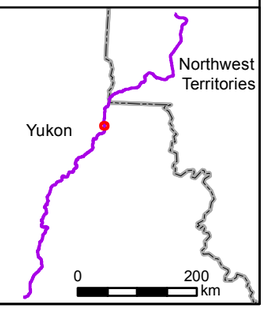


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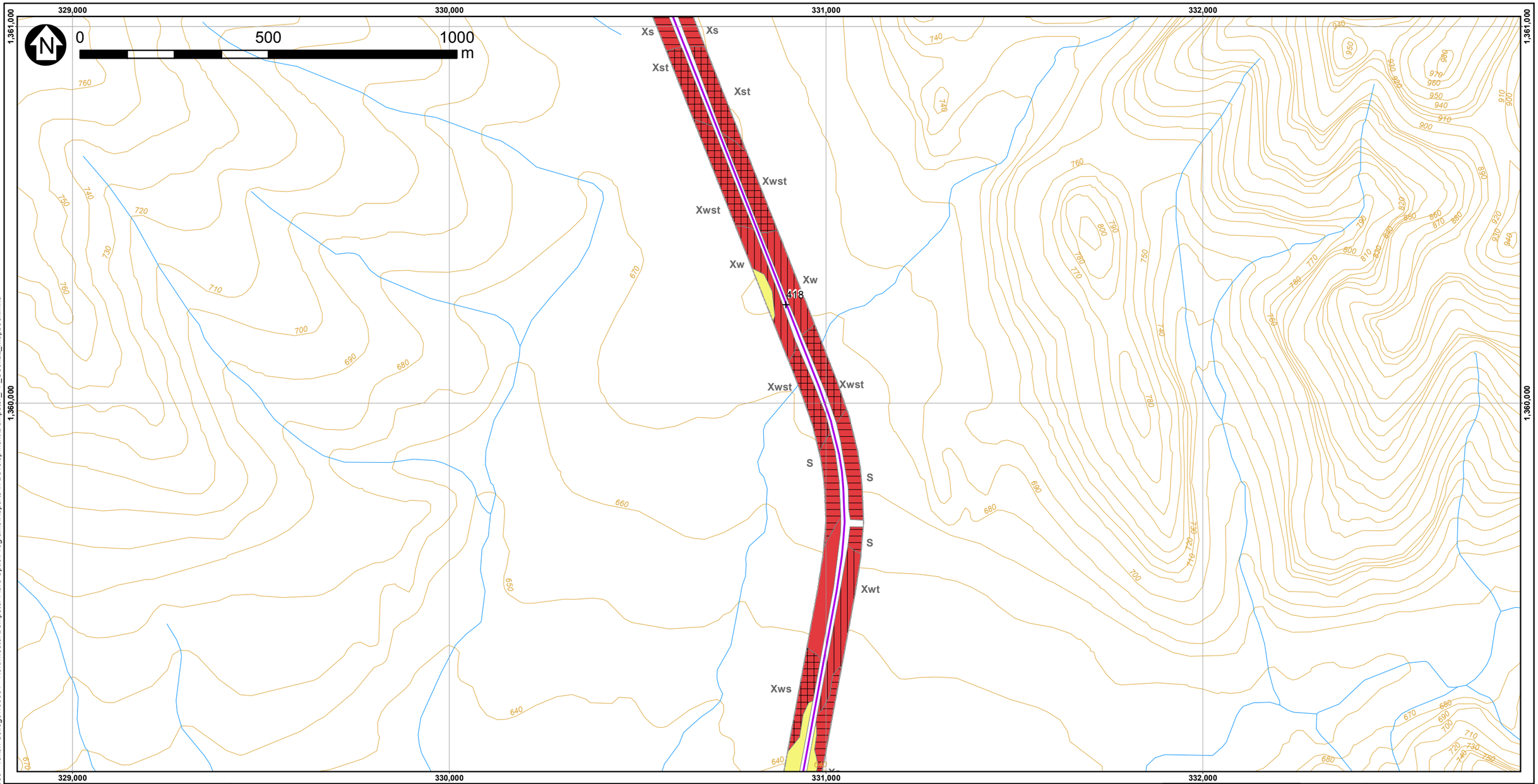


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# Dempster Highway Fibre Optic Line

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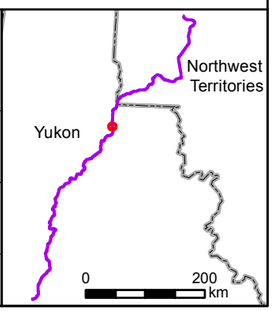

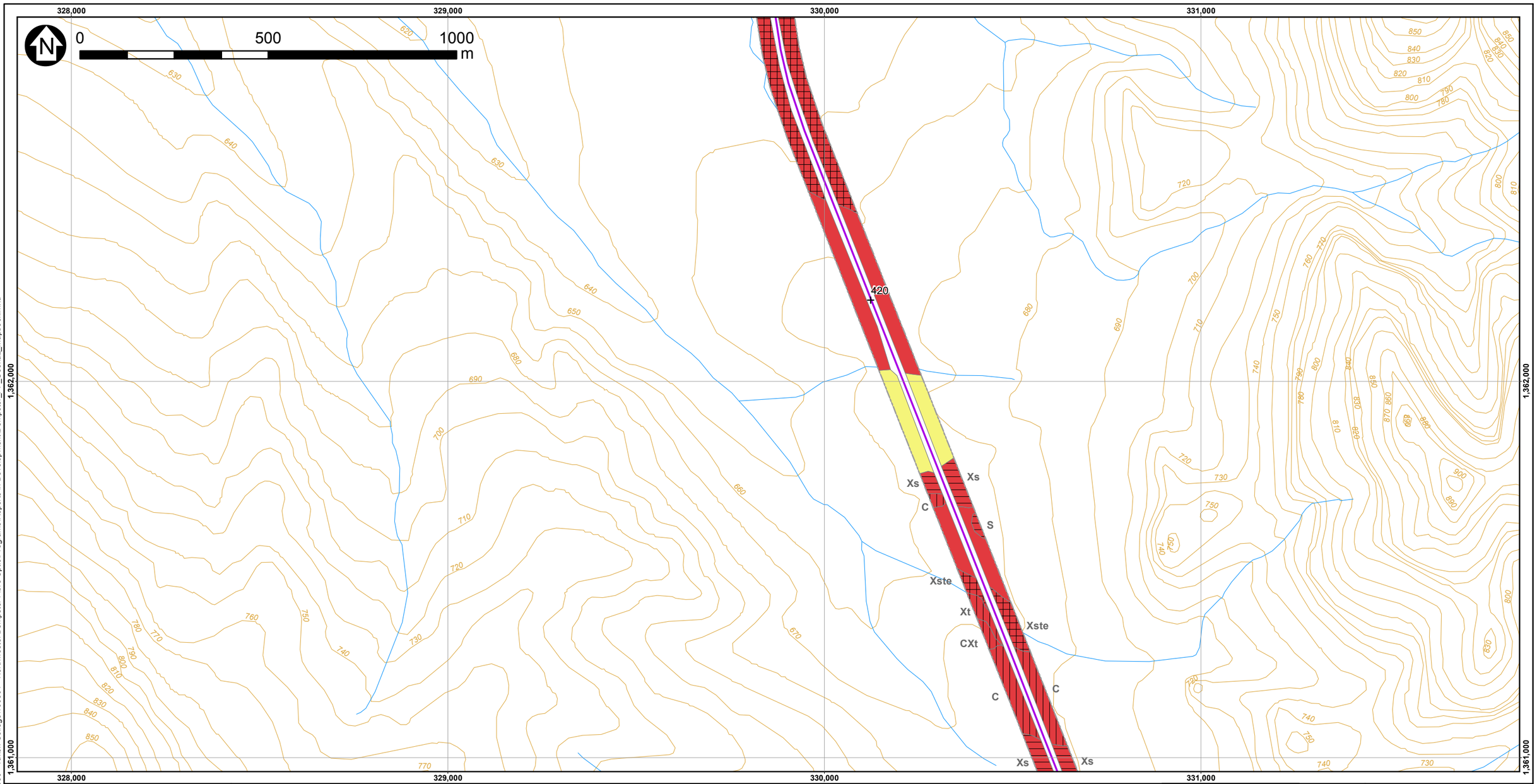


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Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
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Contour (m)
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**Dempster Highway Fibre Optic Line**

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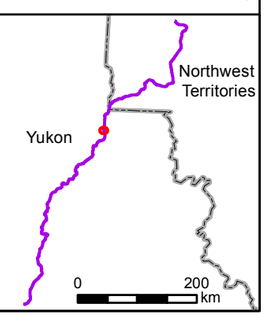


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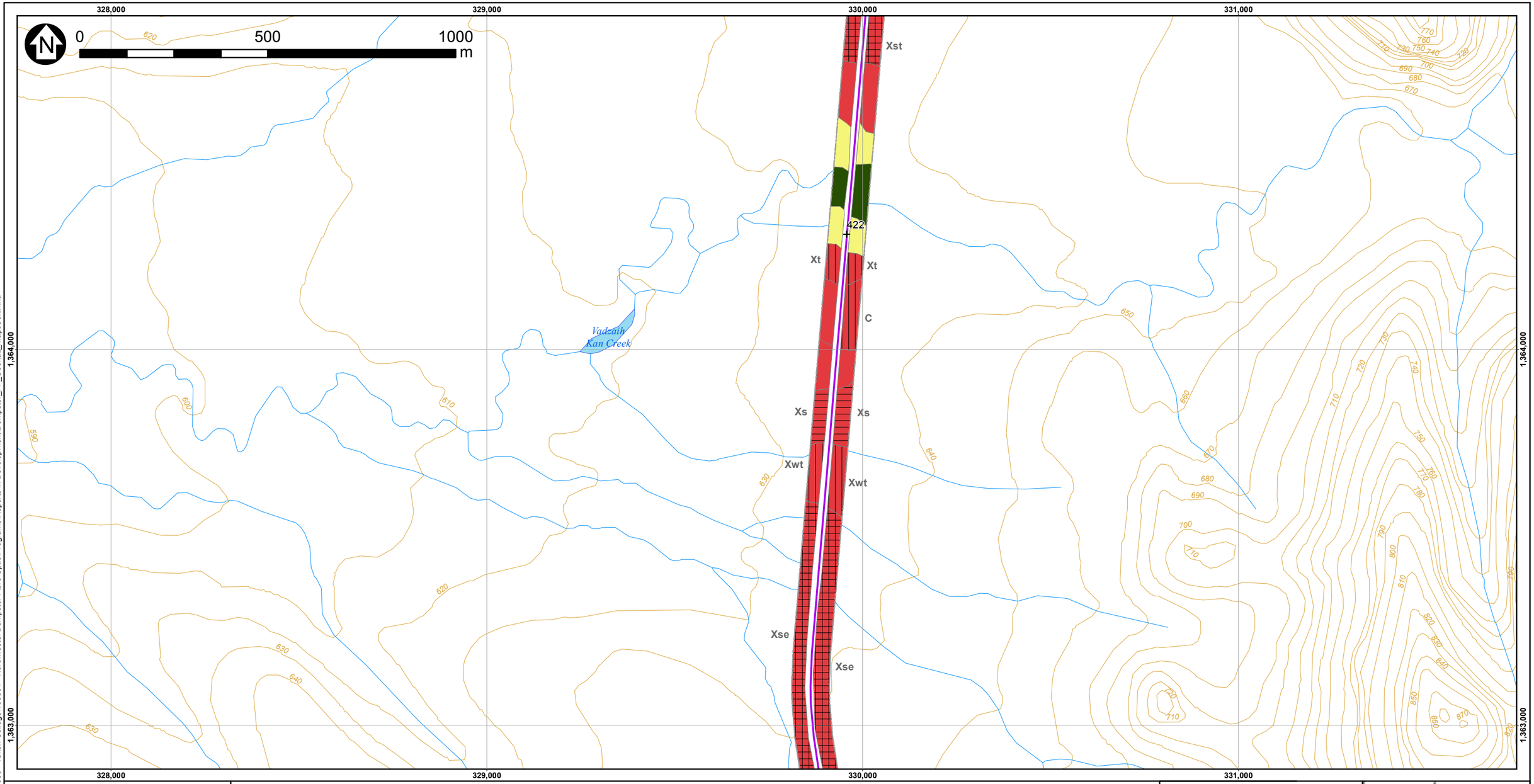


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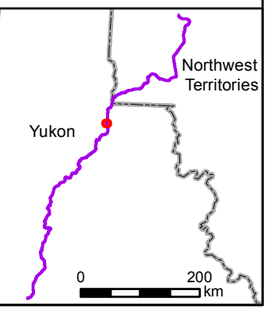

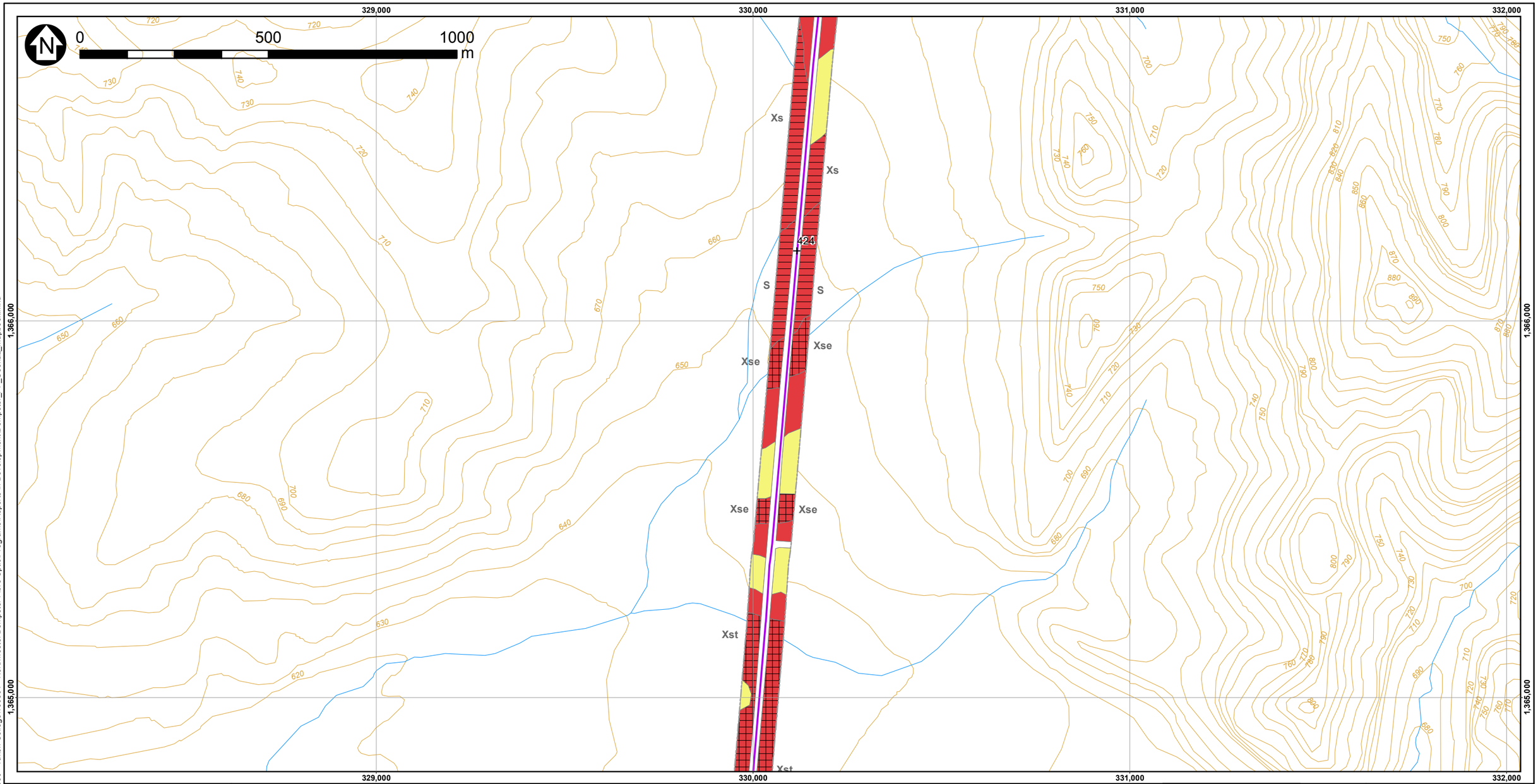


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**Potential Movement Direction**

Horizontal | Vertical | Both

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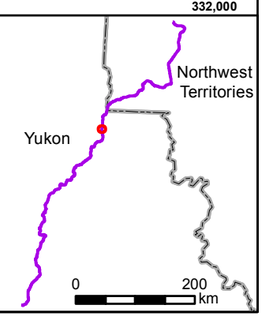


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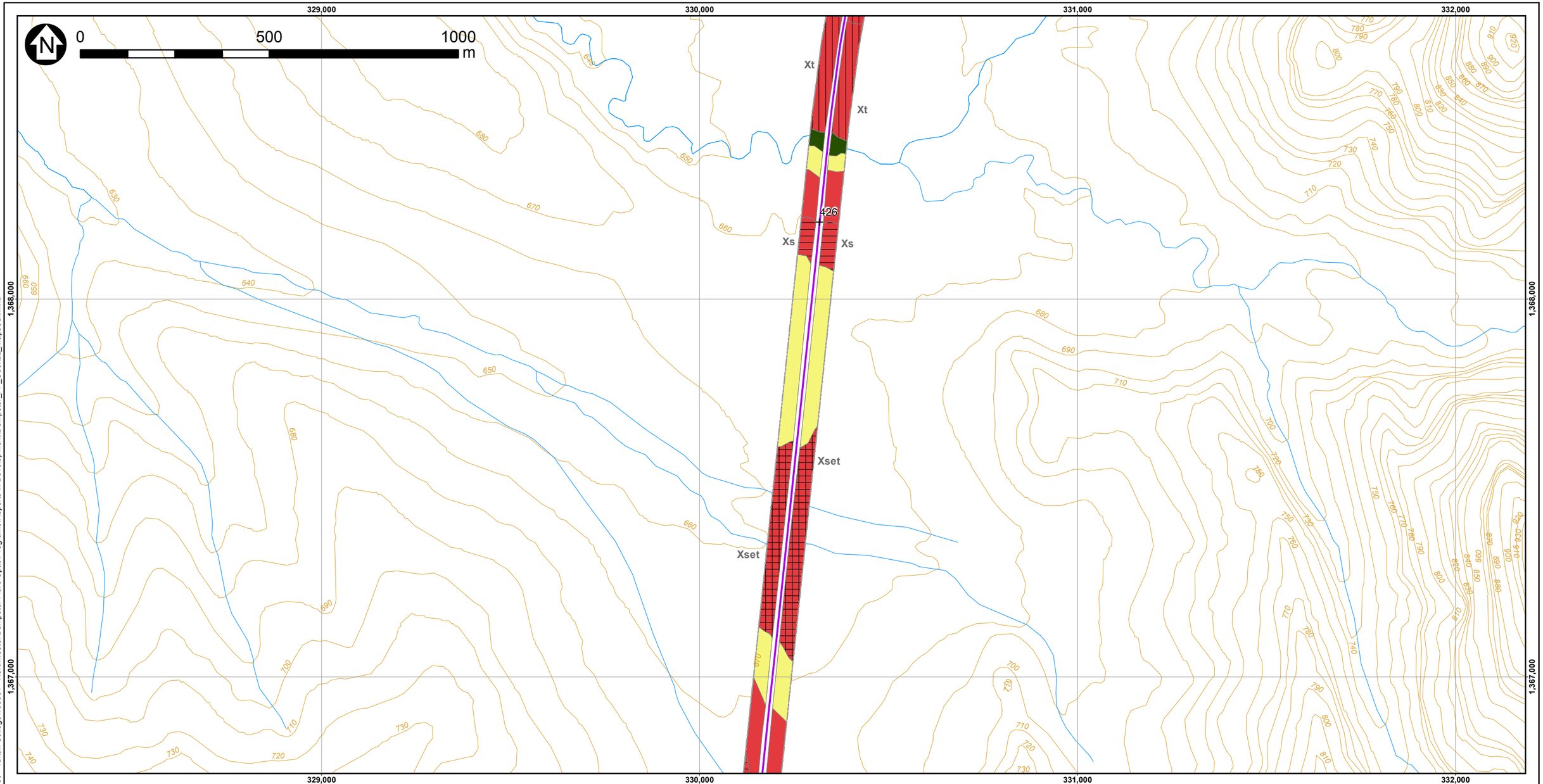


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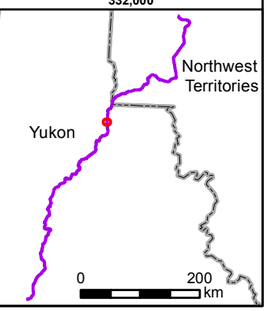

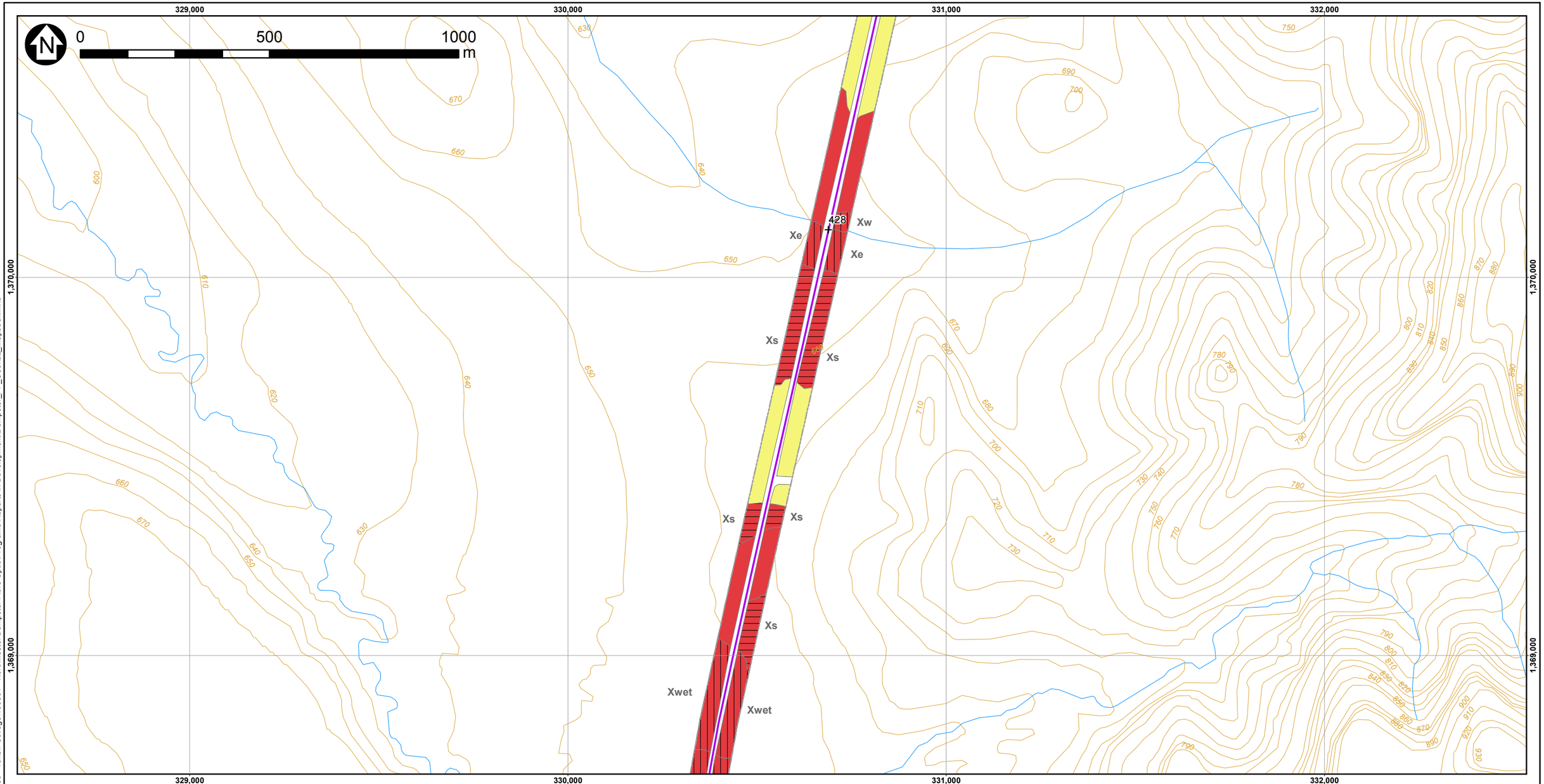


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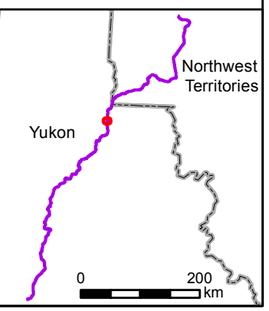

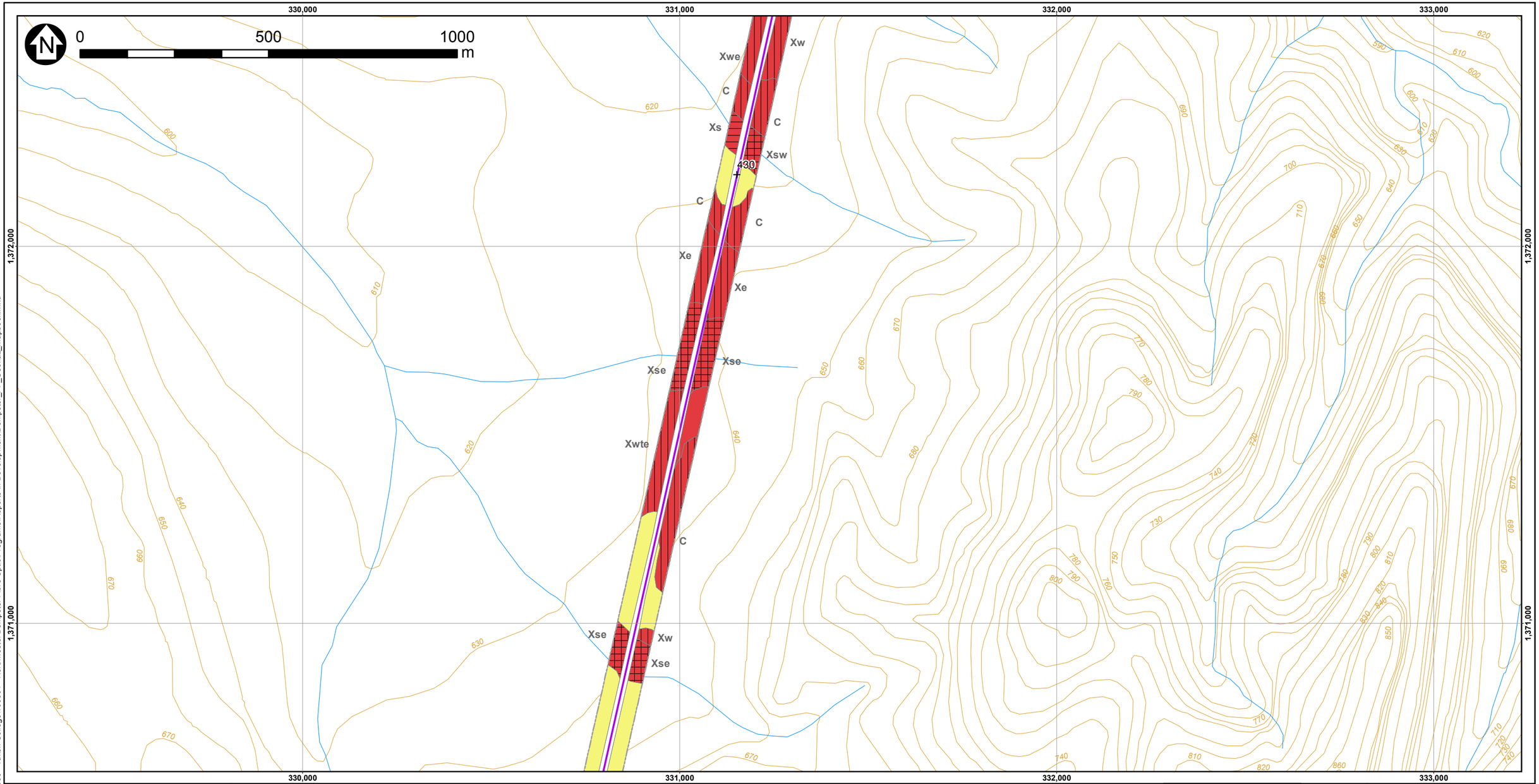


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| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
| | Anthropogenic | |

## Mass Movement Geohazard

- **DS** - Debris Slide
- **DS (ALD)** - Debris Slide (Active Layer Detachment)
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- ***Xs*** - Slopewash
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- ***S*** - Solifluction
- ***C*** - Cryoturbation
- ***Xf*** - Active Layer Detachment
- ***Xh*** - Retrogressive Thaw Slump
- ***Xw*** - Ice-wedge Polygon

## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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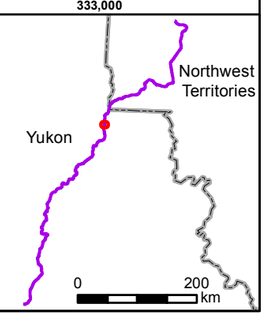
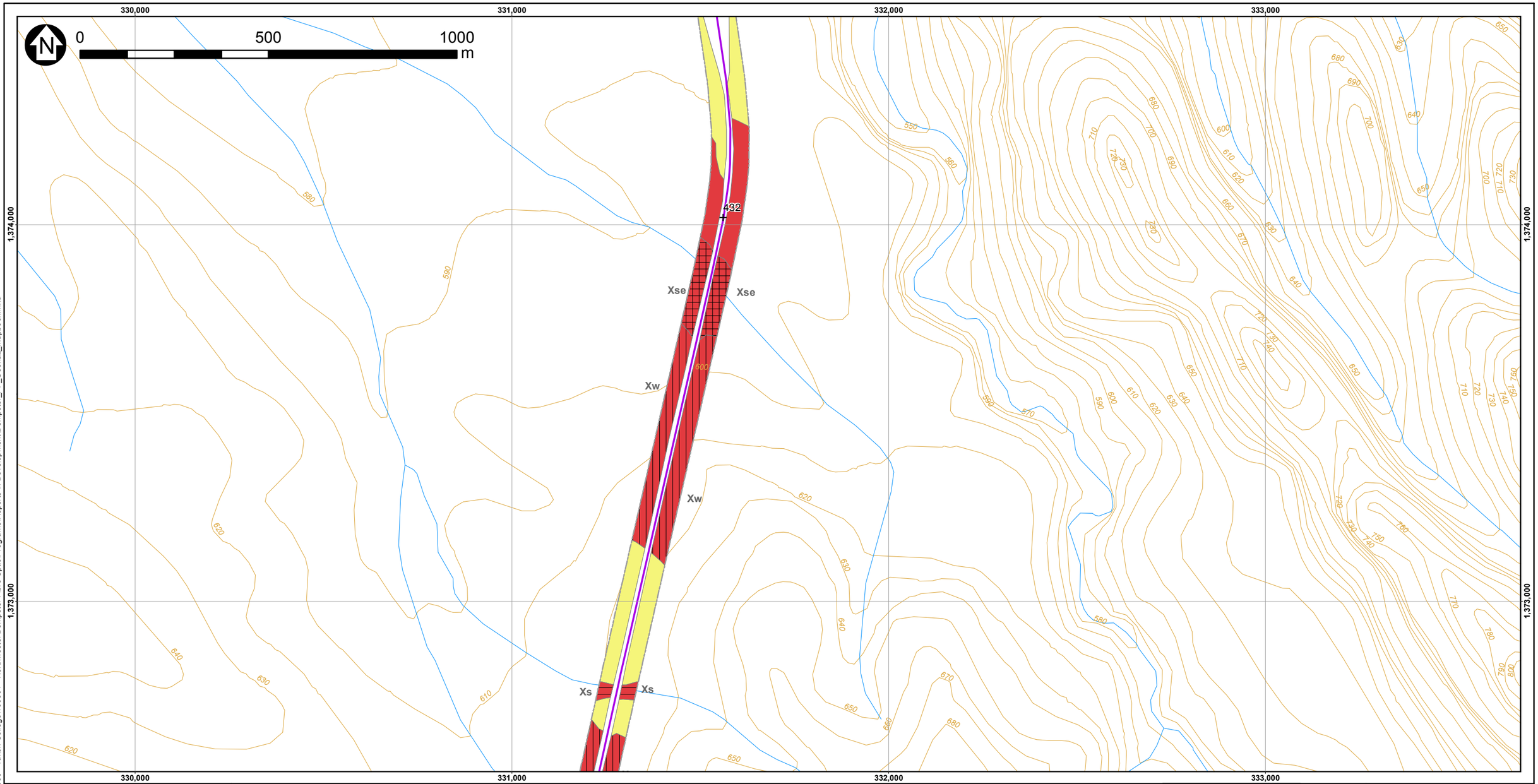
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
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SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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Horizontal | Vertical | Both

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LEDCOR GROUP | NorthwesTel

# Dempster Highway Fibre Optic Line

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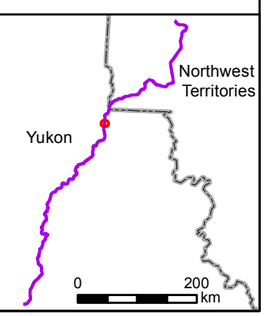

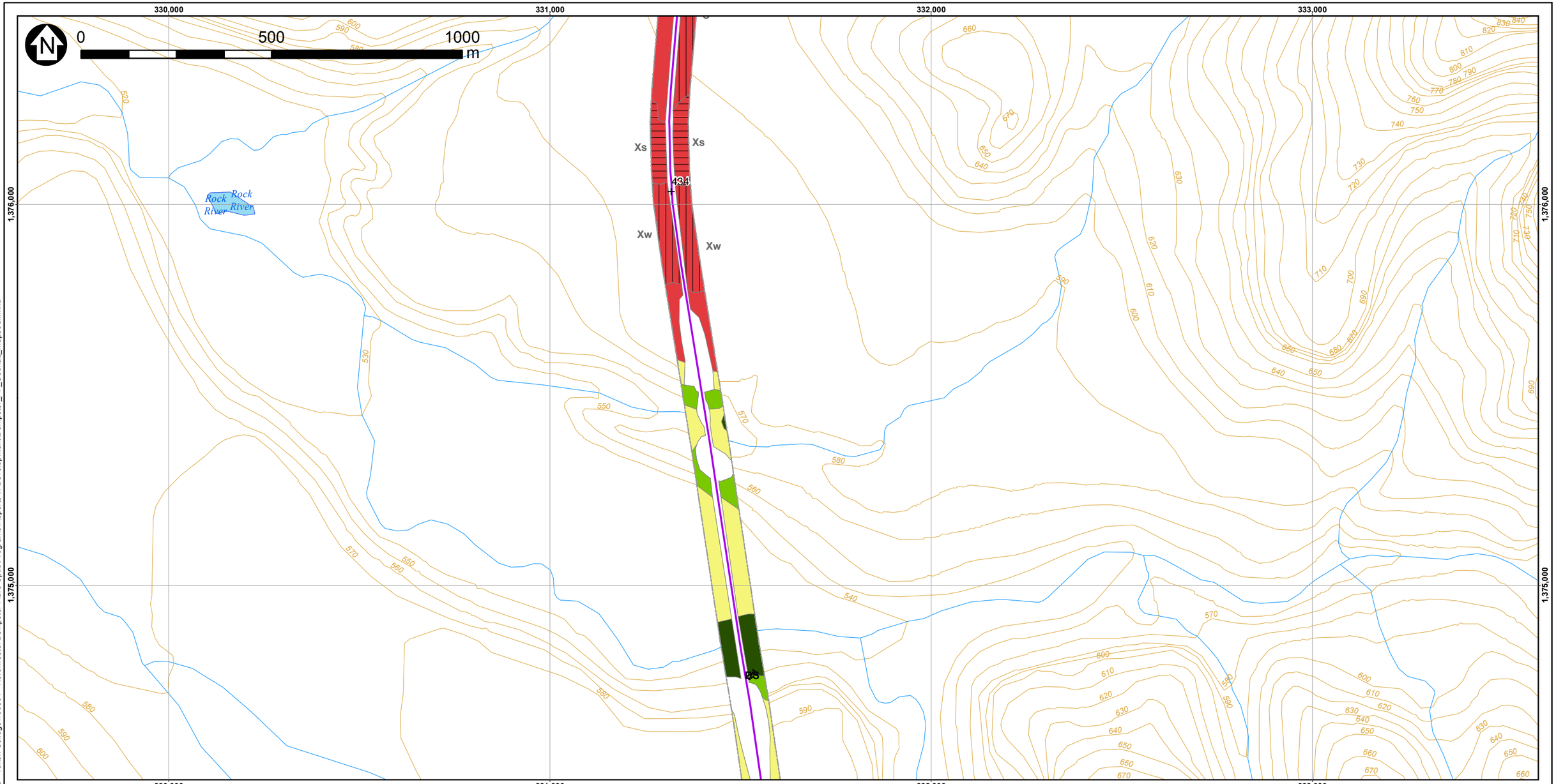


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| DRAWN | DS |
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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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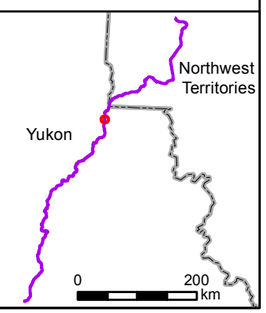

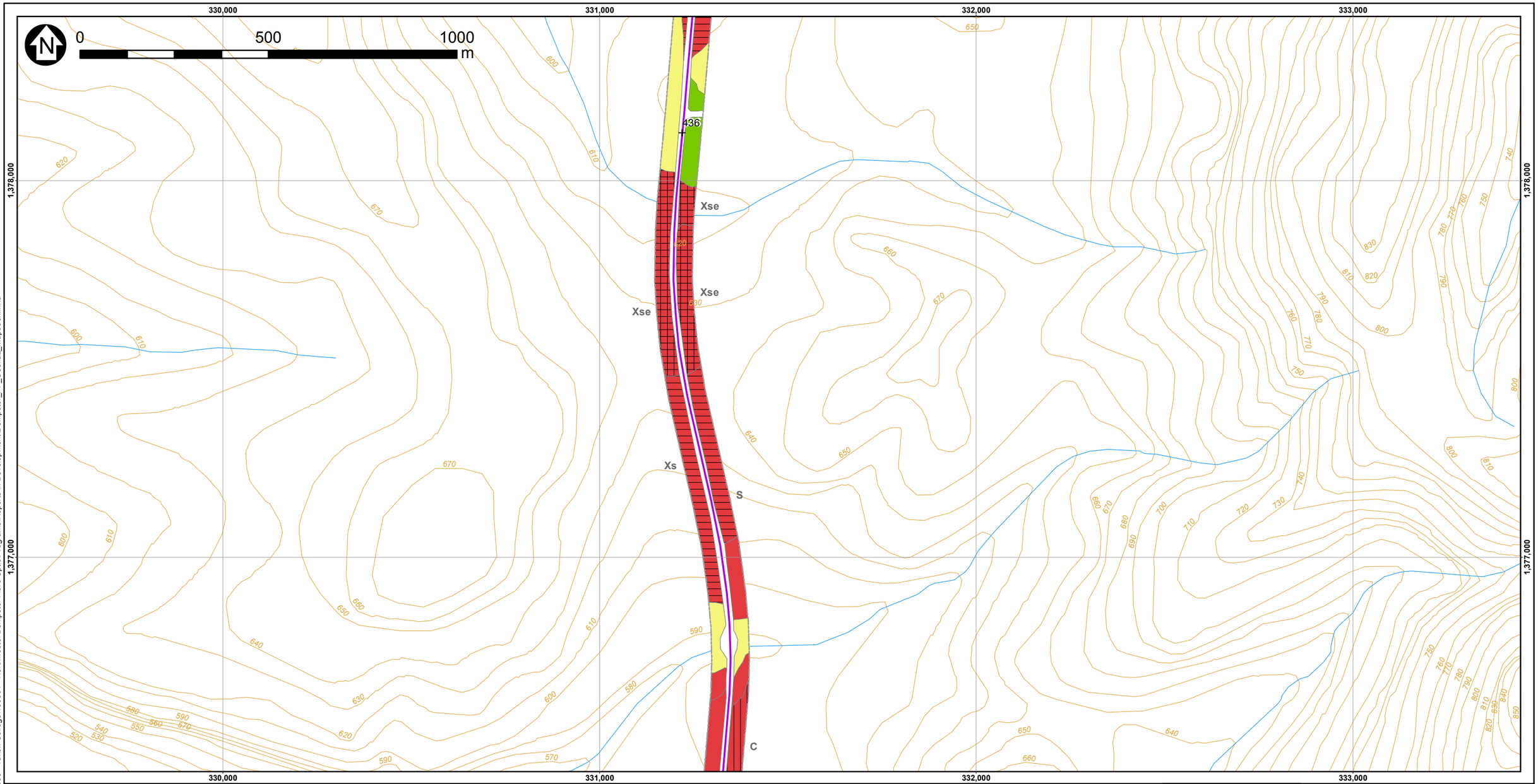


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Horizontal | Vertical | Both

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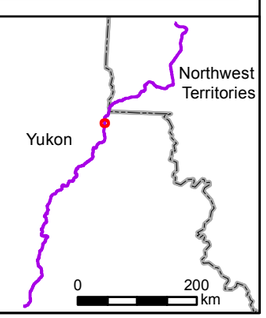
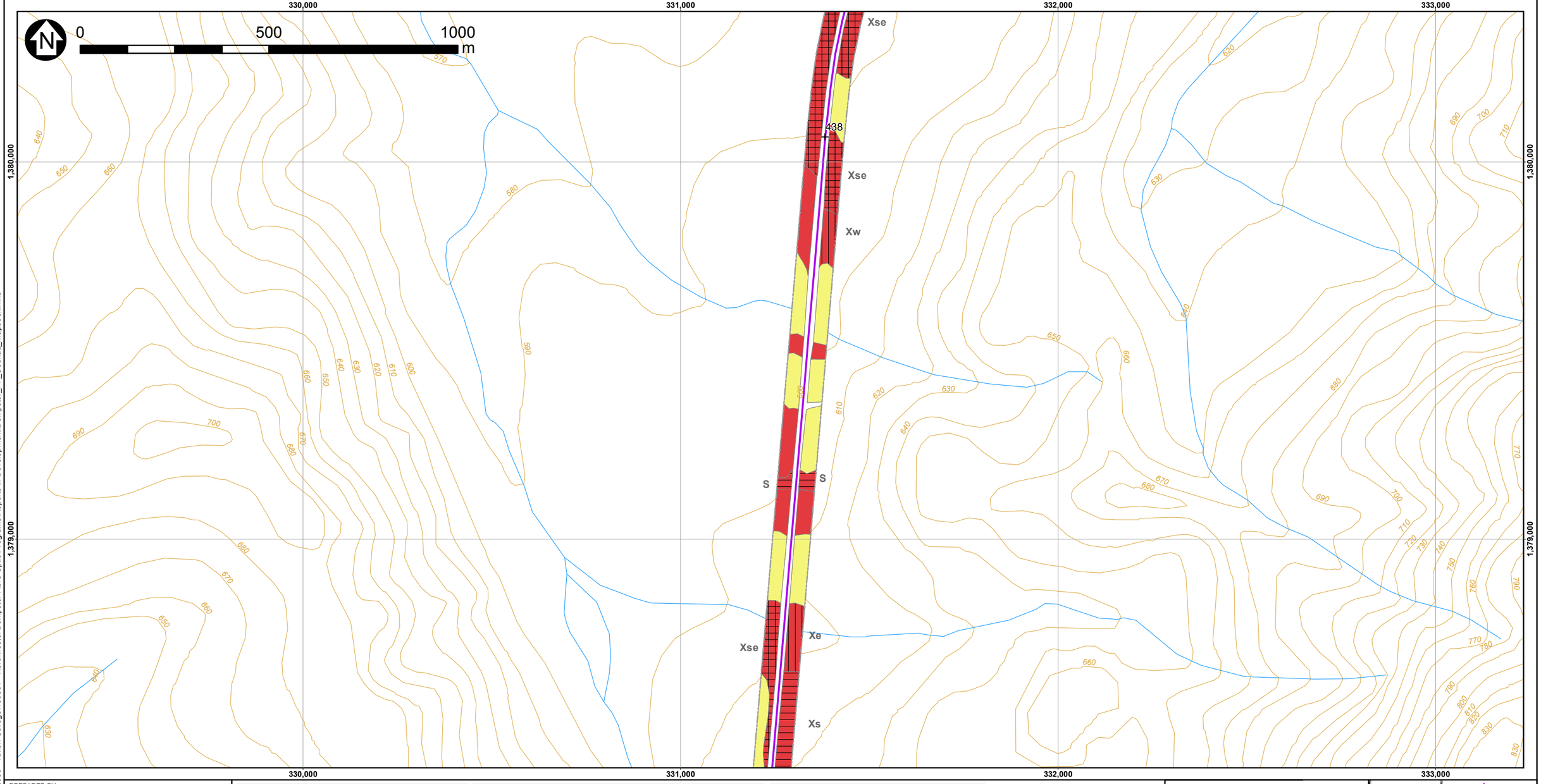
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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| DRAWN | DS |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
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**Potential Movement Direction**

Horizontal | Vertical | Both

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- Dempster Highway
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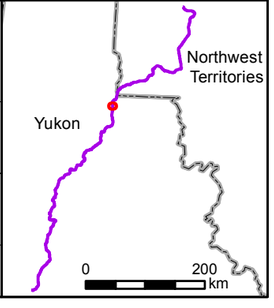
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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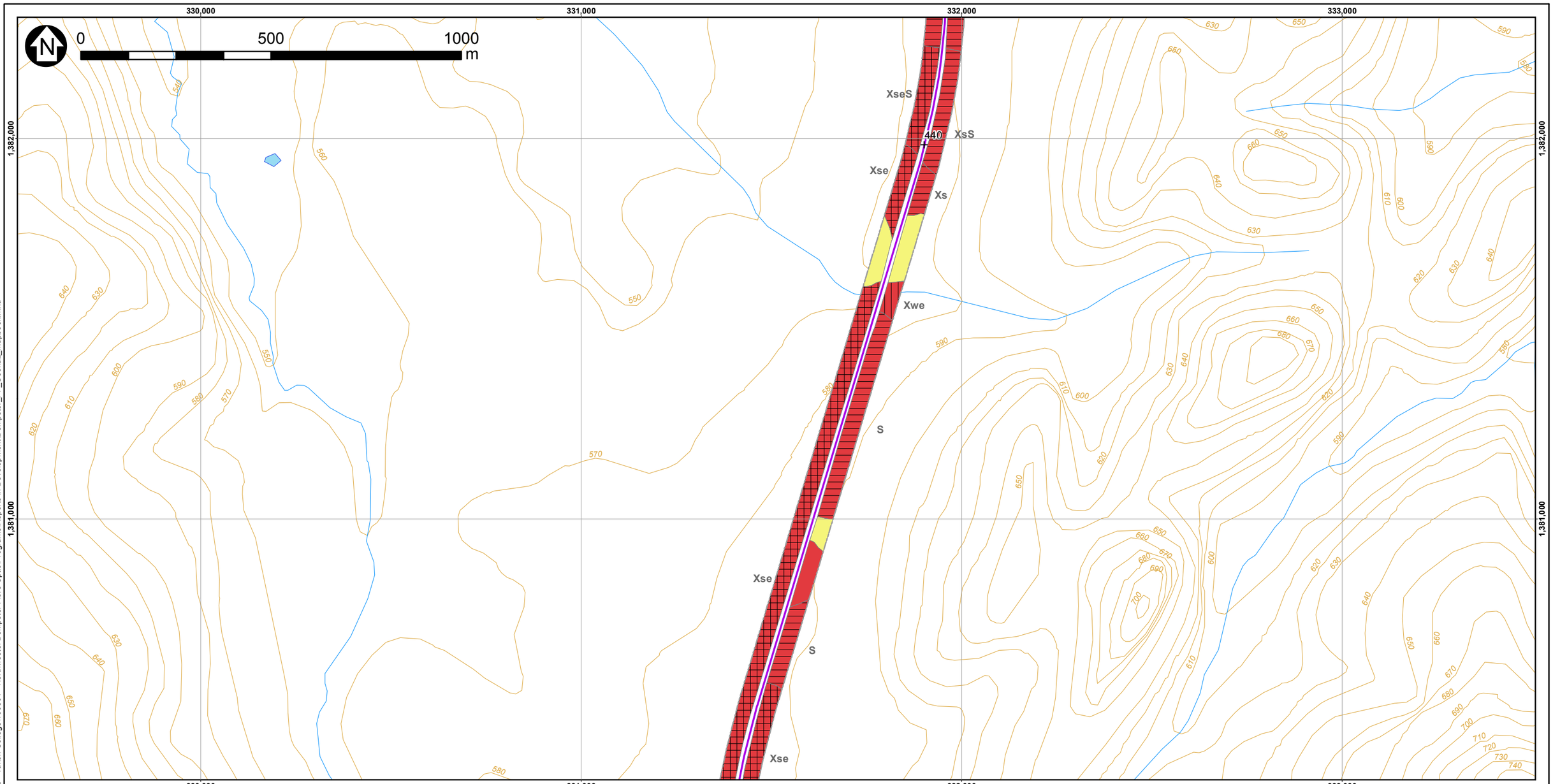


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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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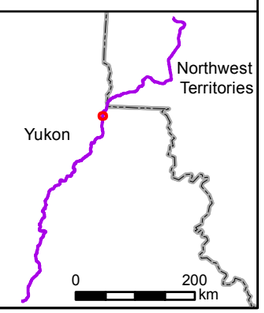

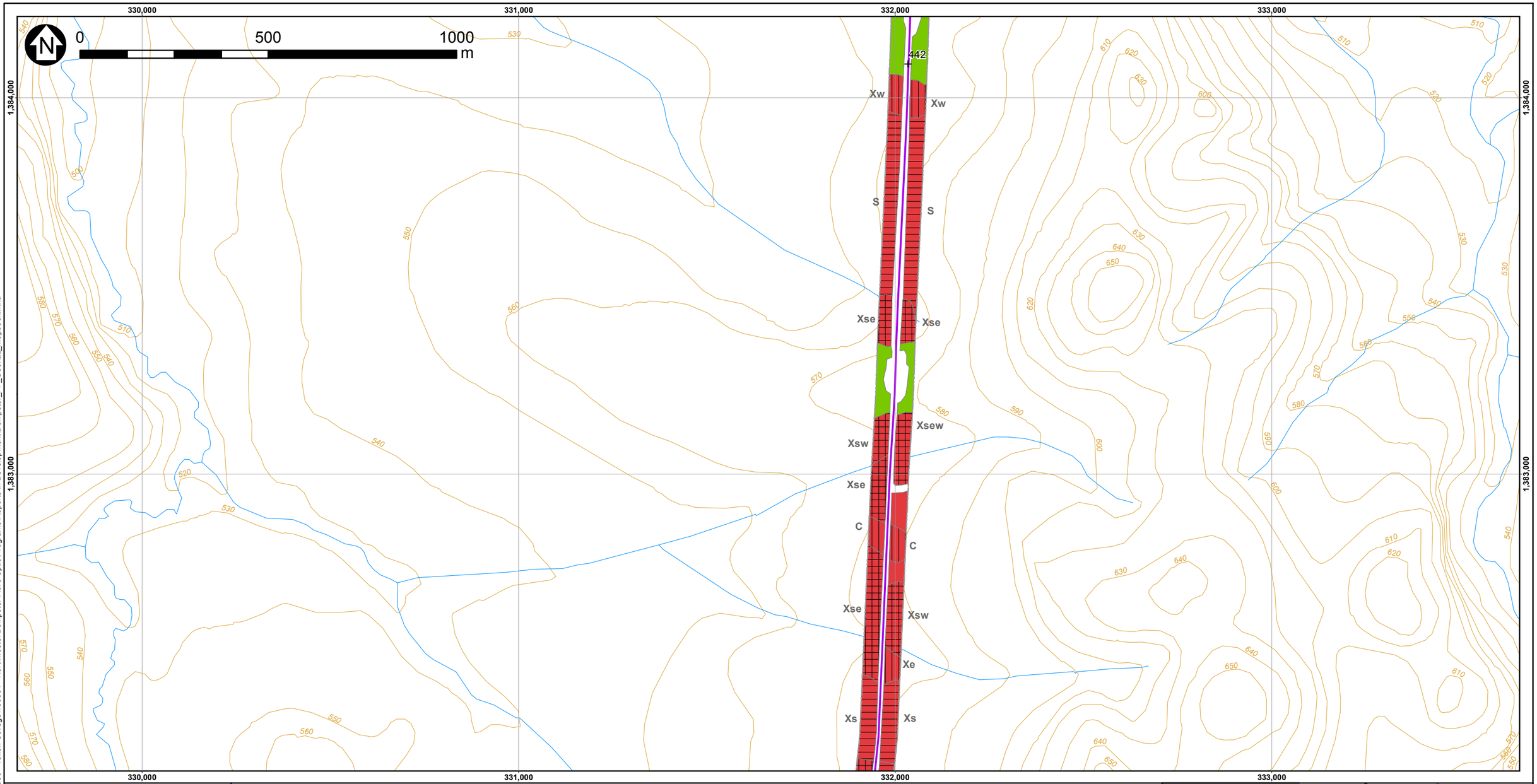


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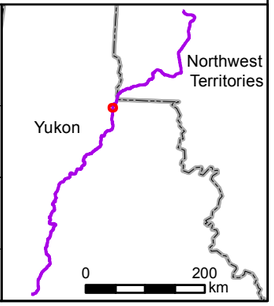

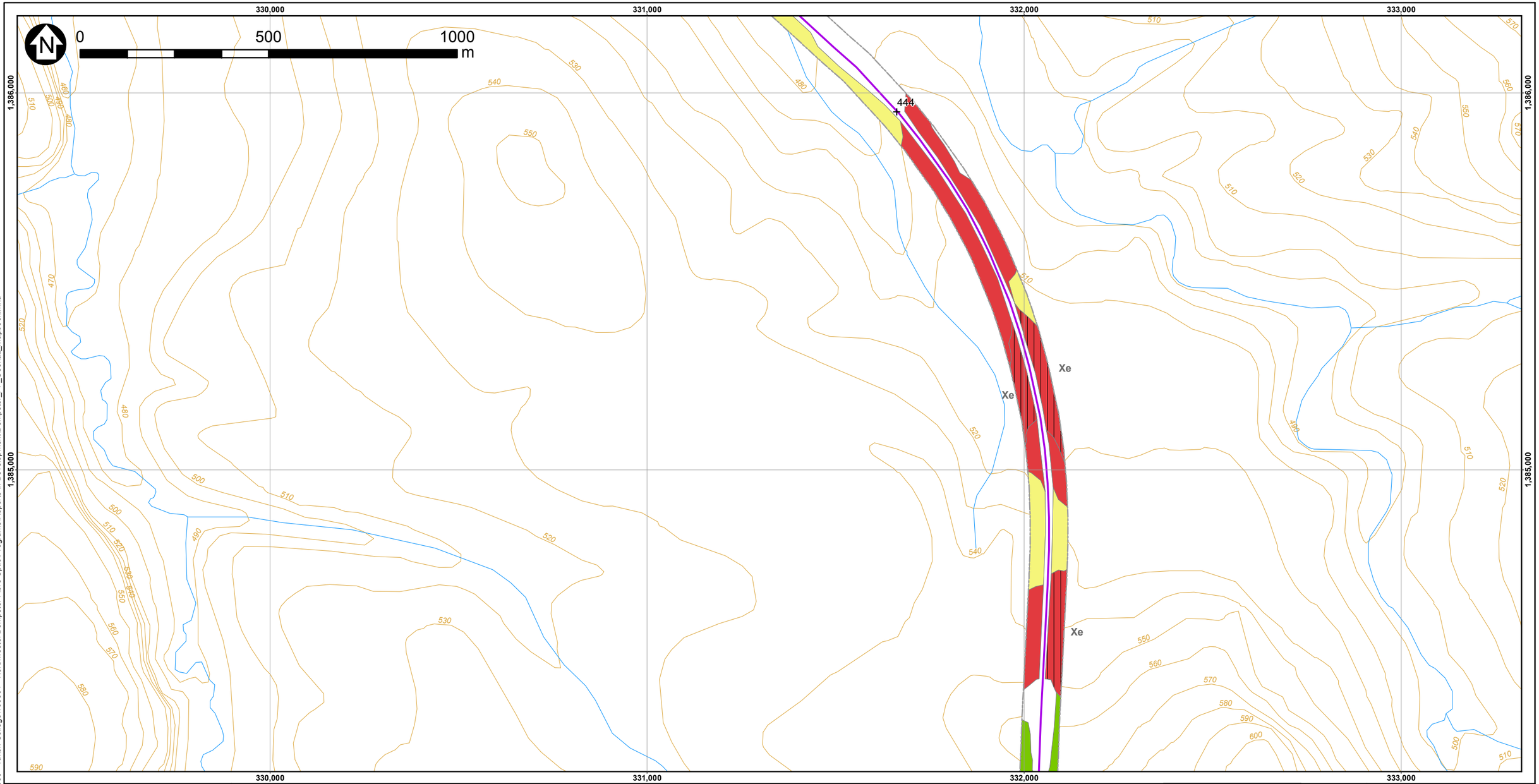


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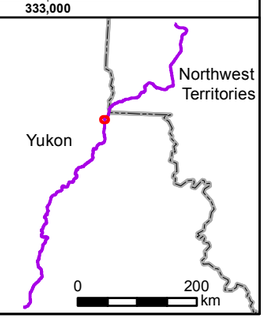


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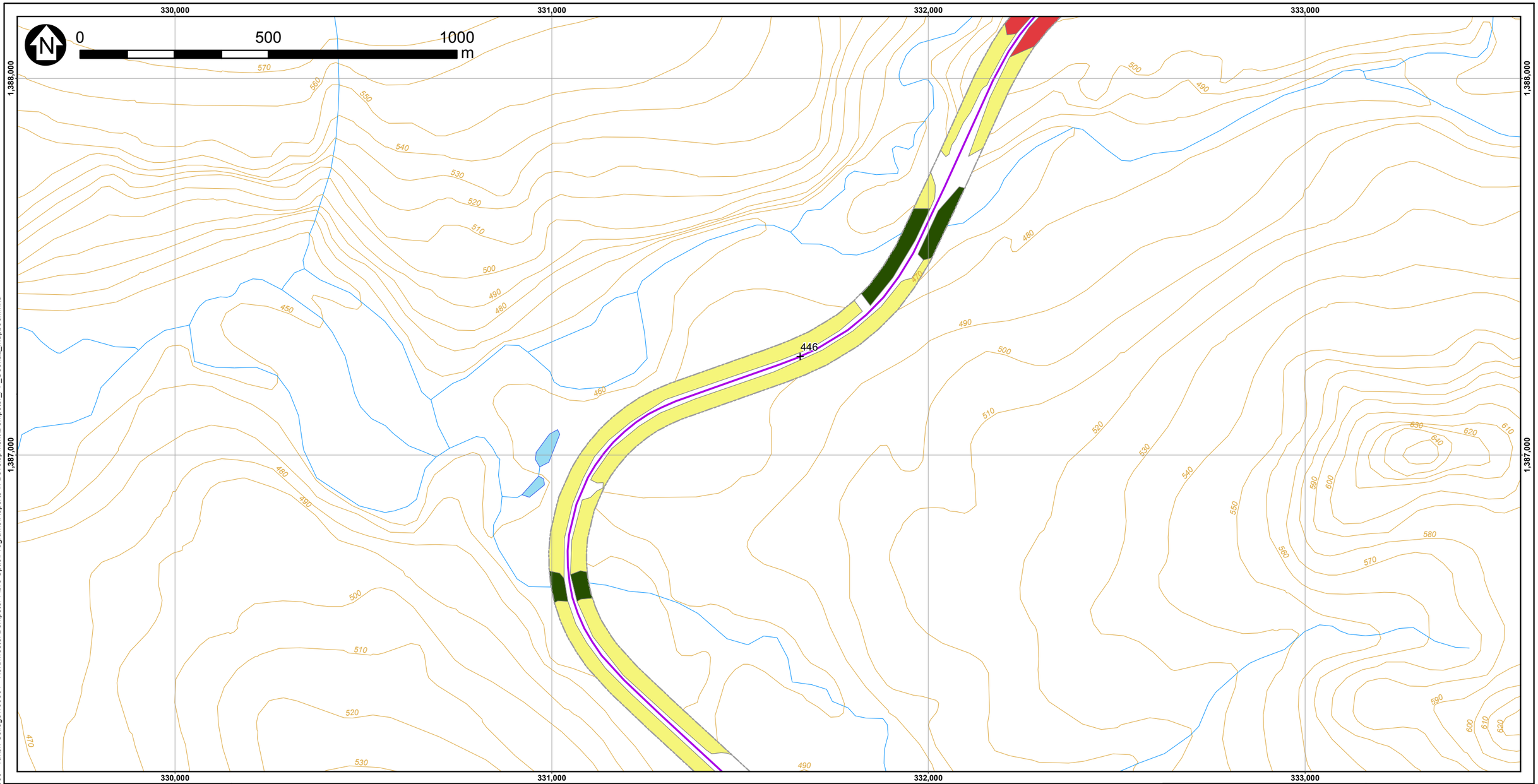


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

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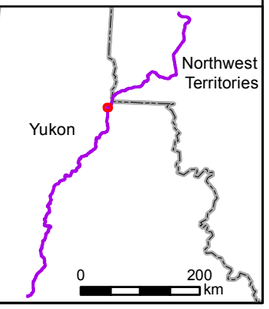
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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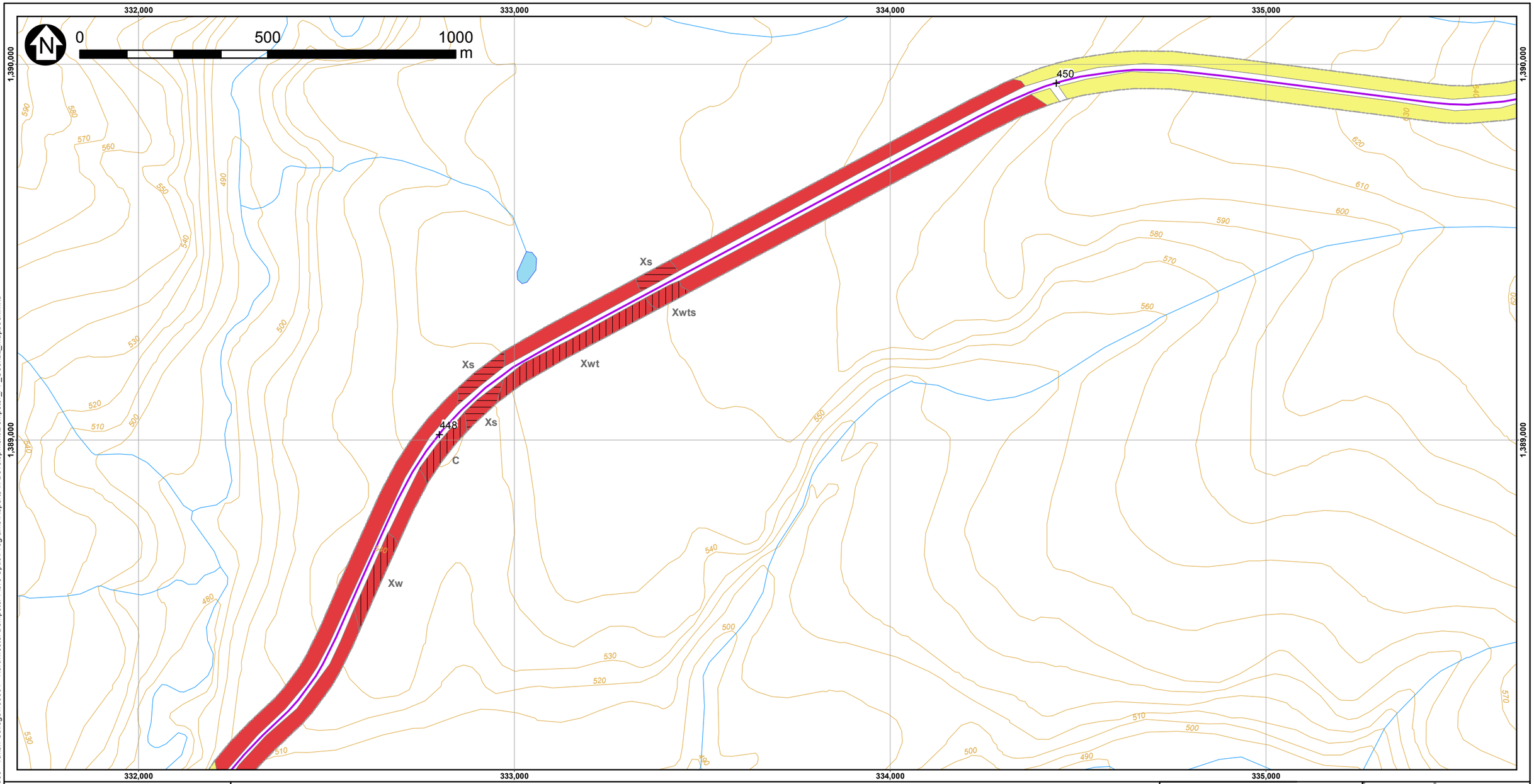


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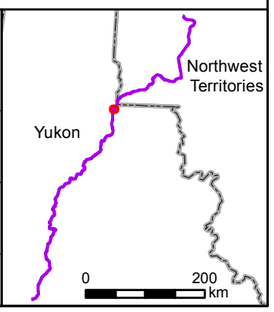


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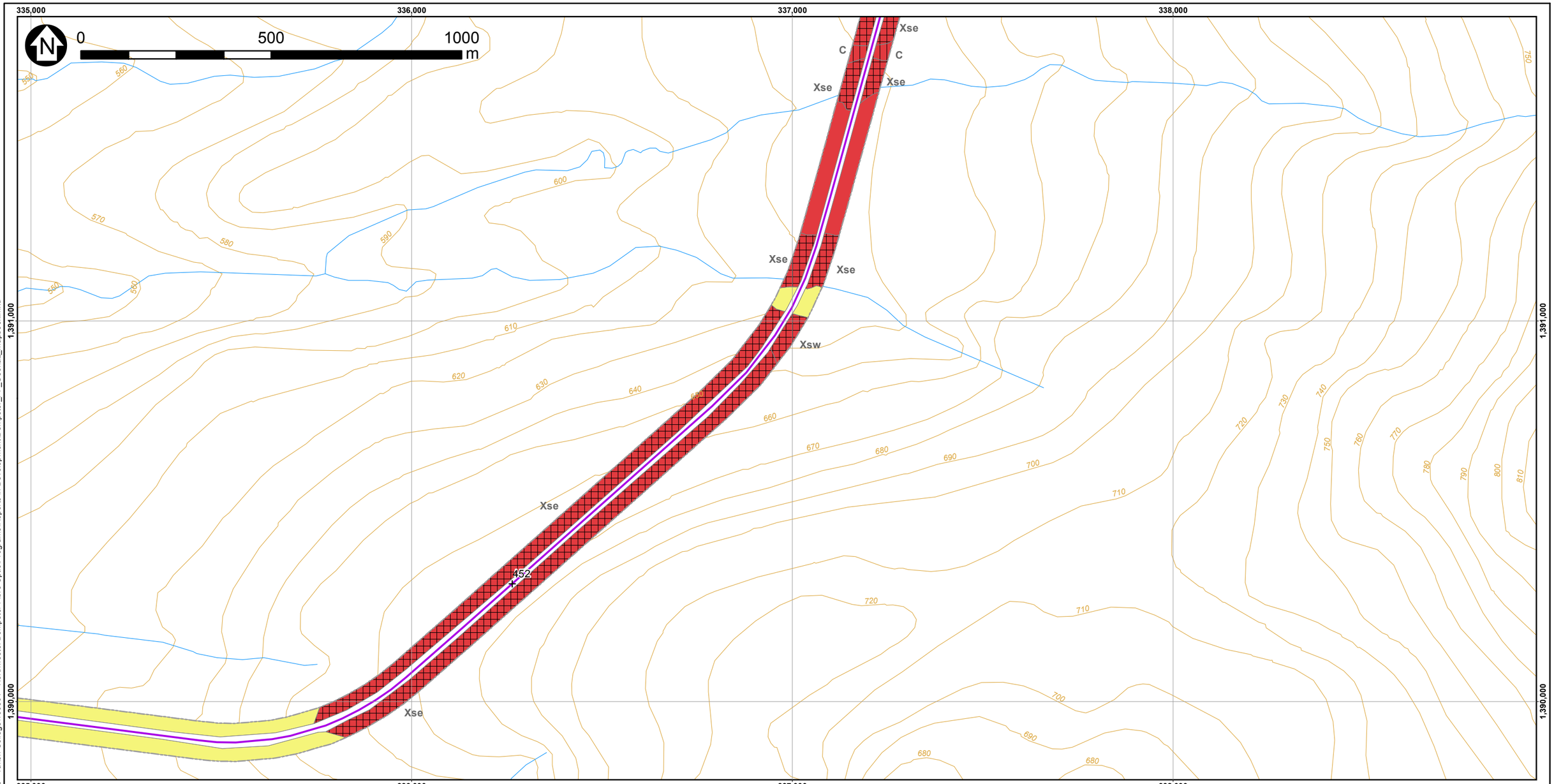


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# Dempster Highway Fibre Optic Line

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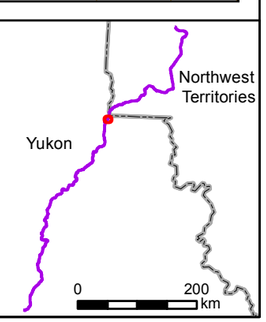

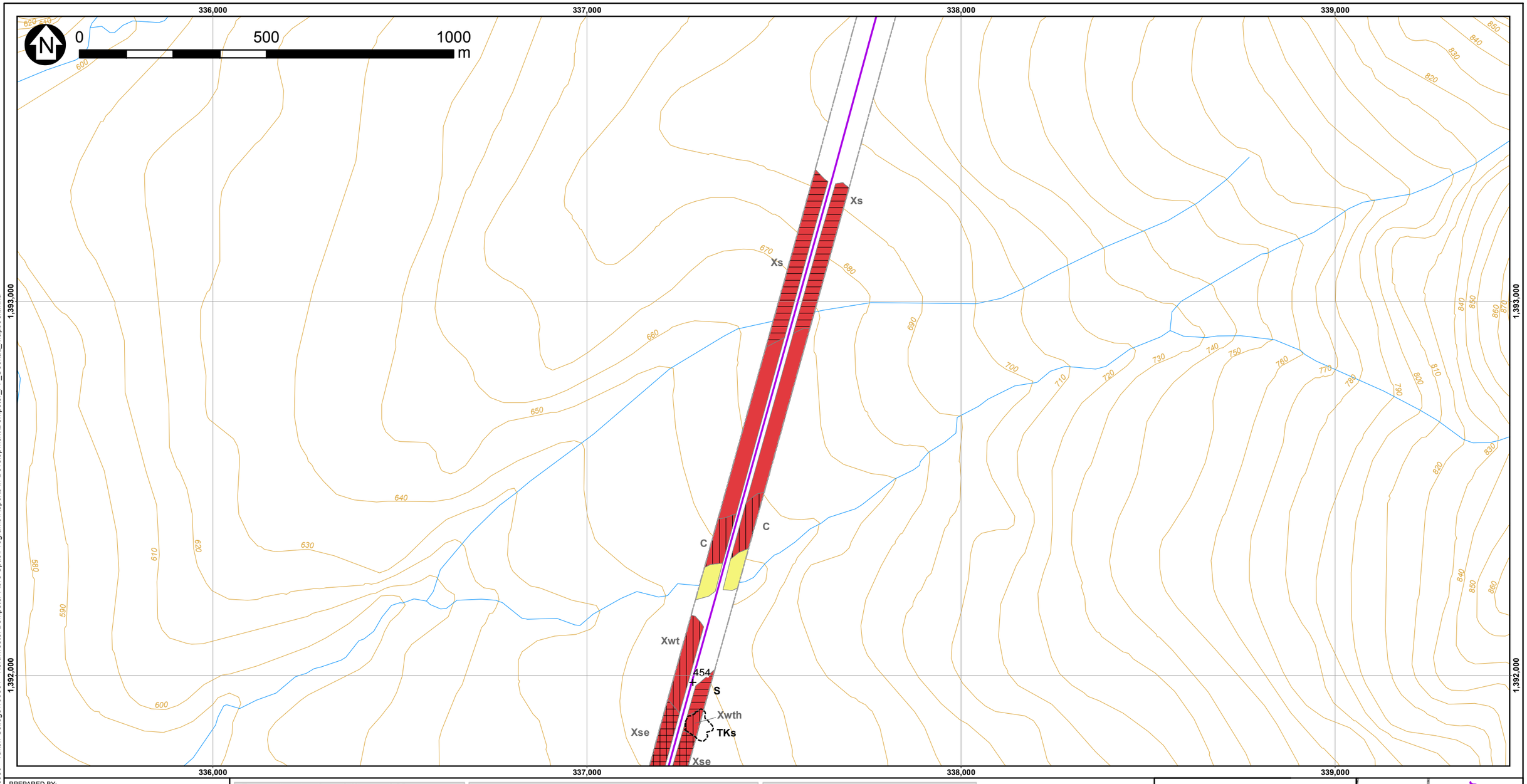


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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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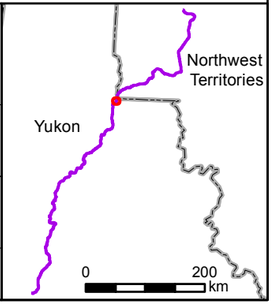


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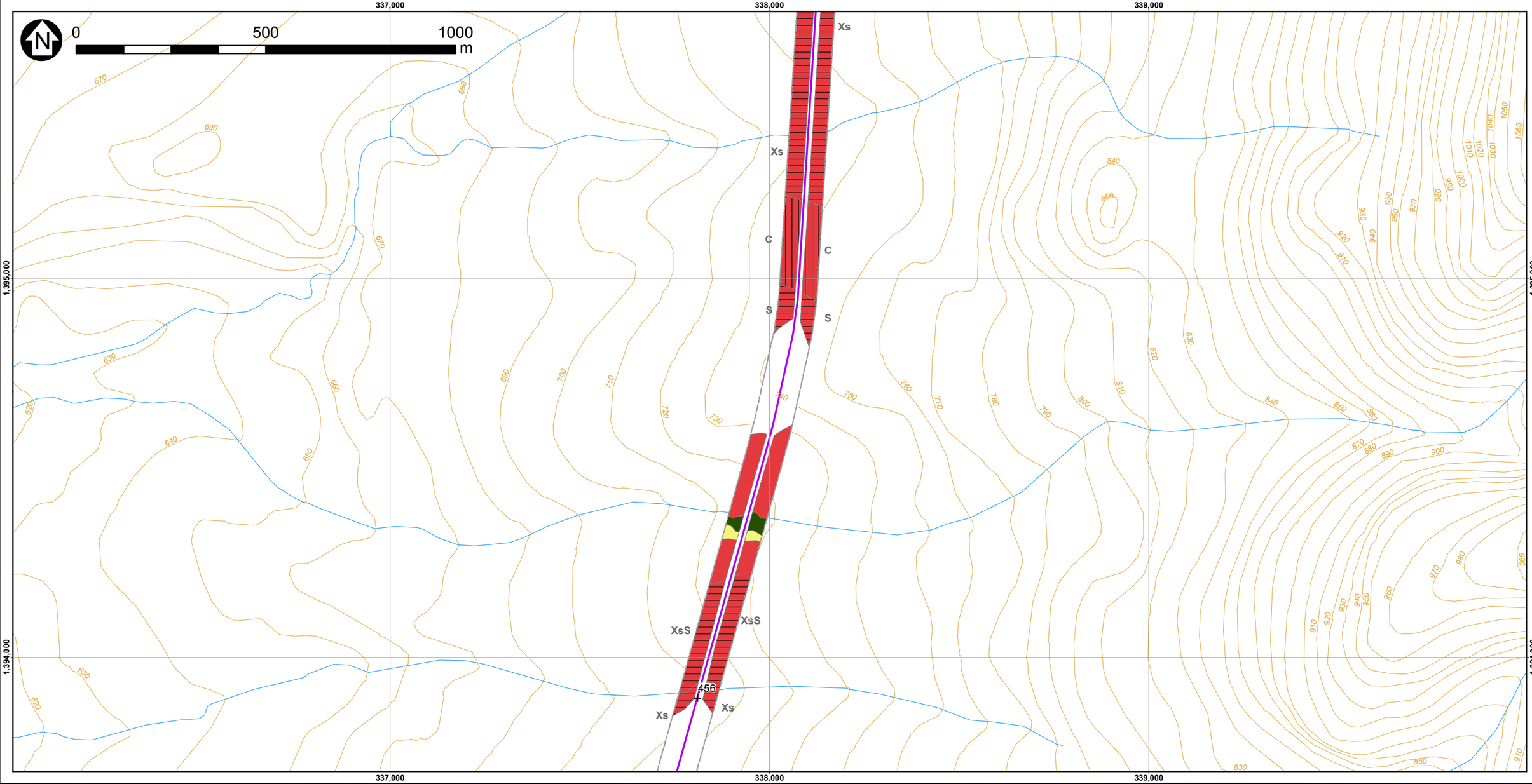


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Horizontal | Vertical | Both

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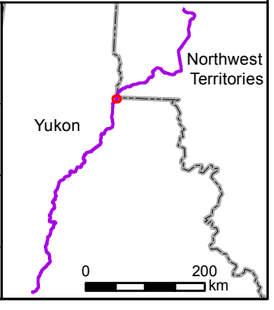


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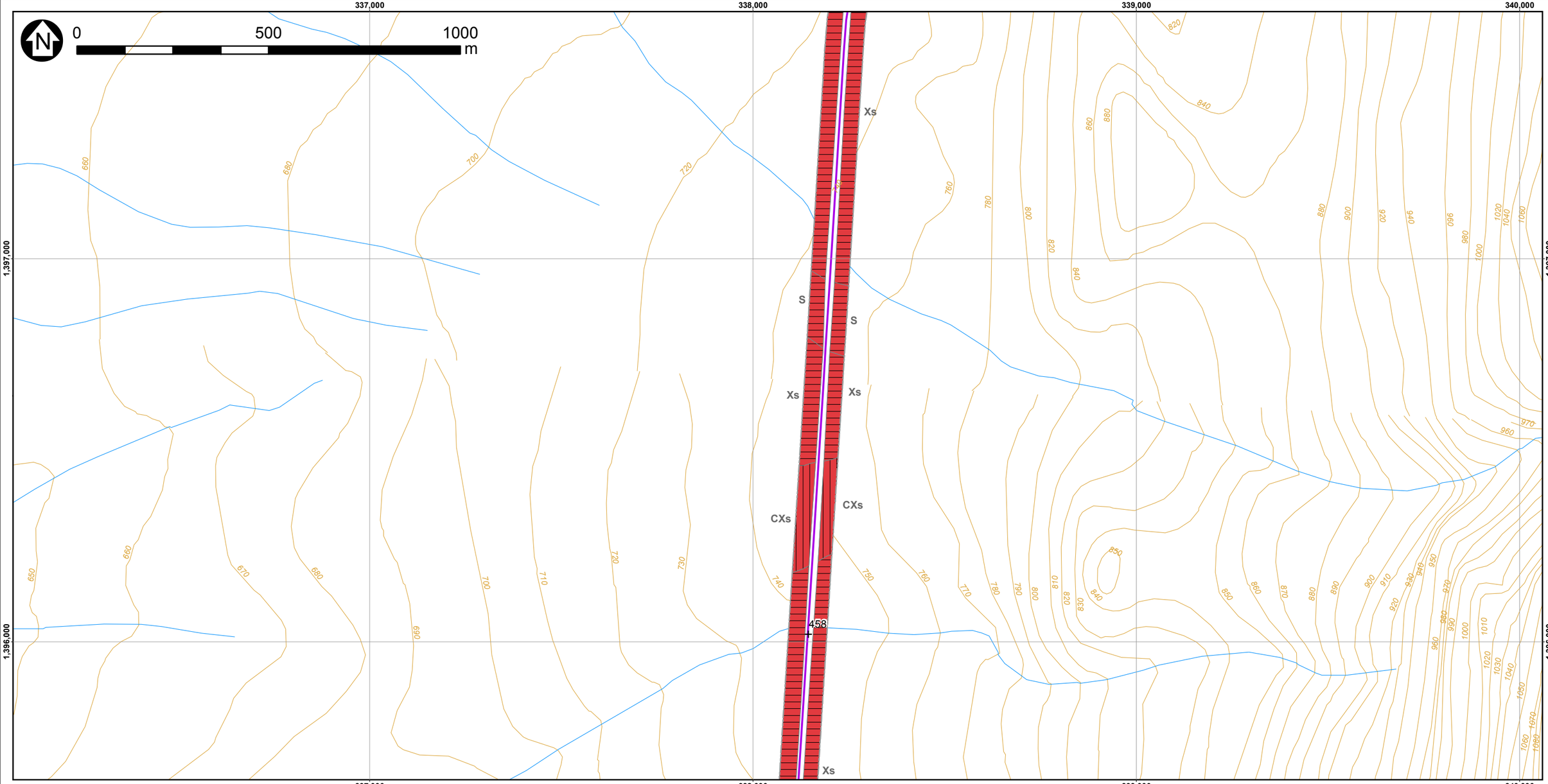


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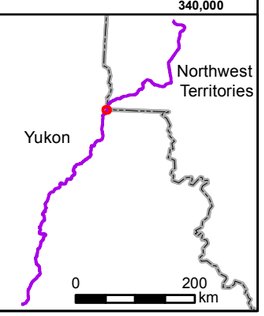

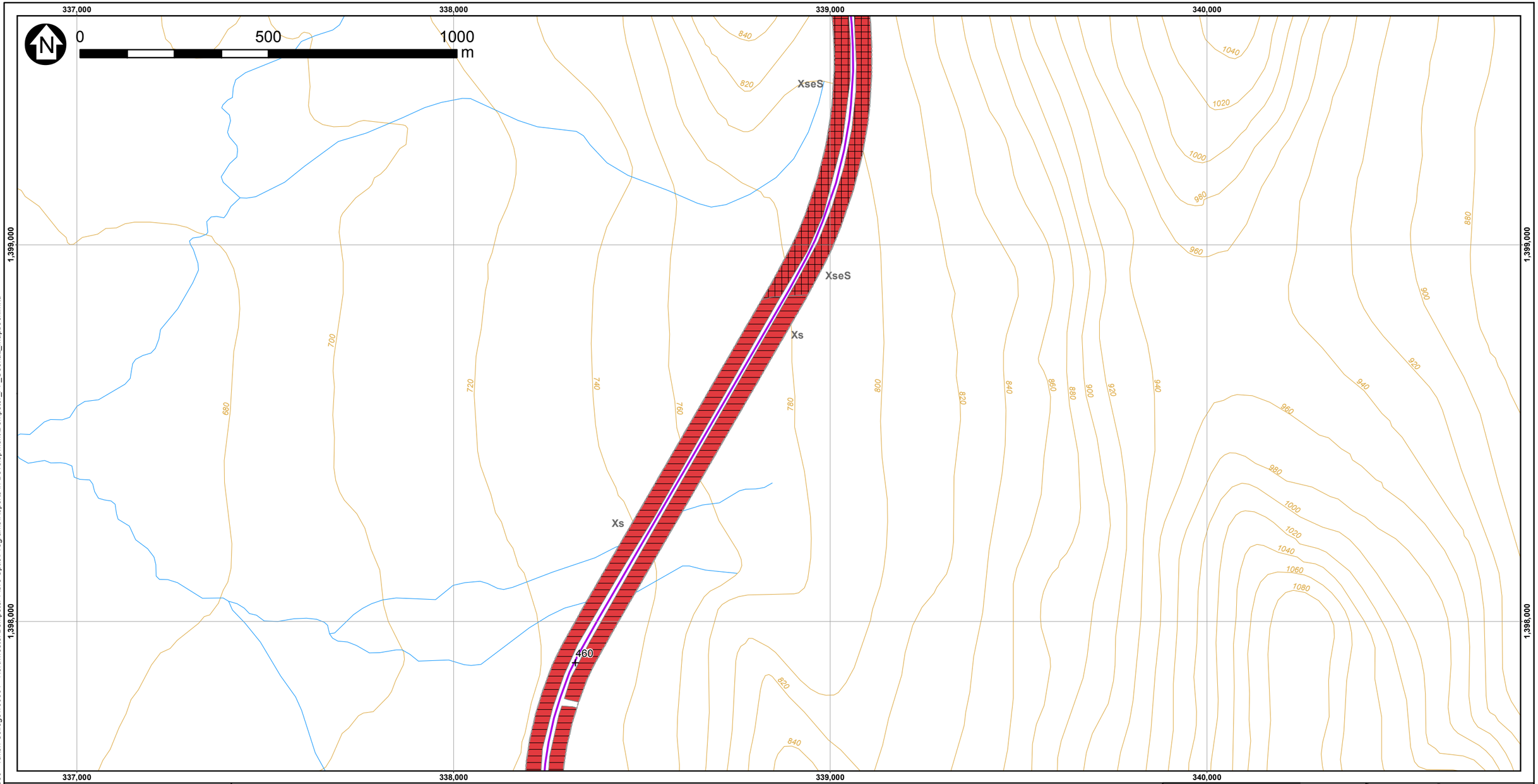


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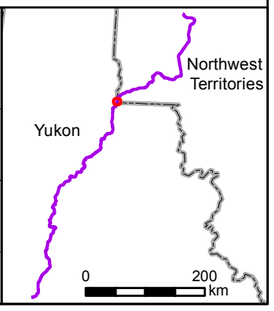


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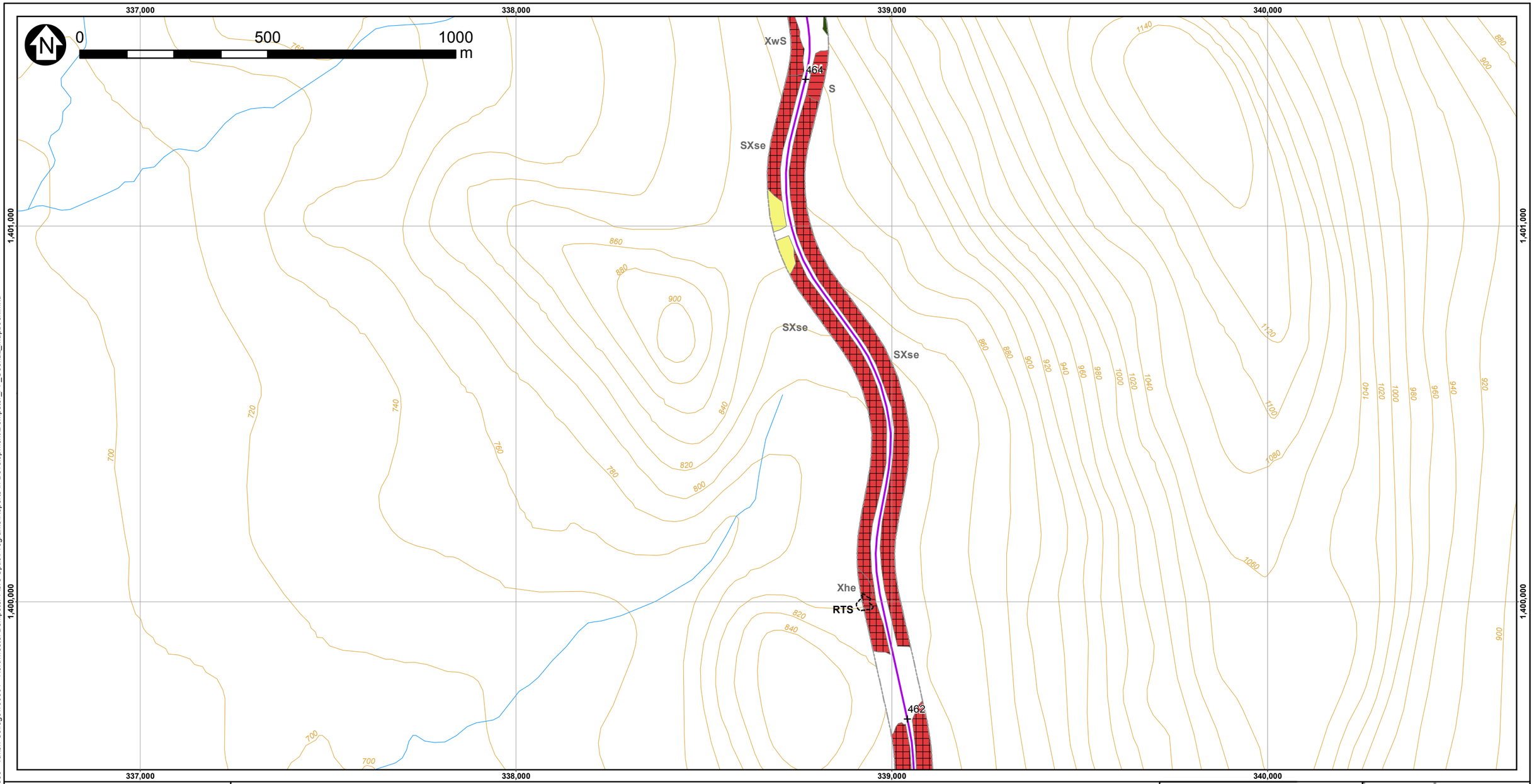


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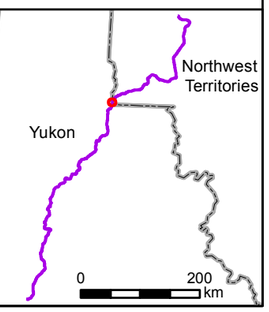
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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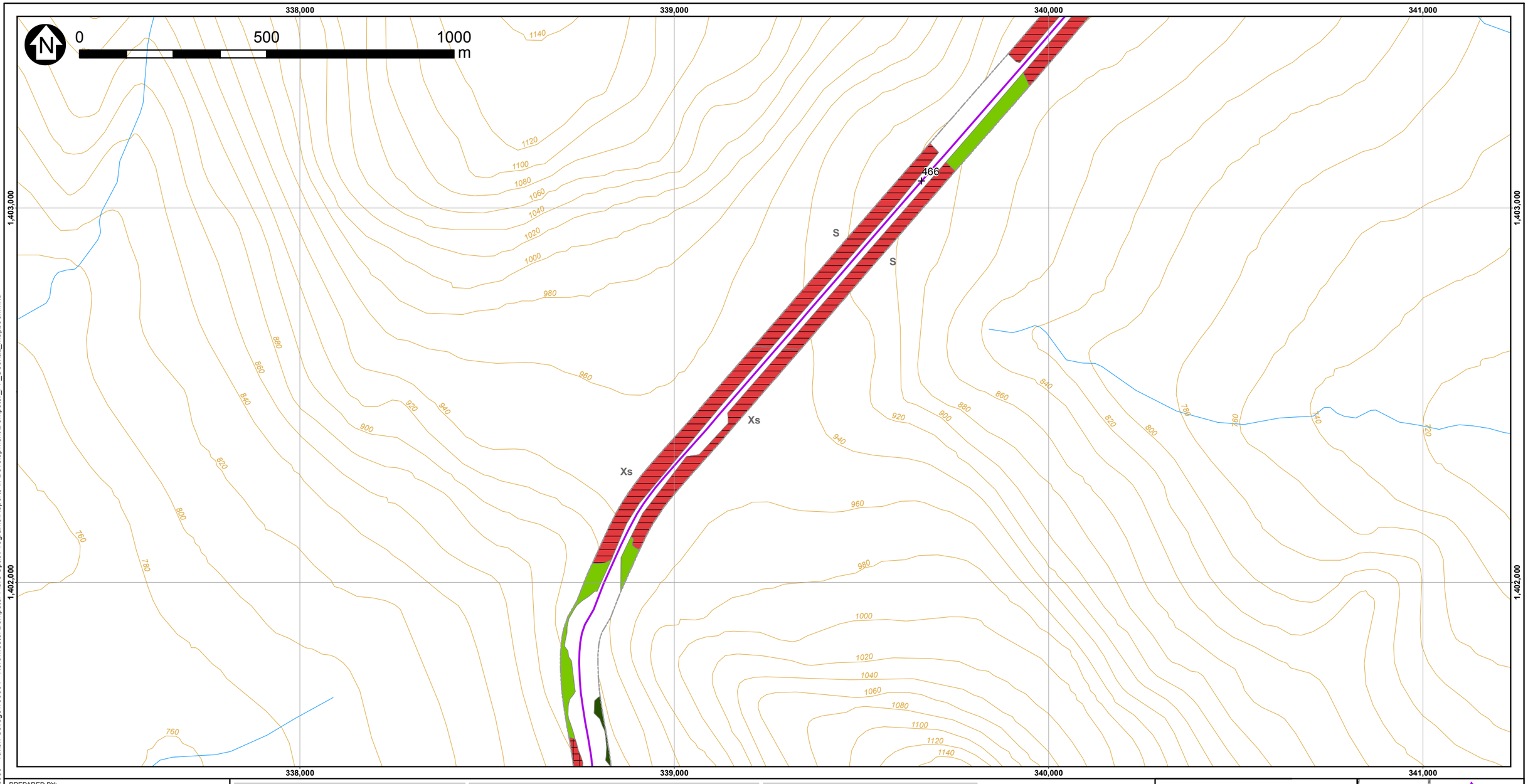


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Northern Climate ExChange
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| GEOLOGY | DS/RM/CB |
|---|---|
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
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SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
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## Mass Movement Geohazard

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
- ***RTS*** - Retrogressive Thaw Slump
- ***RF*** - Rockfall
- ***DF*** - Debris Flow
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## Periglacial Process/Feature

- ***Xs*** - Slopewash
- ***Xe*** - Thermal Erosion
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## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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LEDCOR GROUP

NorthwesTel

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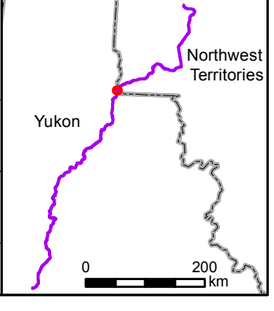

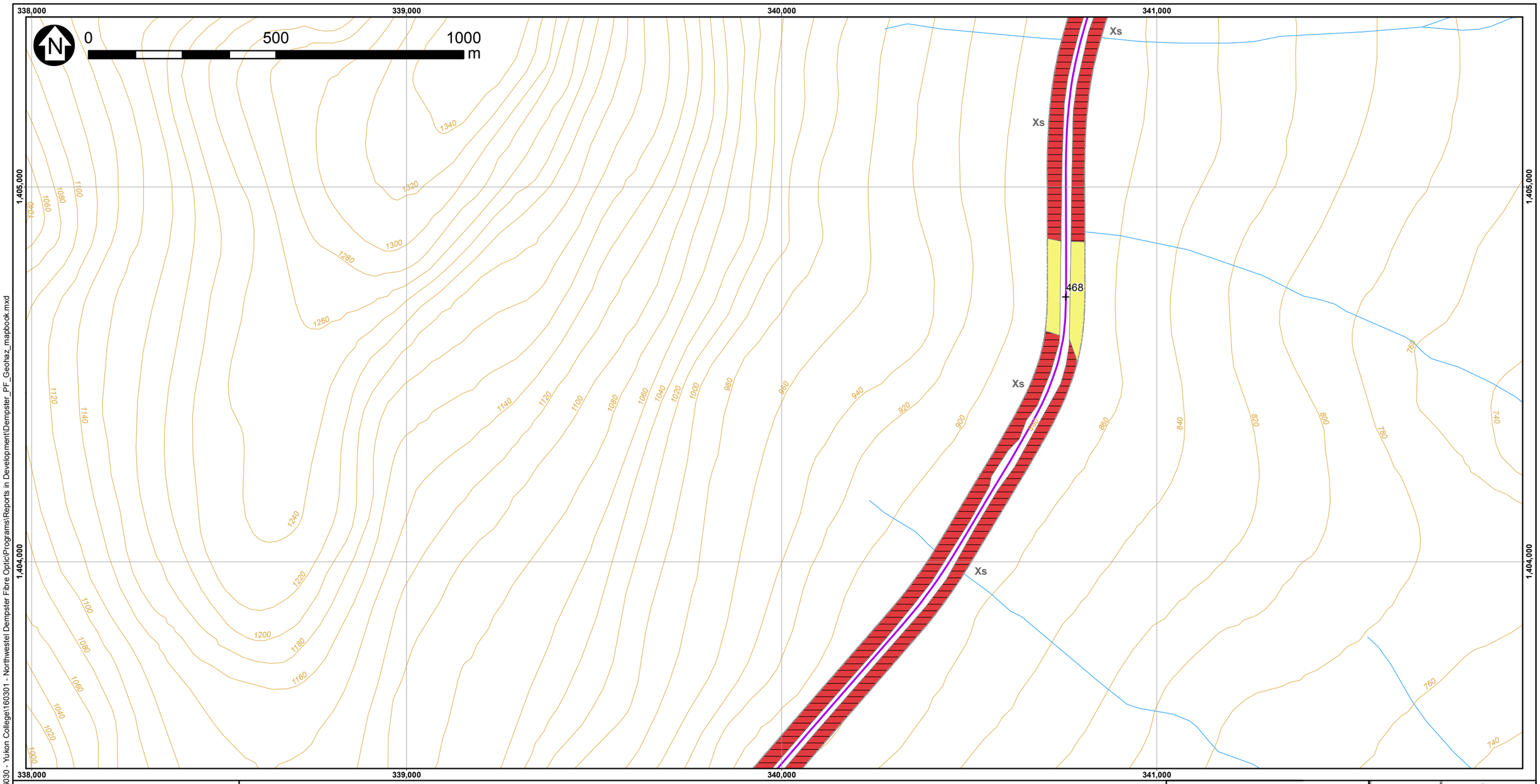


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# Dempster Highway Fibre Optic Line

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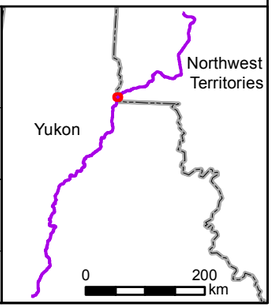

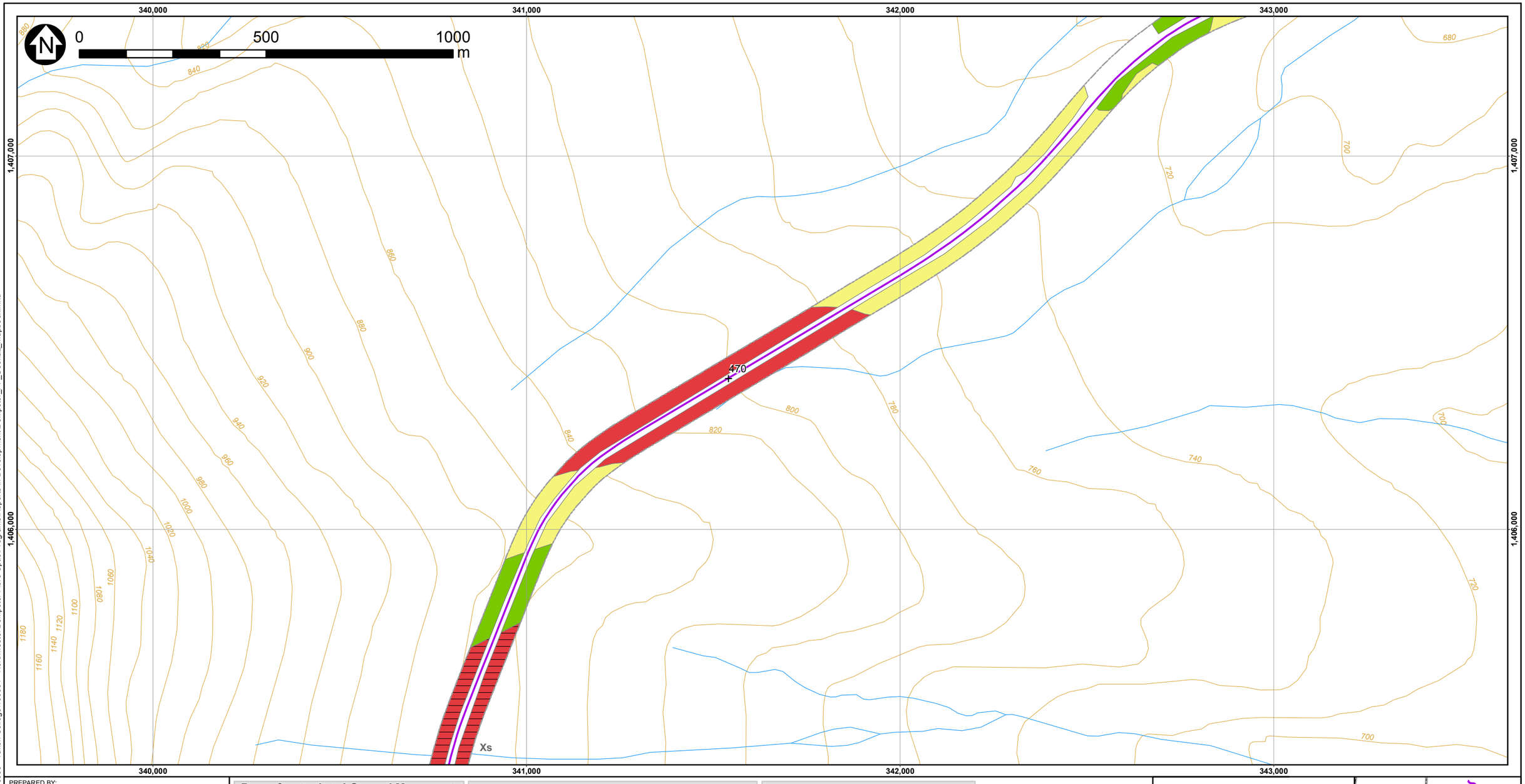


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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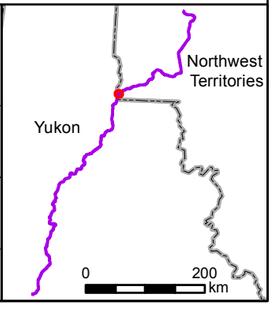


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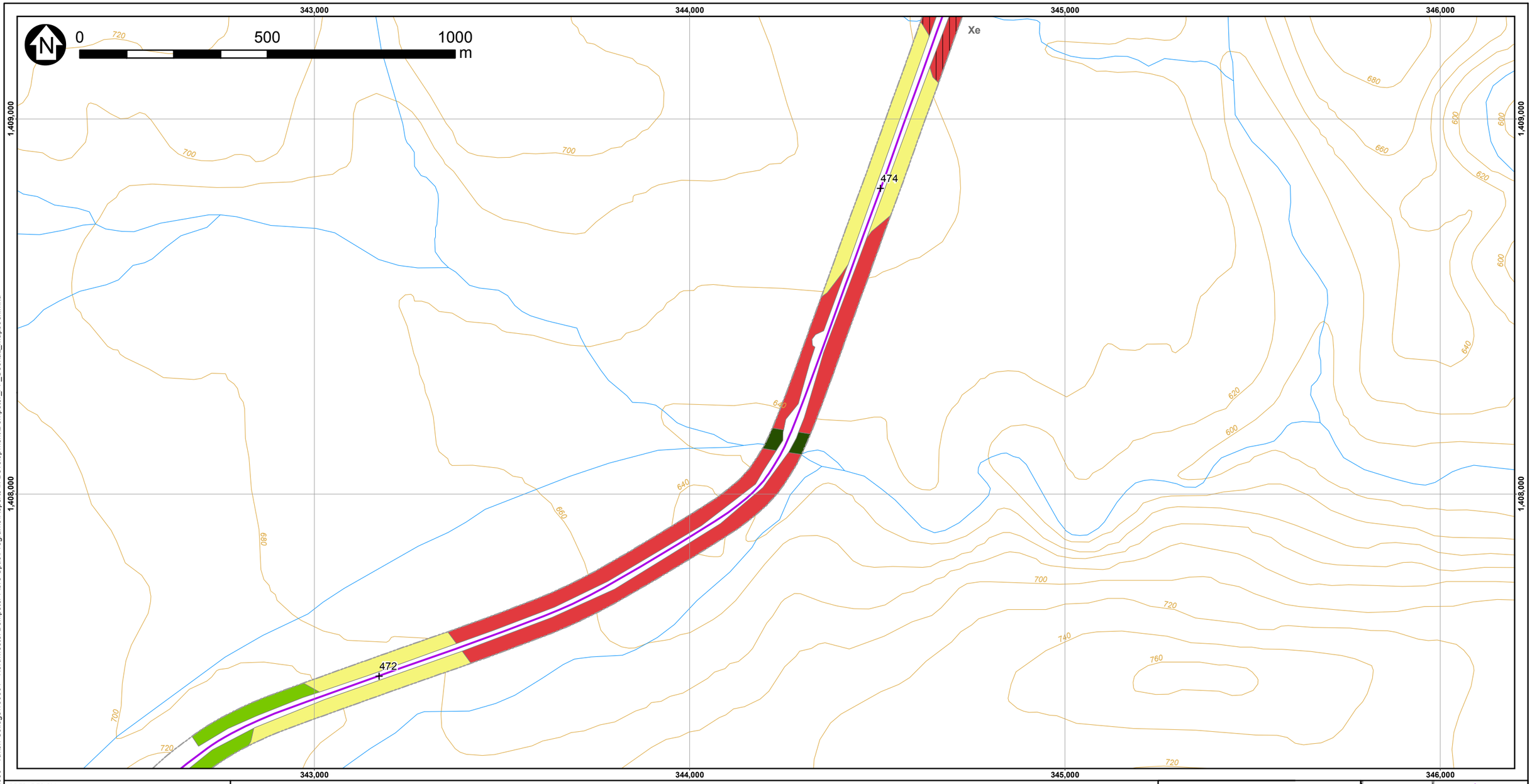


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Horizontal | Vertical | Both

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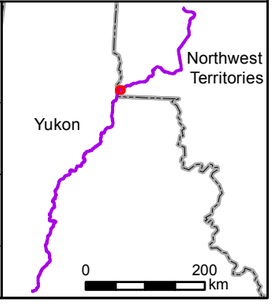


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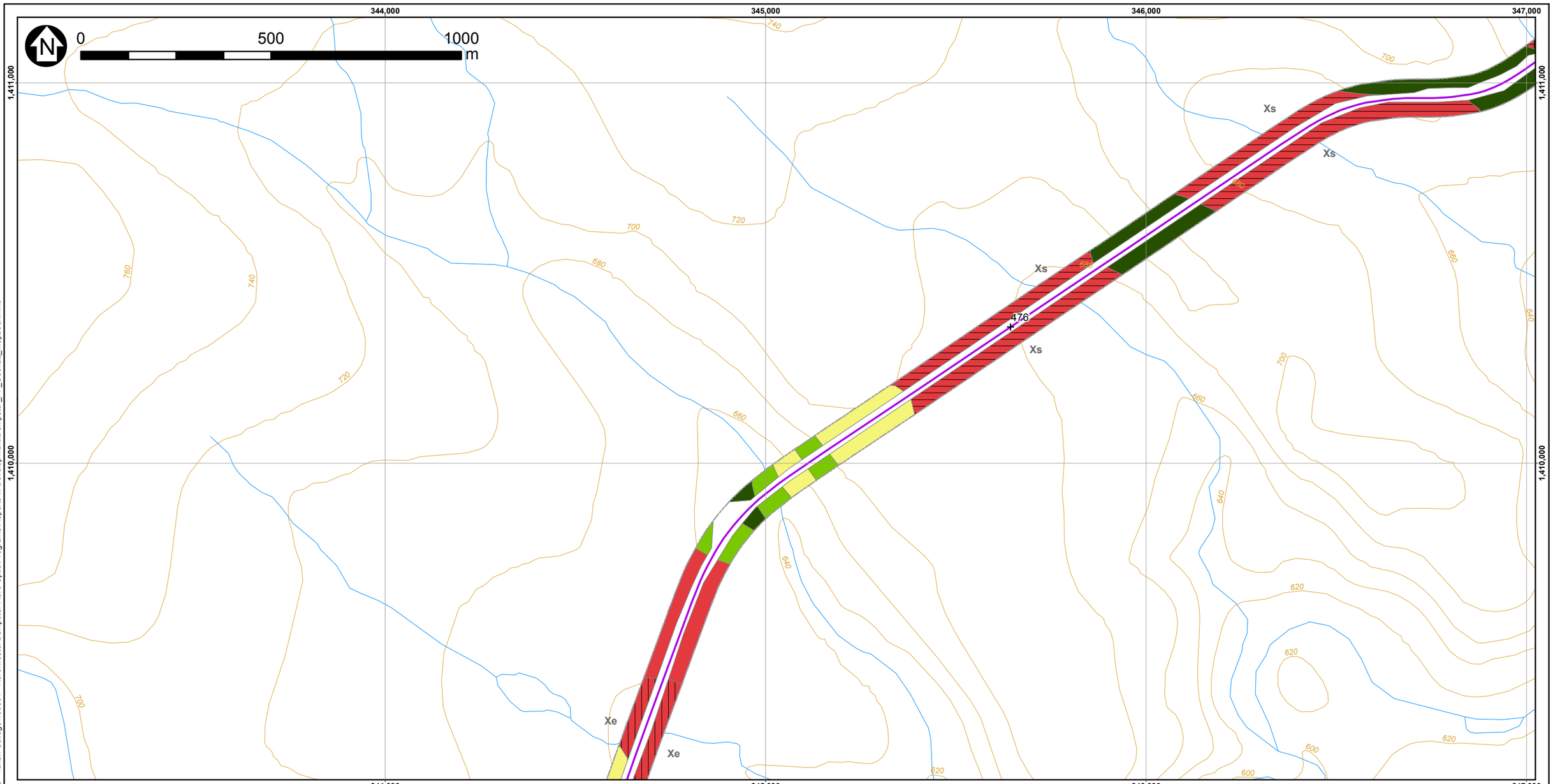


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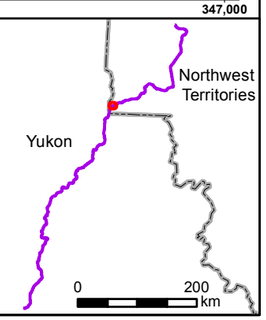

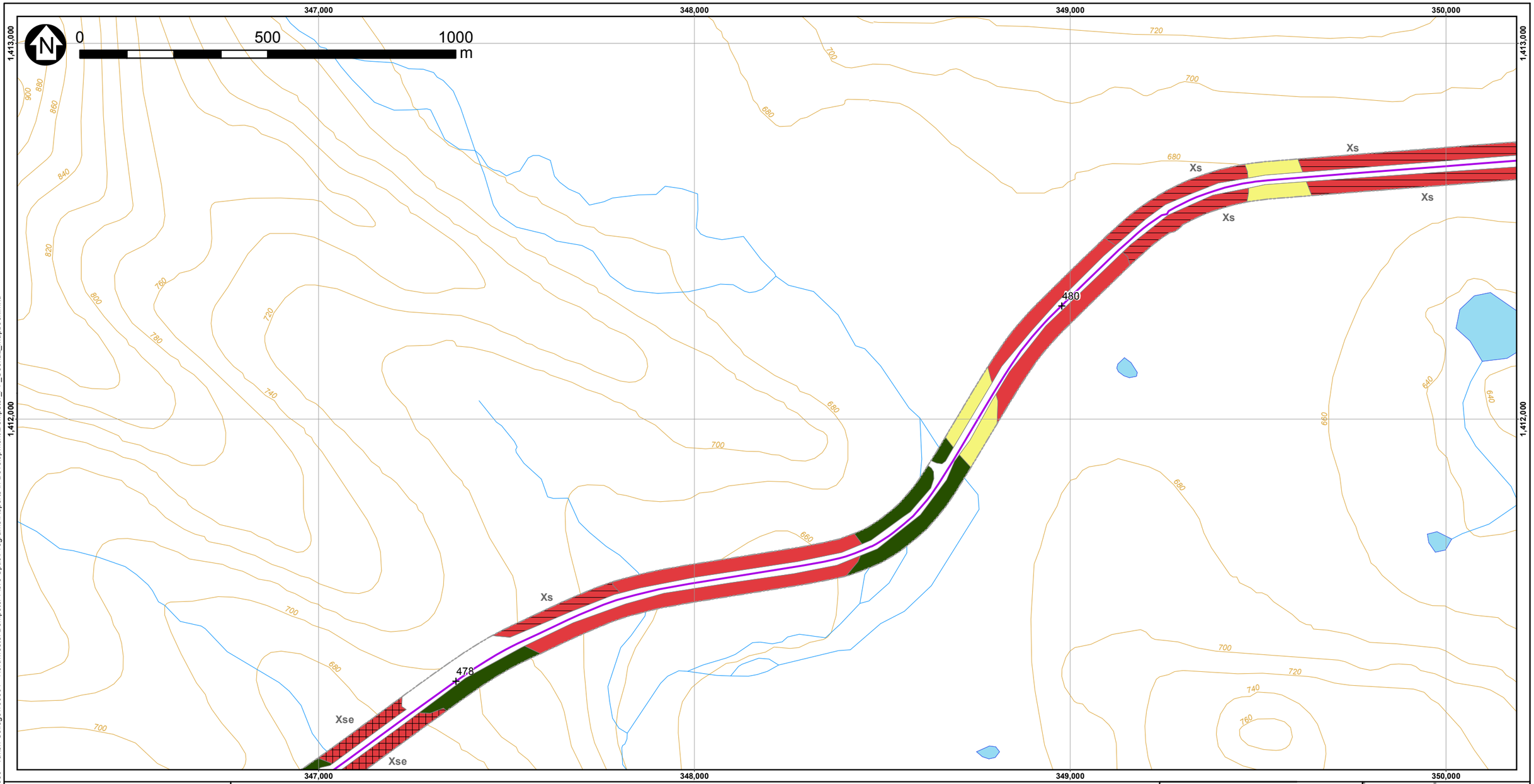


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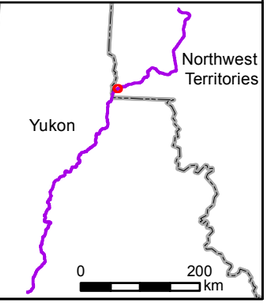

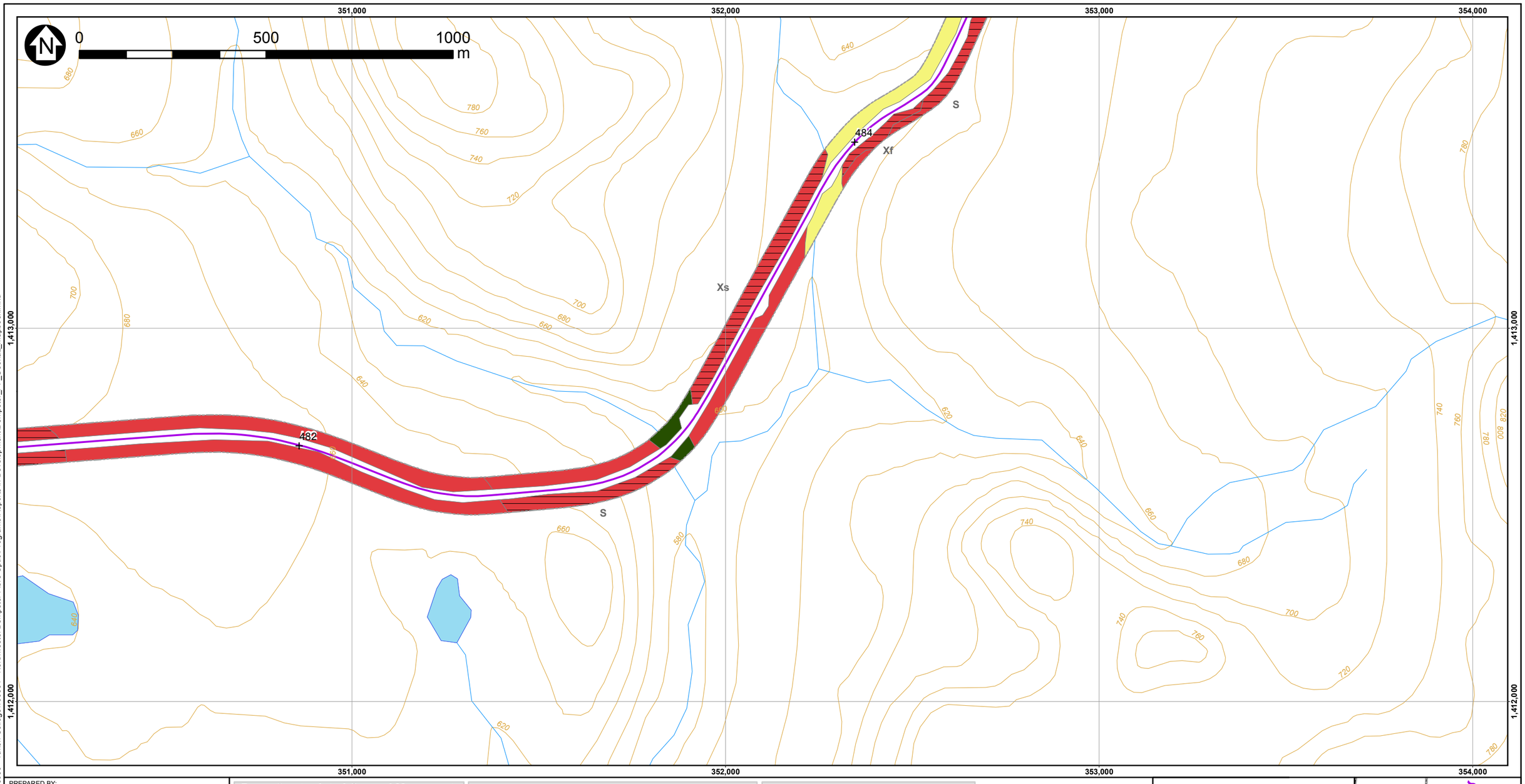


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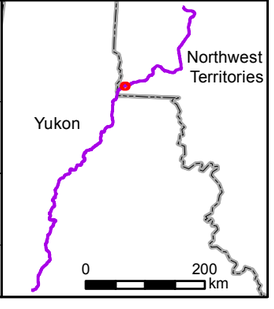

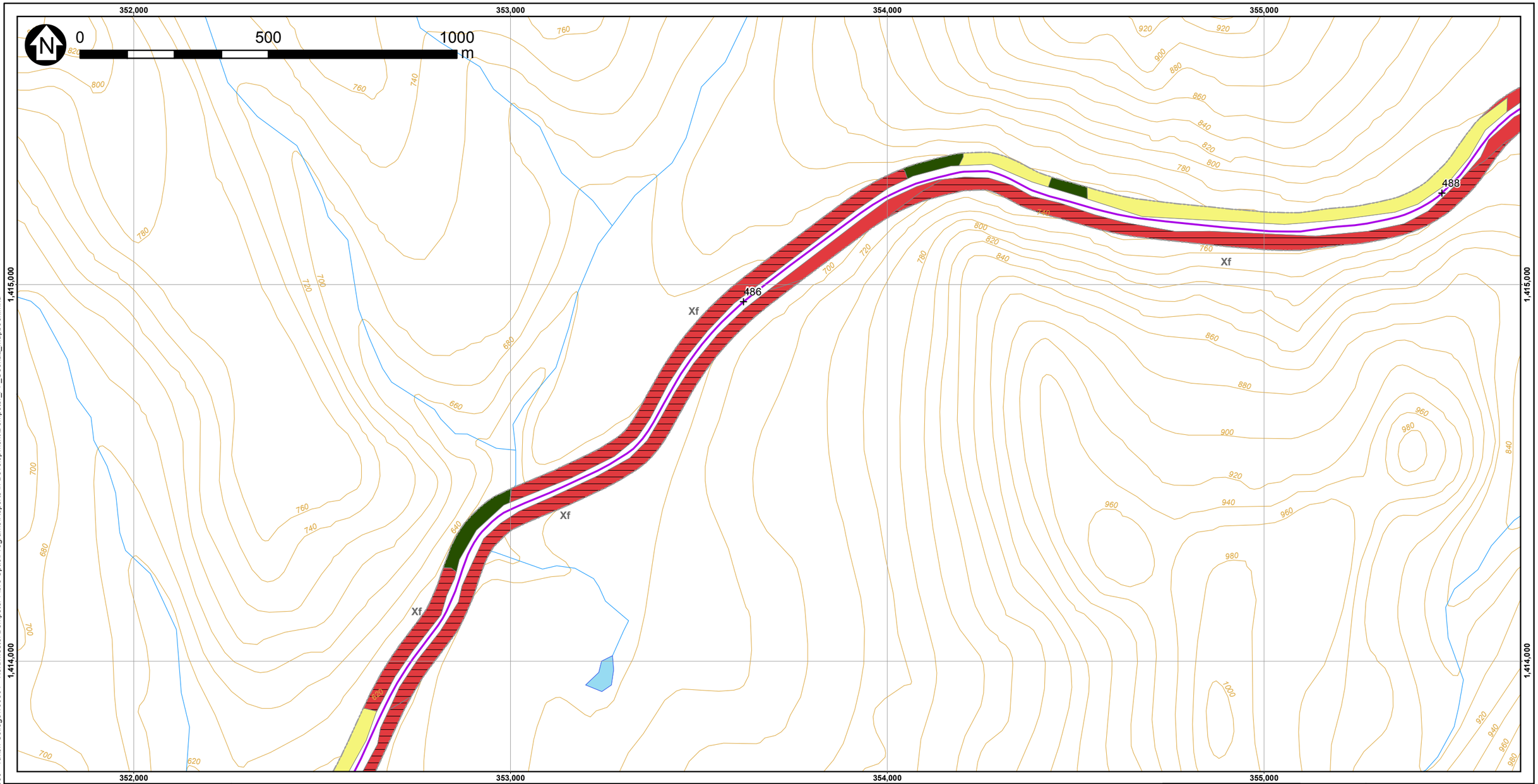


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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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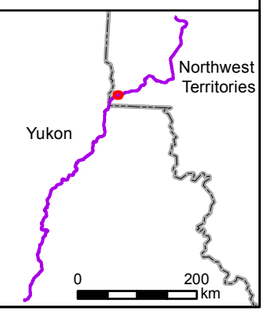
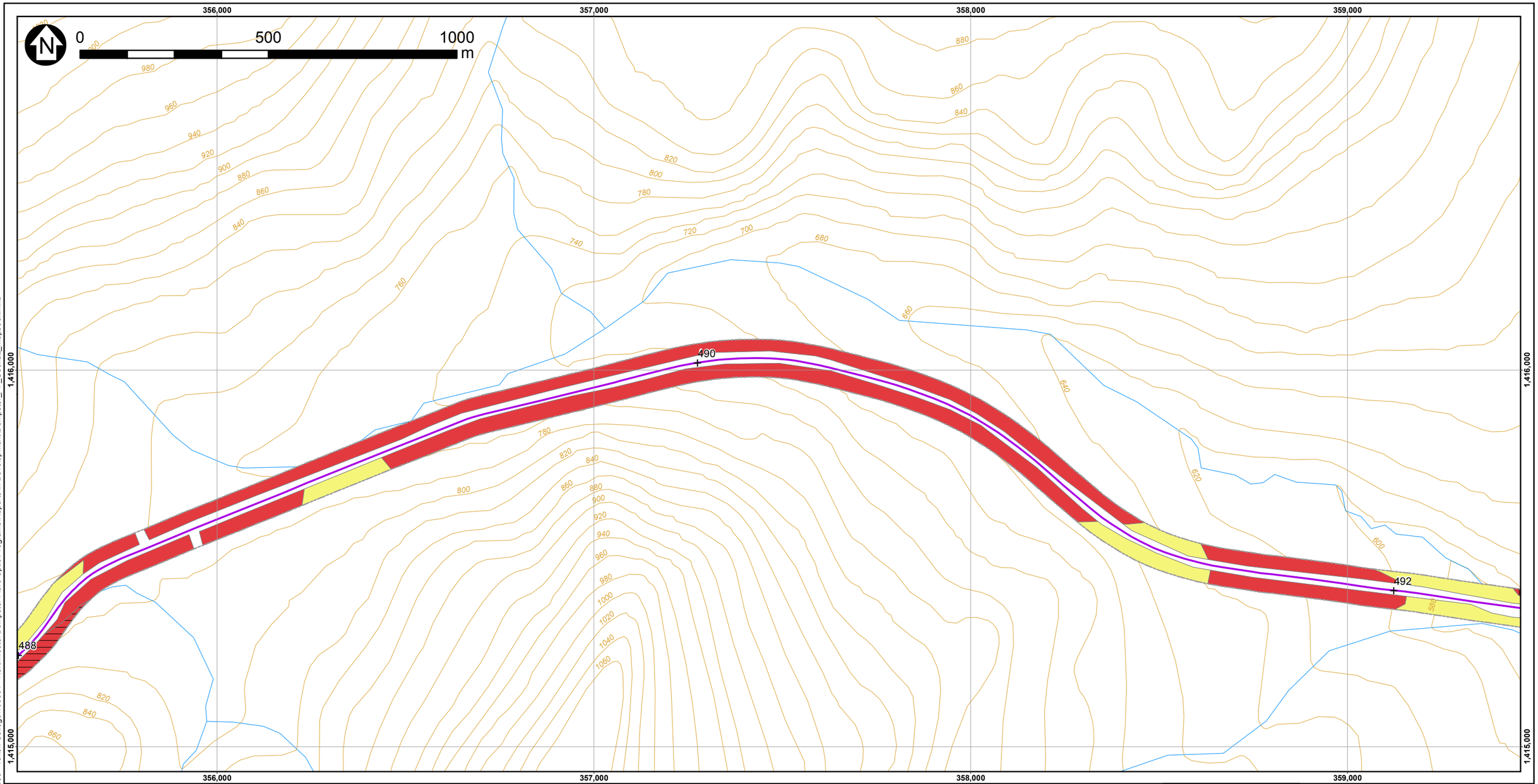
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
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**Dempster Highway Fibre Optic Line**

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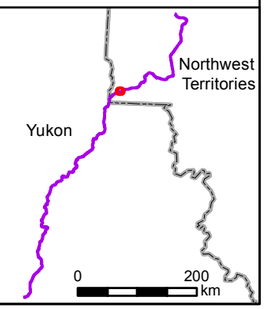


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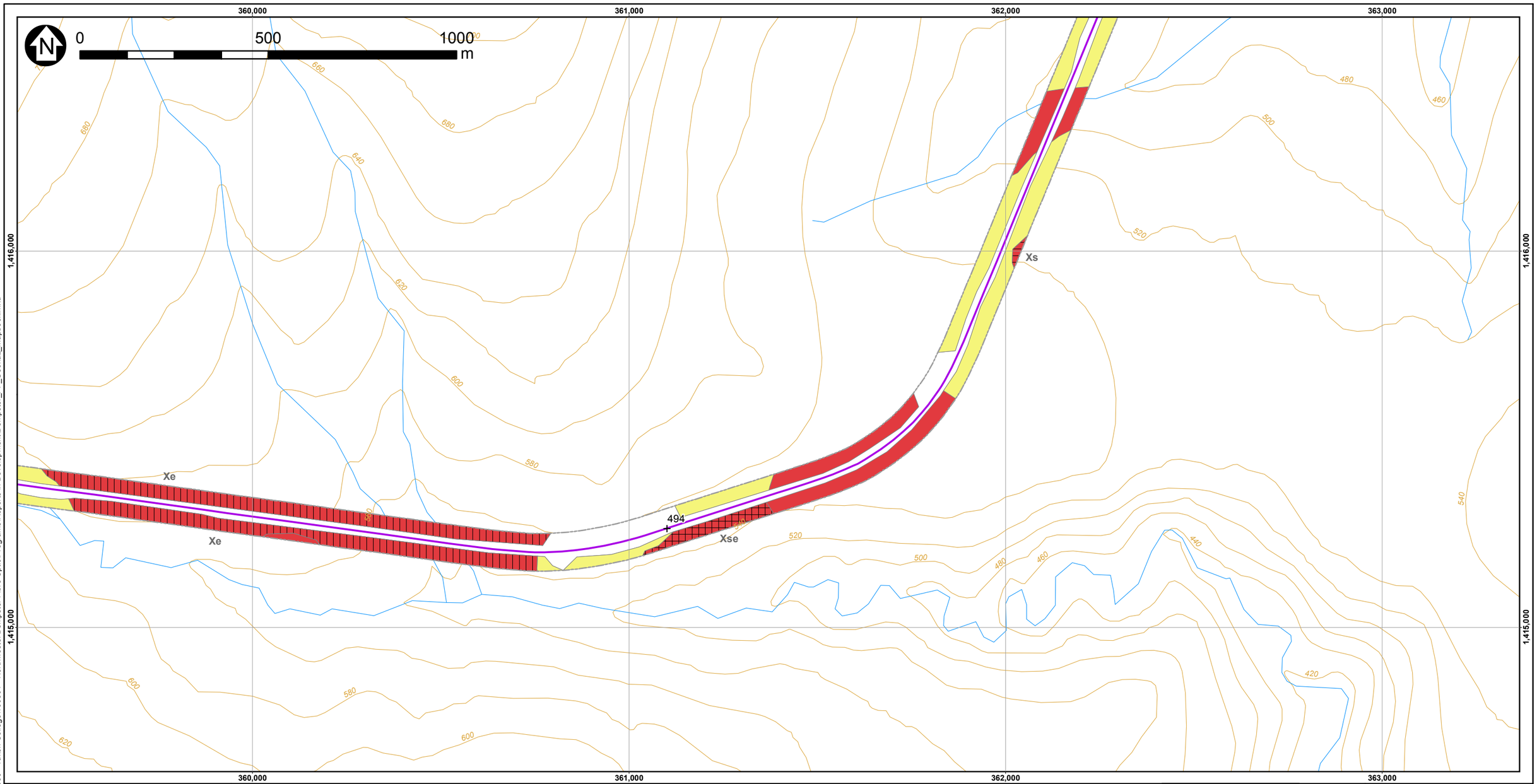


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# Dempster Highway Fibre Optic Line

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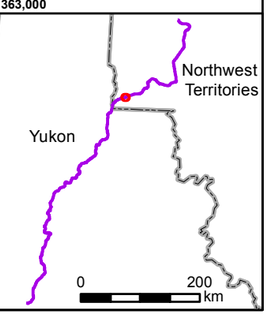

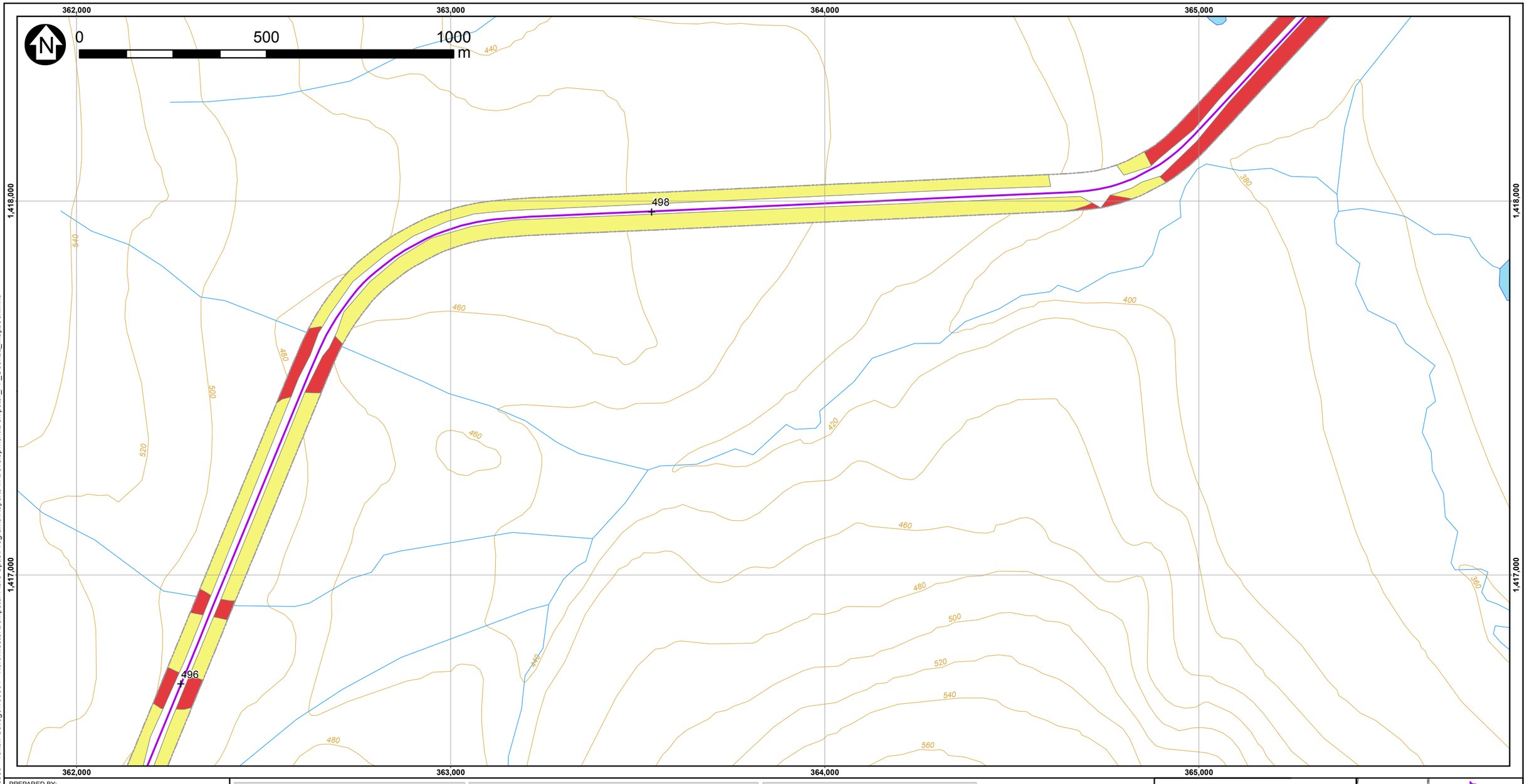


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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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# Dempster Highway Fibre Optic Line

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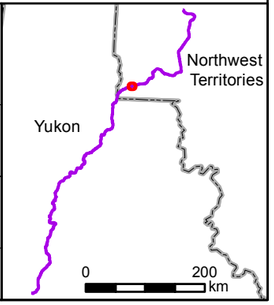

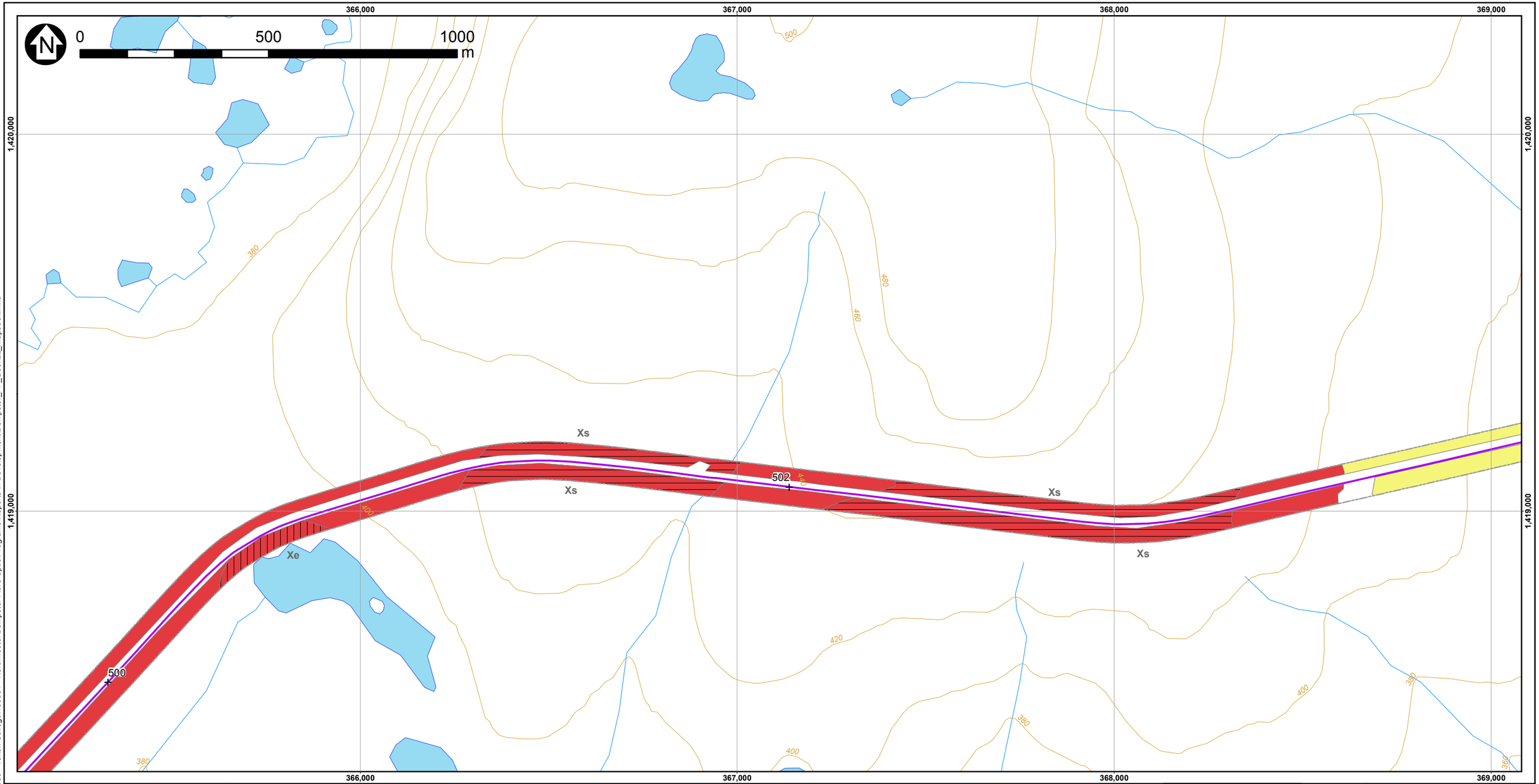


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Horizontal  Vertical  Both

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# Dempster Highway Fibre Optic Line

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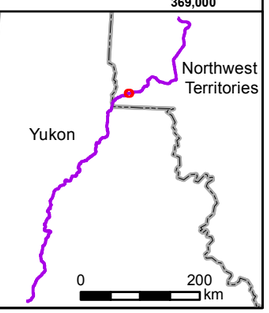


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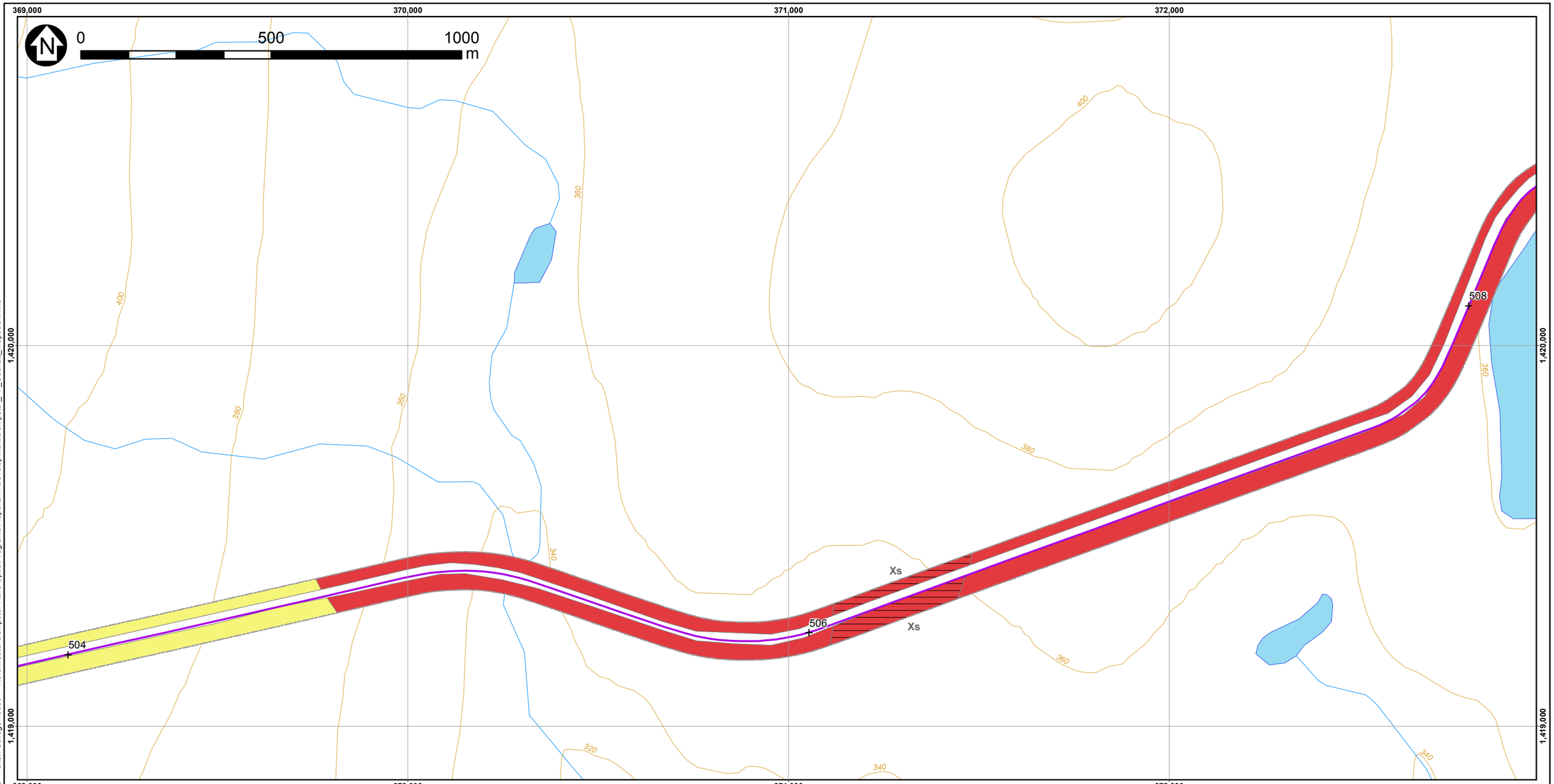


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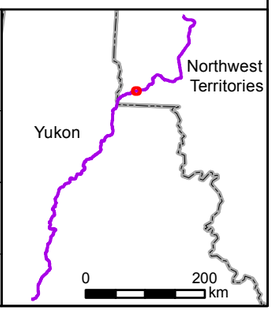


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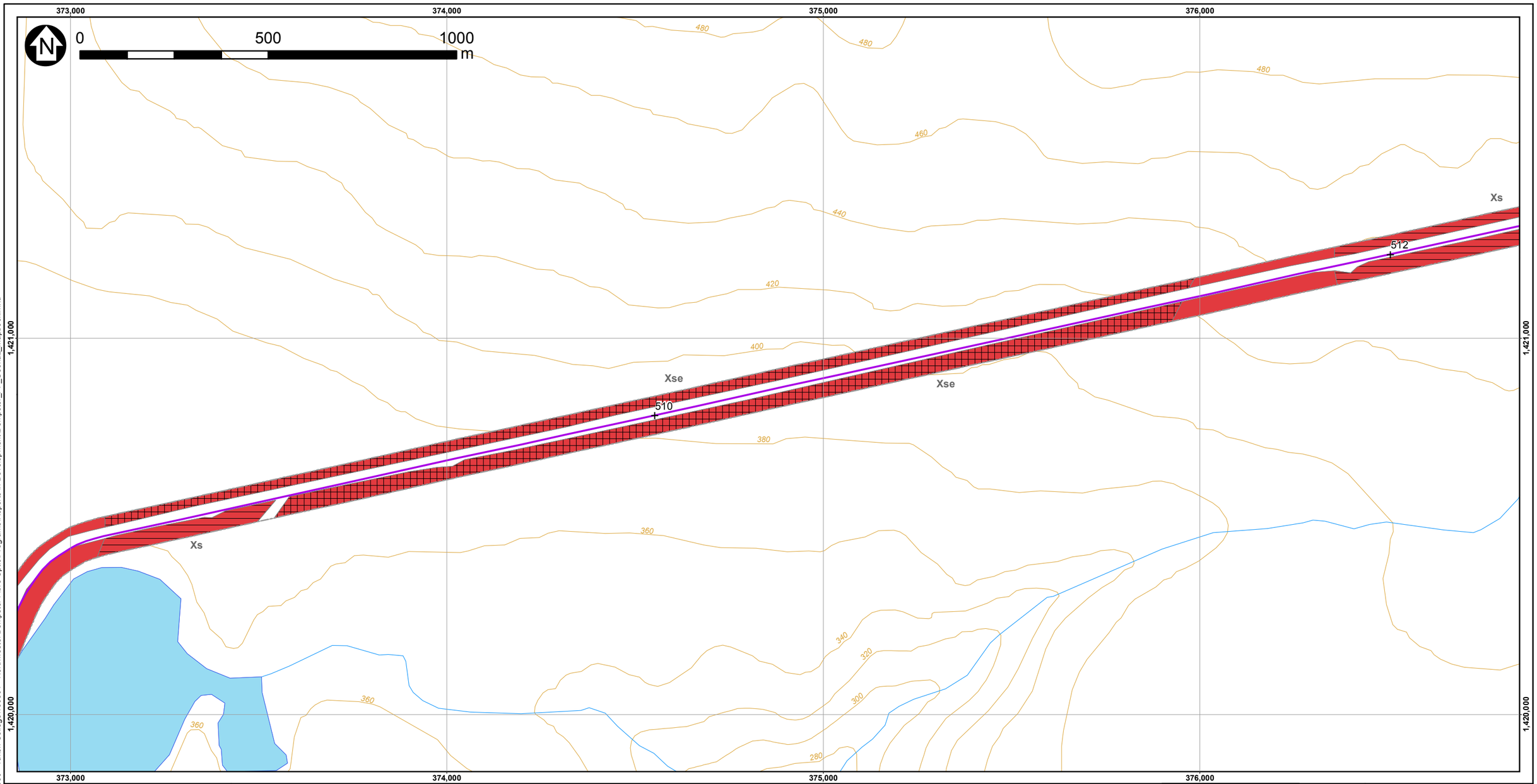


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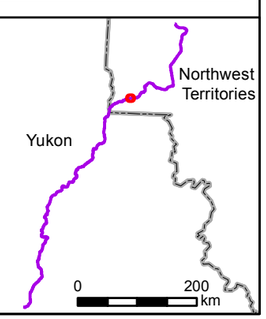

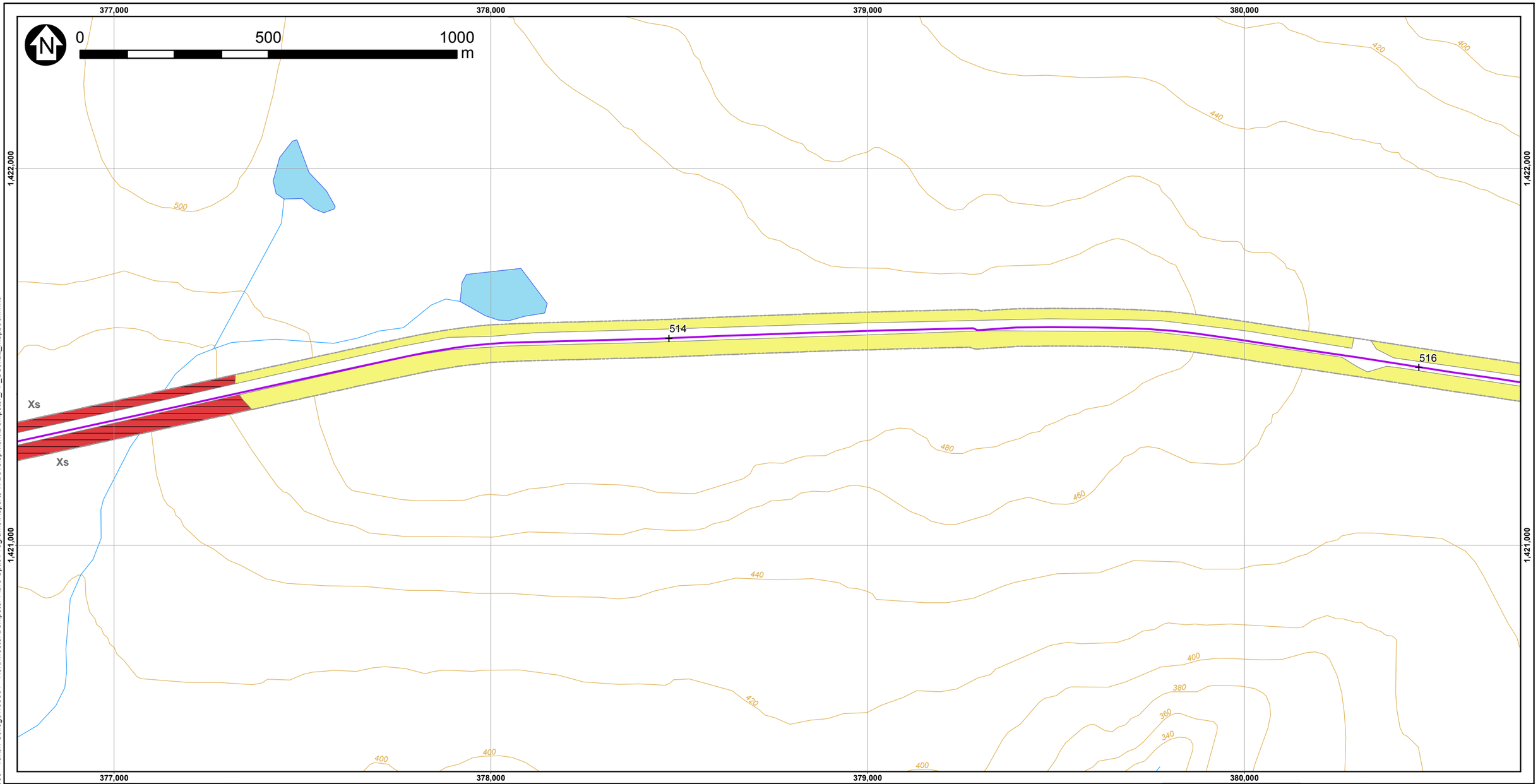


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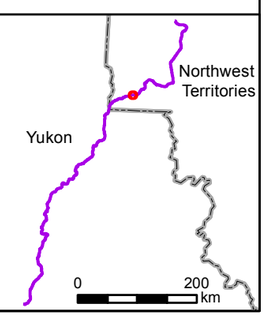


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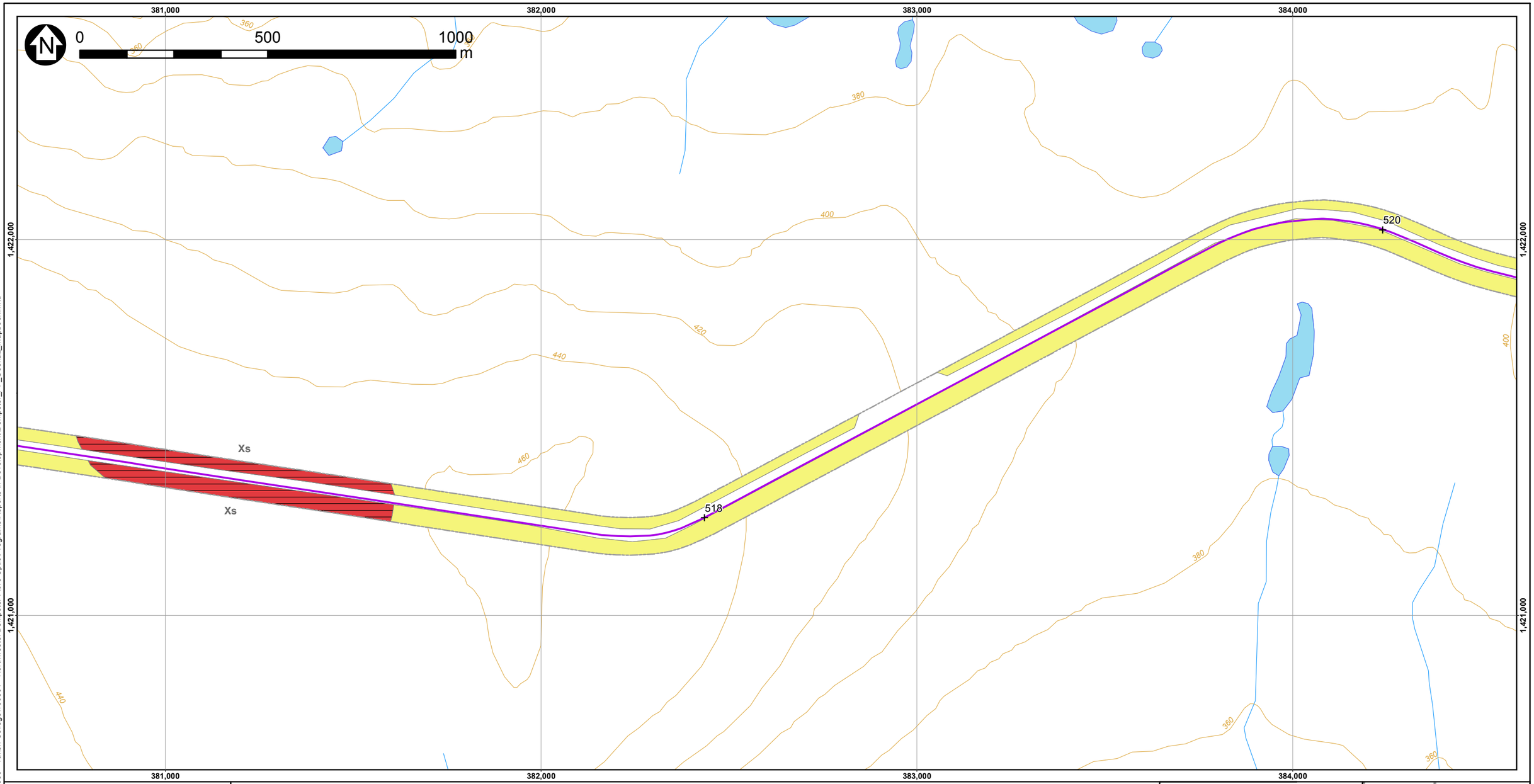


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SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
| | Anthropogenic | |

**Mass Movement Geohazard**

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
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**Periglacial Process/Feature**

- ***Xs*** - Slopewash
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- ***Xf*** - Active Layer Detachment
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- ***Xw*** - Ice-wedge Polygon

**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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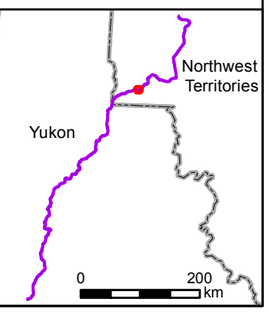
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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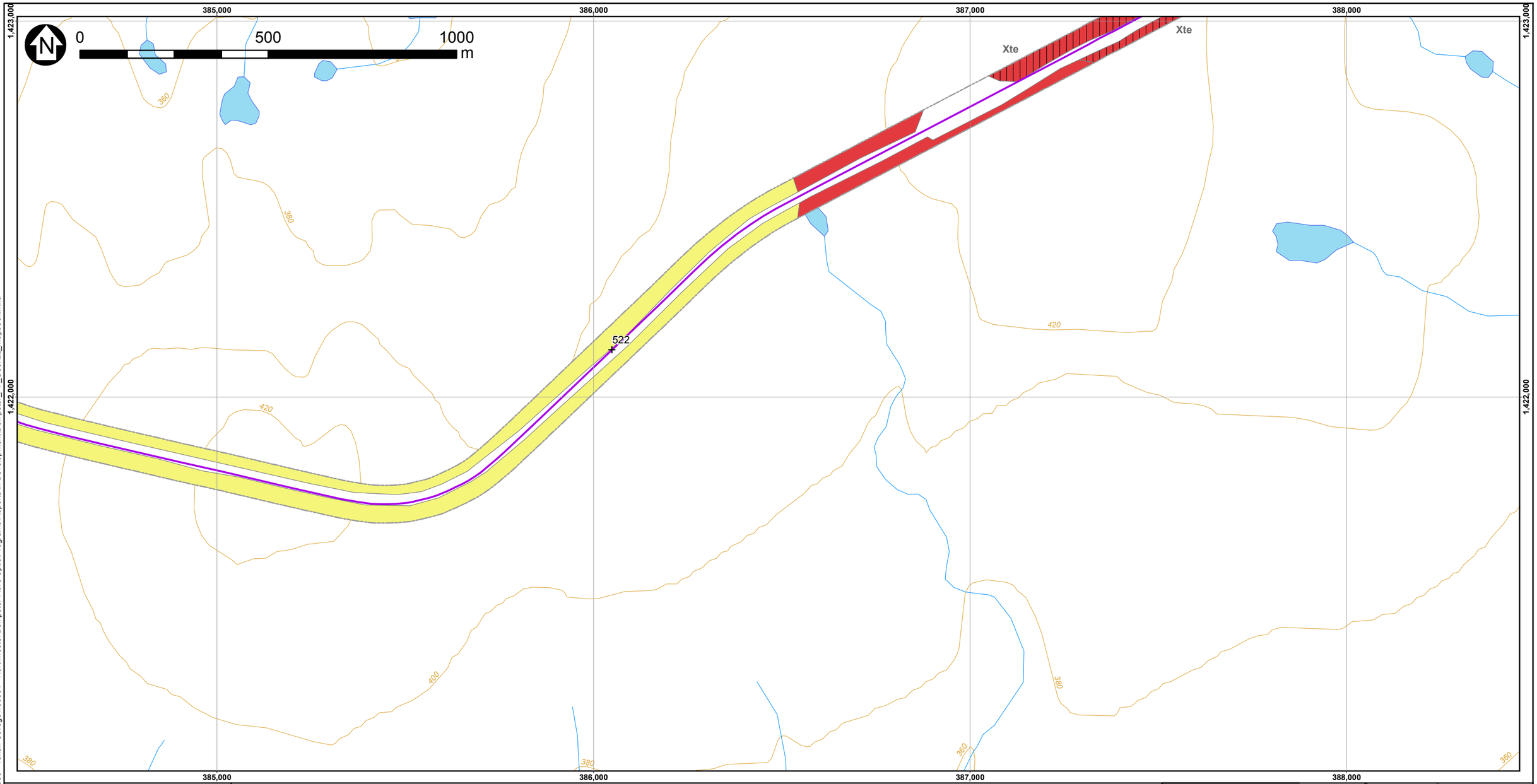


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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

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Horizontal | Vertical | Both

PGMP Mapping Boundary
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Contour (m)
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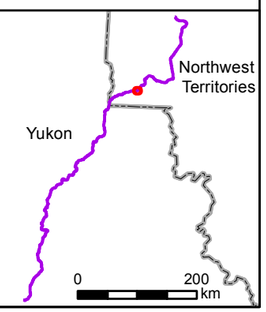

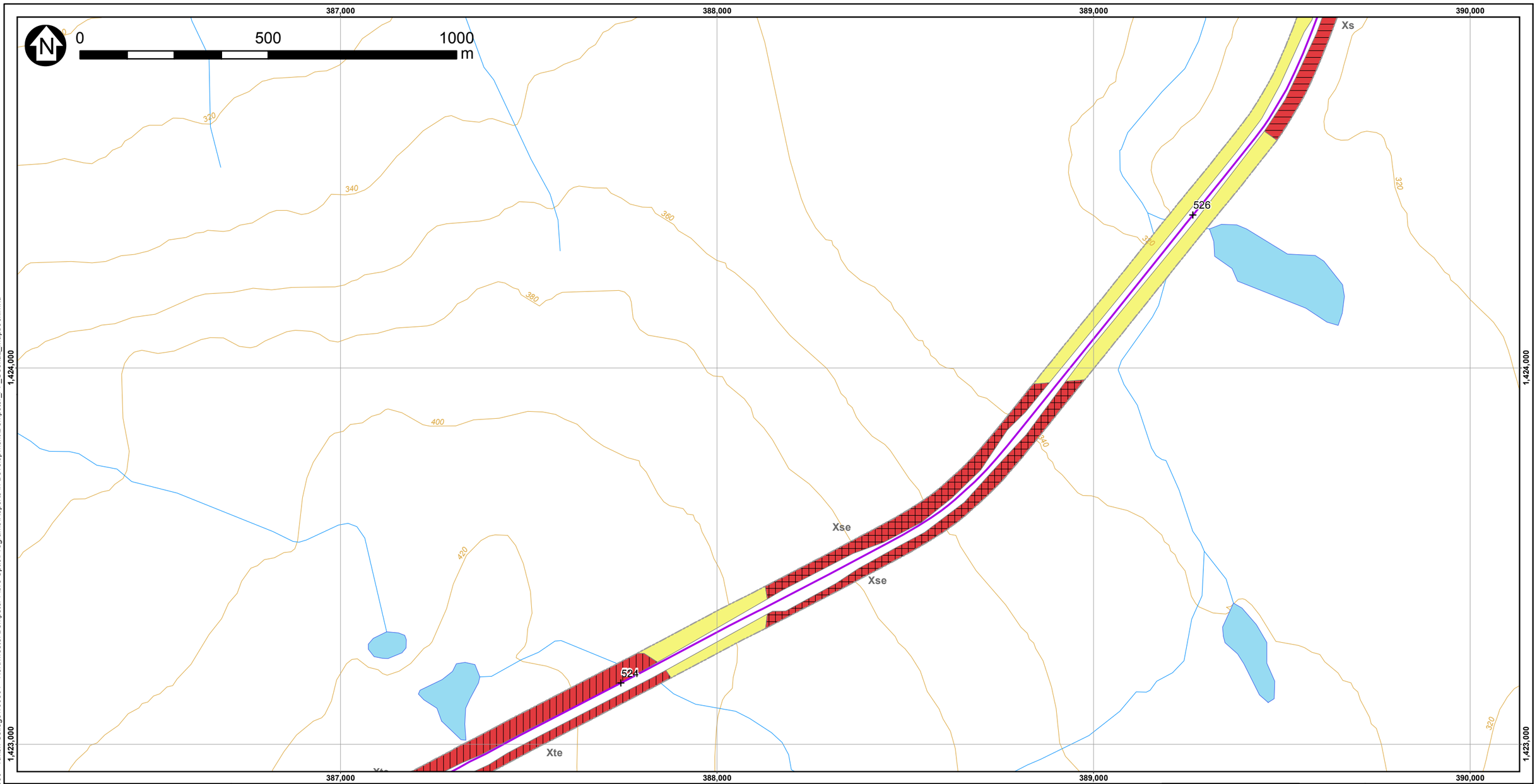


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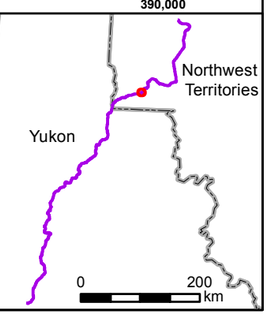
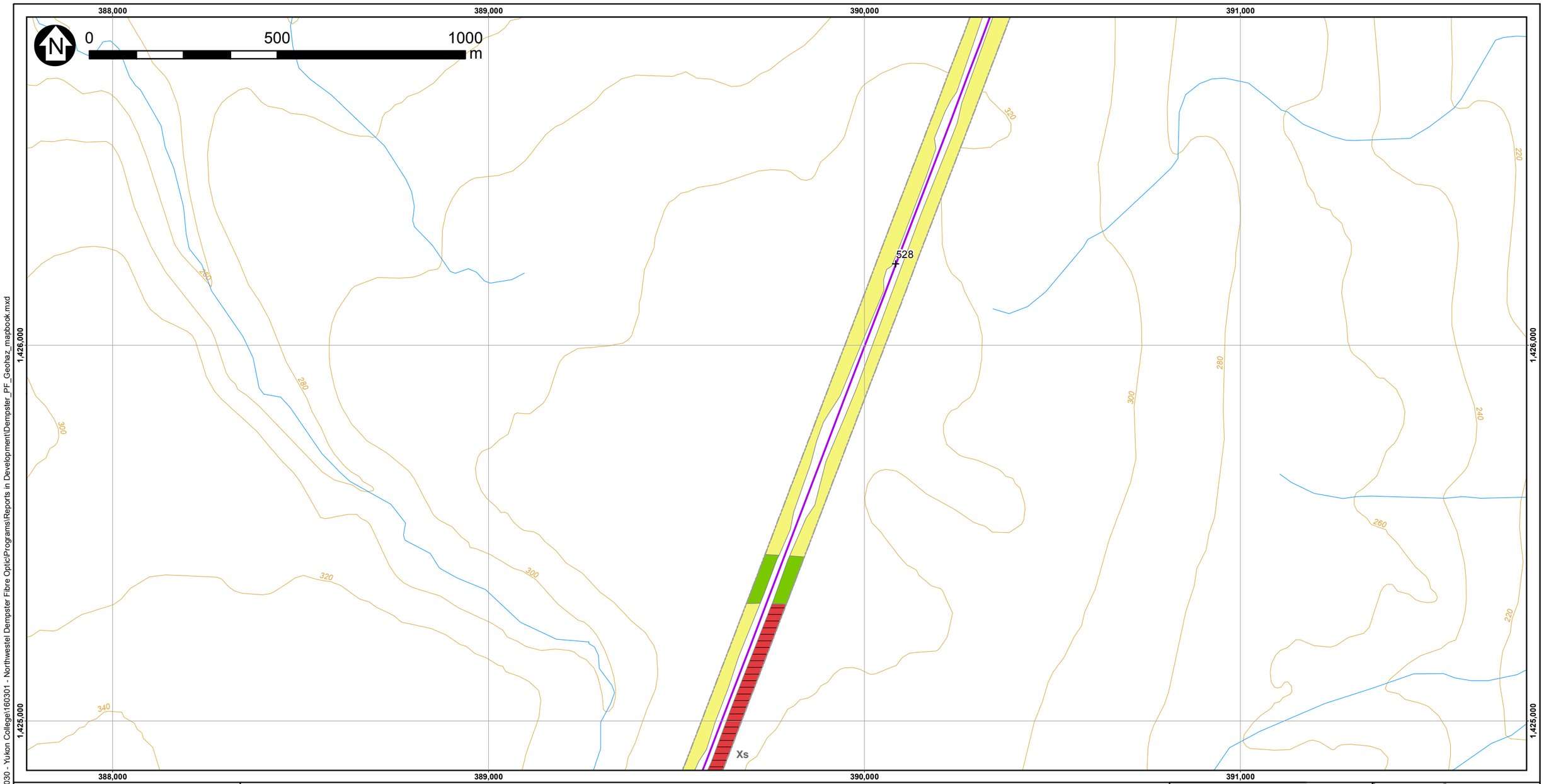
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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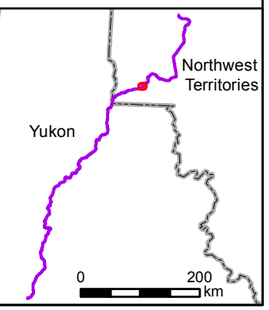


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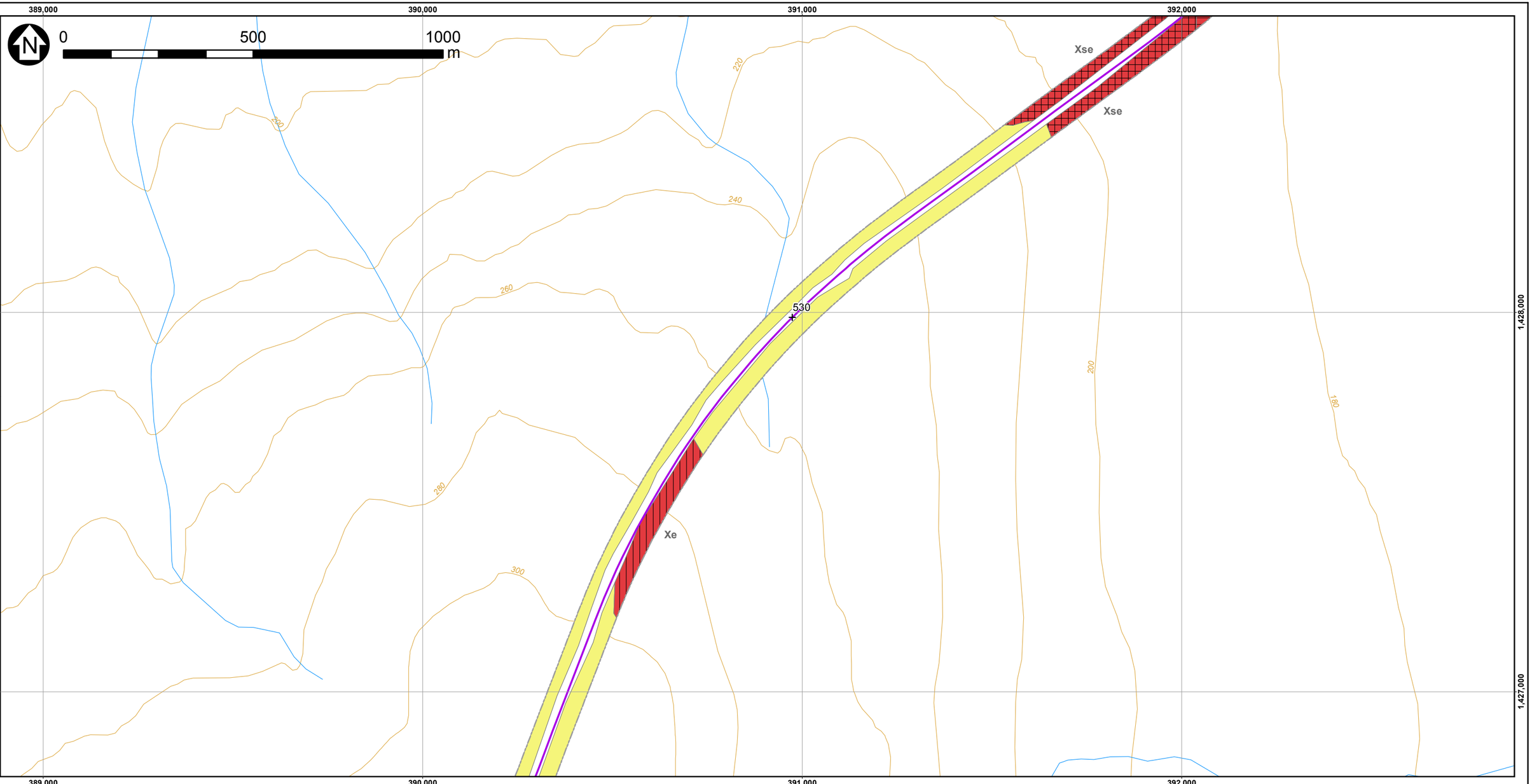


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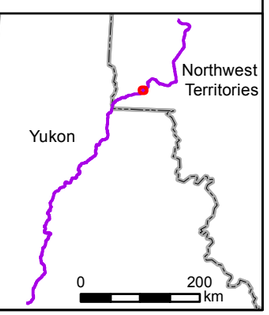


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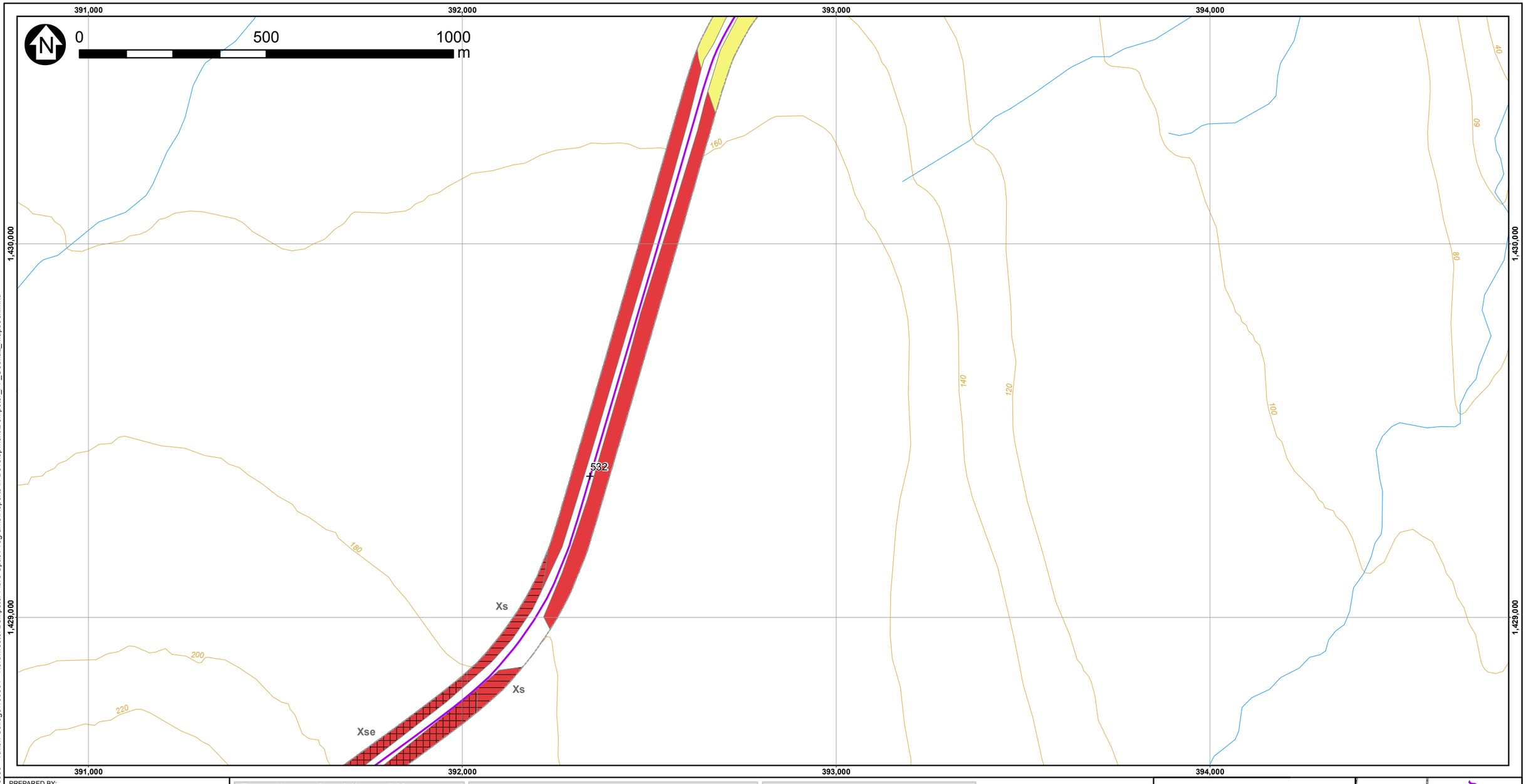


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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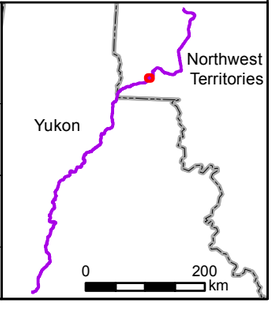


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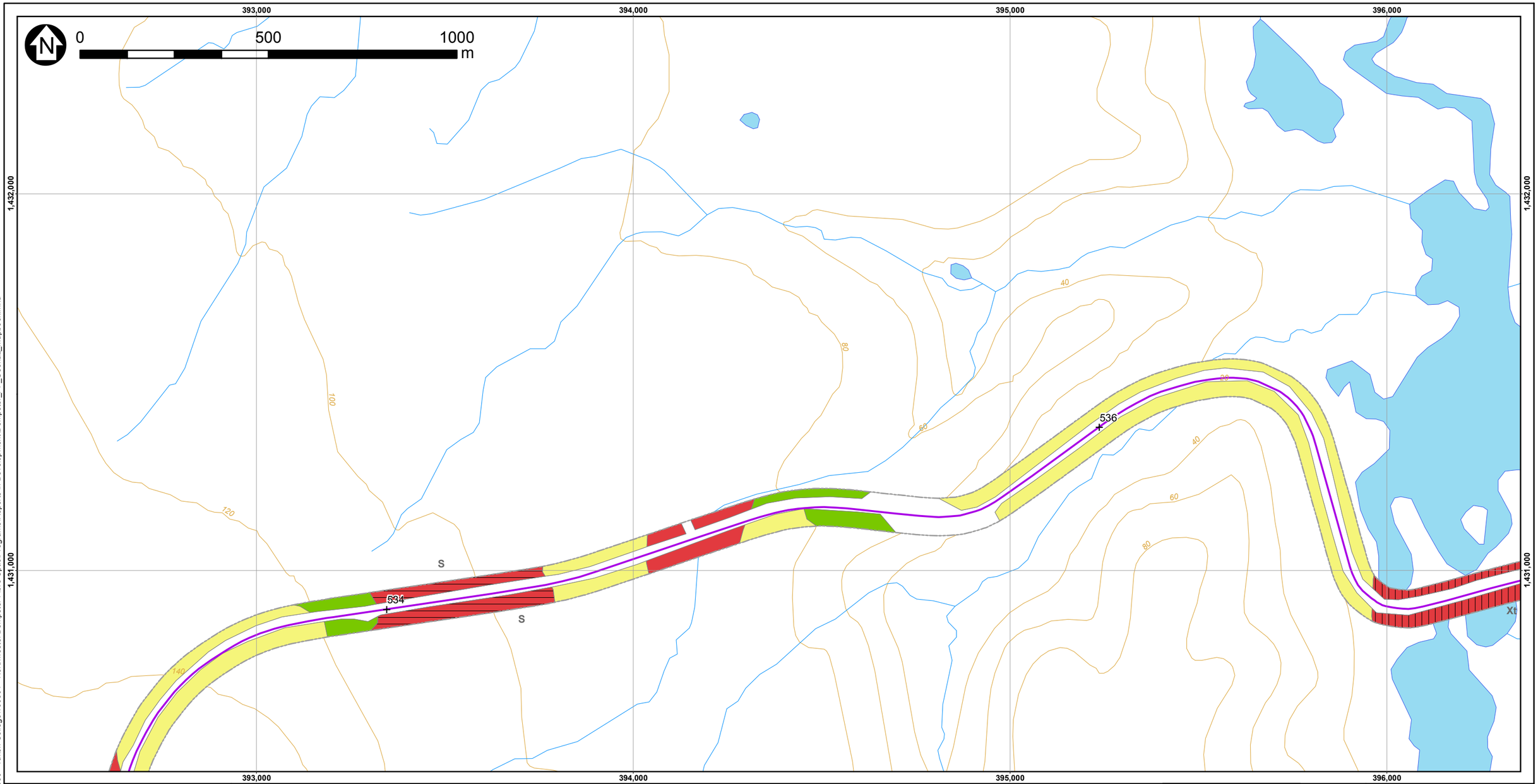


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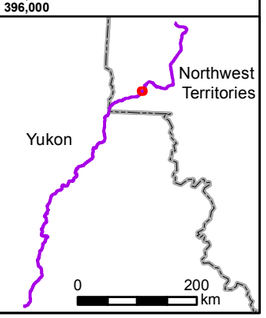

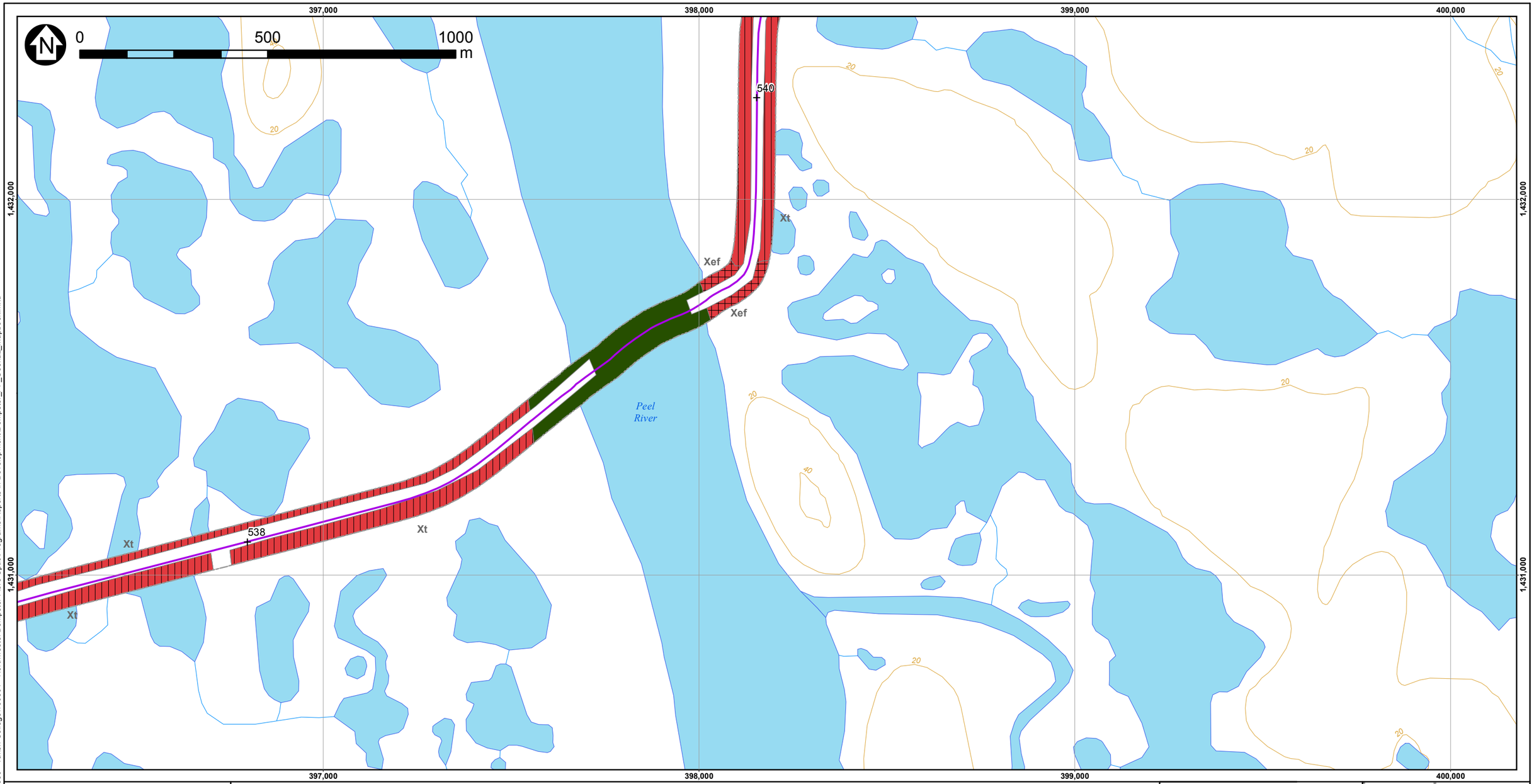


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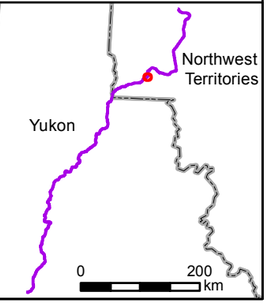

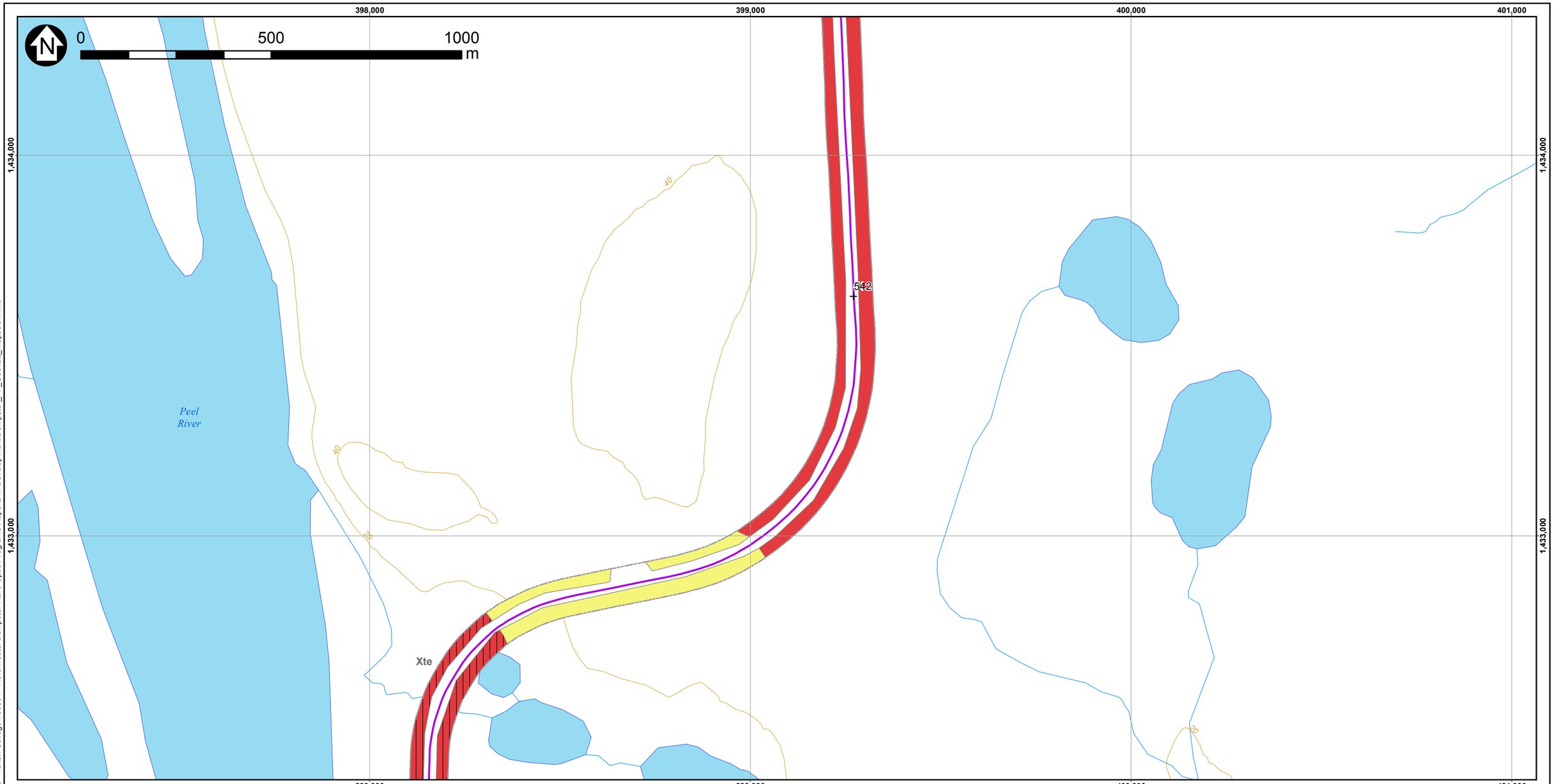


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
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## Mass Movement Geohazard

- ***DS*** - Debris Slide
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## Periglacial Process/Feature

- ***Xs*** - Slopewash
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## Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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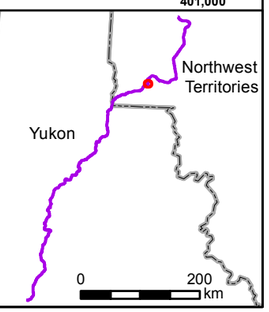
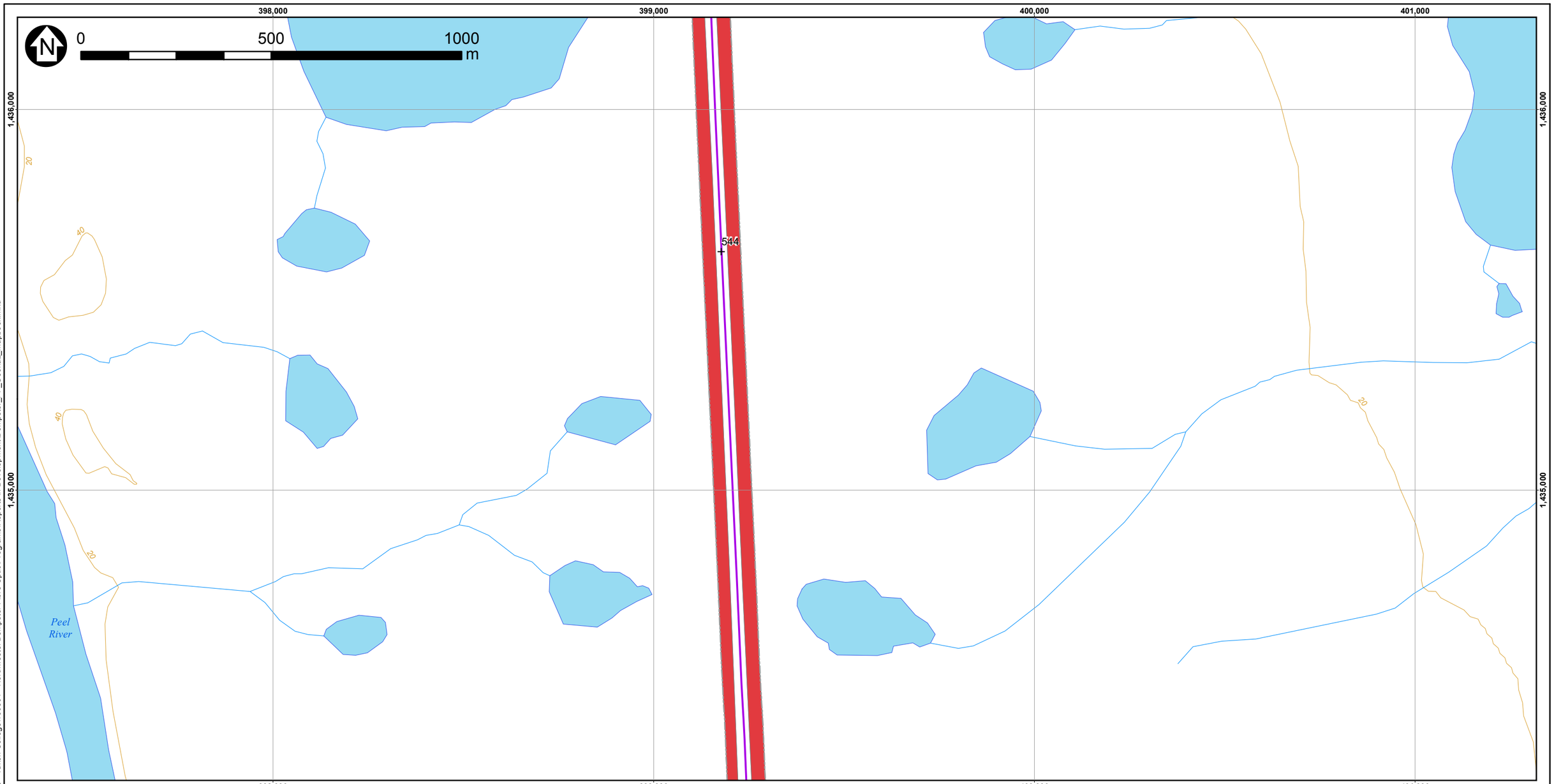
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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Horizontal | Vertical | Both

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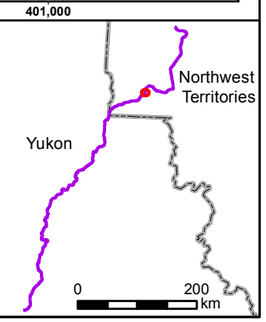
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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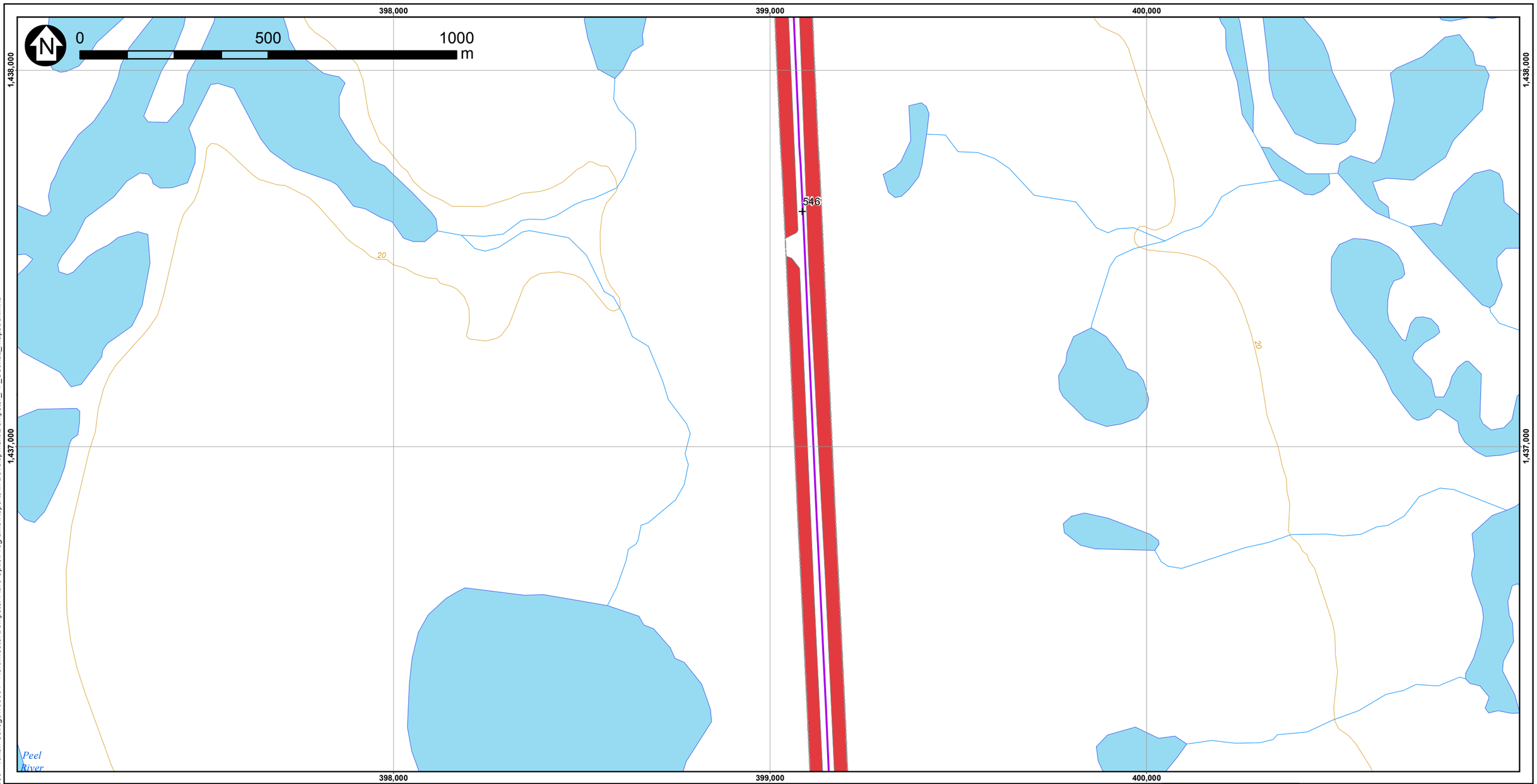


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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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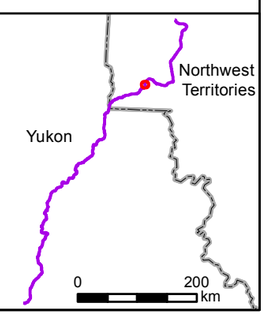


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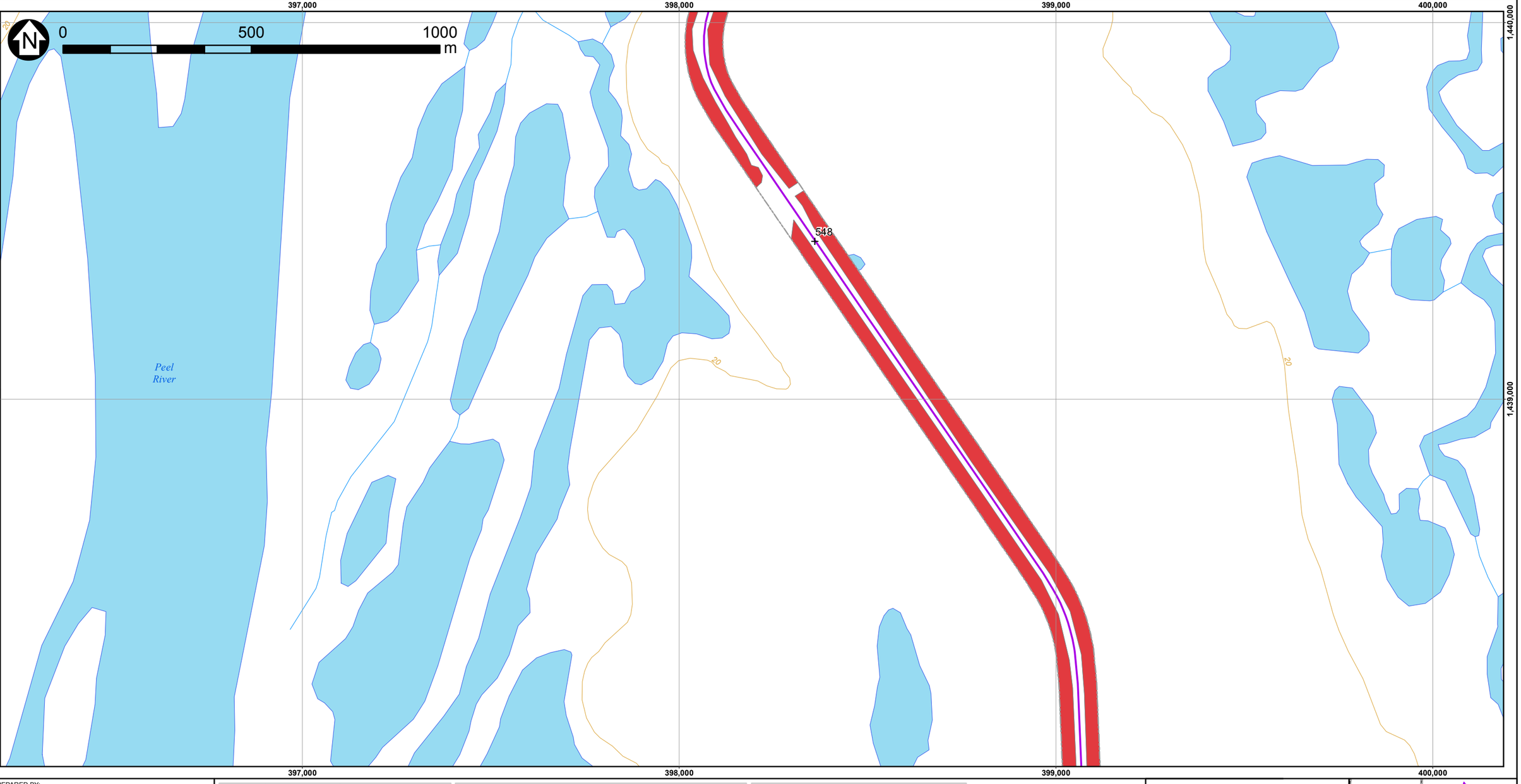


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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**Dempster Highway Fibre Optic Line**

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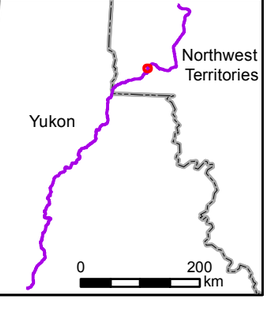


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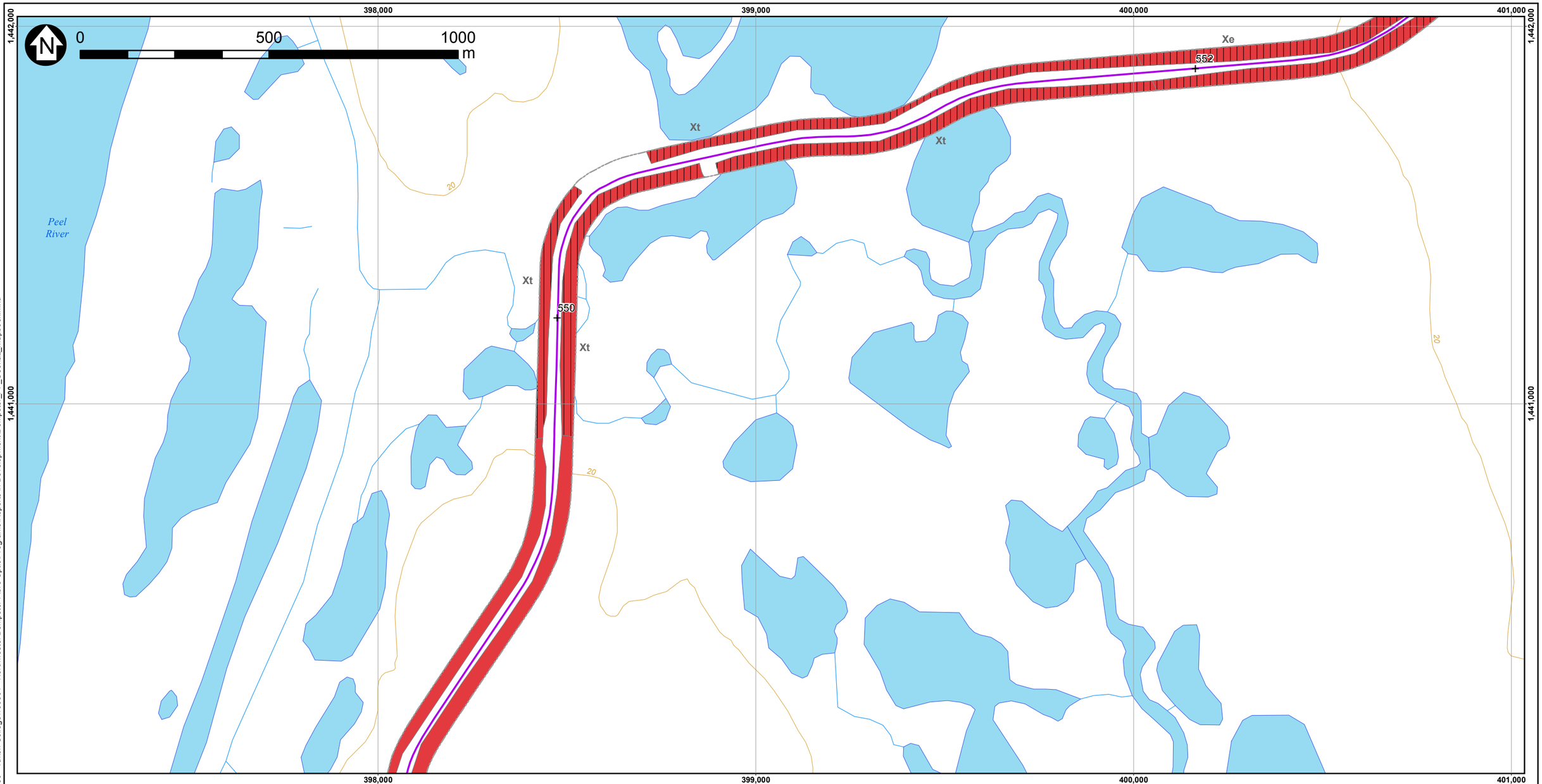


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## Potential Movement Direction

Horizontal | Vertical | Both

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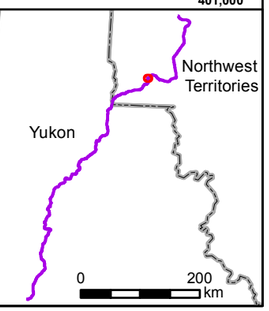

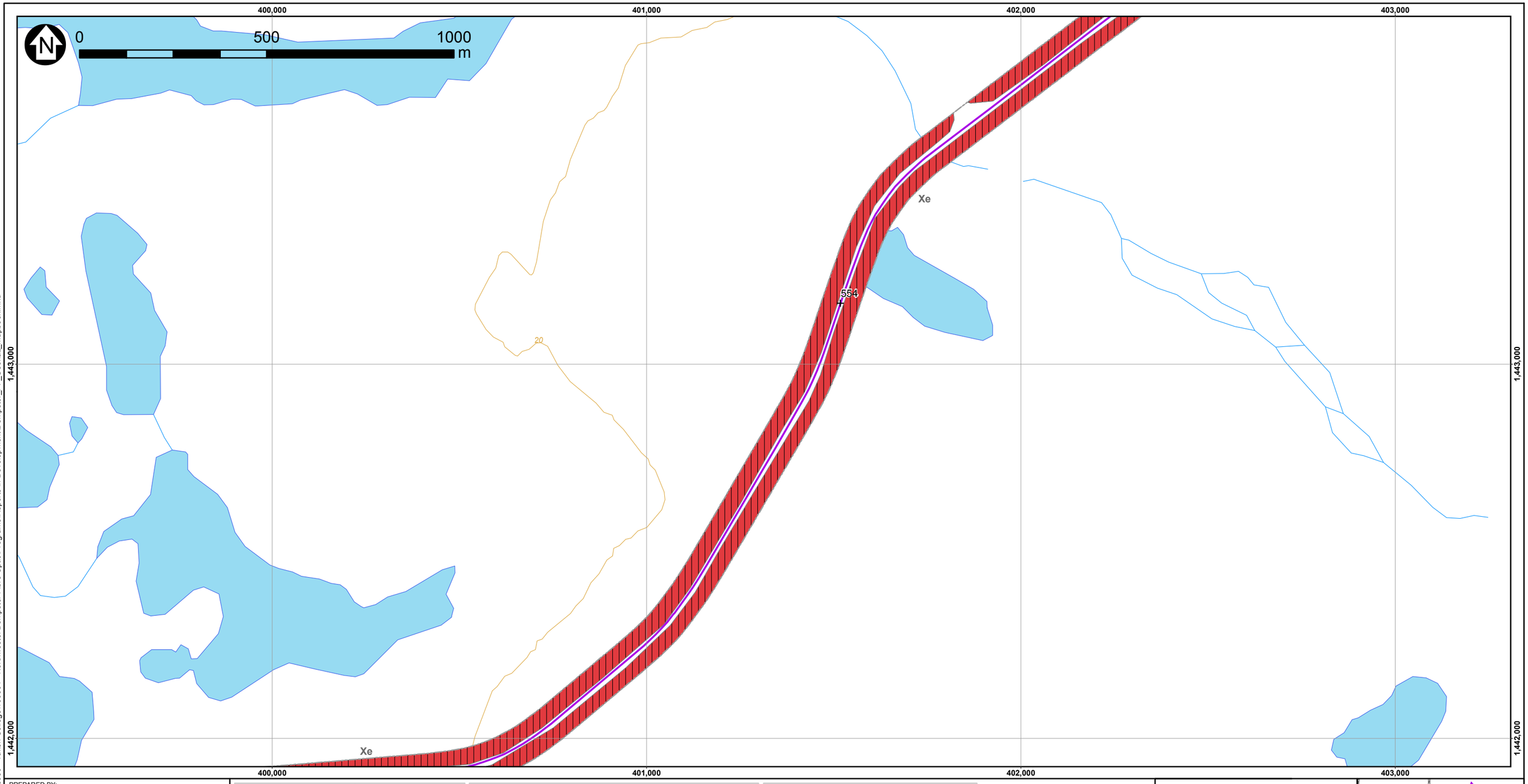


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| GEOLOGY | DS/RM/CB |
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### Potential Movement Direction

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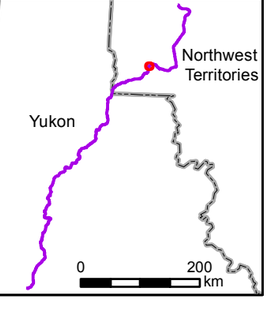

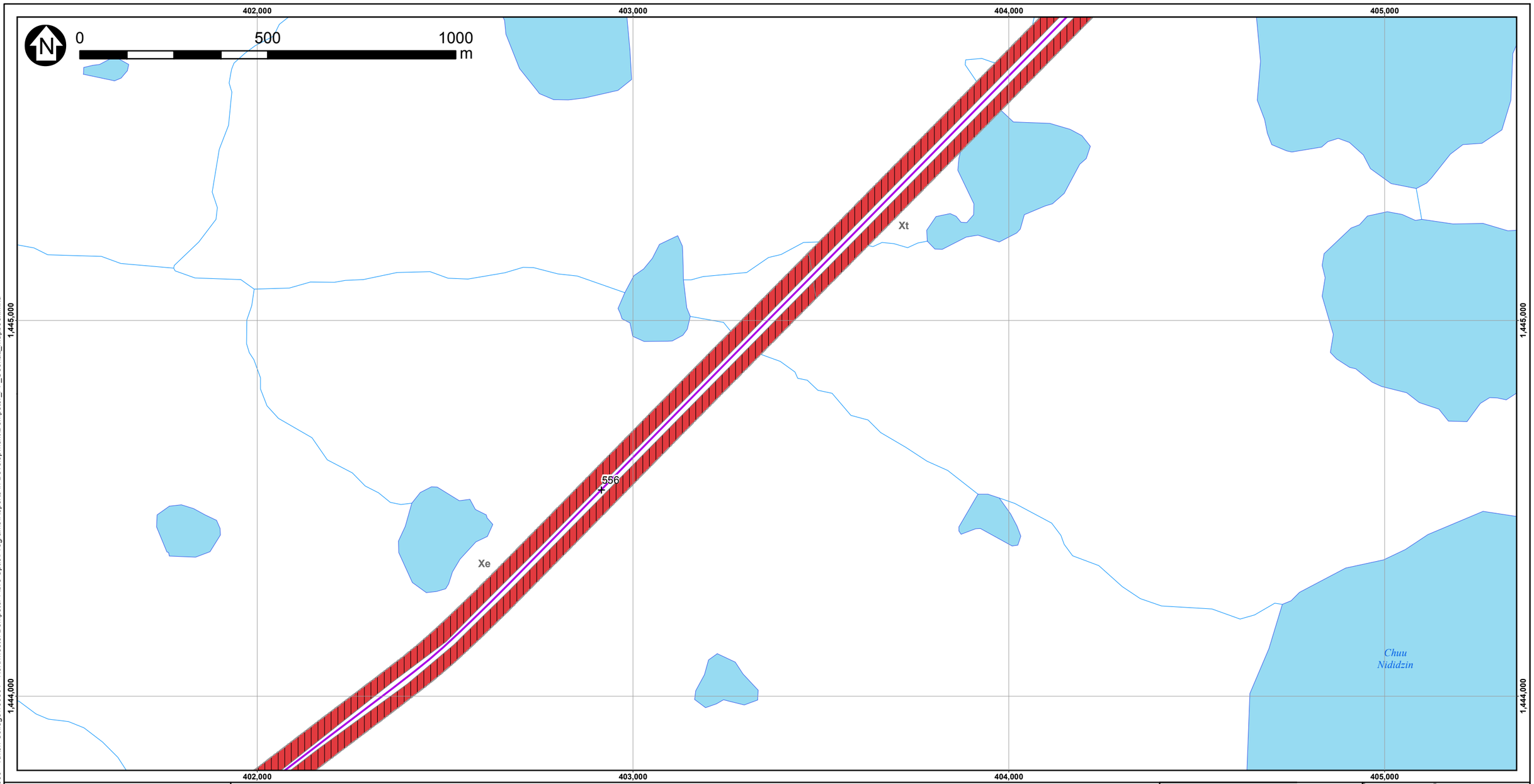


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Horizontal | Vertical | Both

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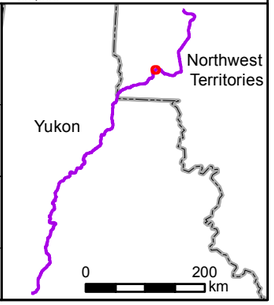


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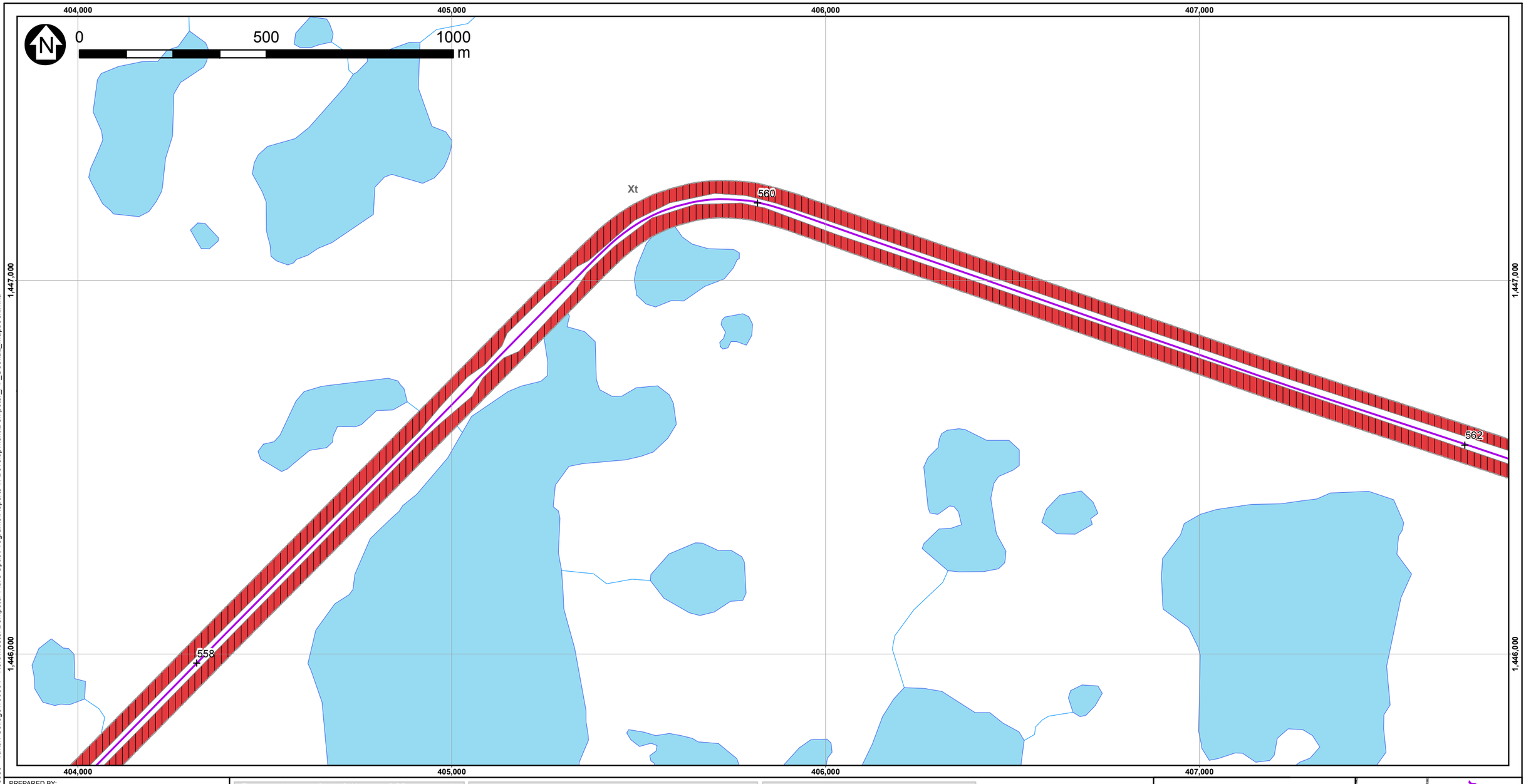


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- ***Xw*** - Ice-wedge Polygon

**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
1. Only existing/imminent mass movement geohazards with potential to impact the highway embankments or ditch are considered. Other hazards may exist that are not identified.
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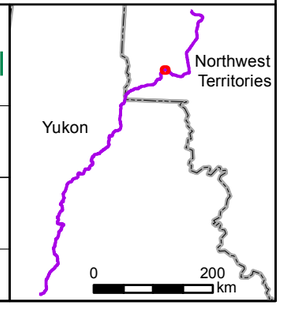
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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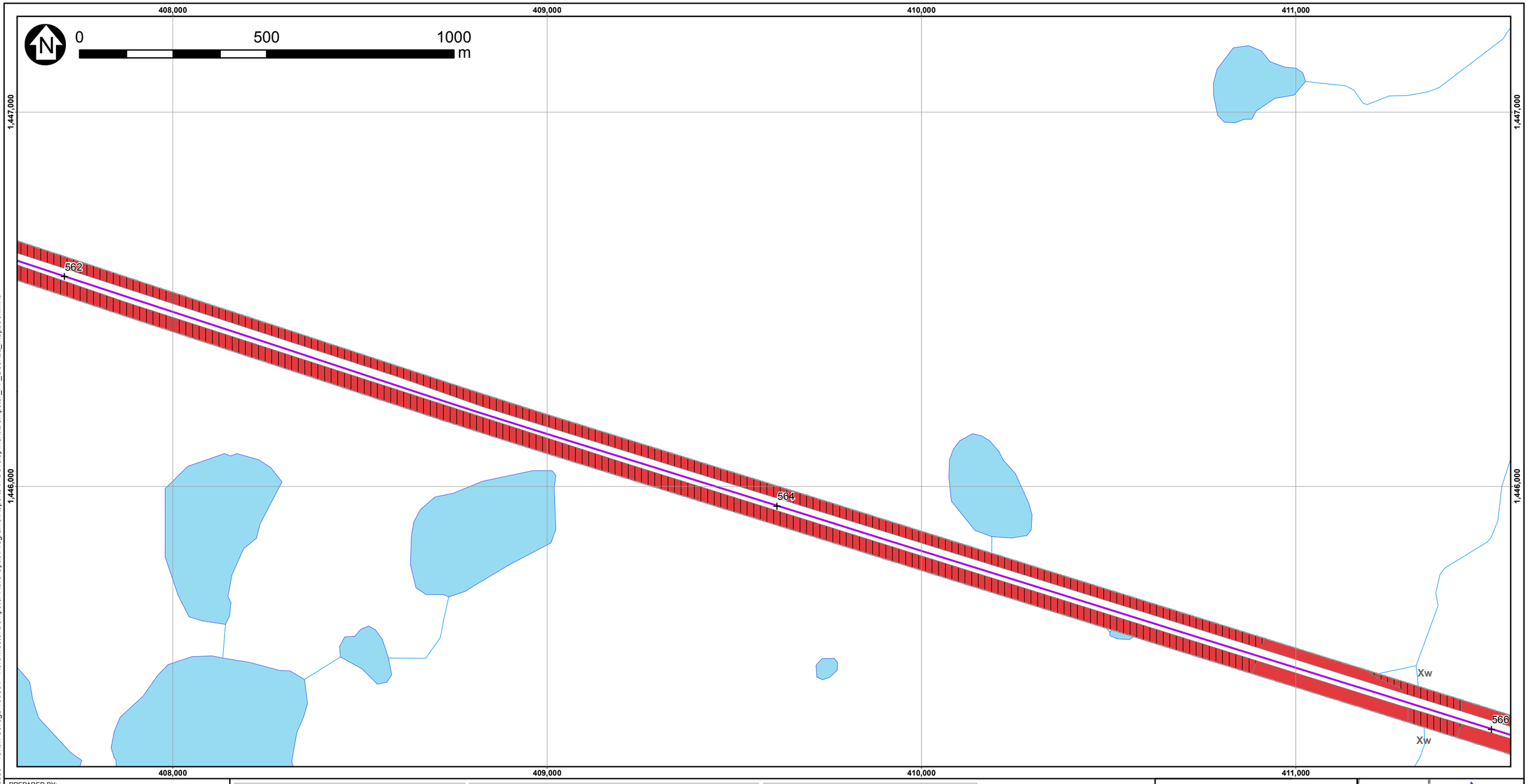


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| GEOLOGY | DS/RM/CB |
|---|---|
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
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| | Low | Thin |
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**Mass Movement Geohazard**

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**Periglacial Process/Feature**

- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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NorthwesTel

**Dempster Highway Fibre Optic Line**

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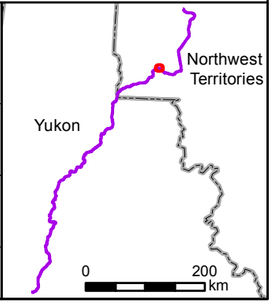

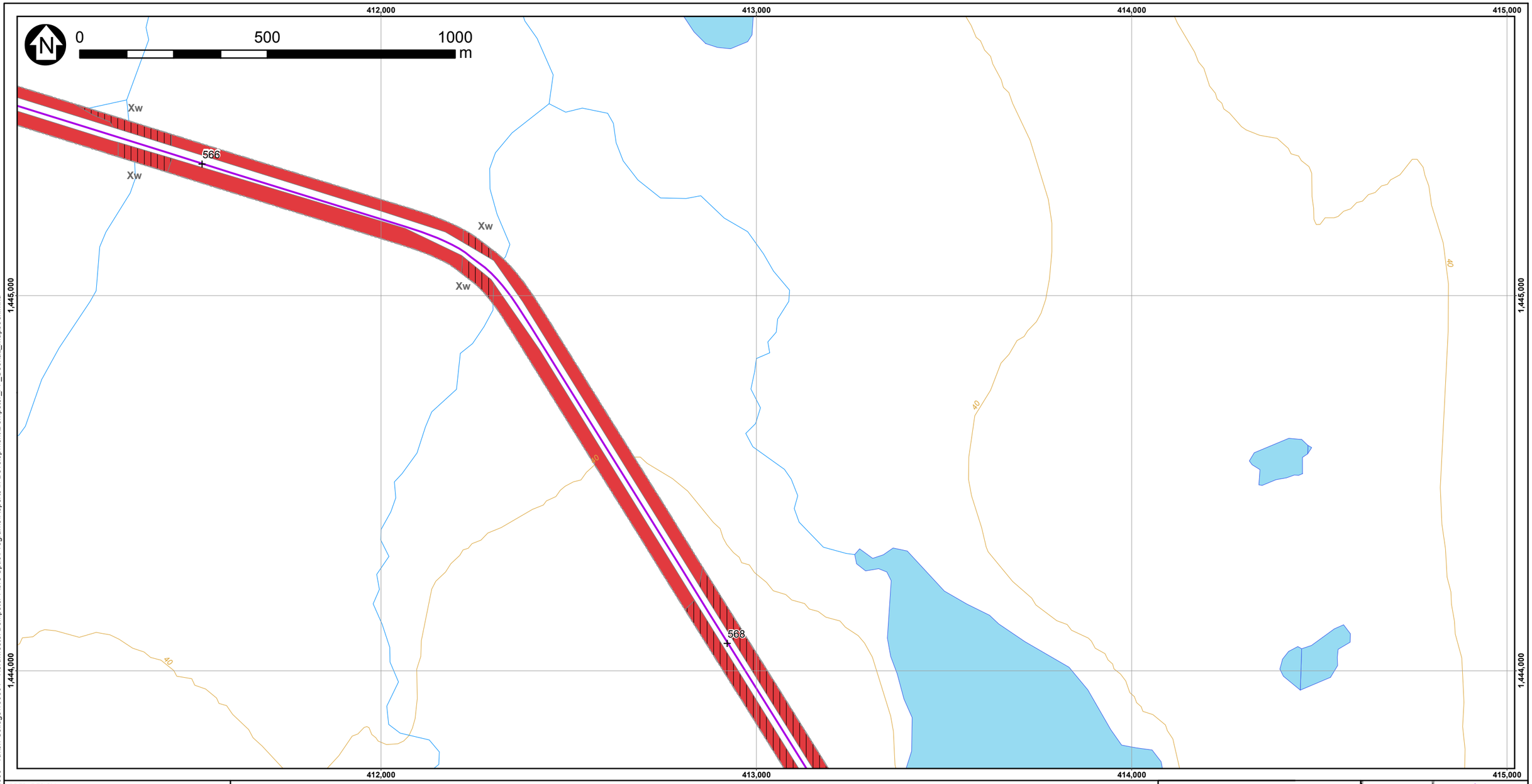


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- ***Xw*** - Ice-wedge Polygon

**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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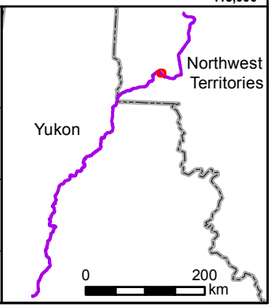
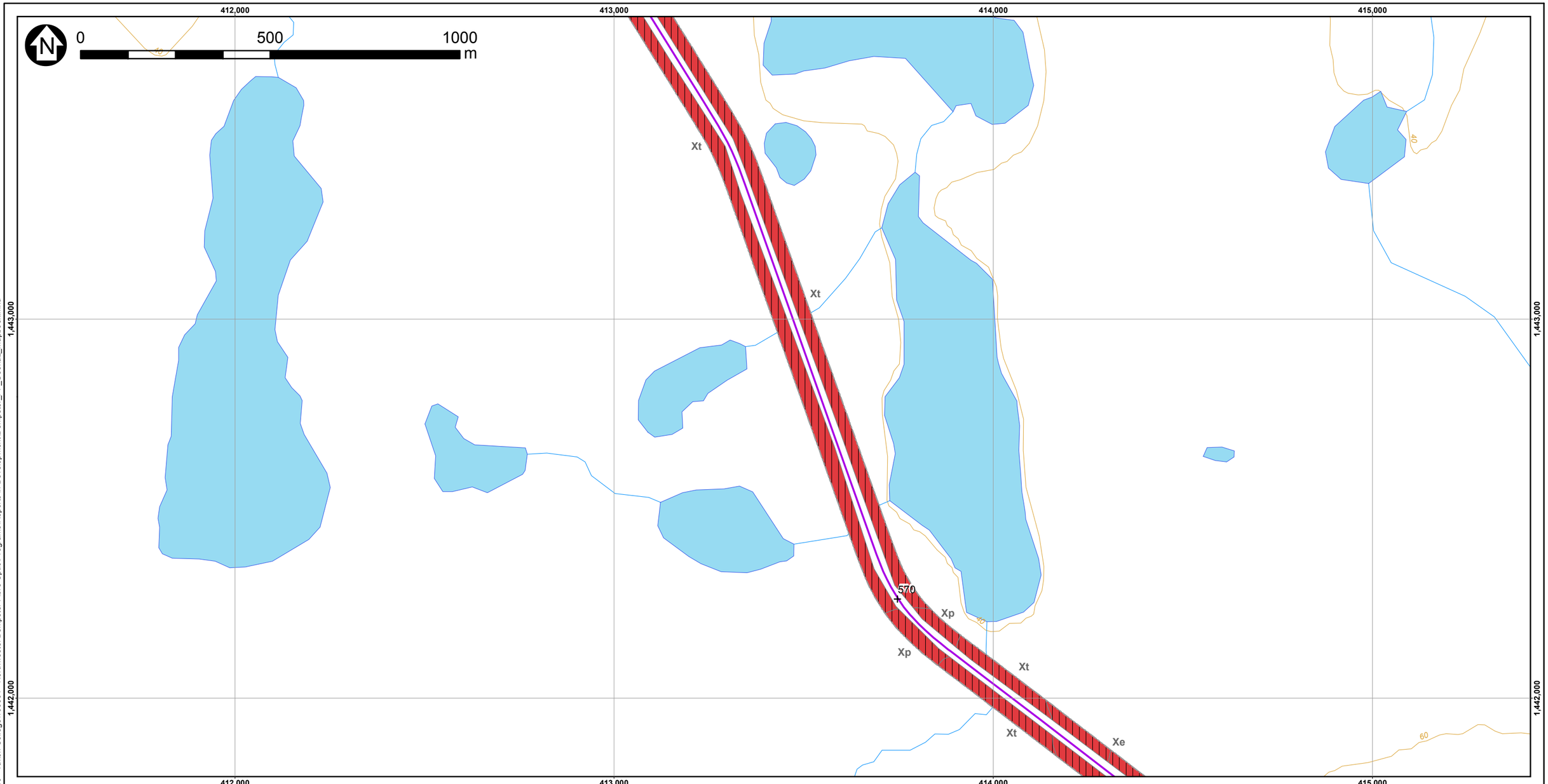
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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### Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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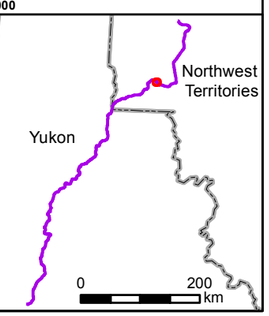
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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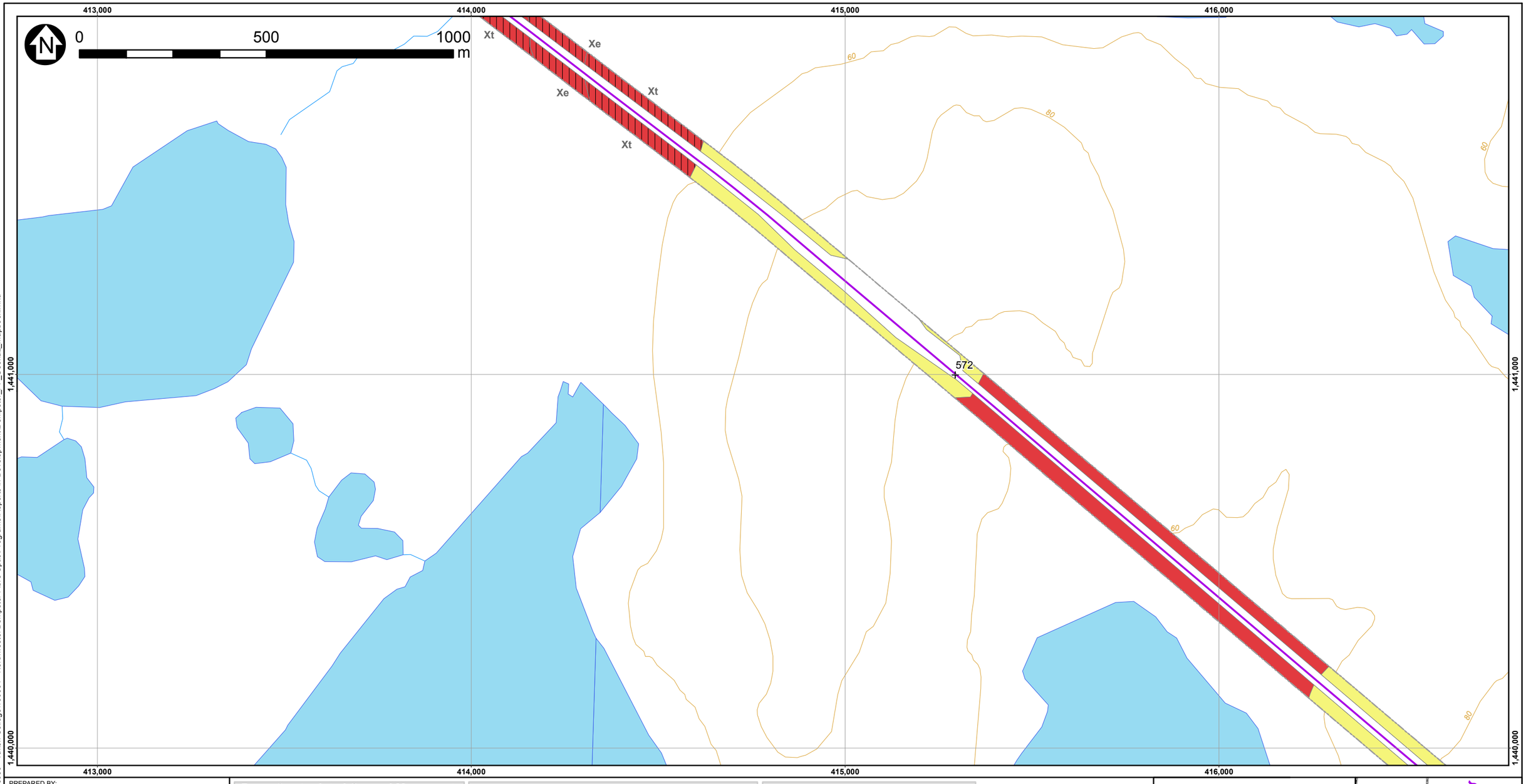


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| DRAWN | DS |
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## Potential Movement Direction

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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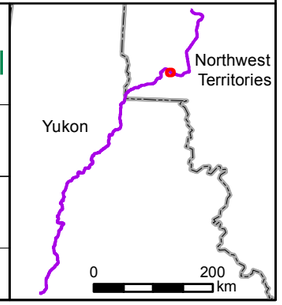
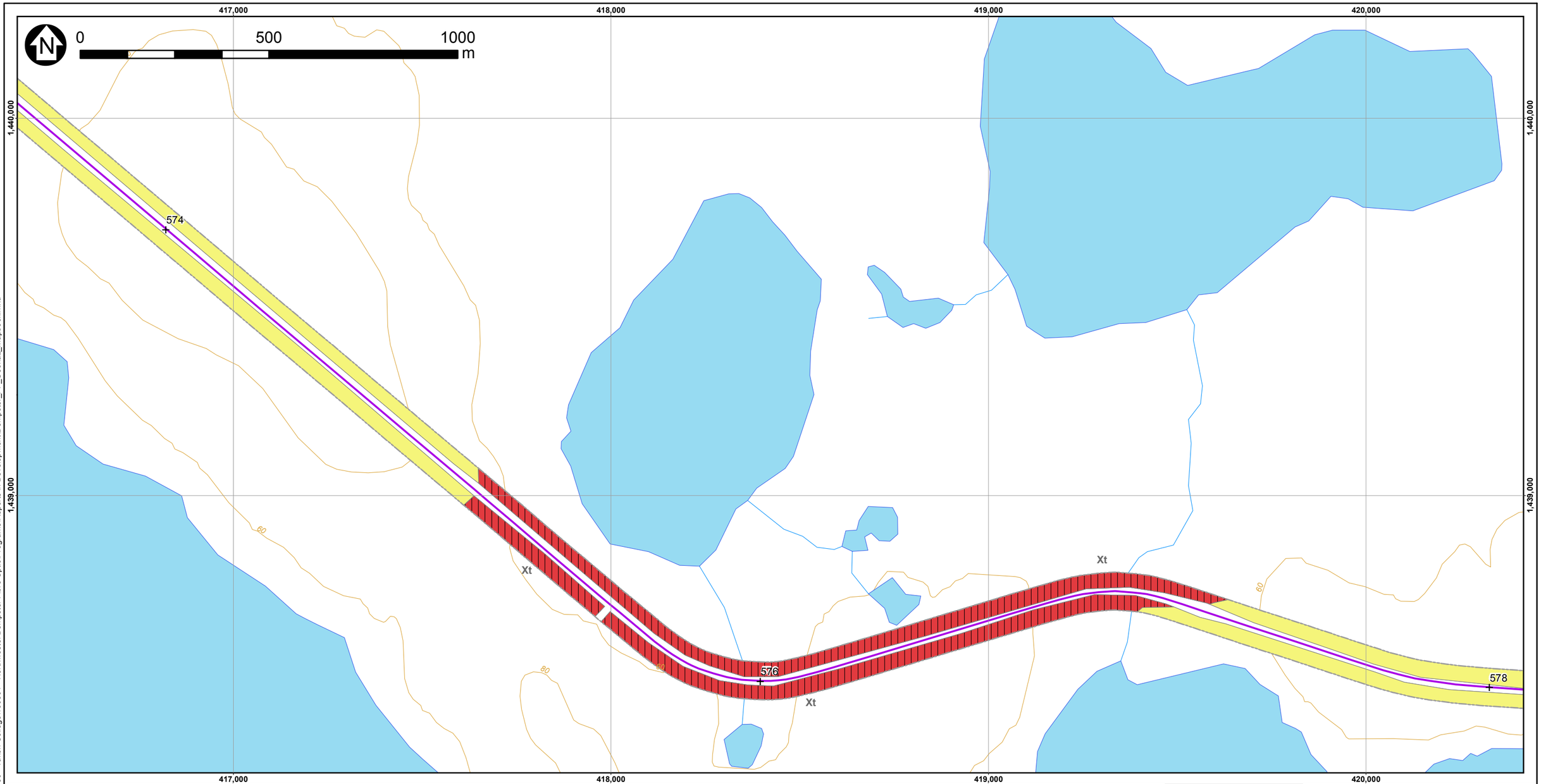
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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| | |
|---|---|
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| DRAWN | DS |
| CHK'D | RM |
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## Mass Movement Geohazard

| | | |
|---|---|---|
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## Periglacial Process/Feature

| | | | |
|---|---|---|---|
| ***Xs*** | Slopewash | ***C*** | Cryoturbation |
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| ***Xp*** | Palsa | ***Xh*** | Retrogressive Thaw Slump |
| ***Xt*** | Thermokarst Subsidence | ***Xw*** | Ice-wedge Polygon |
| ***S*** | Solifluction | | |

## Potential Movement Direction

Horizontal  Vertical  Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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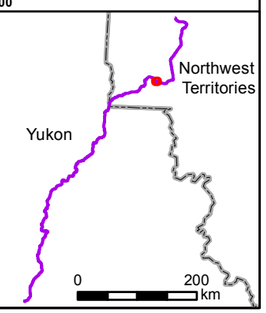
LEDCOR GROUP  NorthwesTel

# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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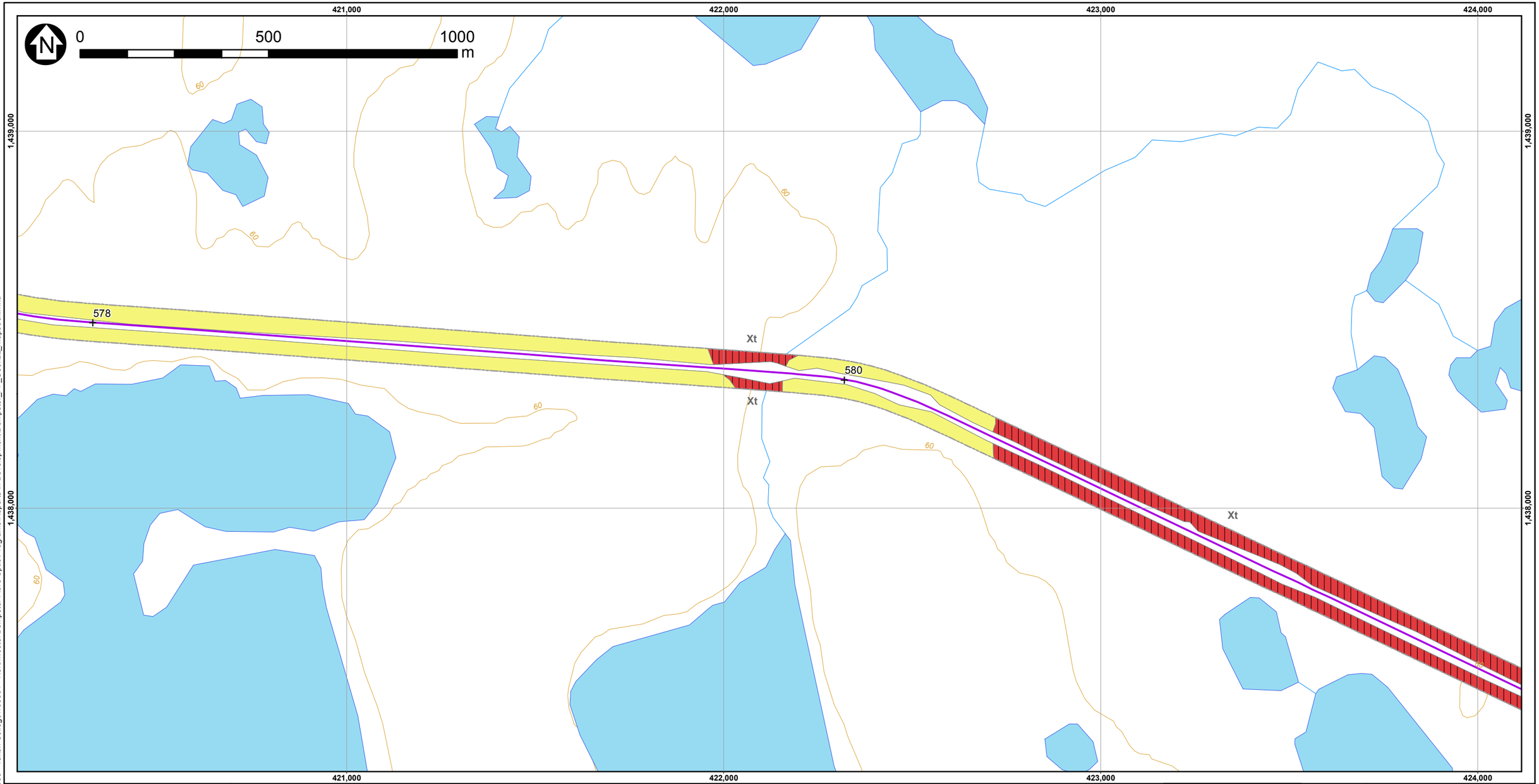


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**Potential Movement Direction**

Horizontal Vertical Both

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Dempster Highway
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Contour (m)
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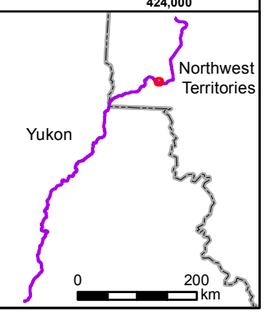


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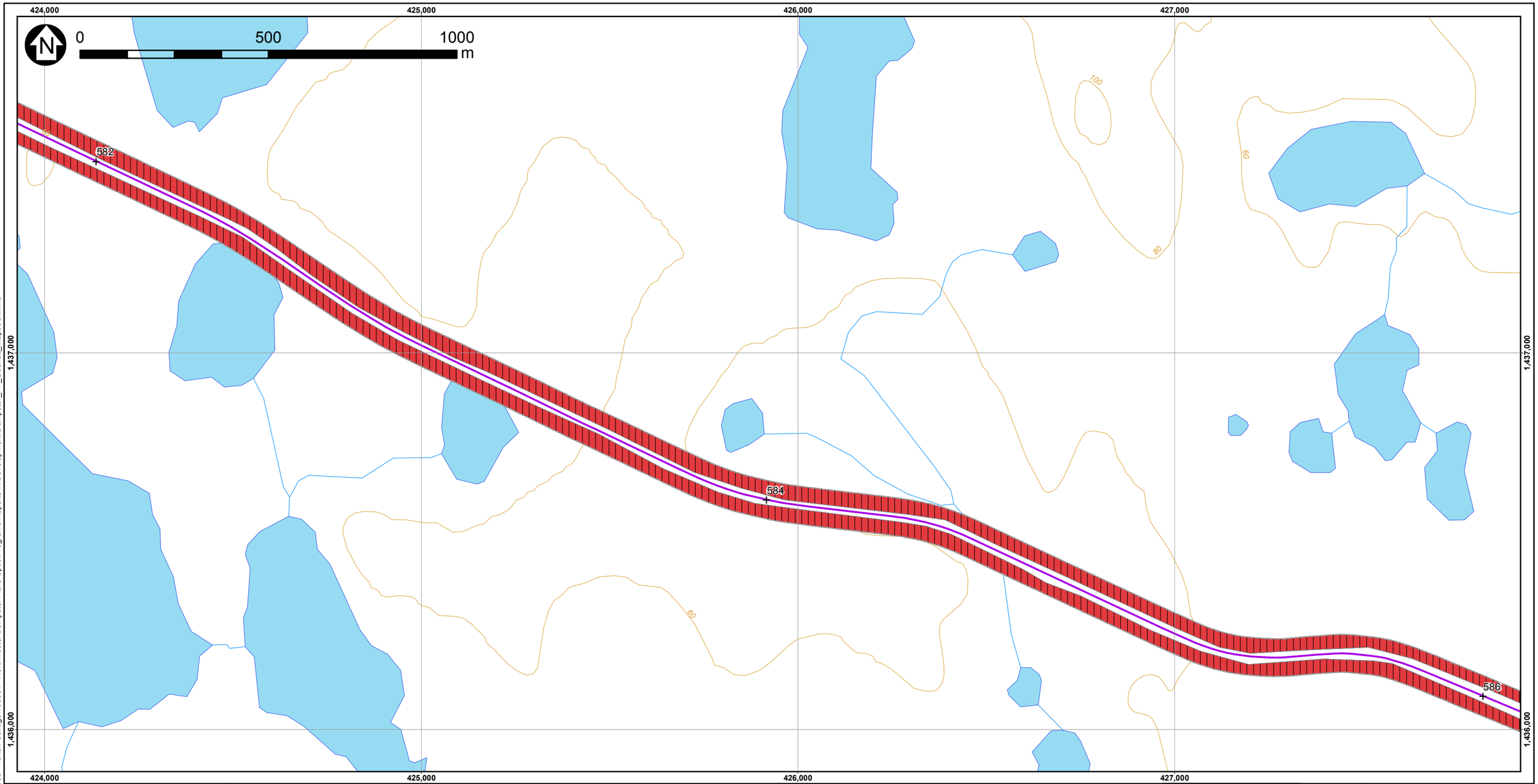


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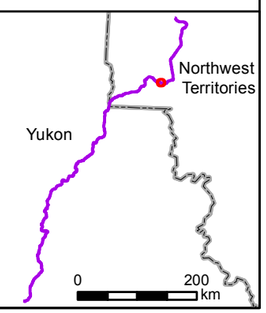

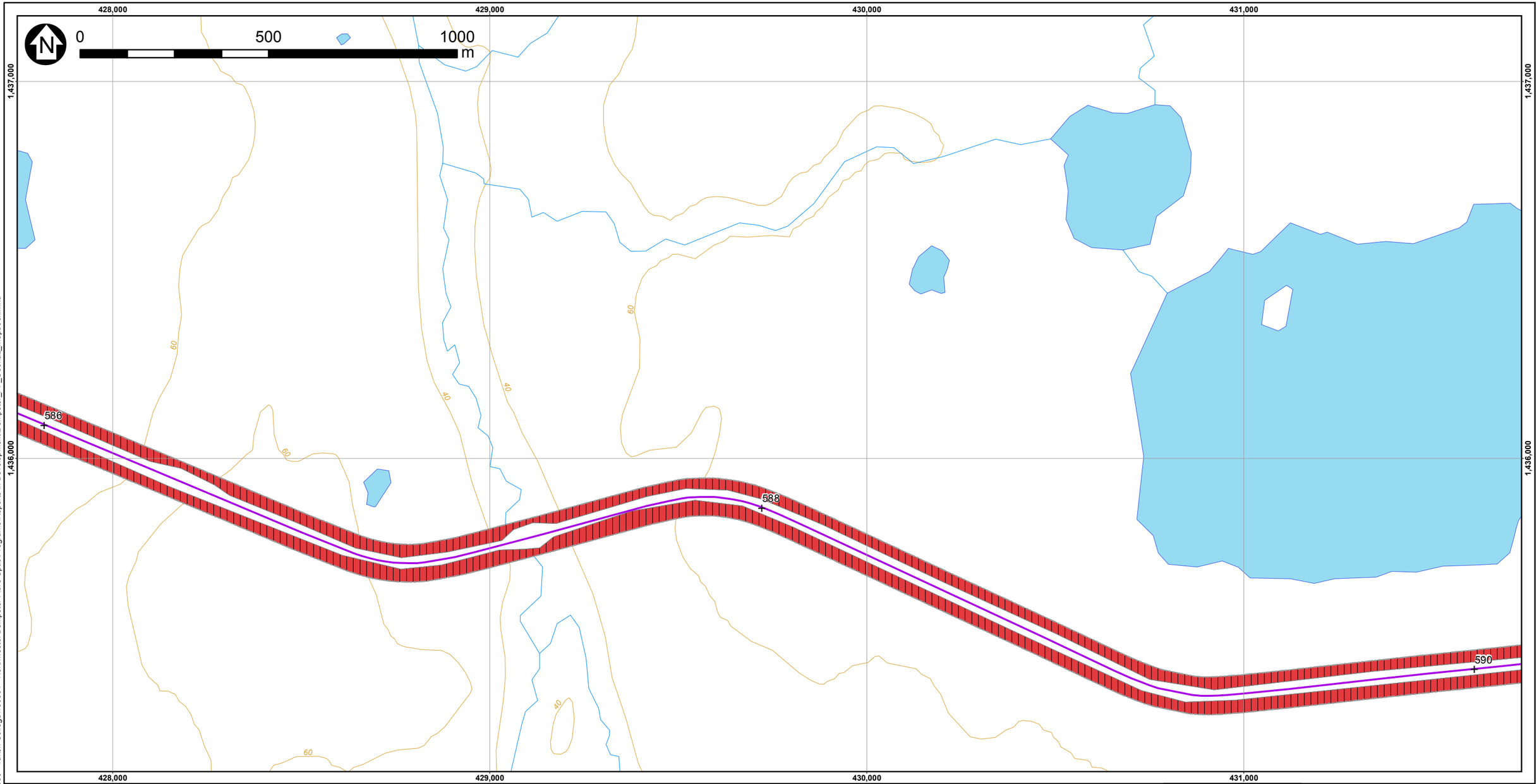


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| | Anthropogenic | |

## Mass Movement Geohazard

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
- ***RTS*** - Retrogressive Thaw Slump
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### Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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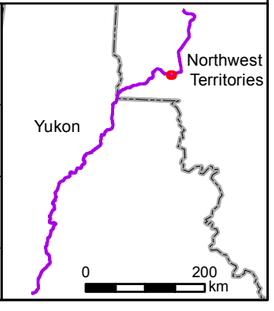
LEDCOR GROUP | NorthwesTel

# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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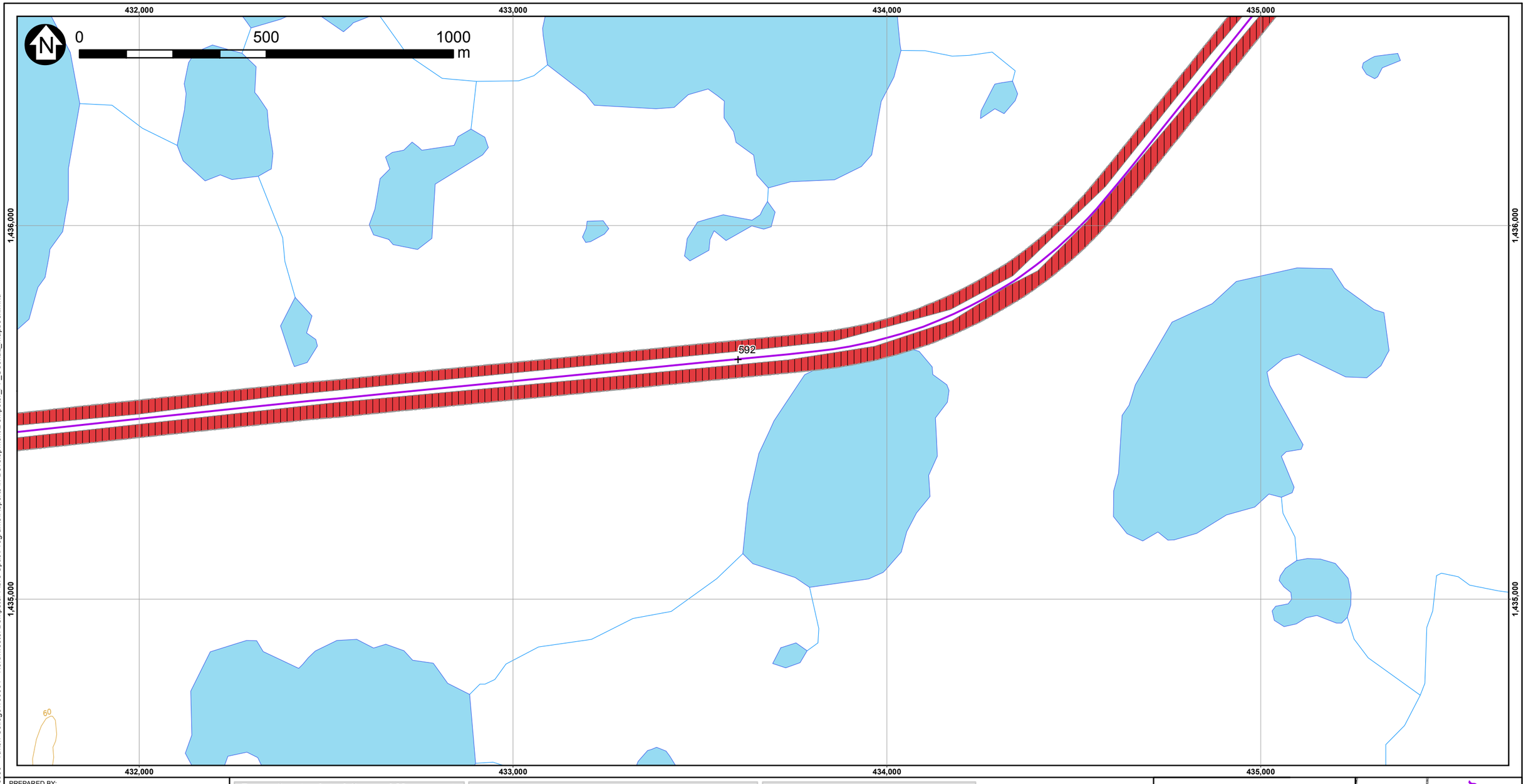


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| GEOLOGY | DS/RM/CB |
|---|---|
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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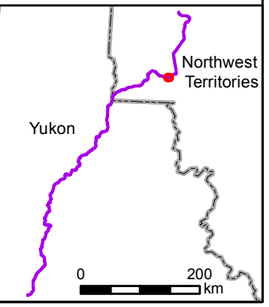
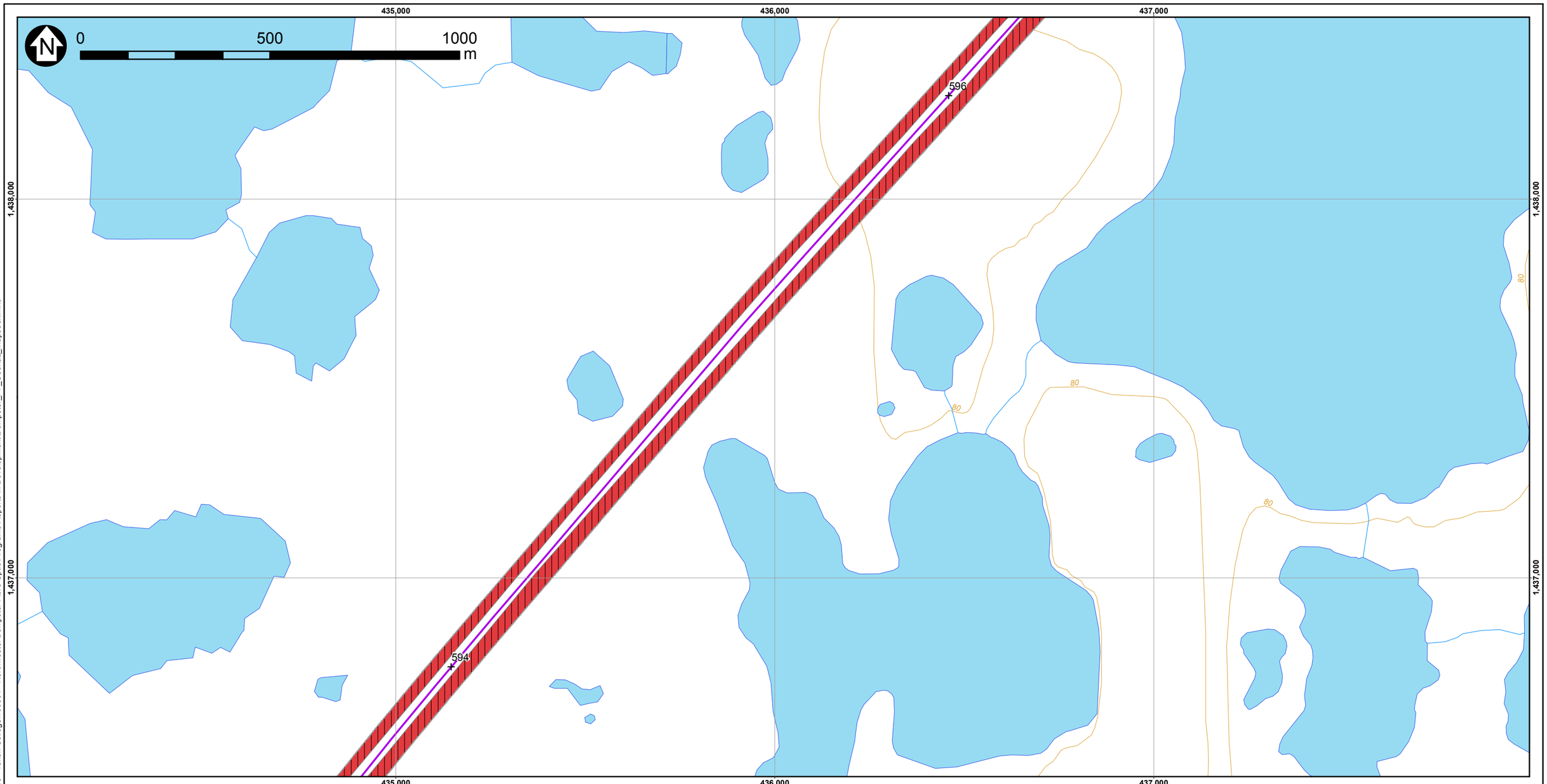
LEDCOR GROUP NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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| APP'D | RM |
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| | | | |
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| ***Xt*** | Thermokarst Subsidence | ***Xw*** | Ice-wedge Polygon |
| ***S*** | Solifluction | | |

**Potential Movement Direction**

Horizontal  Vertical  Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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LEDCOR GROUP  NorthwesTel

**Dempster Highway Fibre Optic Line**

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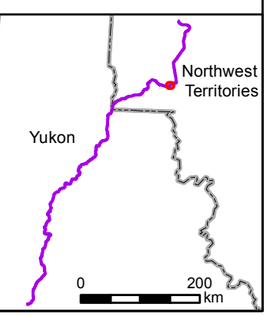


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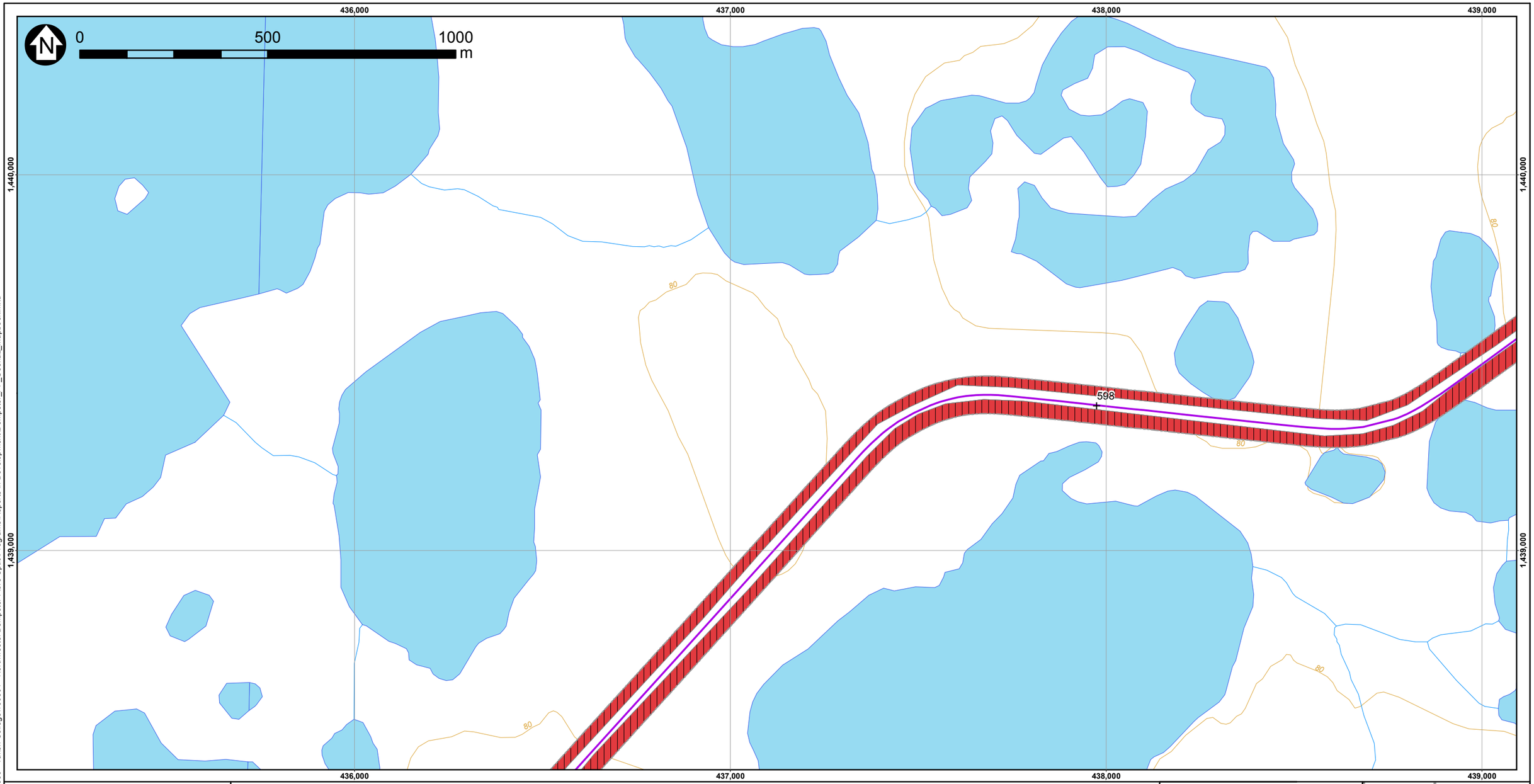


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
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Contour (m)
Watercourse

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LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

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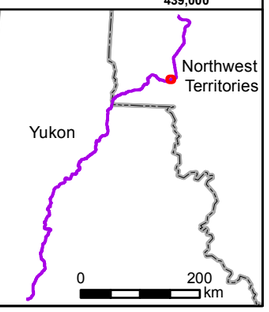


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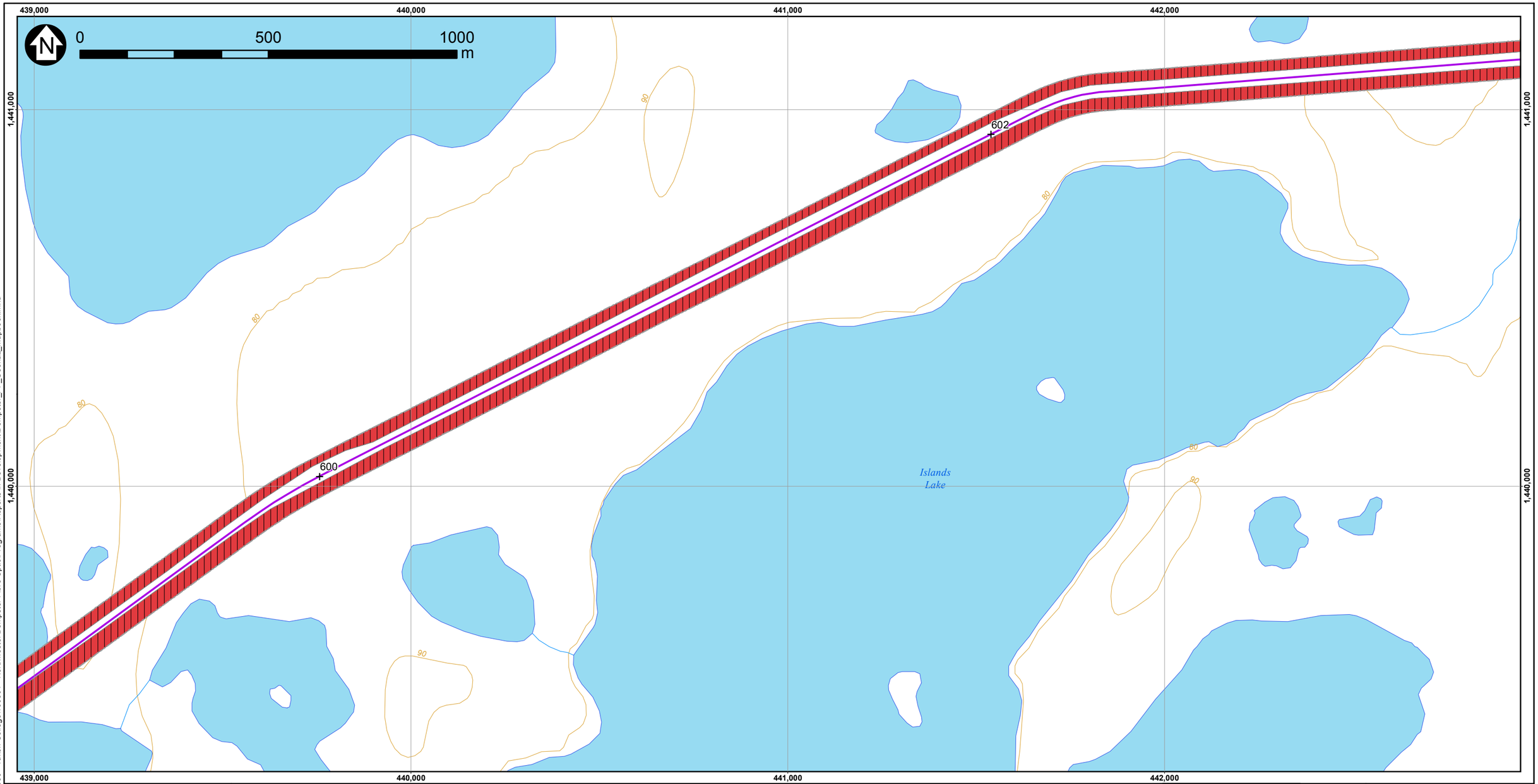


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## Potential Movement Direction

Horizontal | Vertical | Both

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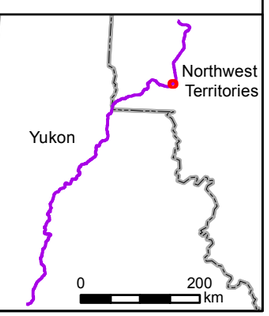
LEDCOR GROUP | NorthwesTel

# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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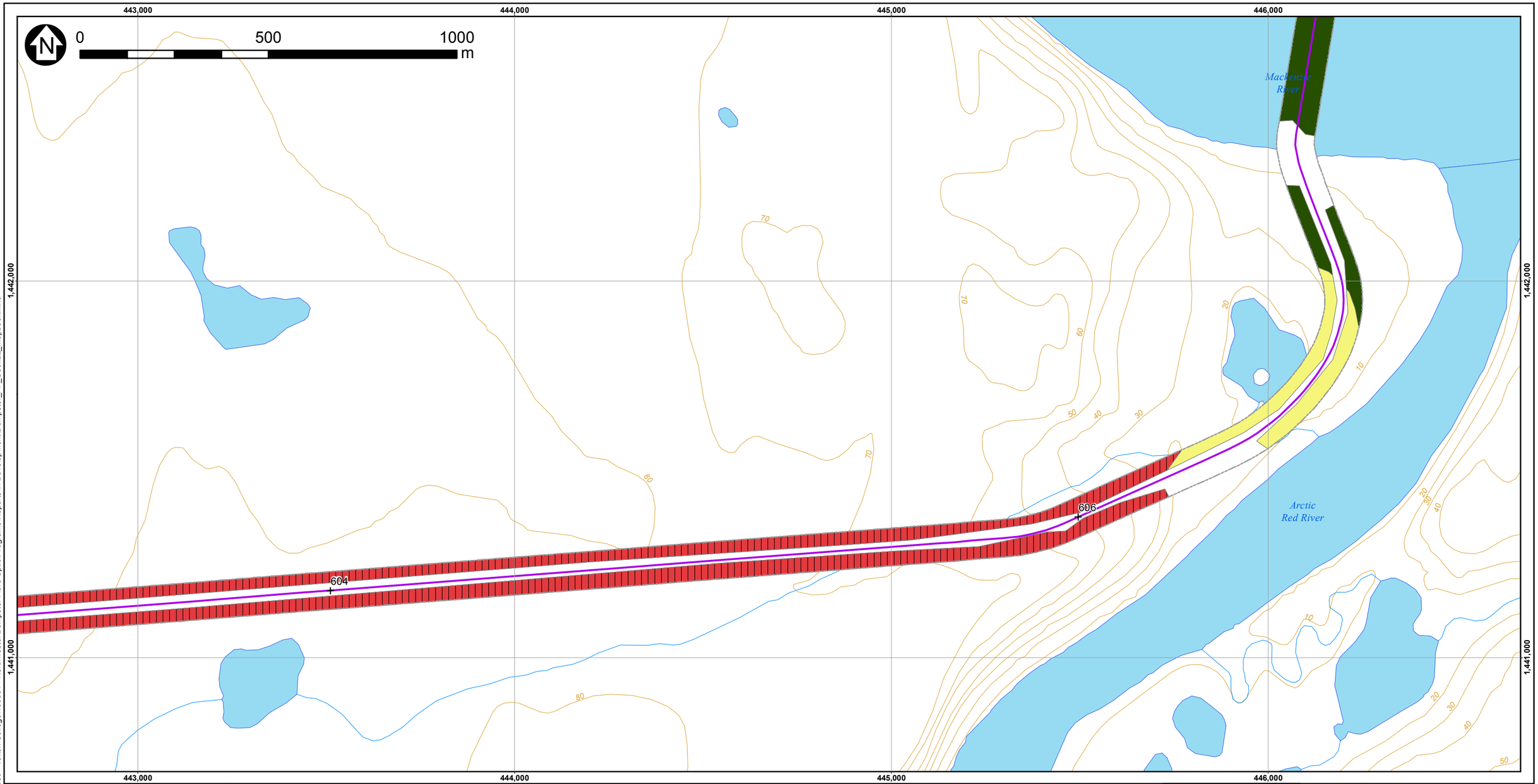


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| GEOLOGY | DS/RM/CB |
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Horizontal | Vertical | Both

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LEDCOR GROUP | NorthwesTel

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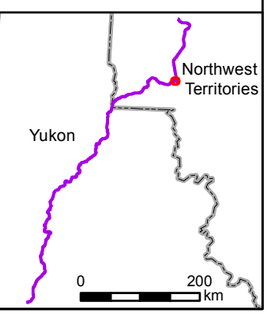

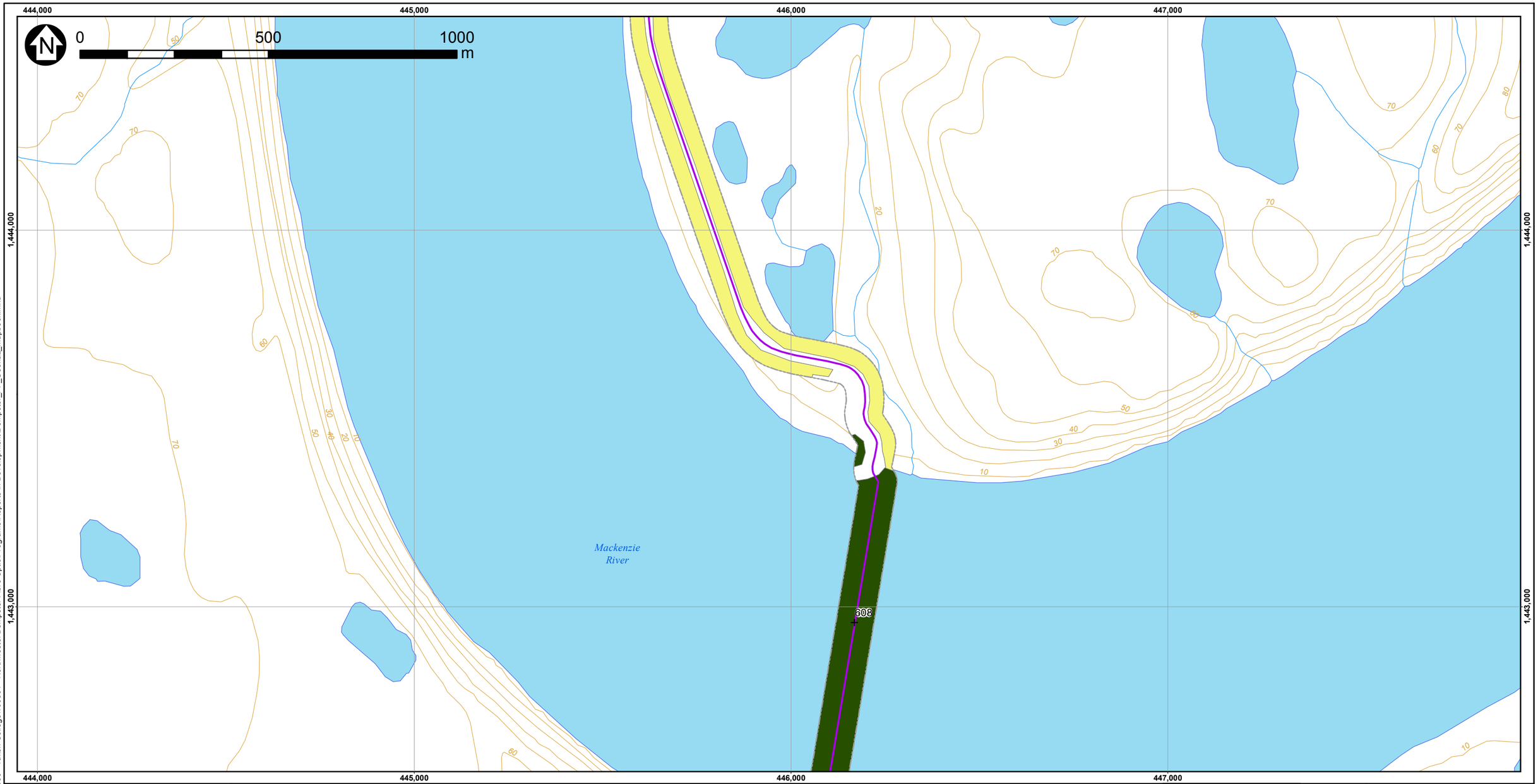


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| DRAWN | DS |
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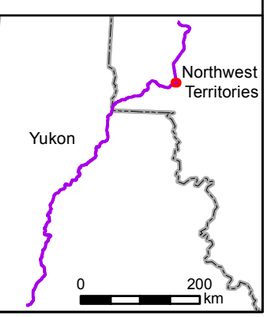

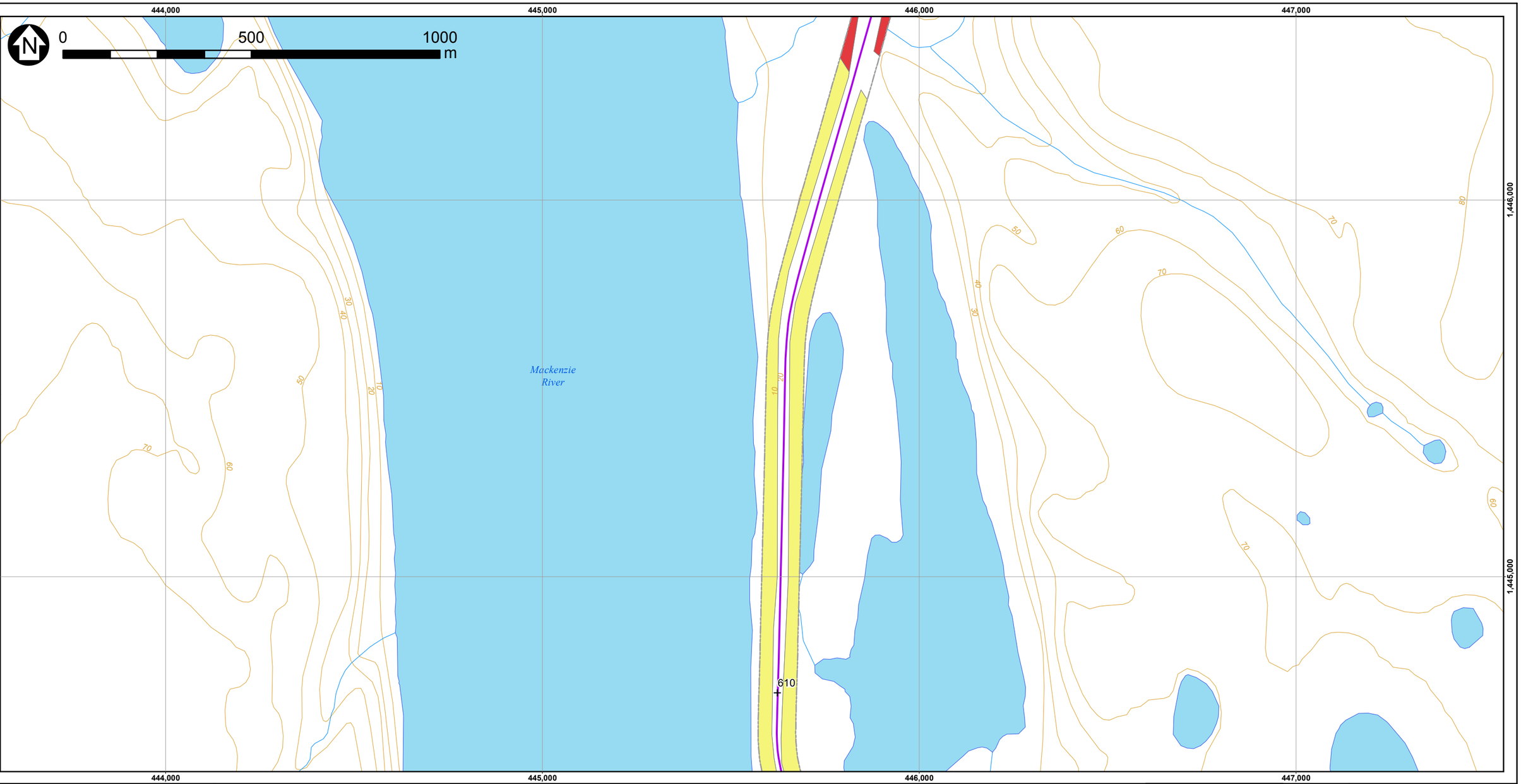


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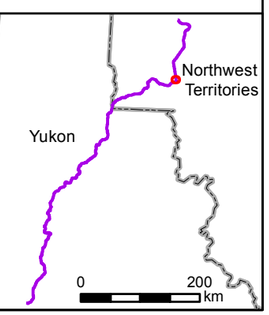
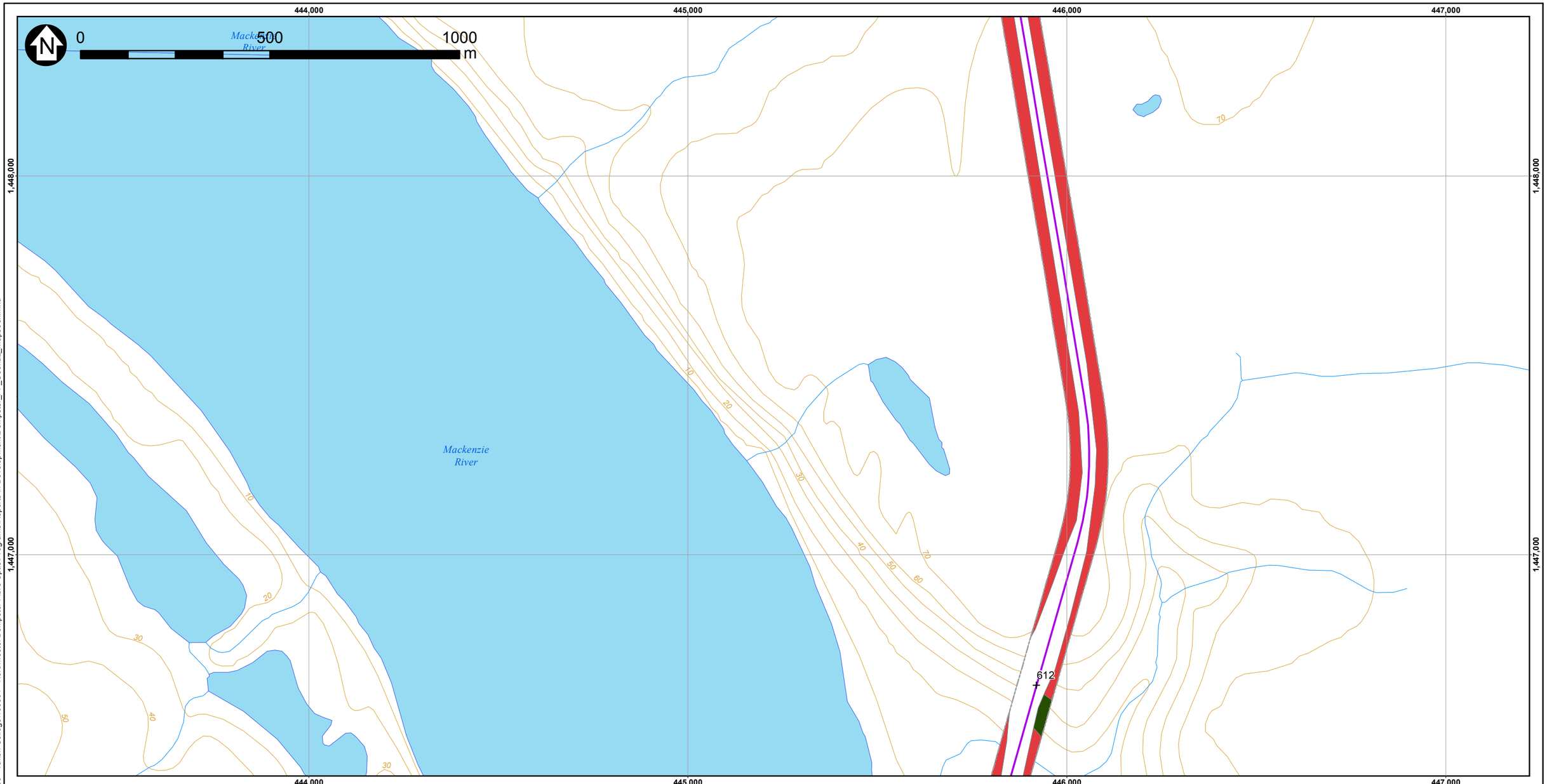
## Preliminary Permafrost and Geohazard Mapping





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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
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| | High | Thick |
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## Mass Movement Geohazard

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
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## Periglacial Process/Feature

- ***Xs*** - Slopewash
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### Potential Movement Direction

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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**Dempster Highway Fibre Optic Line**

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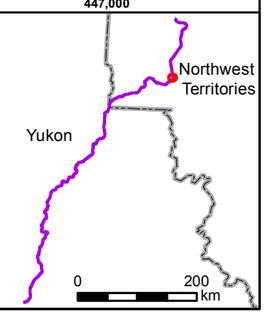


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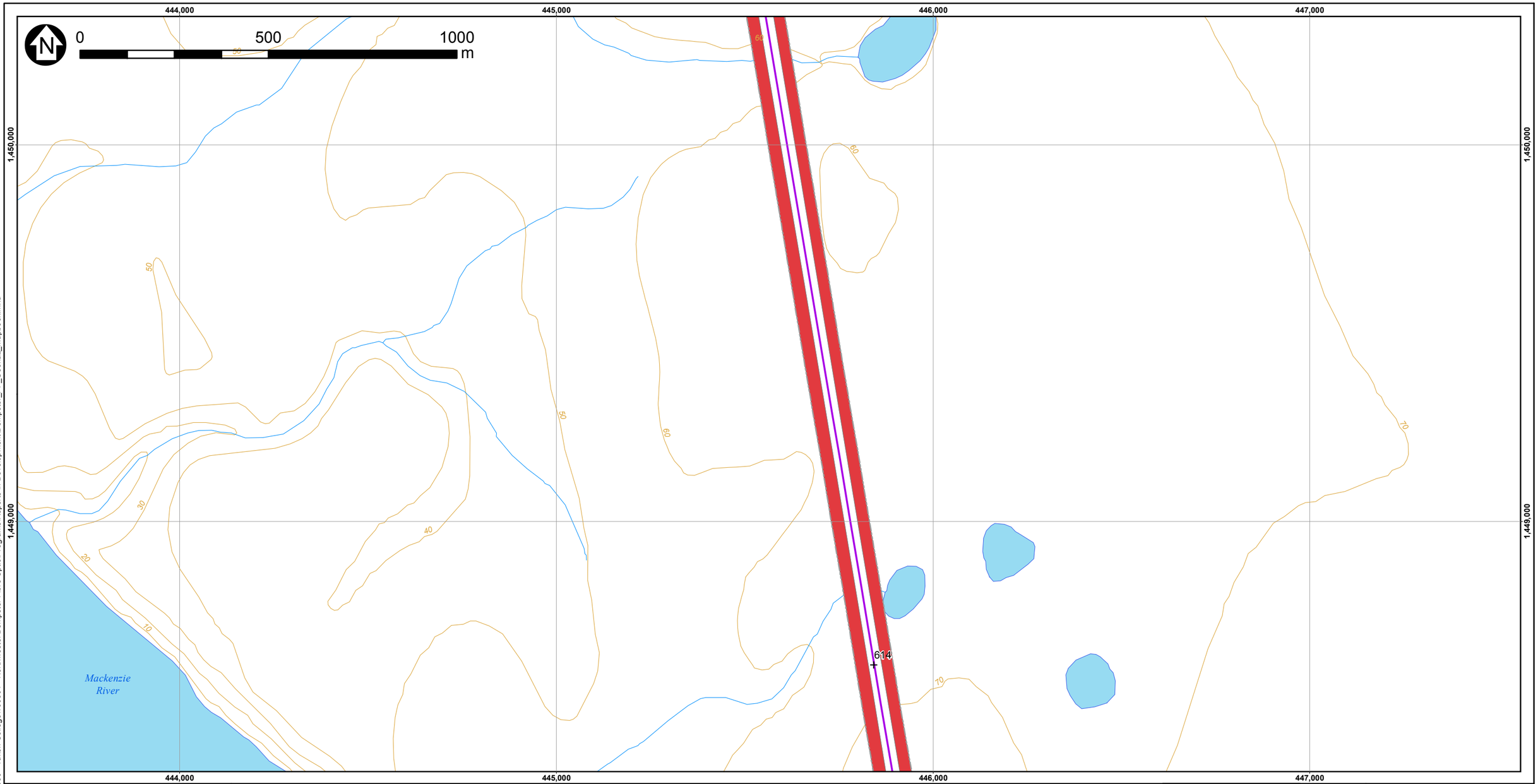


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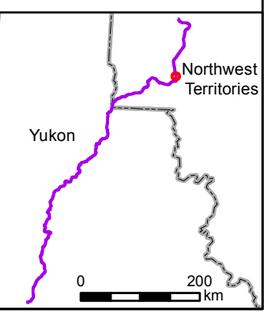


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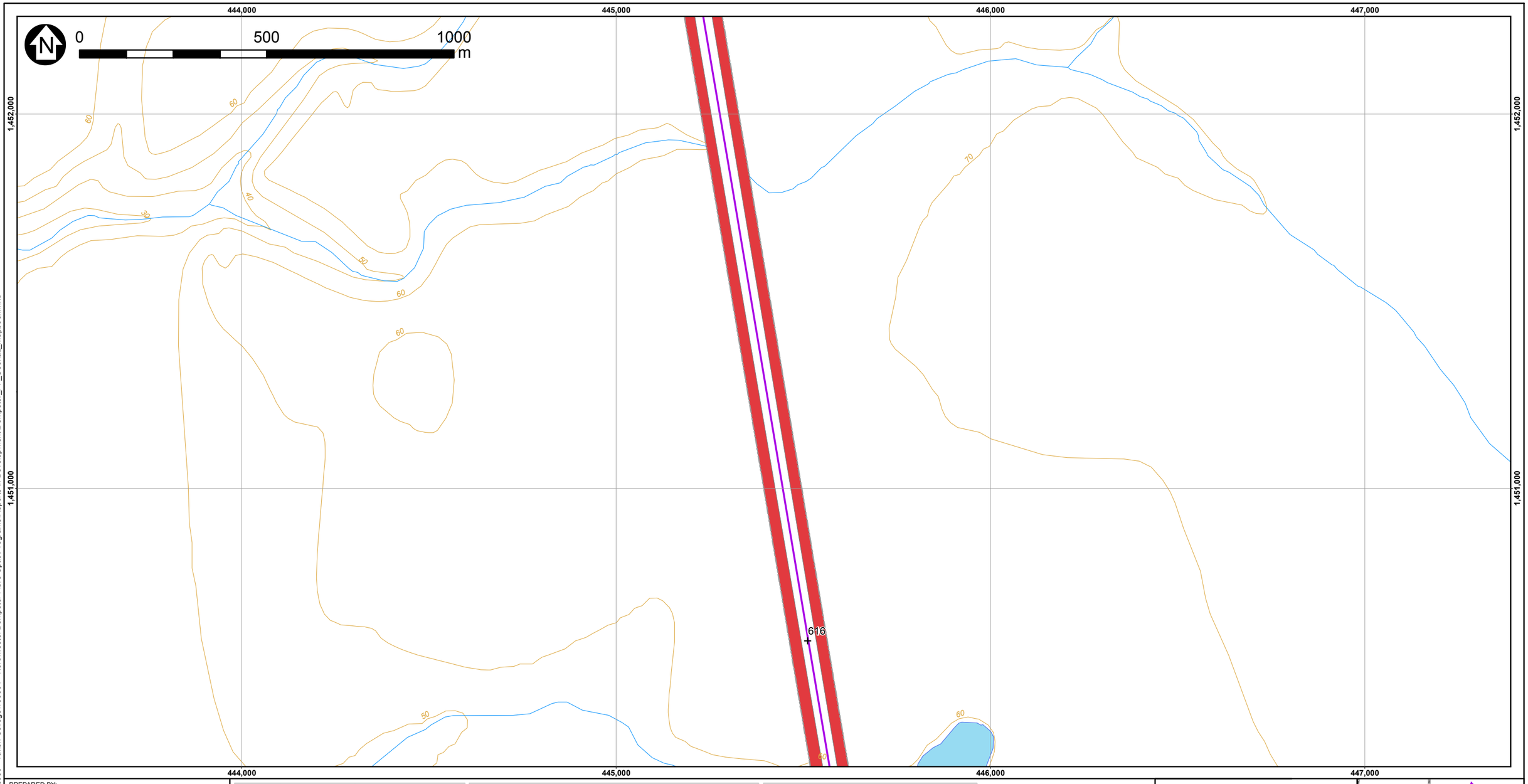


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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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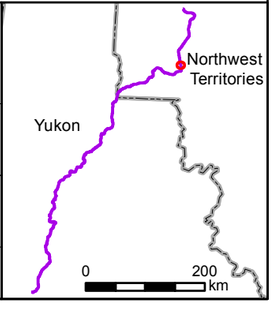


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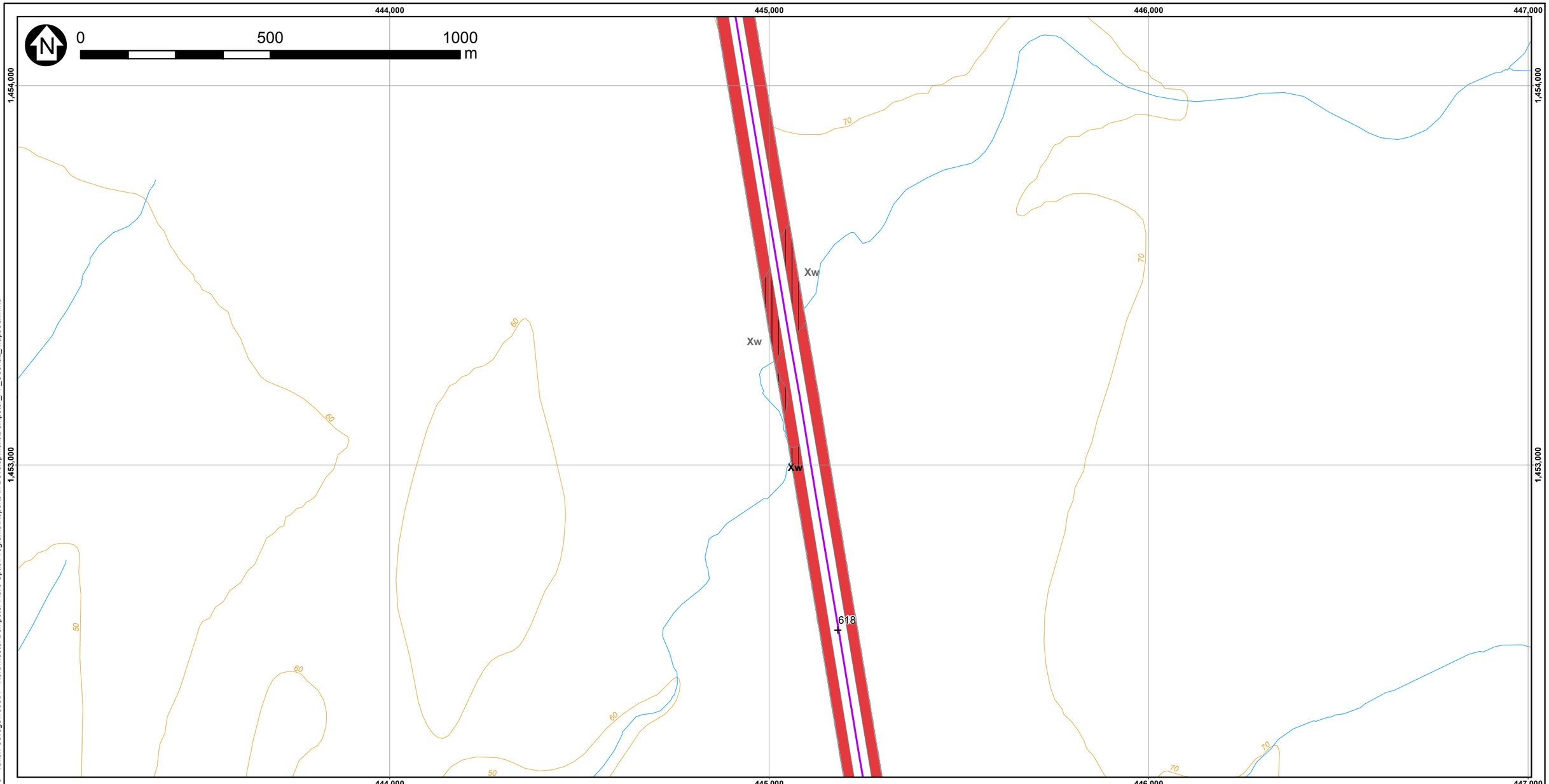


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
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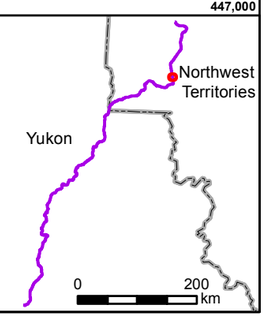


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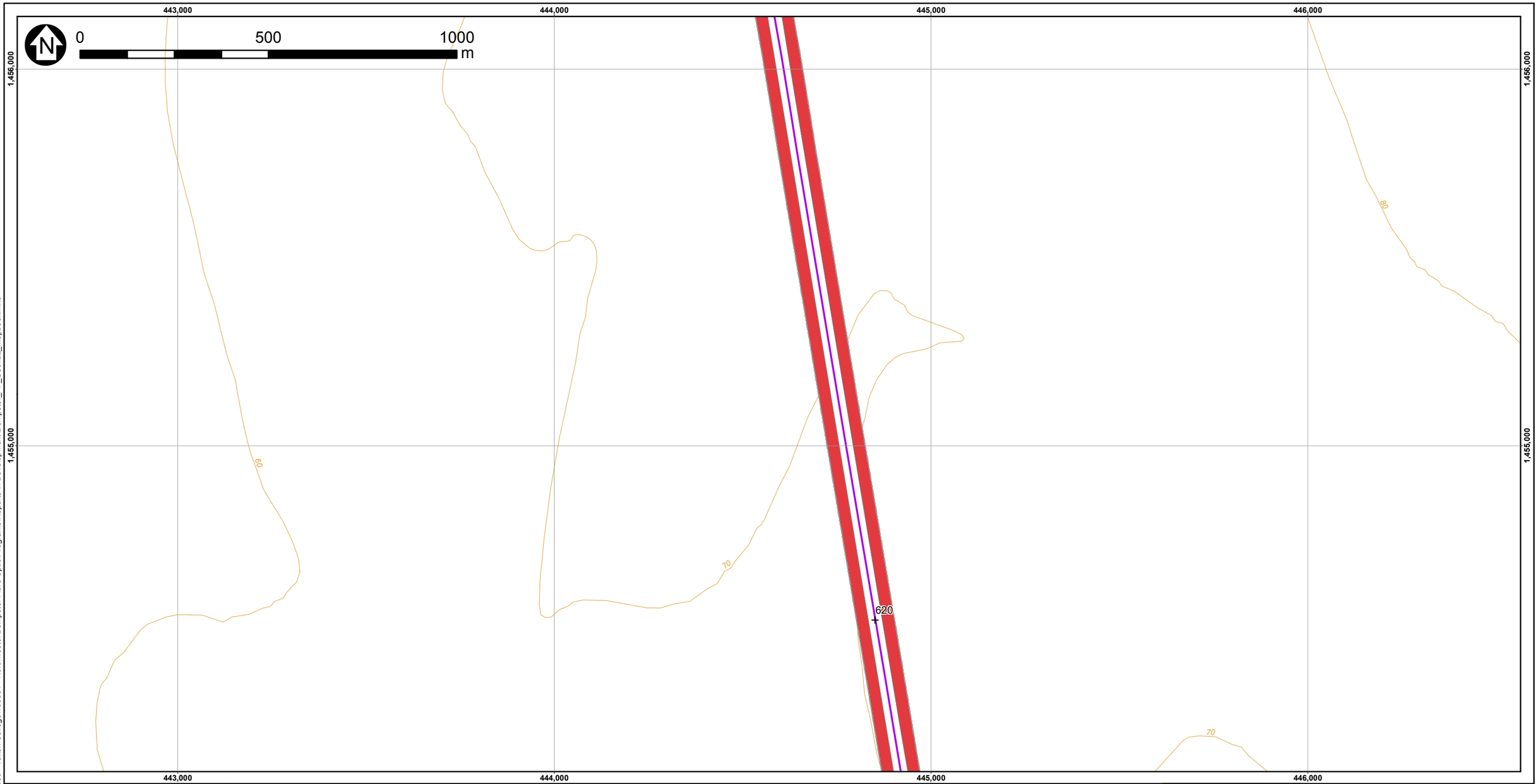


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**Potential Movement Direction**

Horizontal | Vertical | Both

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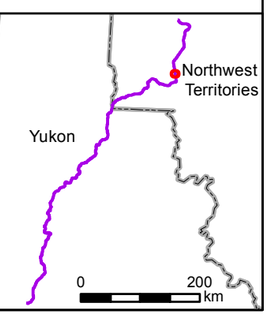


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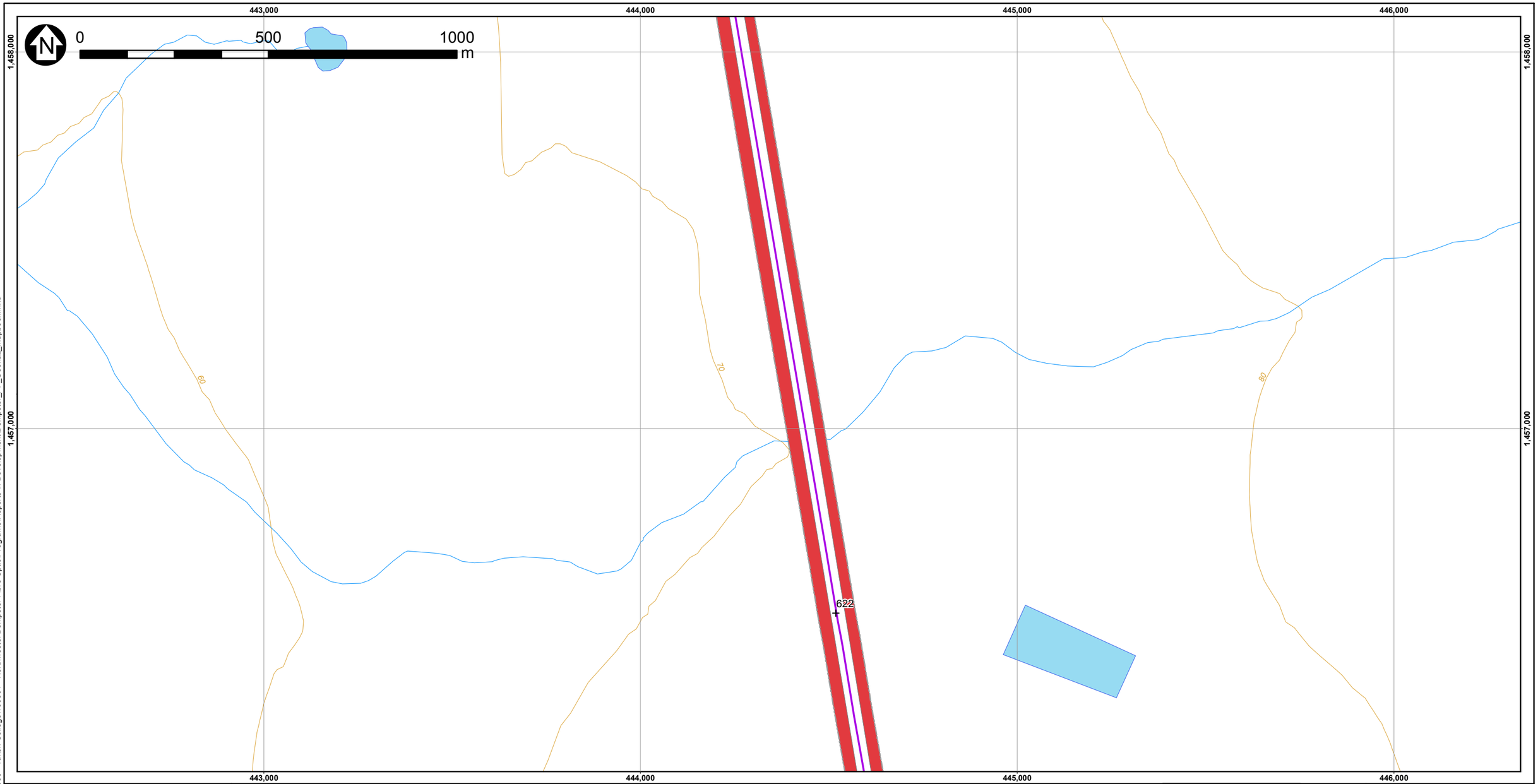


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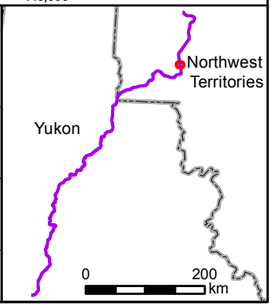

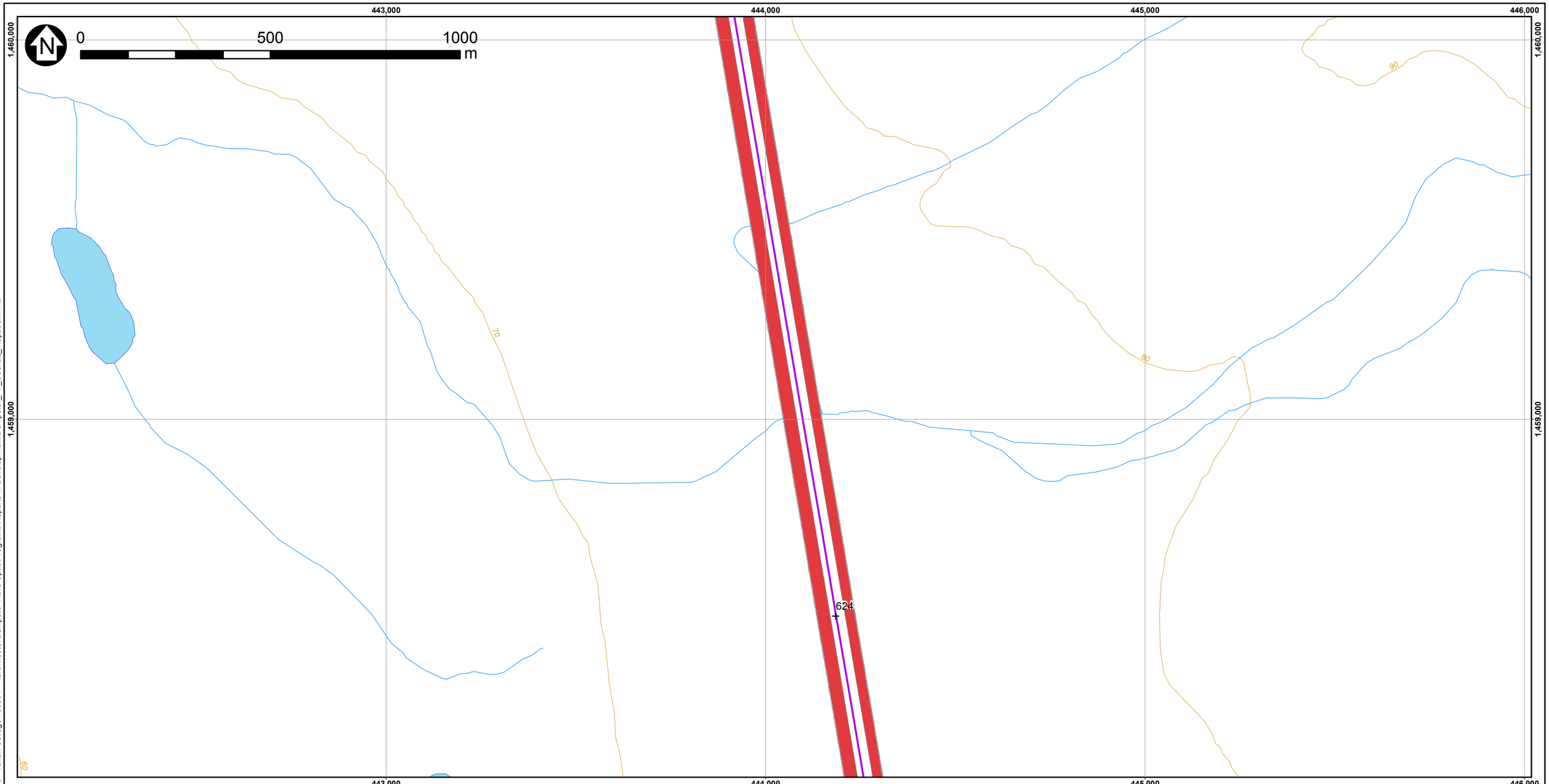


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# Dempster Highway Fibre Optic Line

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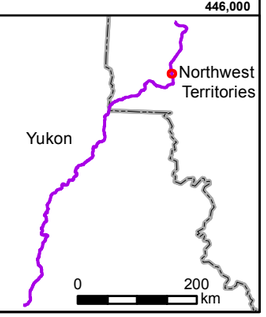


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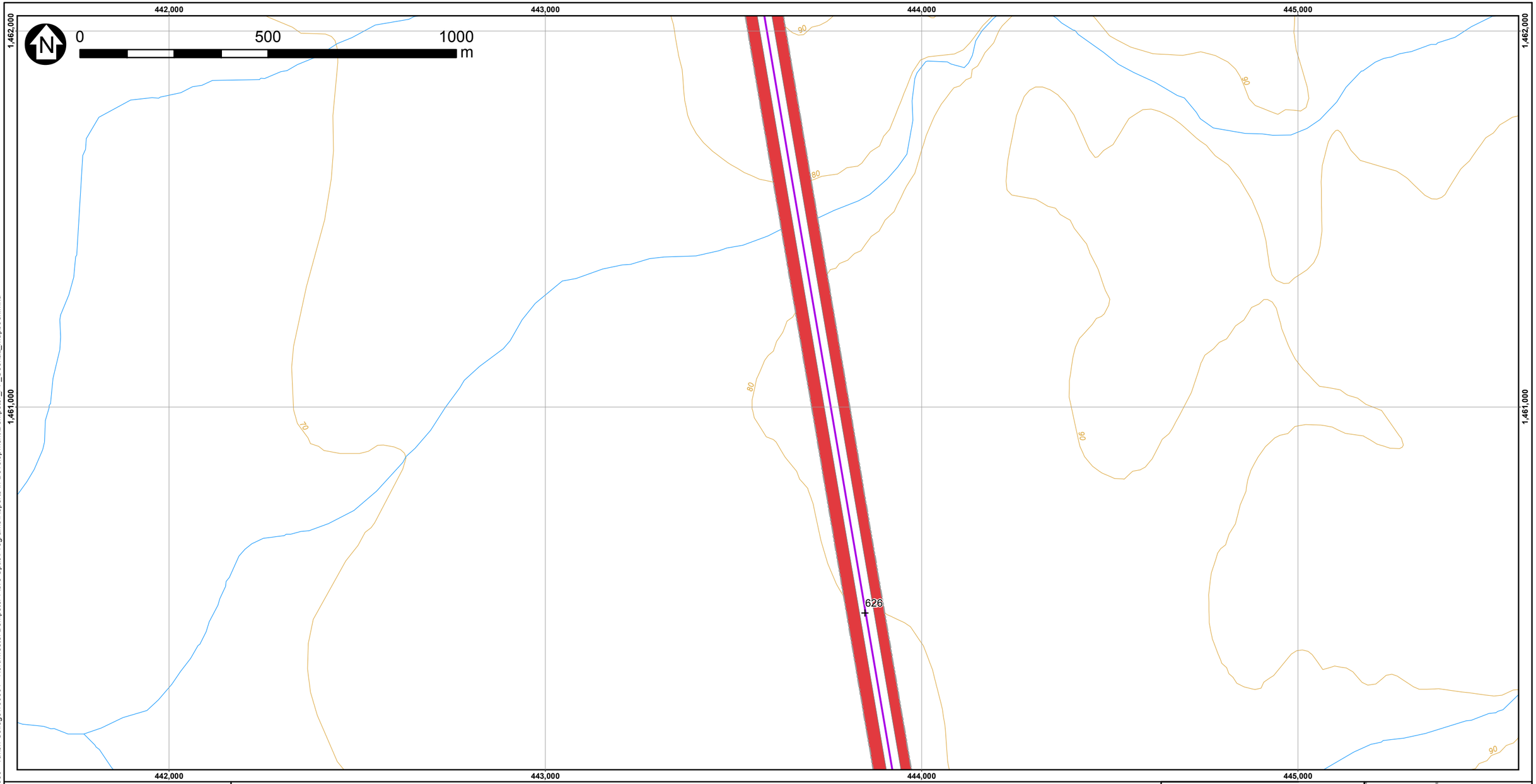


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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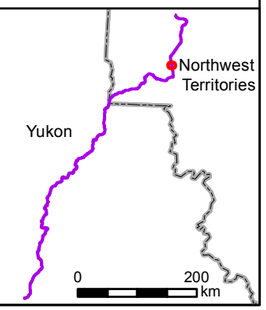
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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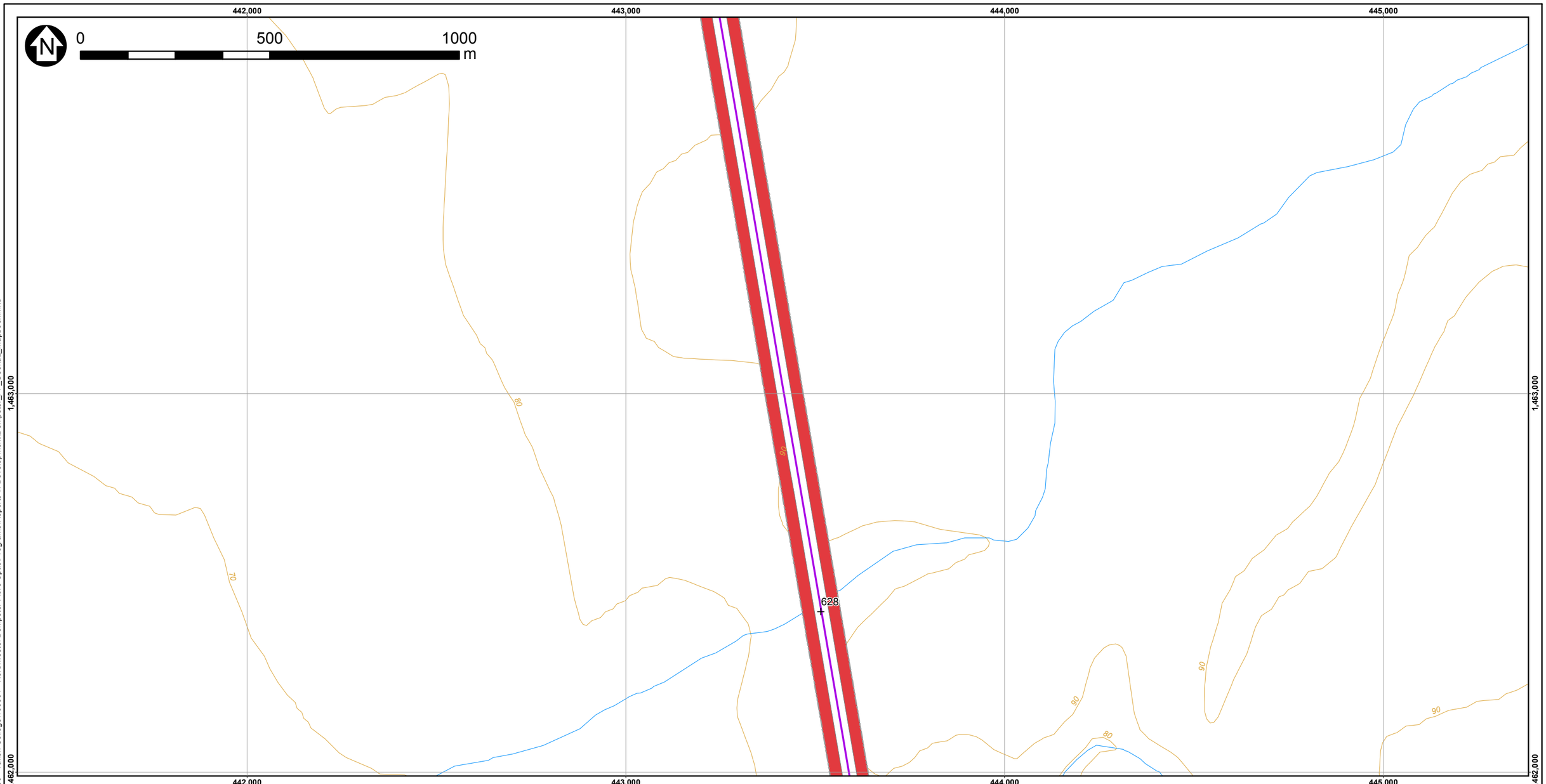


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
| | Anthropogenic | |

## Mass Movement Geohazard

- ***DS*** - Debris Slide
- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
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- ***RF*** - Rockfall
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## Periglacial Process/Feature

- ***Xs*** - Slopewash
- ***Xe*** - Thermal Erosion
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Horizontal | Vertical | Both

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LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

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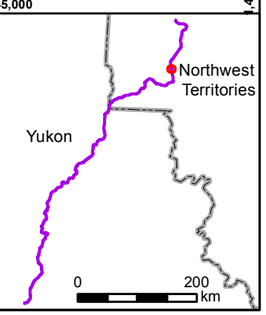


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Horizontal | Vertical | Both

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**Dempster Highway Fibre Optic Line**

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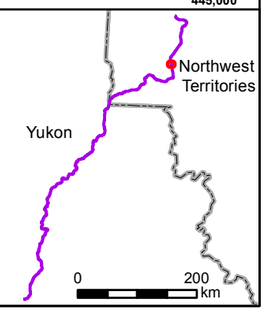

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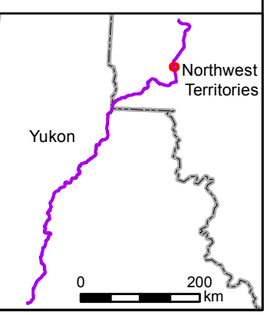


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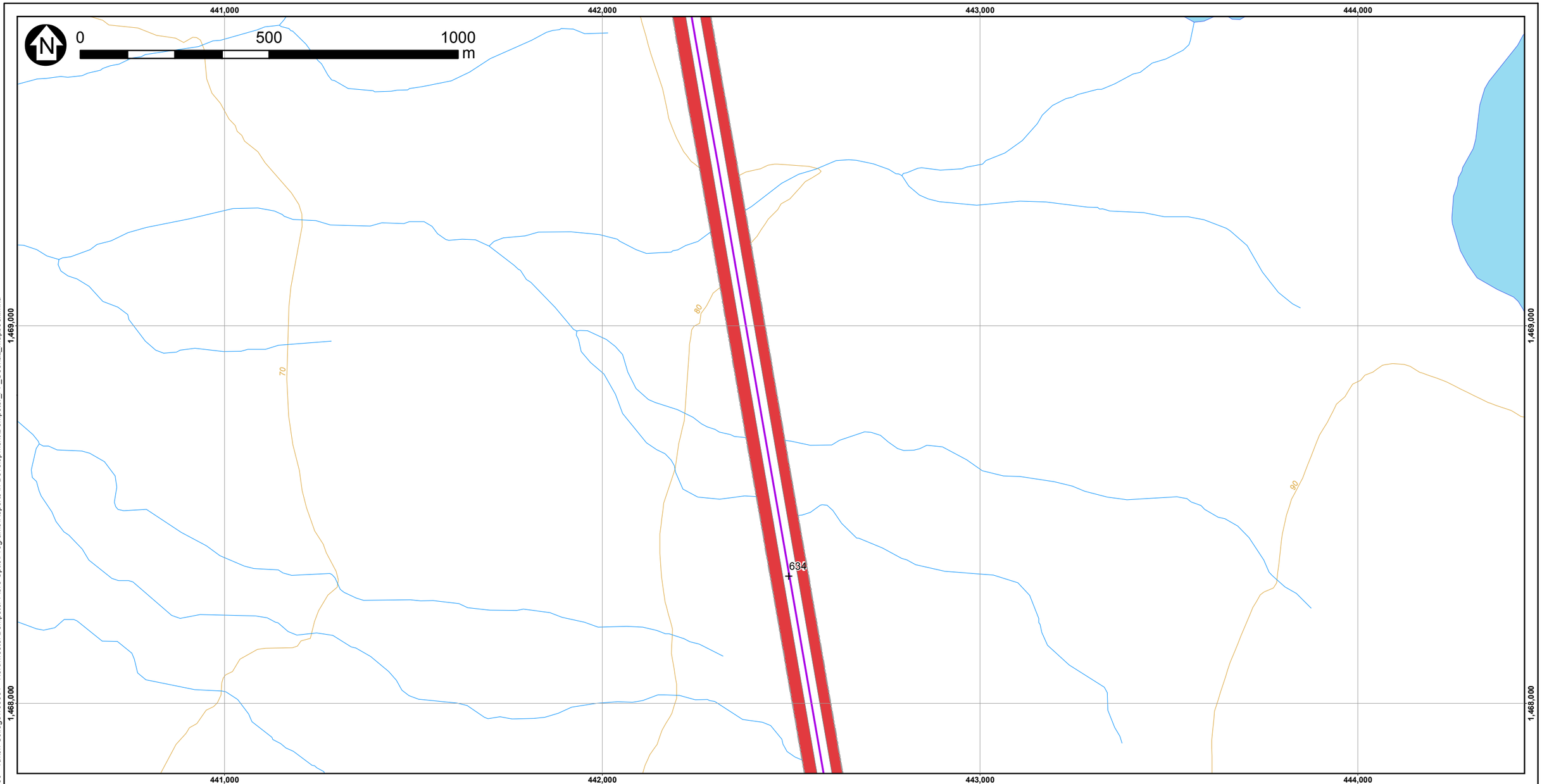


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Horizontal  Vertical  Both

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# Dempster Highway Fibre Optic Line

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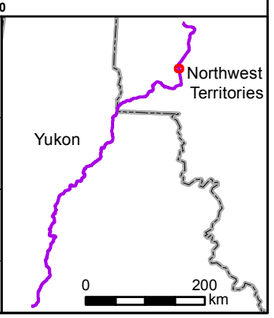


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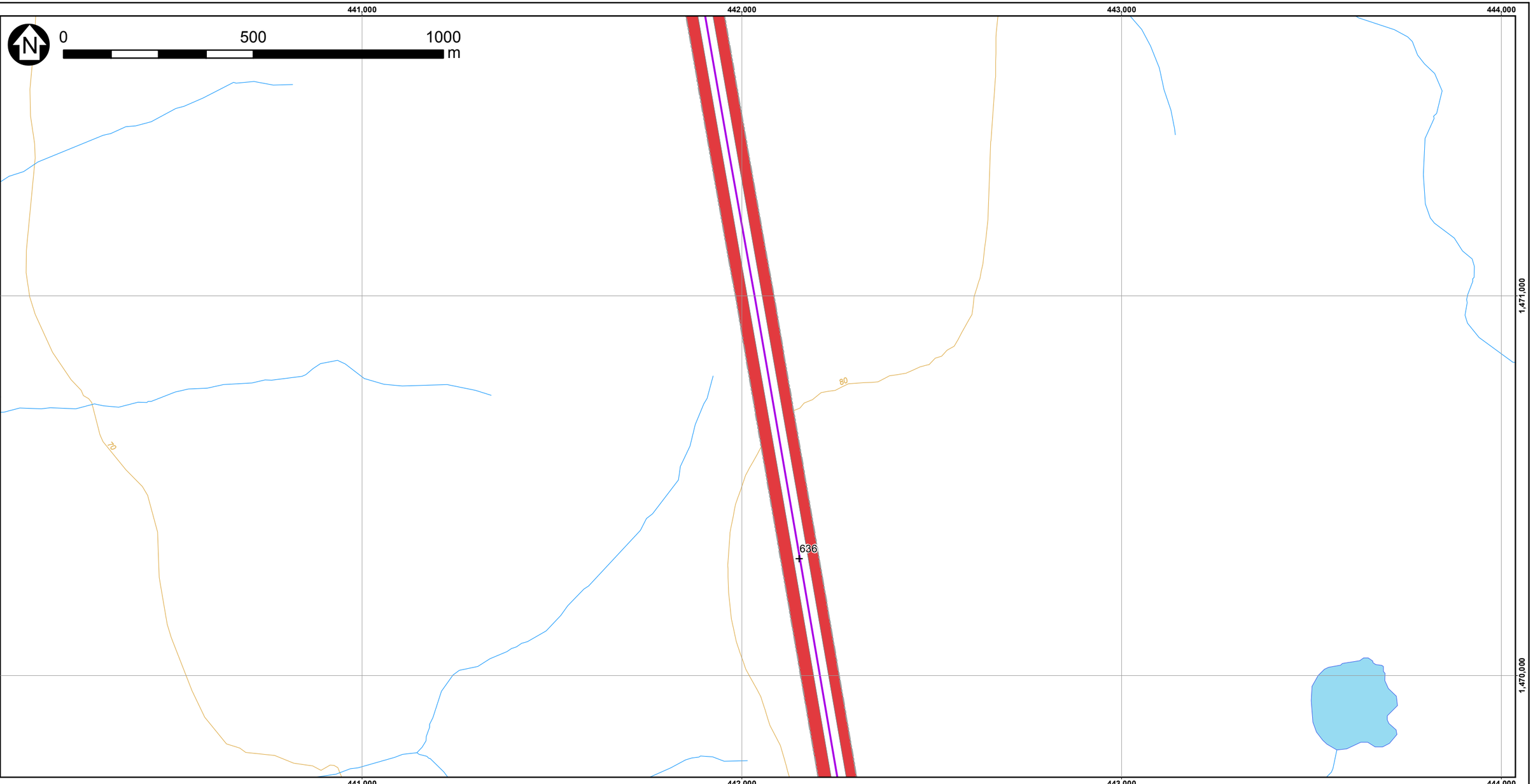


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## Potential Movement Direction

Horizontal  Vertical  Both

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# Dempster Highway Fibre Optic Line

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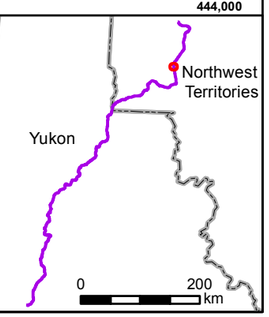

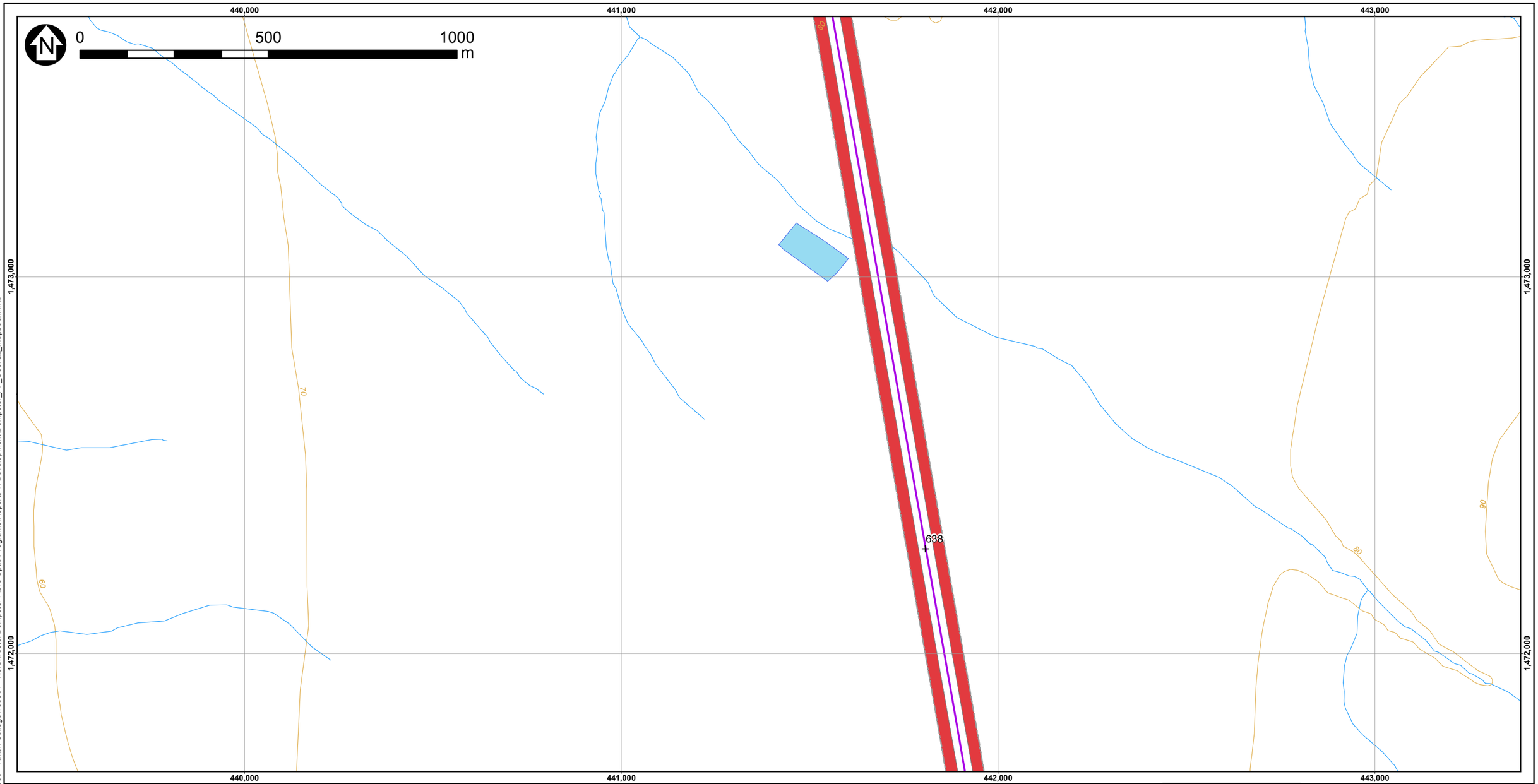


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Horizontal  Vertical  Both

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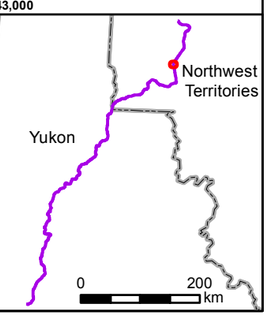

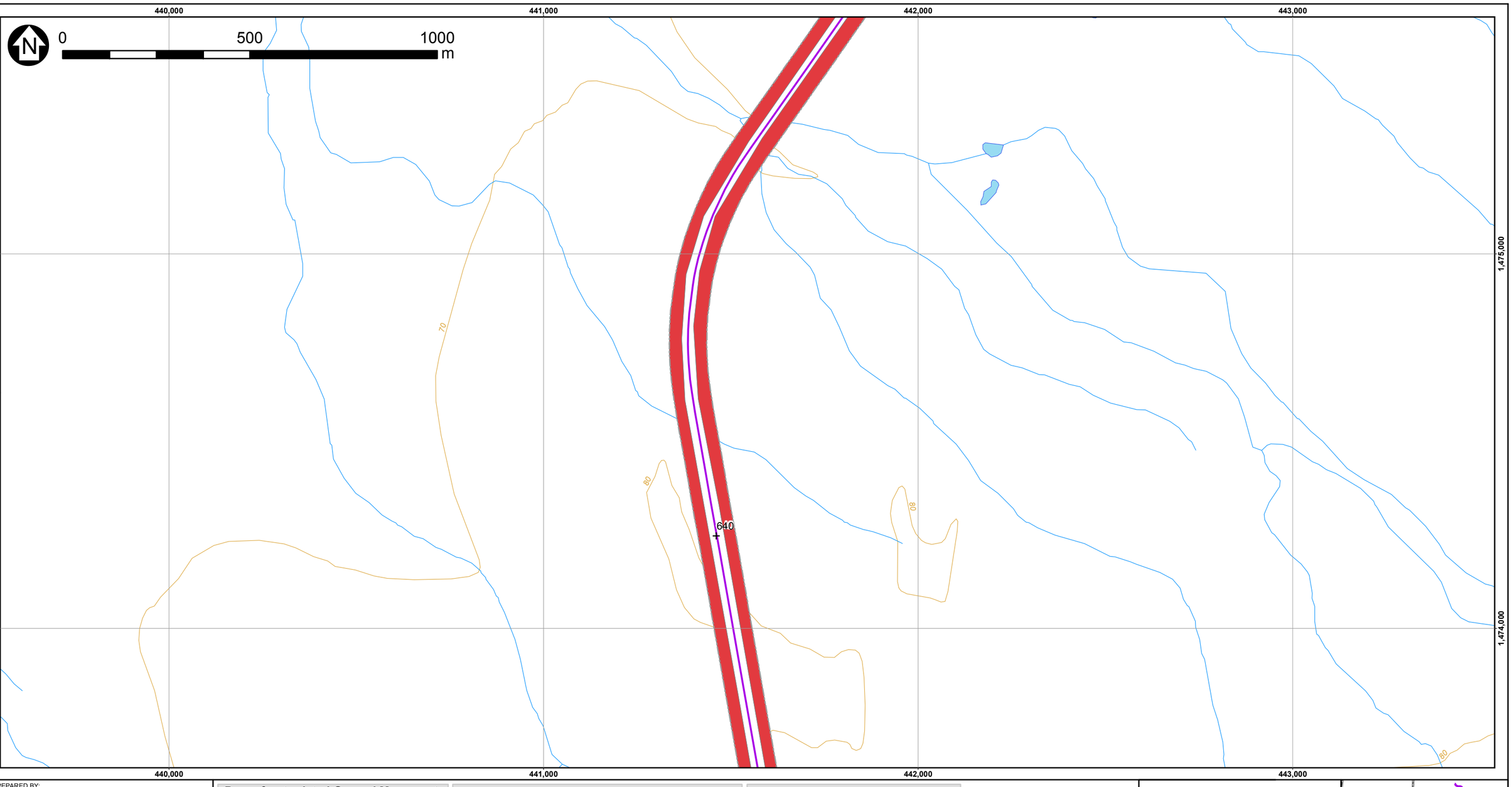


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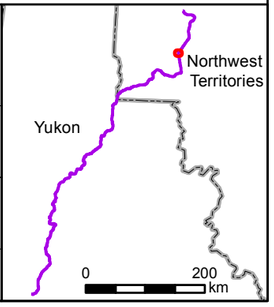


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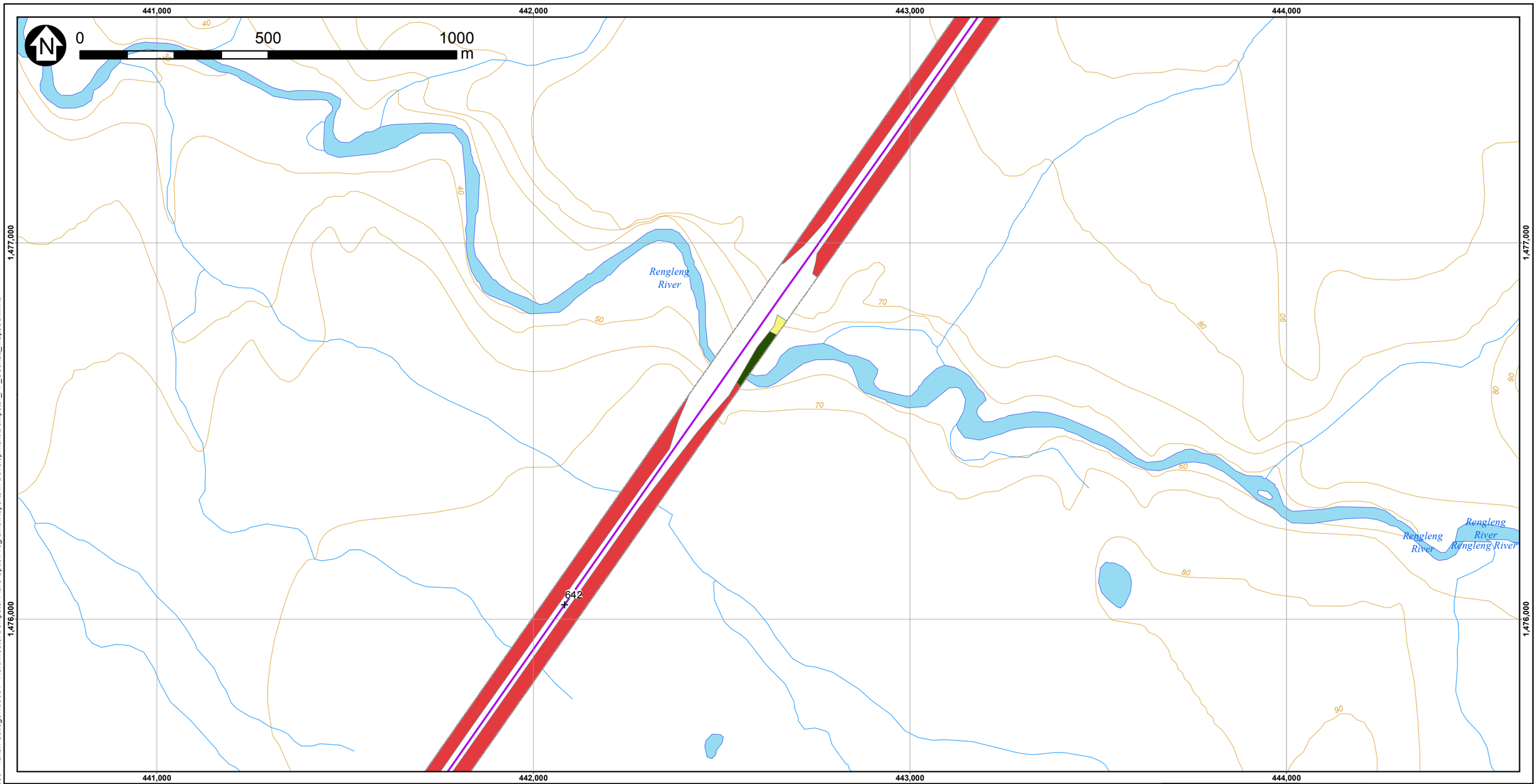


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Horizontal  Vertical  Both

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- Dempster Highway
- +234 Kilometre Post
- Contour (m)
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**Map Notes:**
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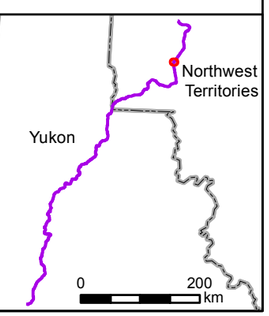
LEDCOR GROUP  NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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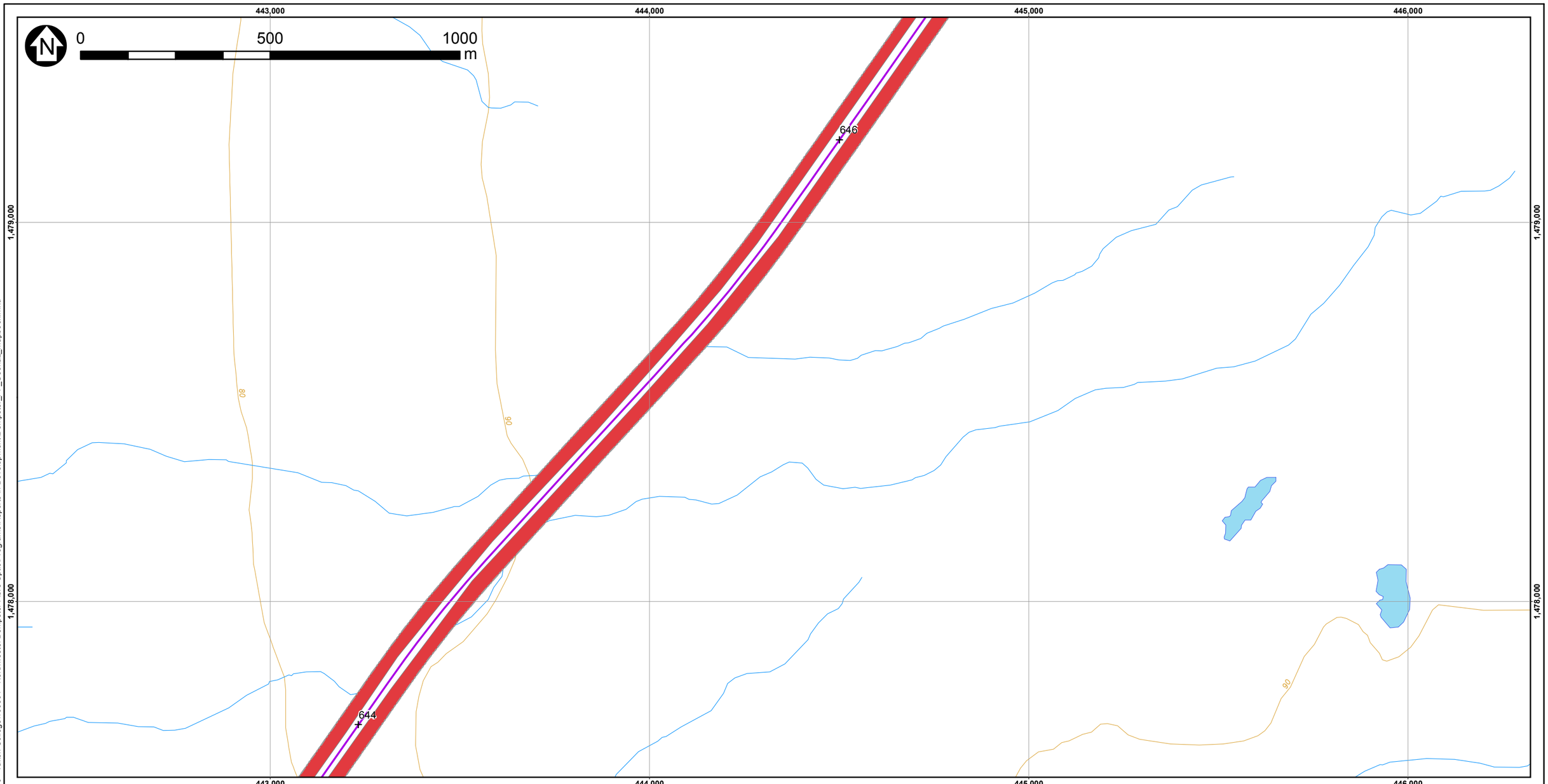


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

## Permafrost-related Ground Movement Potential (PGMP) Following Disturbance

| Symbol | PGMP | Active Layer Thickness |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
| | Low | Thick |
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## Mass Movement Geohazard

- ***DS*** - Debris Slide
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### Potential Movement Direction

Horizontal  Vertical  Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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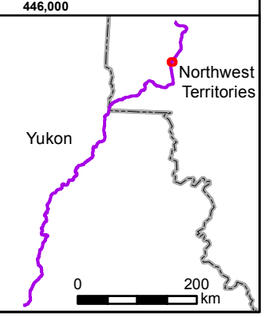


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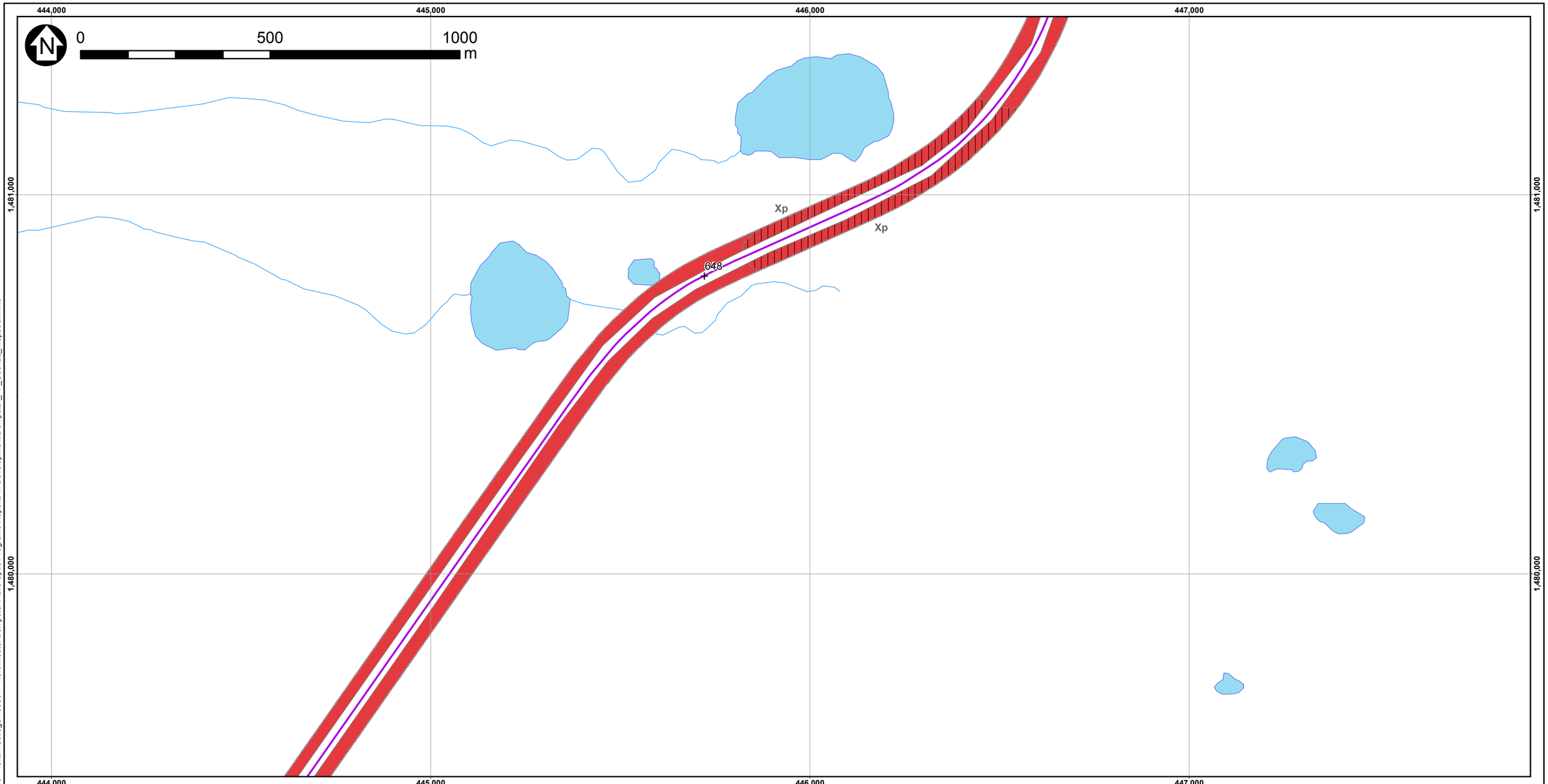


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# Dempster Highway Fibre Optic Line

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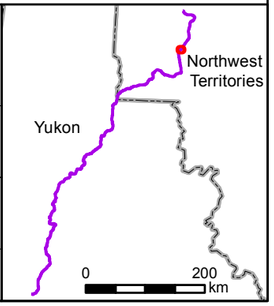

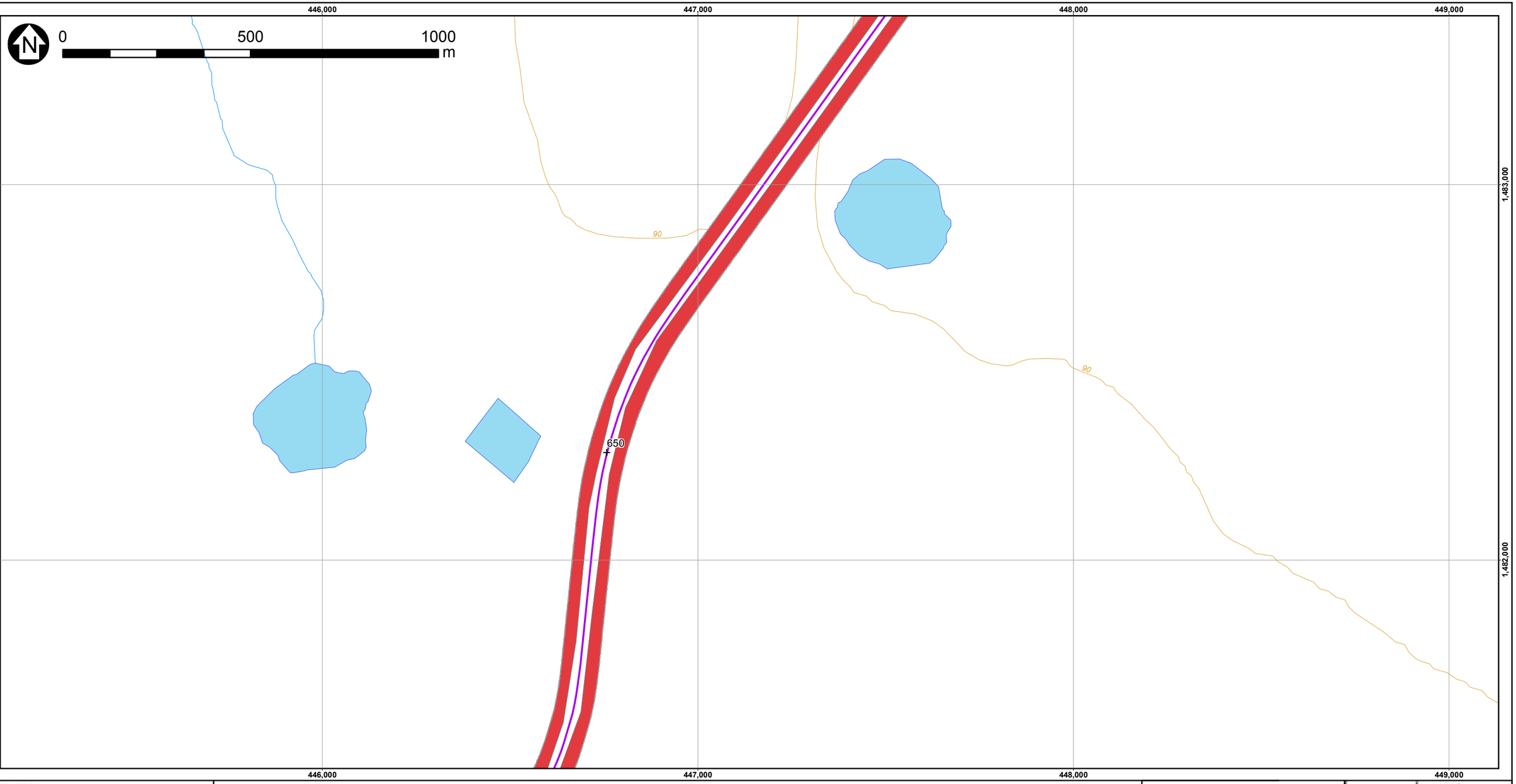


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Horizontal | Vertical | Both

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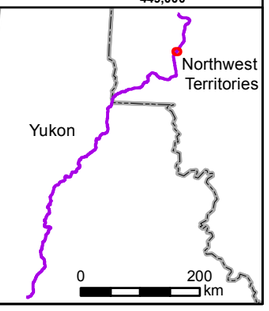
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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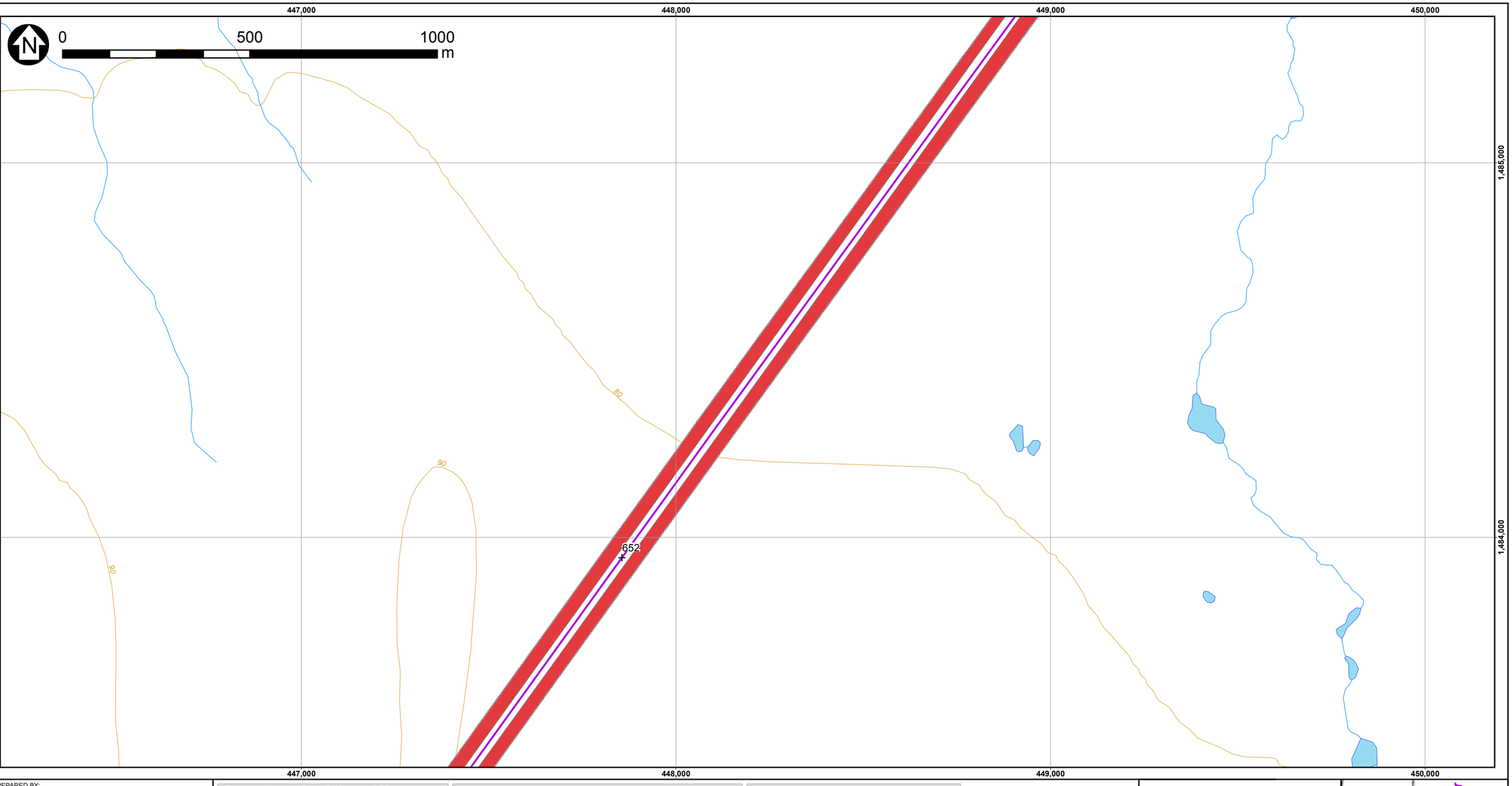


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## Potential Movement Direction

Horizontal | Vertical | Both

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Dempster Highway
+234 Kilometre Post
Contour (m)
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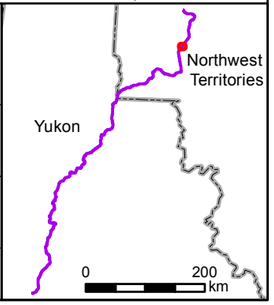
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping



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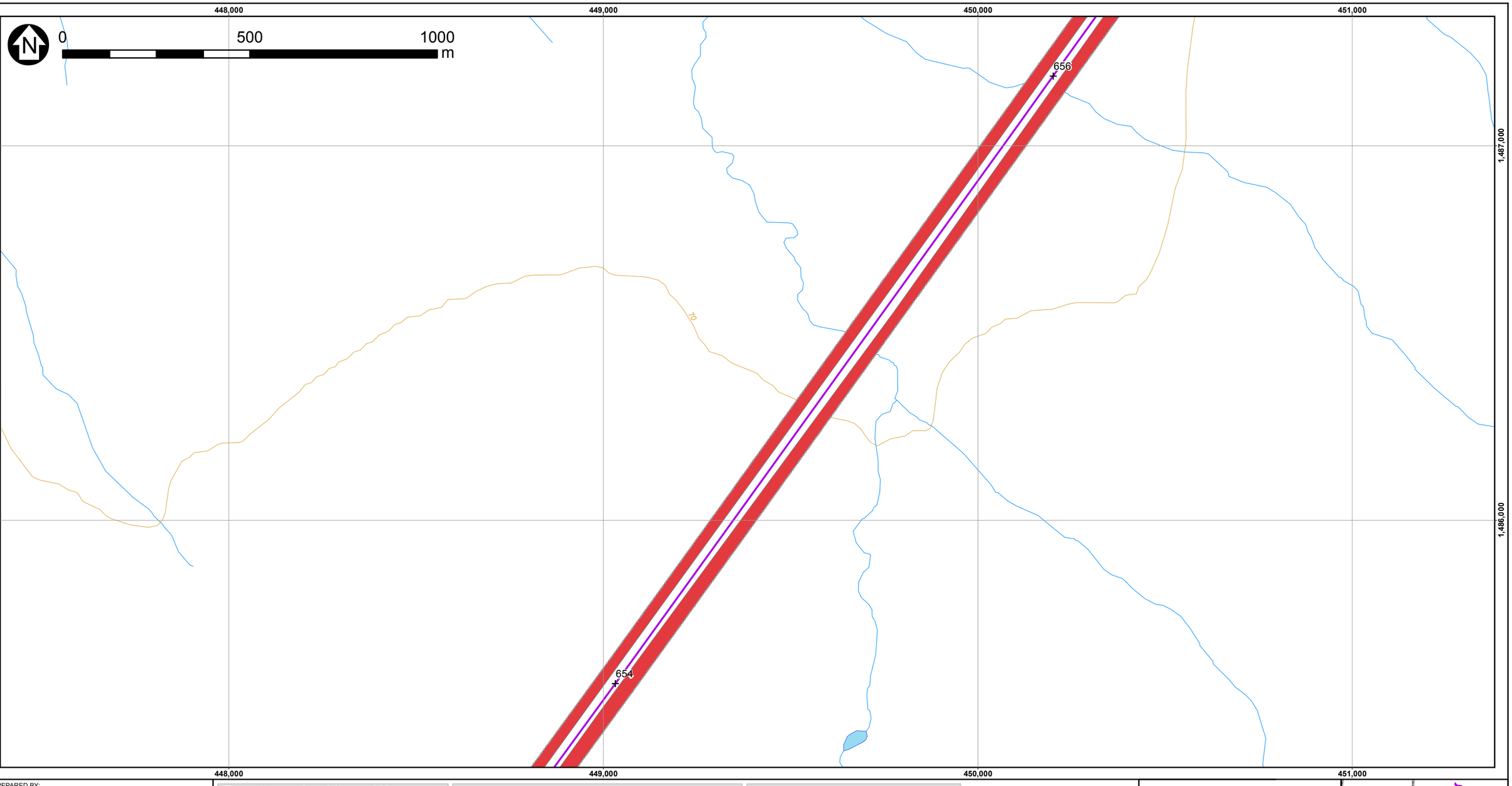


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**Potential Movement Direction**

Horizontal | Vertical | Both

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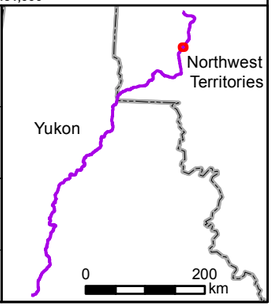

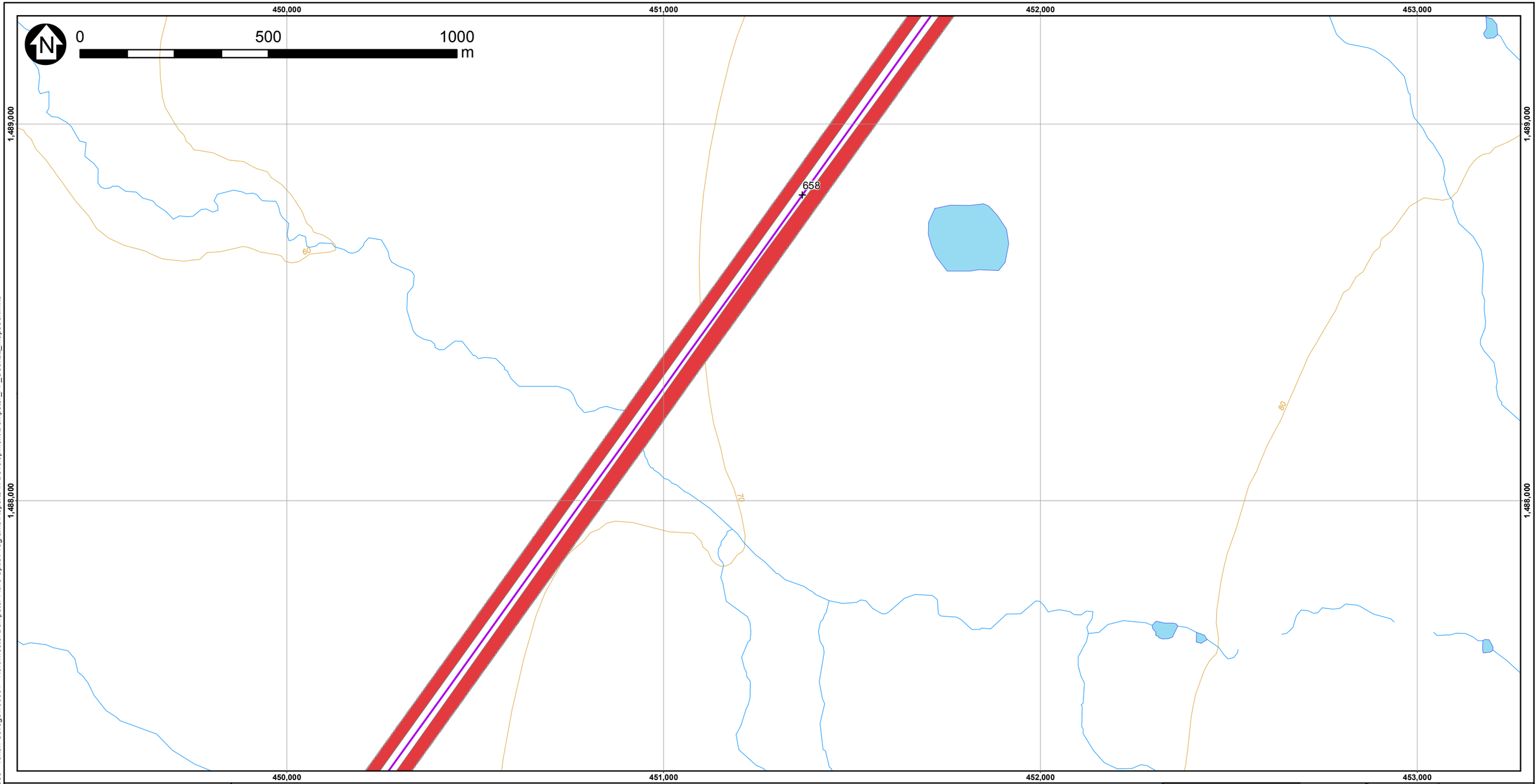


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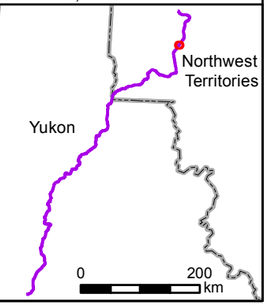

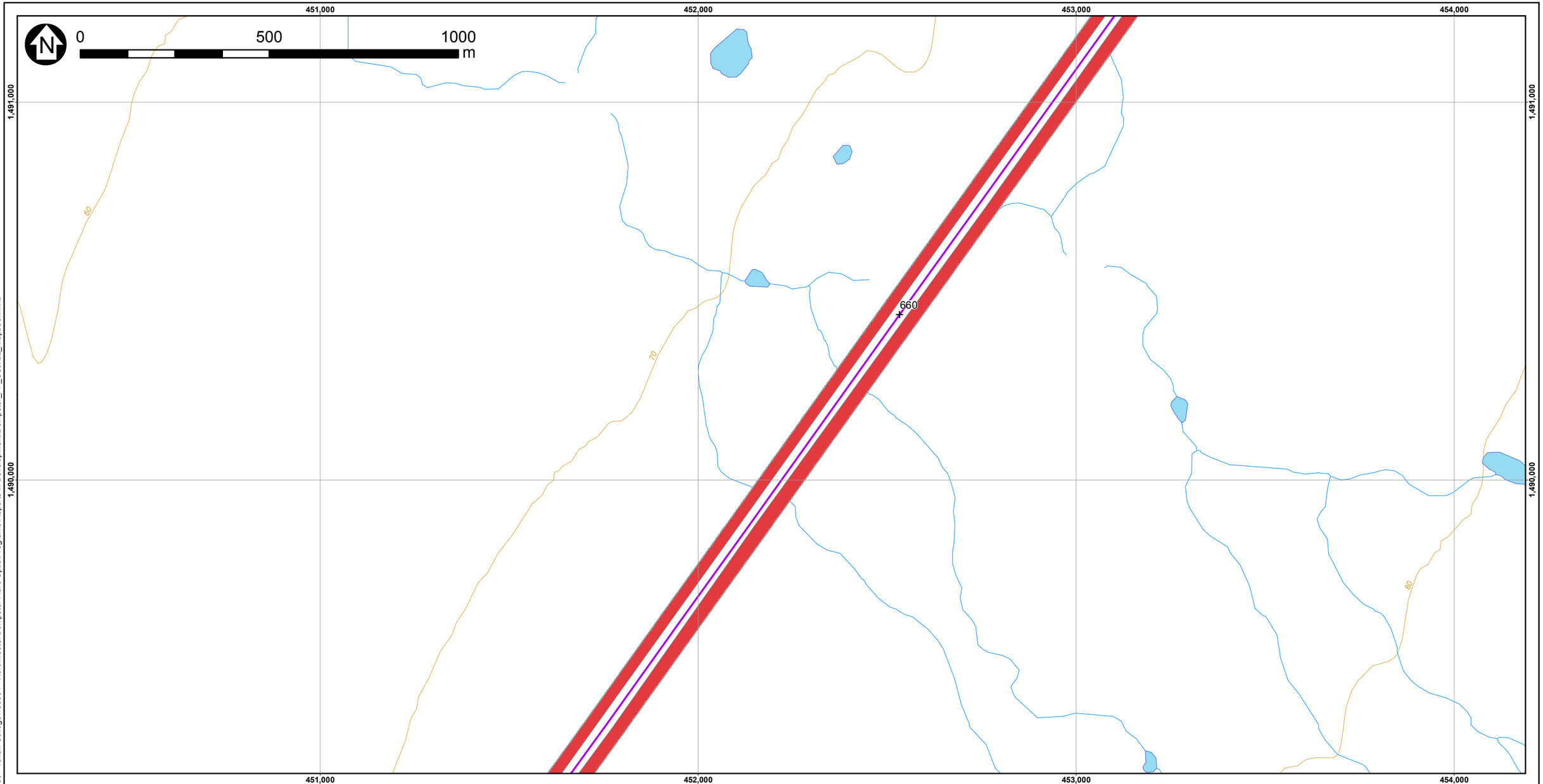


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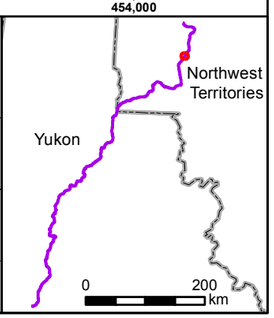


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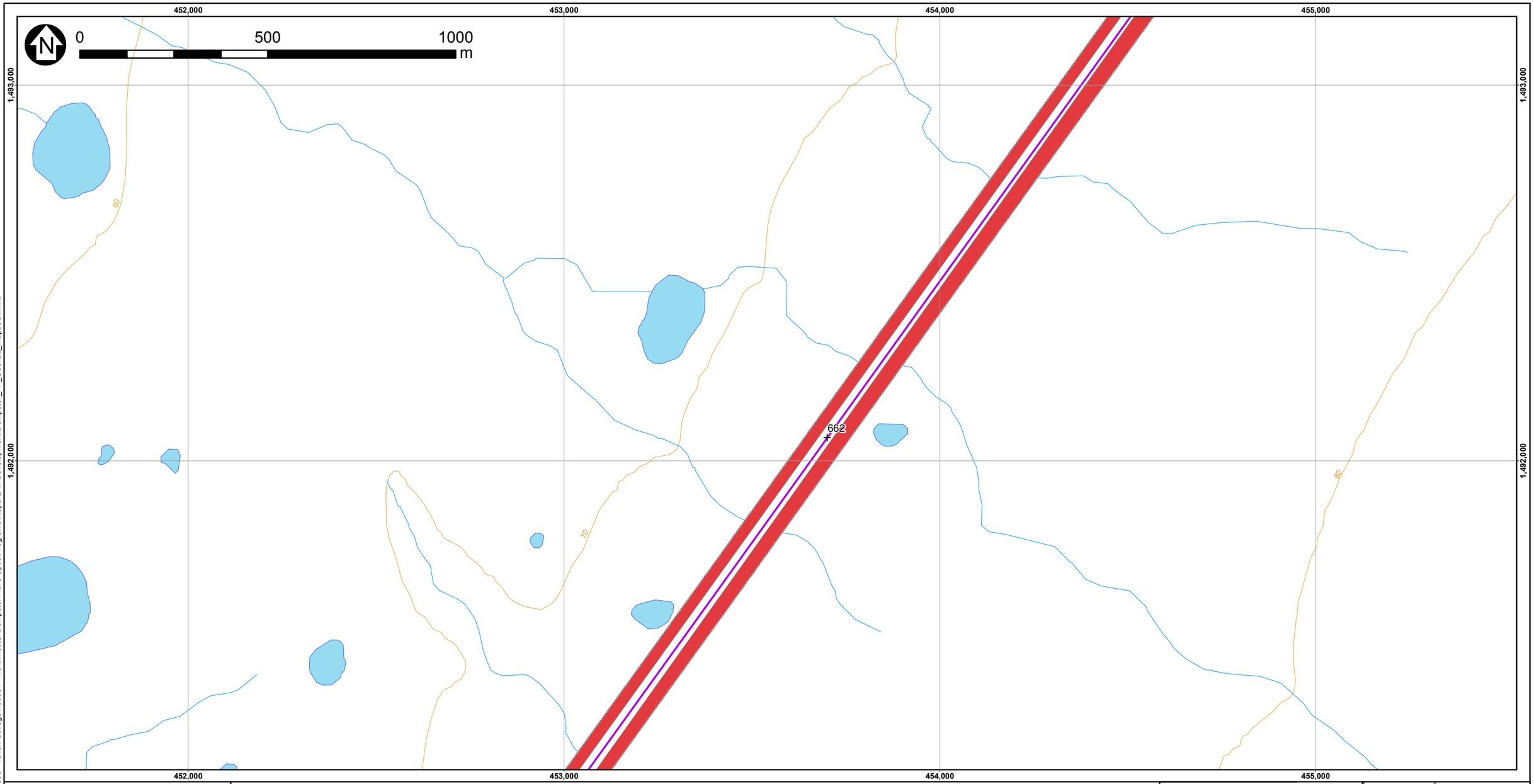


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- ***DS (ALD)*** - Debris Slide (Active Layer Detachment)
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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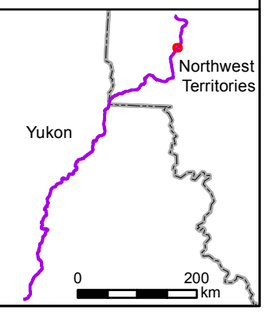
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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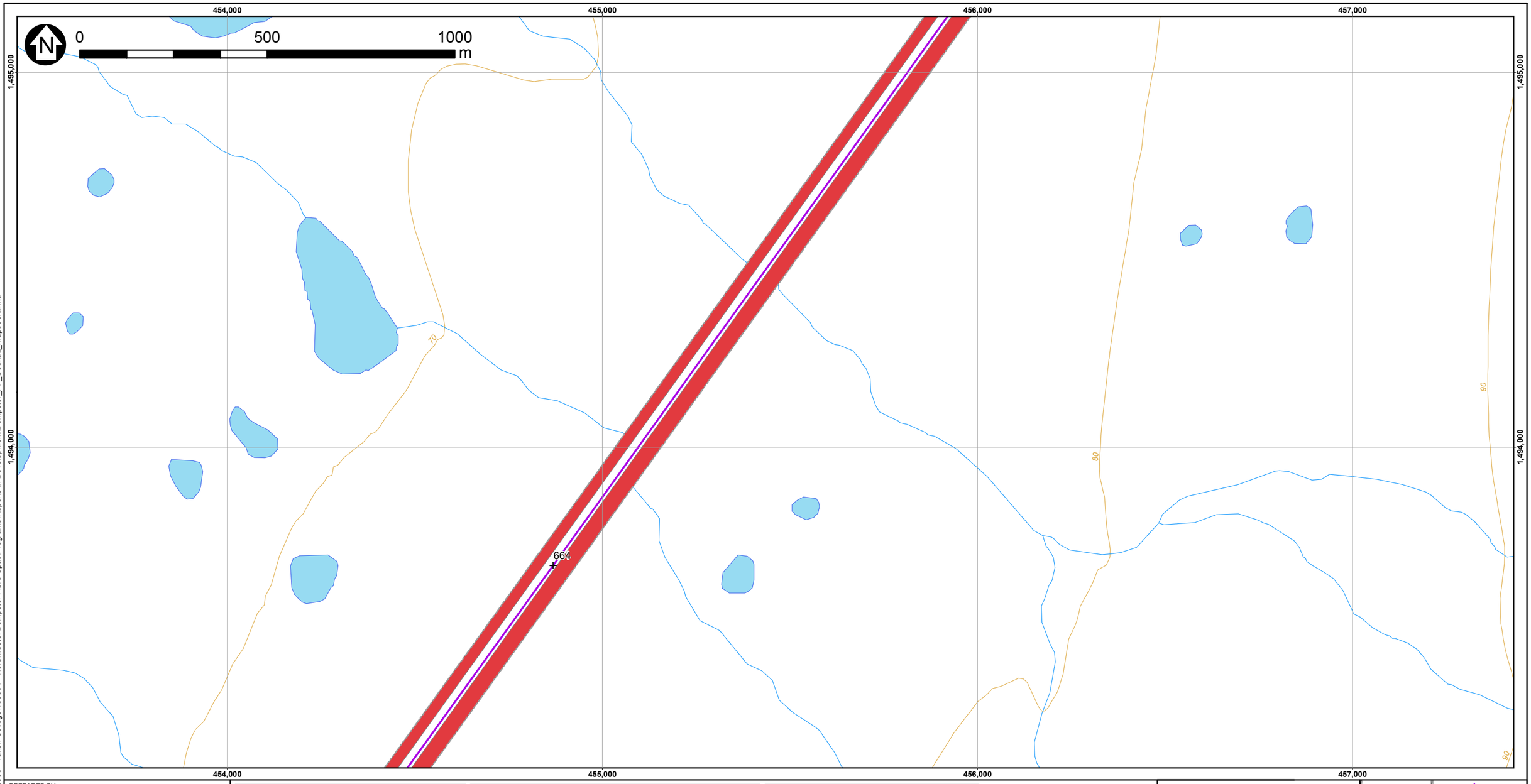


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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
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| REV | - |
| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
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| | High | Thick |
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Horizontal | Vertical | Both

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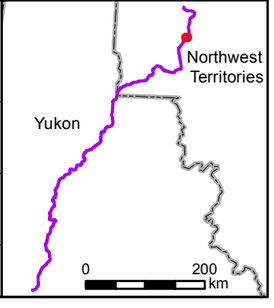


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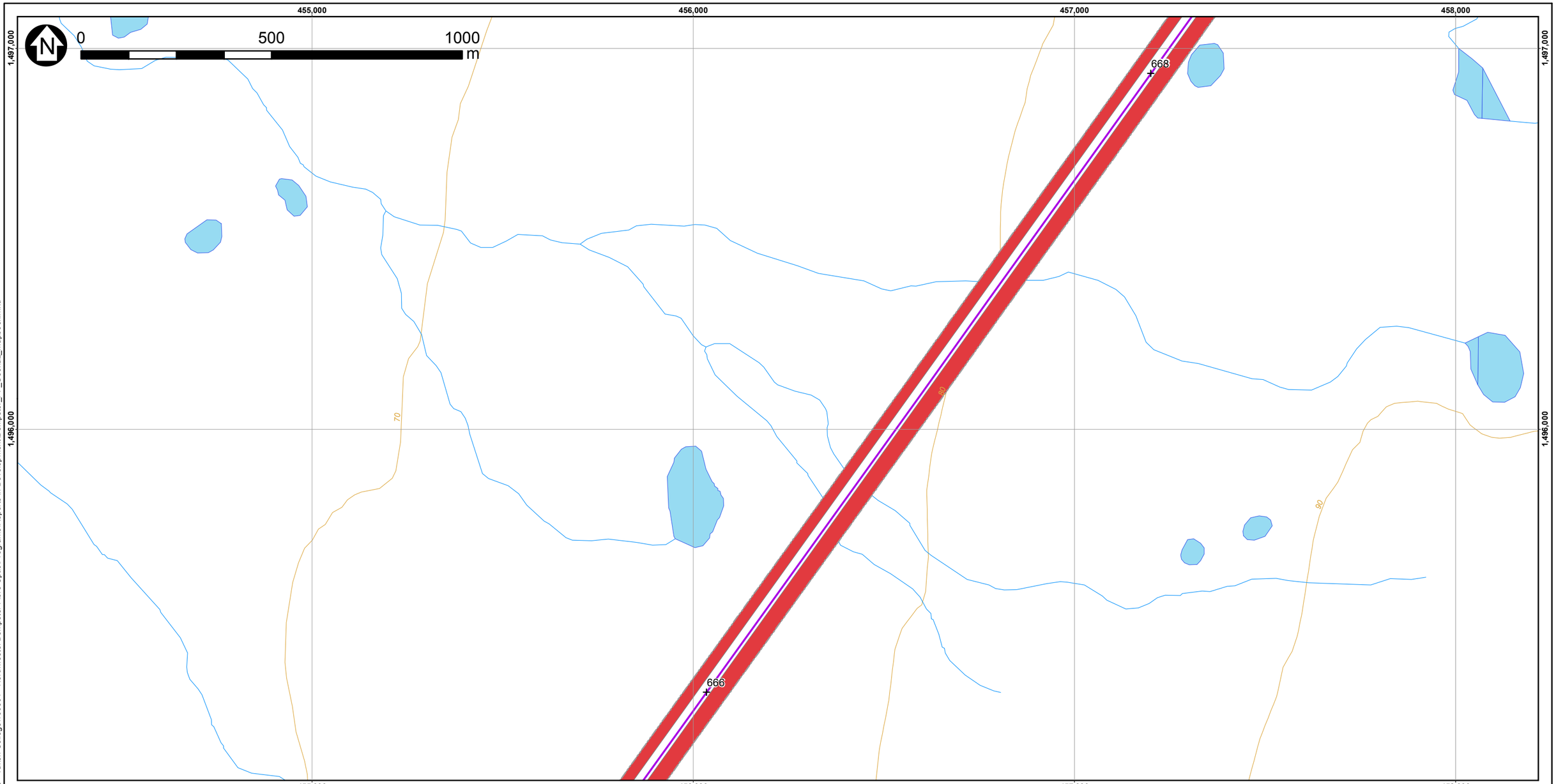


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Horizontal | Vertical | Both

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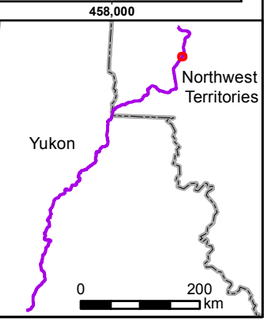
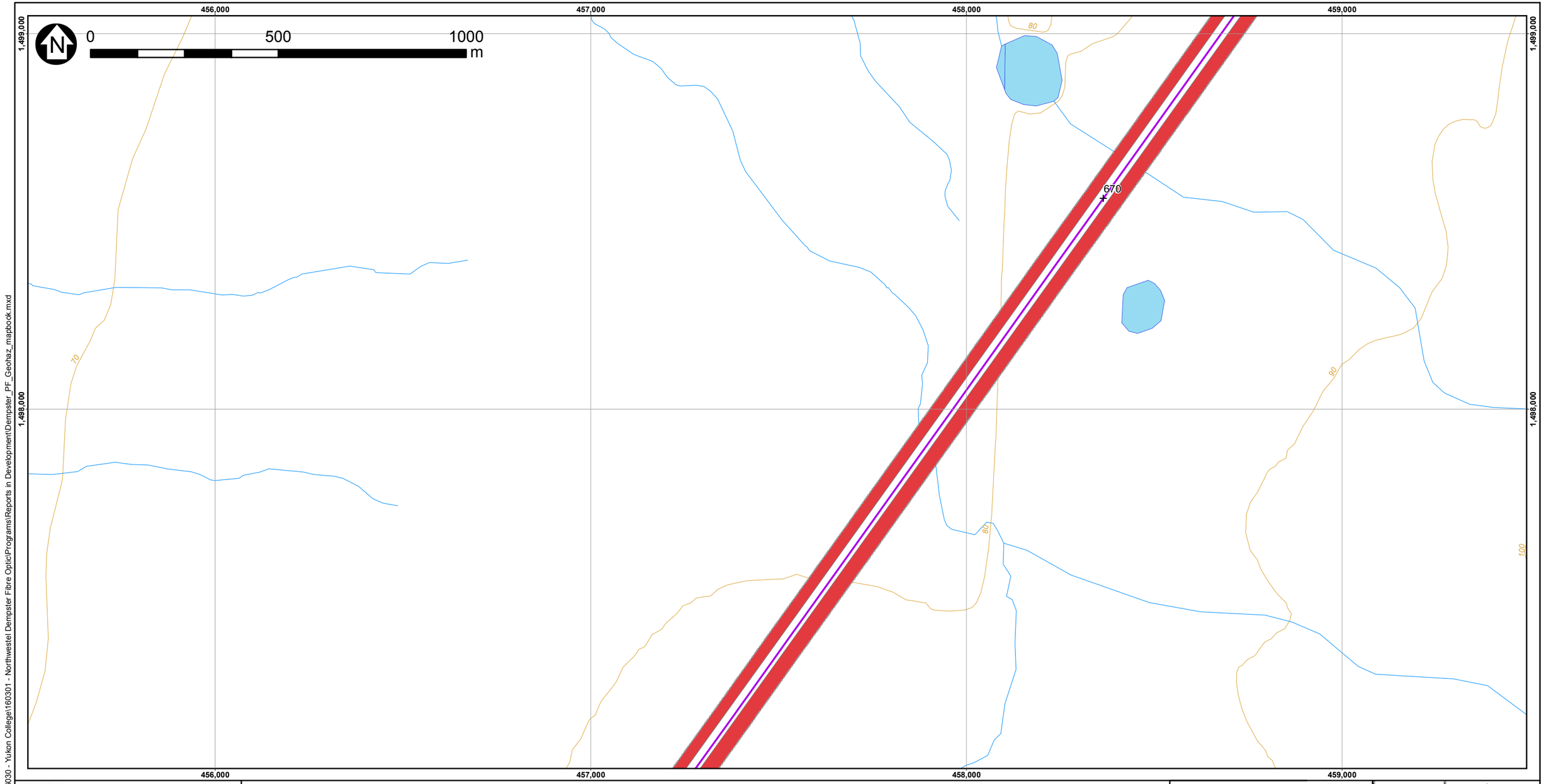
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
234 Kilometre Post
Contour (m)
Watercourse

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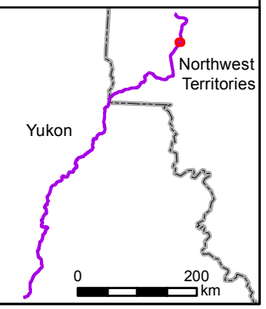
LEDCOR GROUP NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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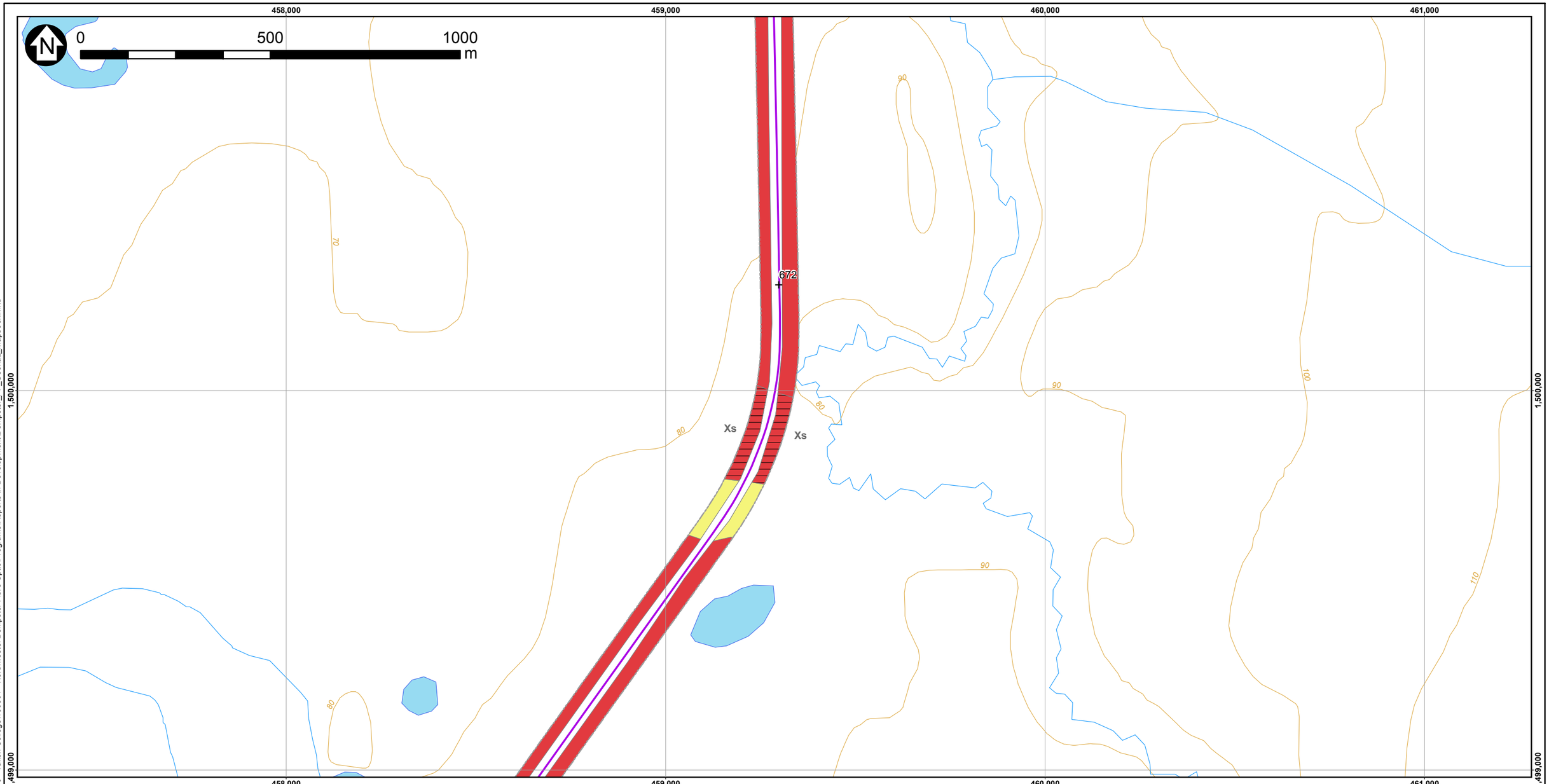


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# Dempster Highway Fibre Optic Line

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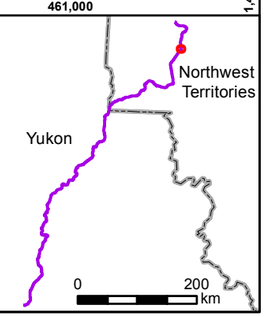

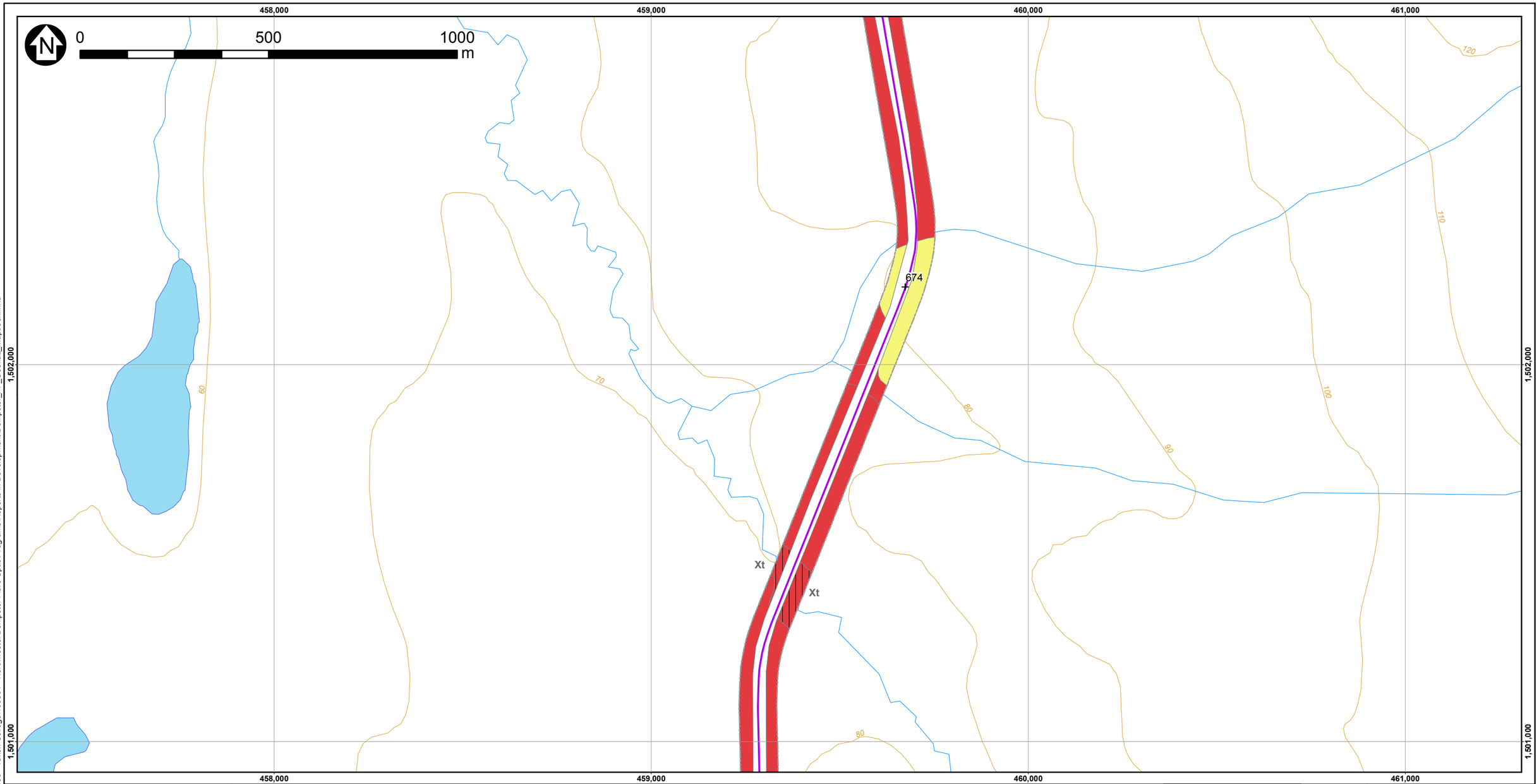


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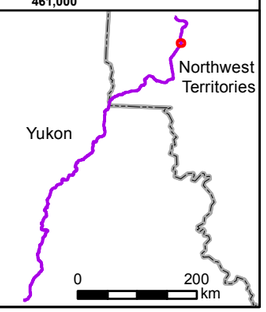

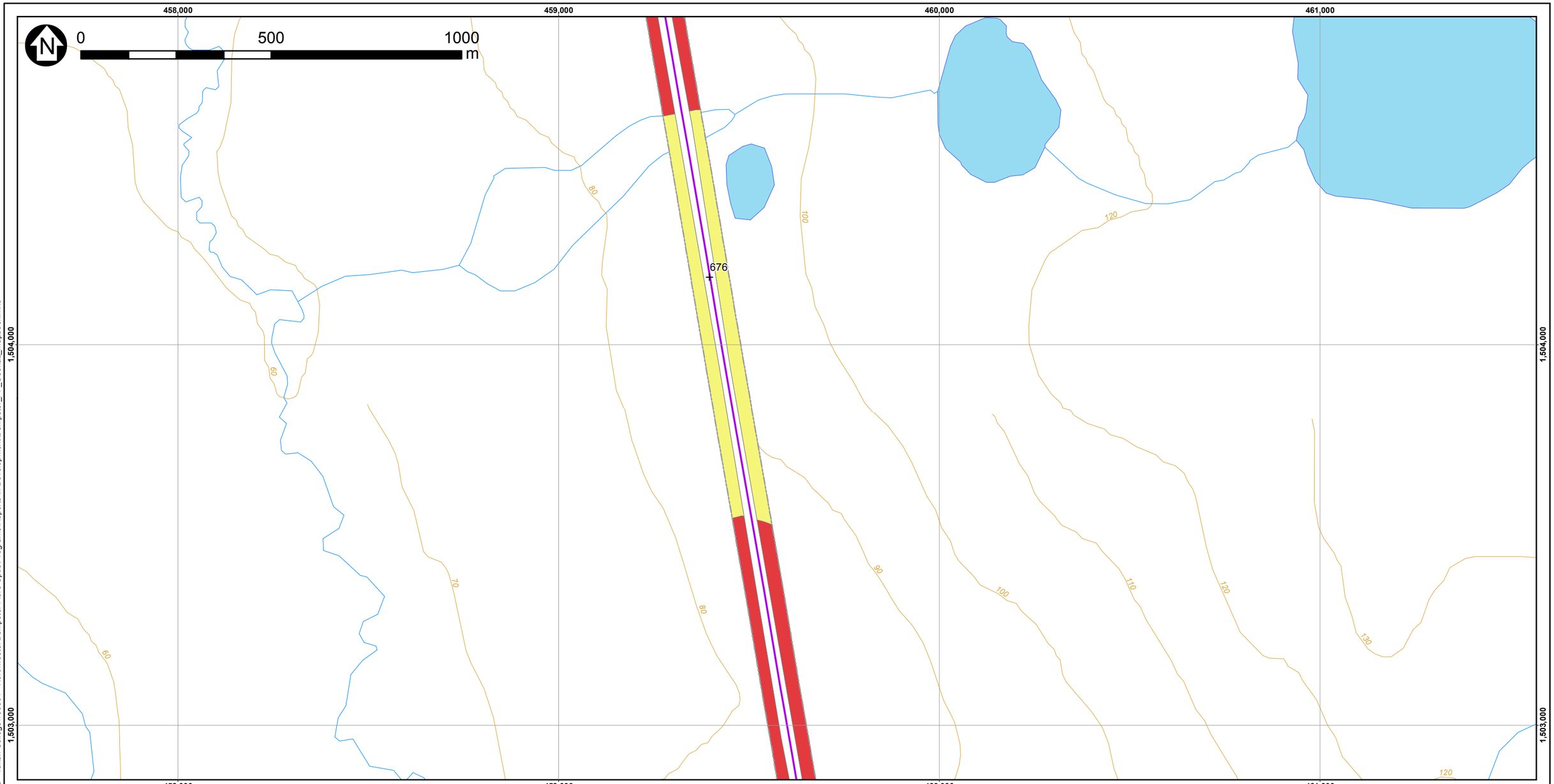


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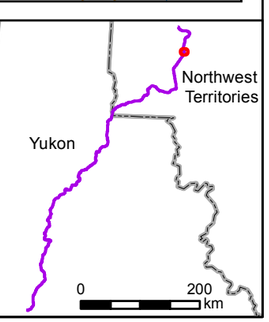

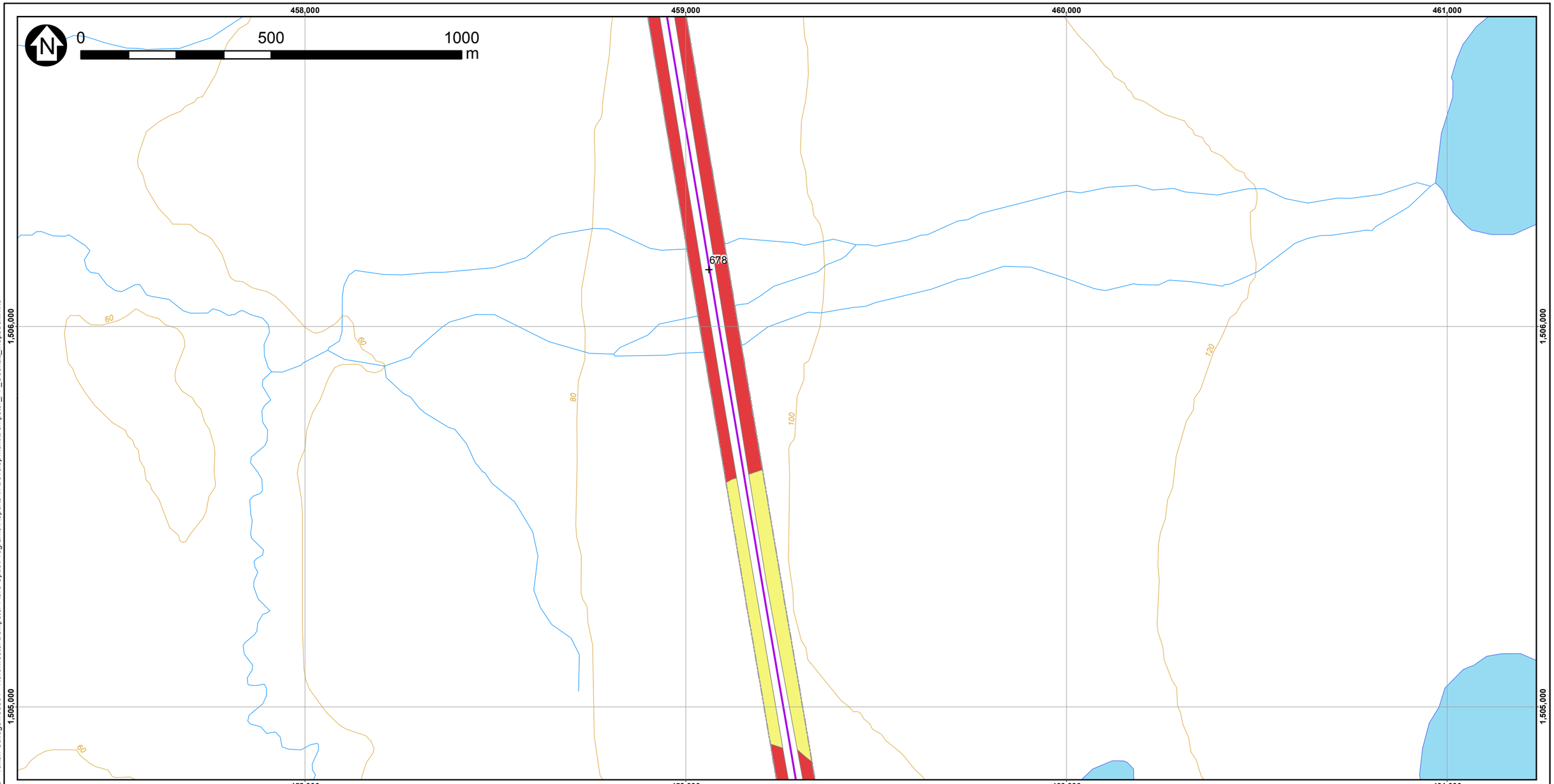


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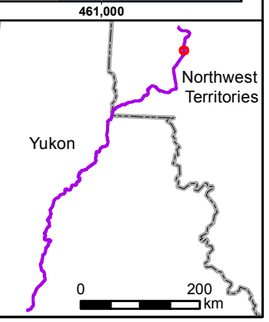

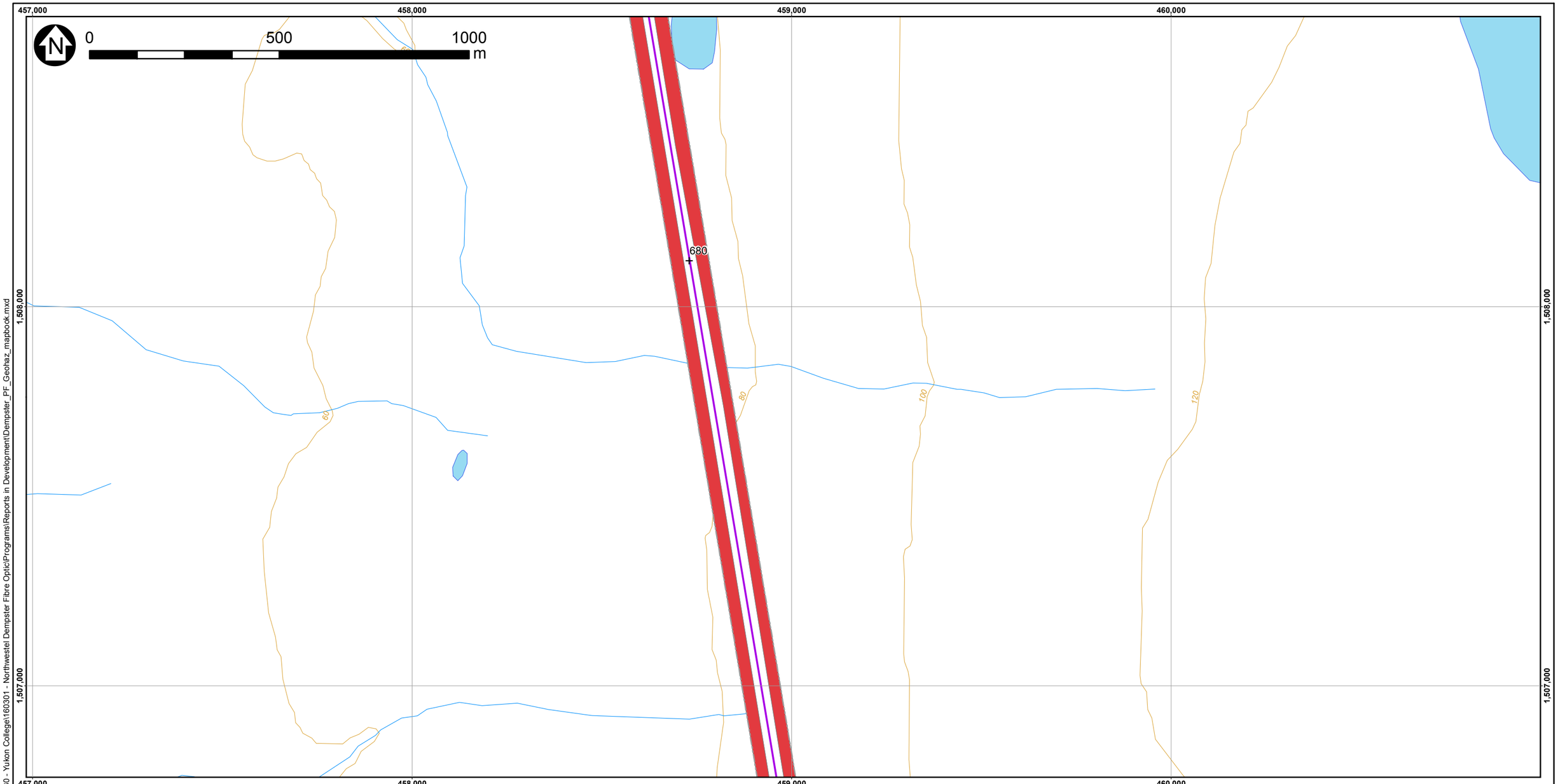


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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| DATE | 20Jul'16 |

BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
COORDINATE GRID: Metres
SCALE: 1:10 000
ORIGINAL PAGE SIZE: 11"x17"

**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
| | High | Thin |
| | High | Thick |
| | Moderate | Thin |
| | Moderate | Thick |
| | Low | Thin |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

**Map Notes:**
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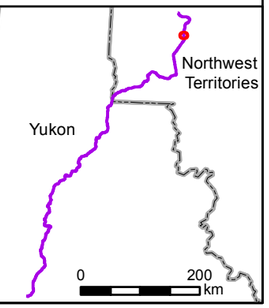
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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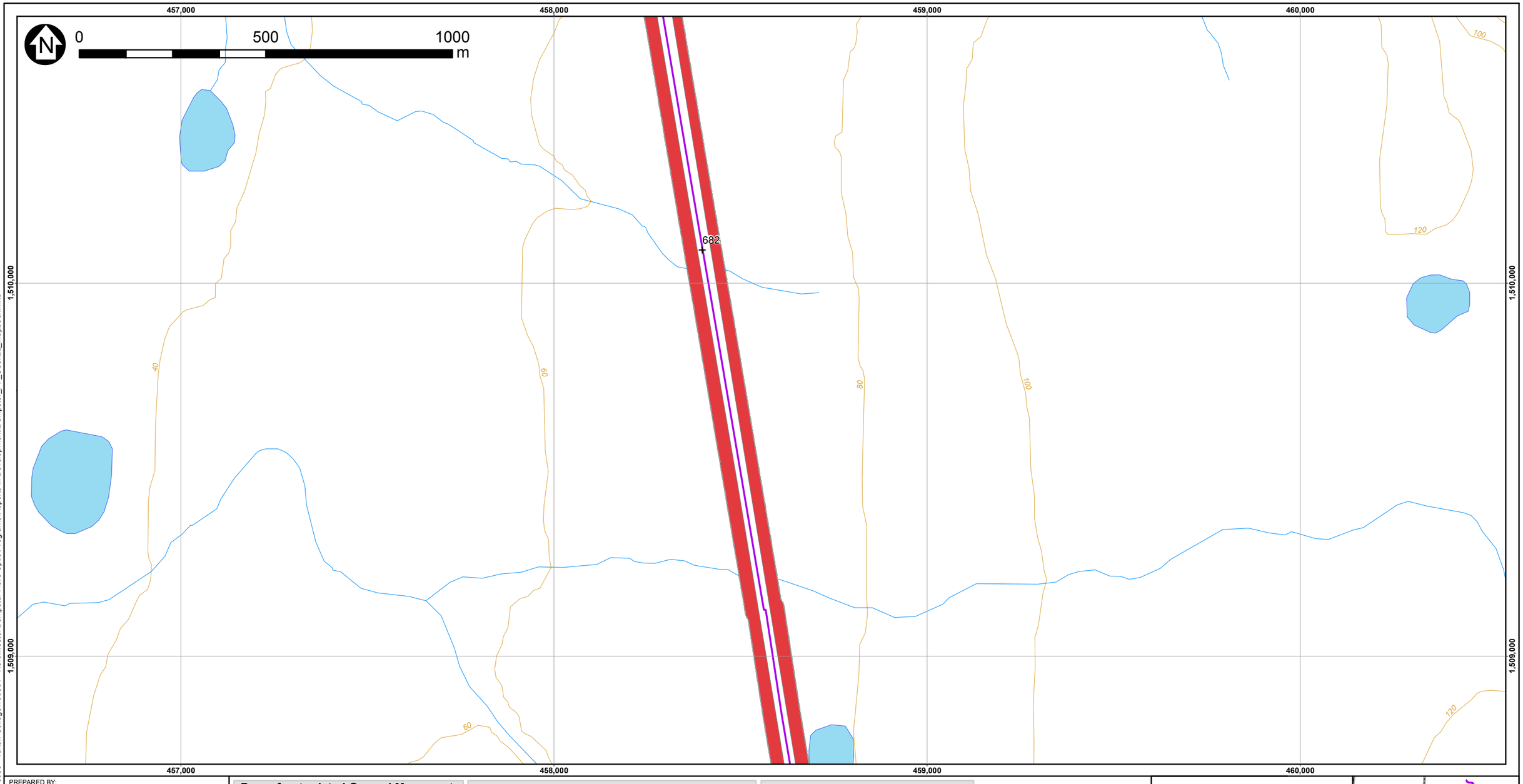


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Horizontal | Vertical | Both

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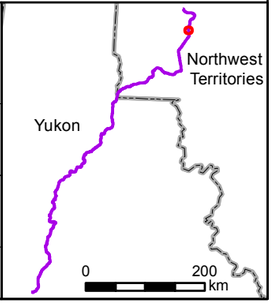

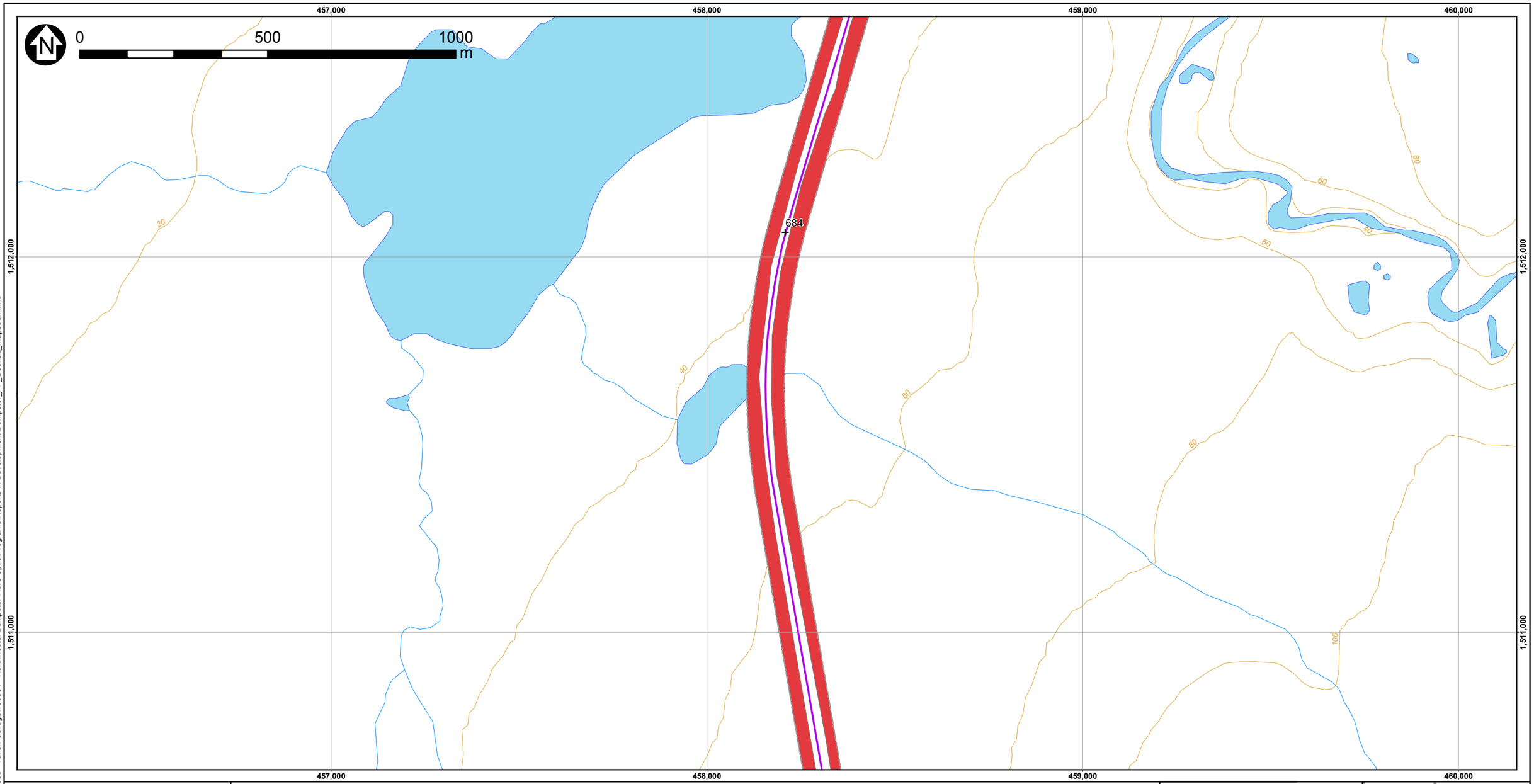


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Horizontal | Vertical | Both

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Dempster Highway
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Contour (m)
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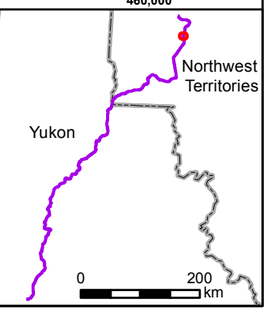
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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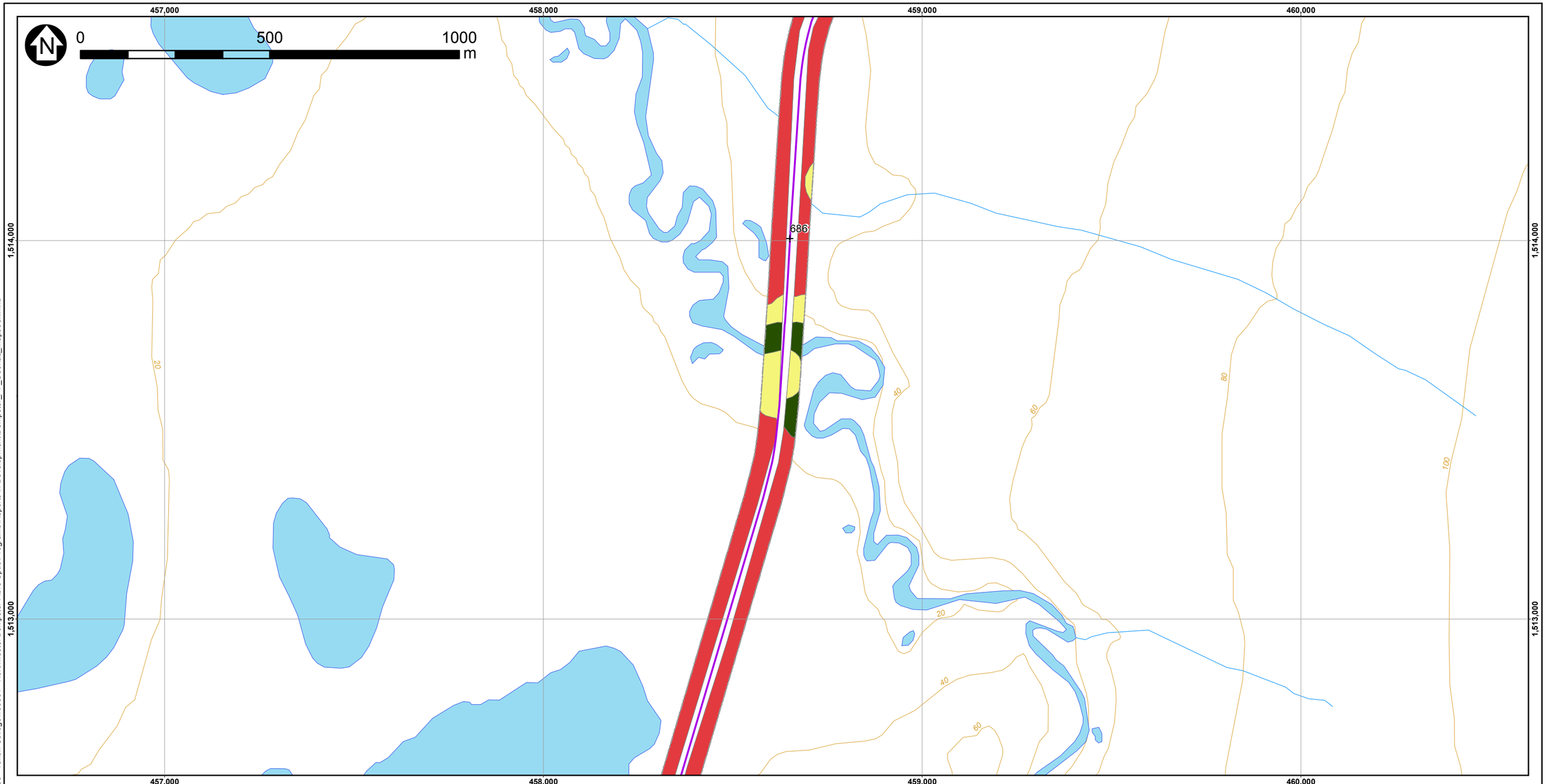


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Horizontal | Vertical | Both

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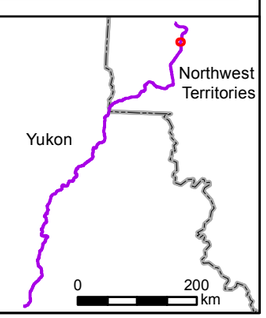
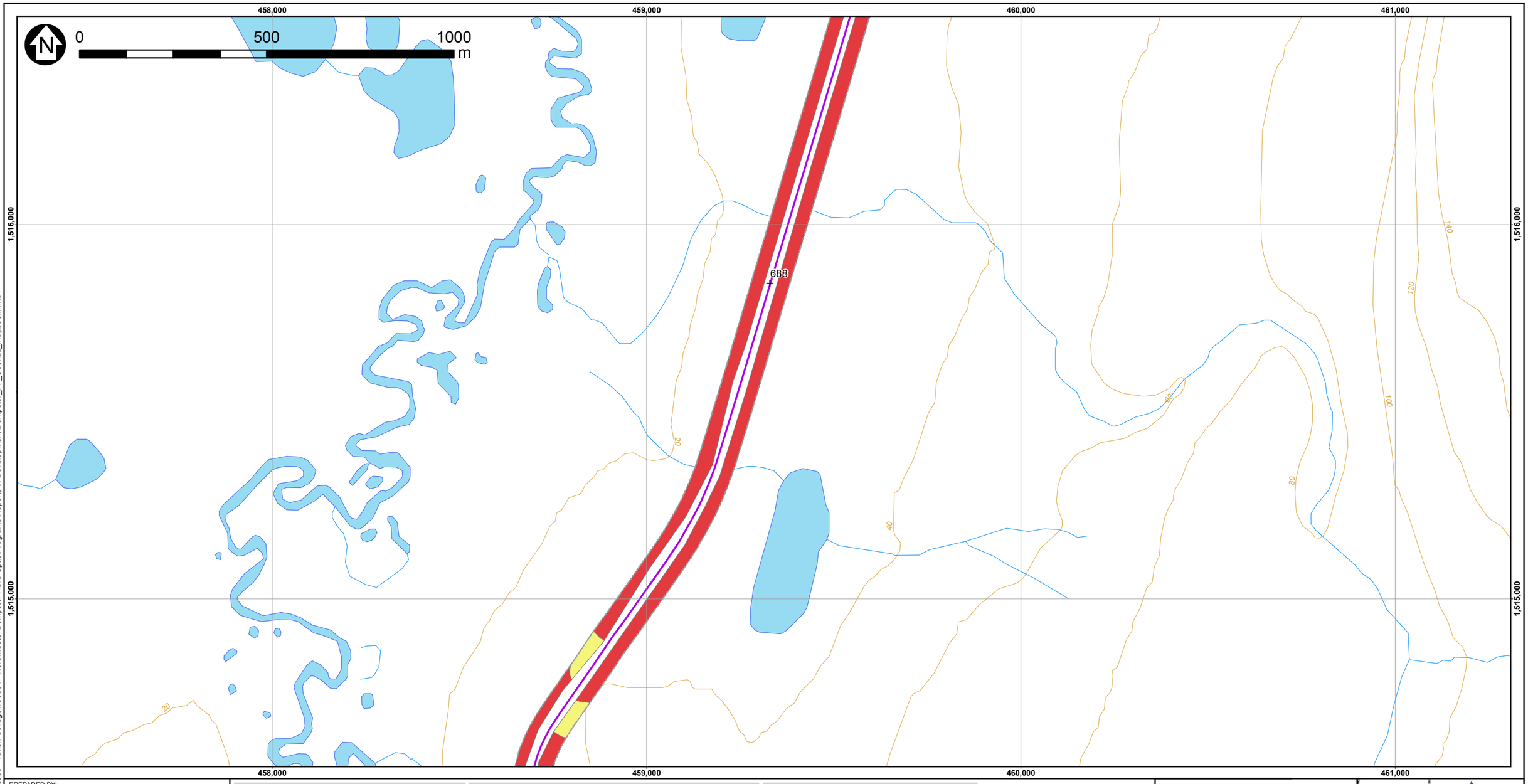
# Dempster Highway Fibre Optic Line

## Preliminary Permafrost and Geohazard Mapping





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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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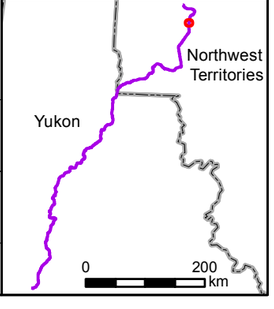

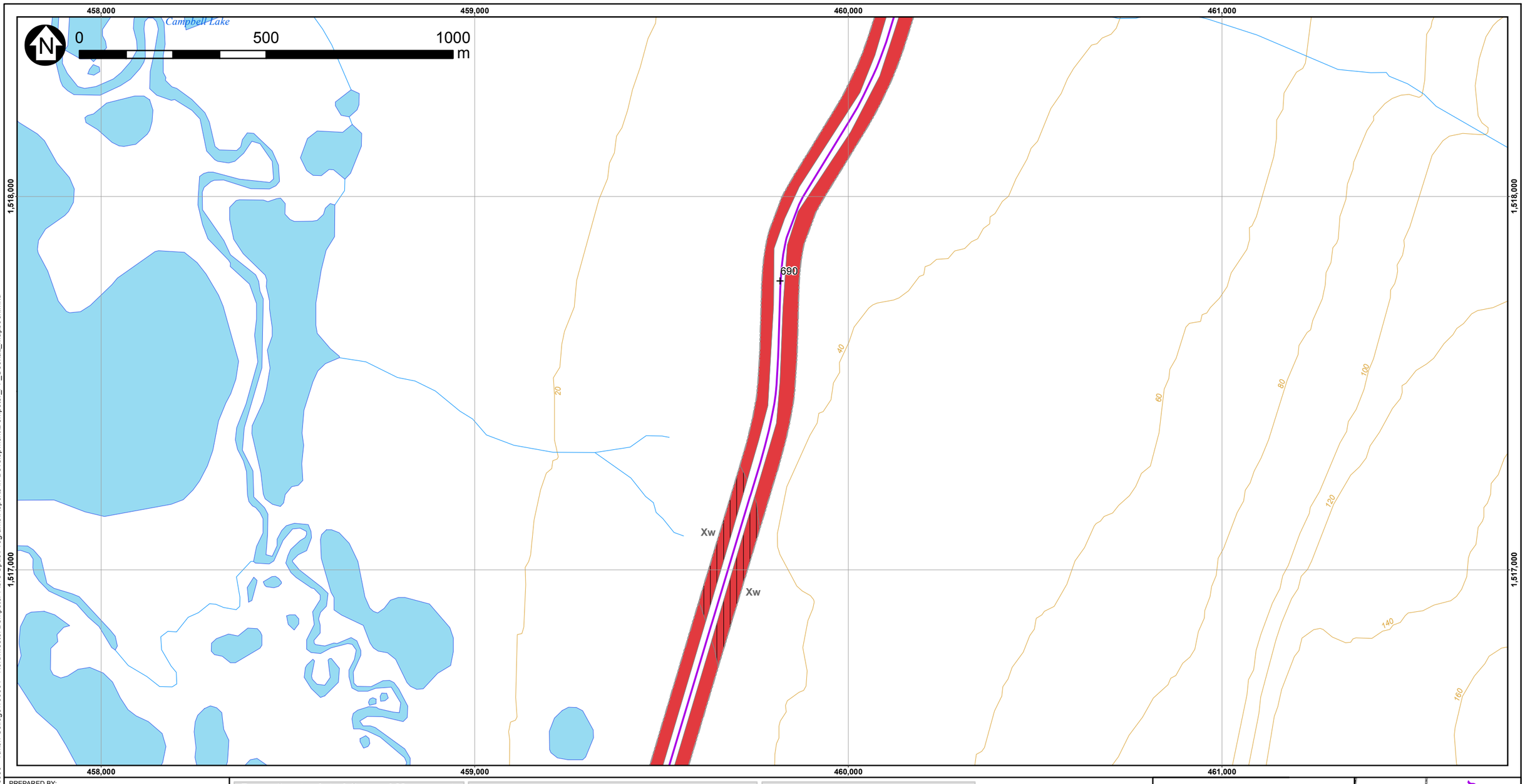


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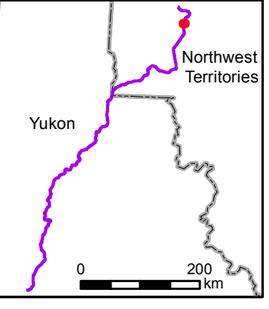

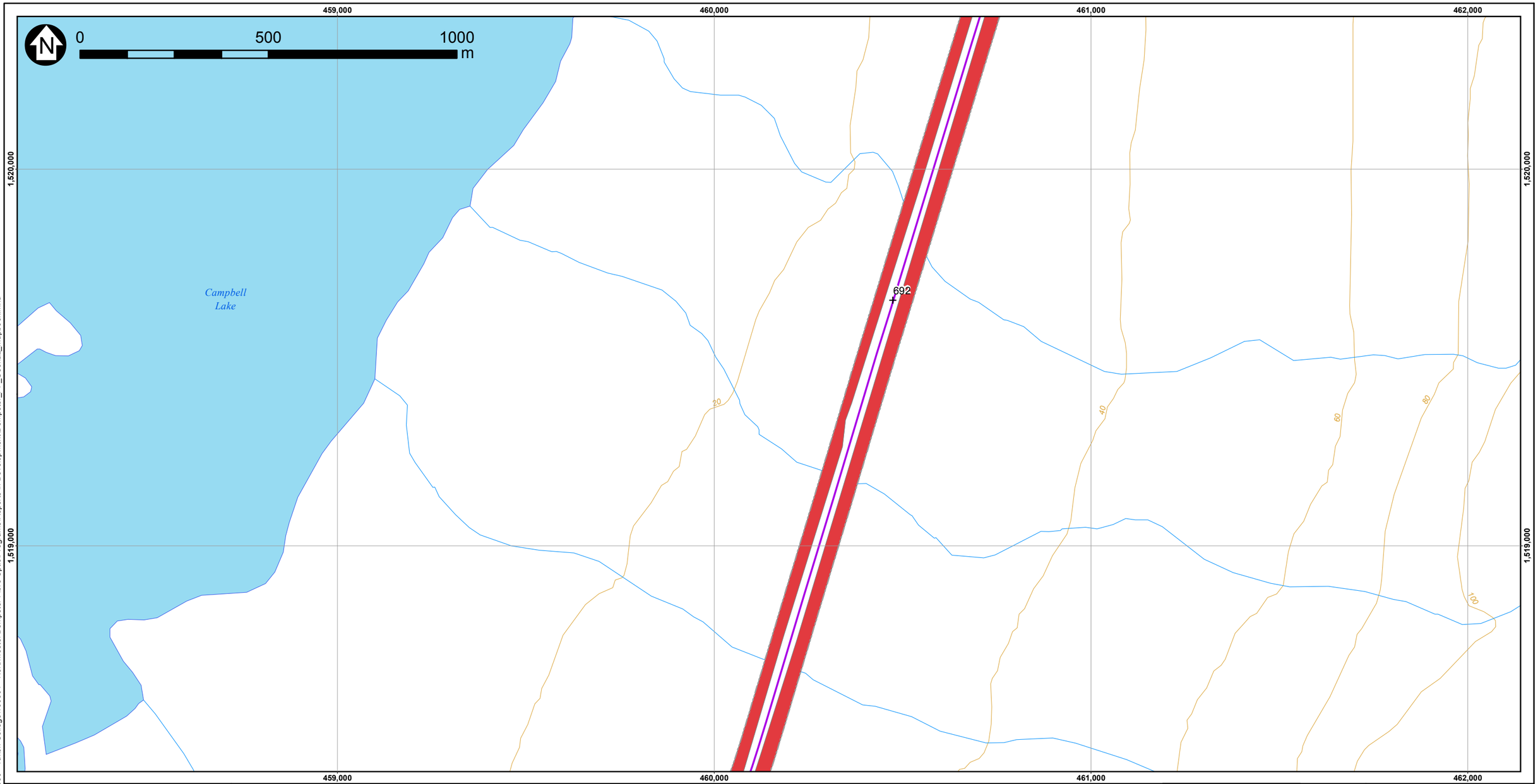


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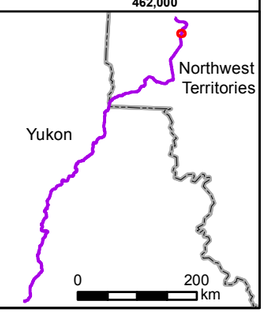

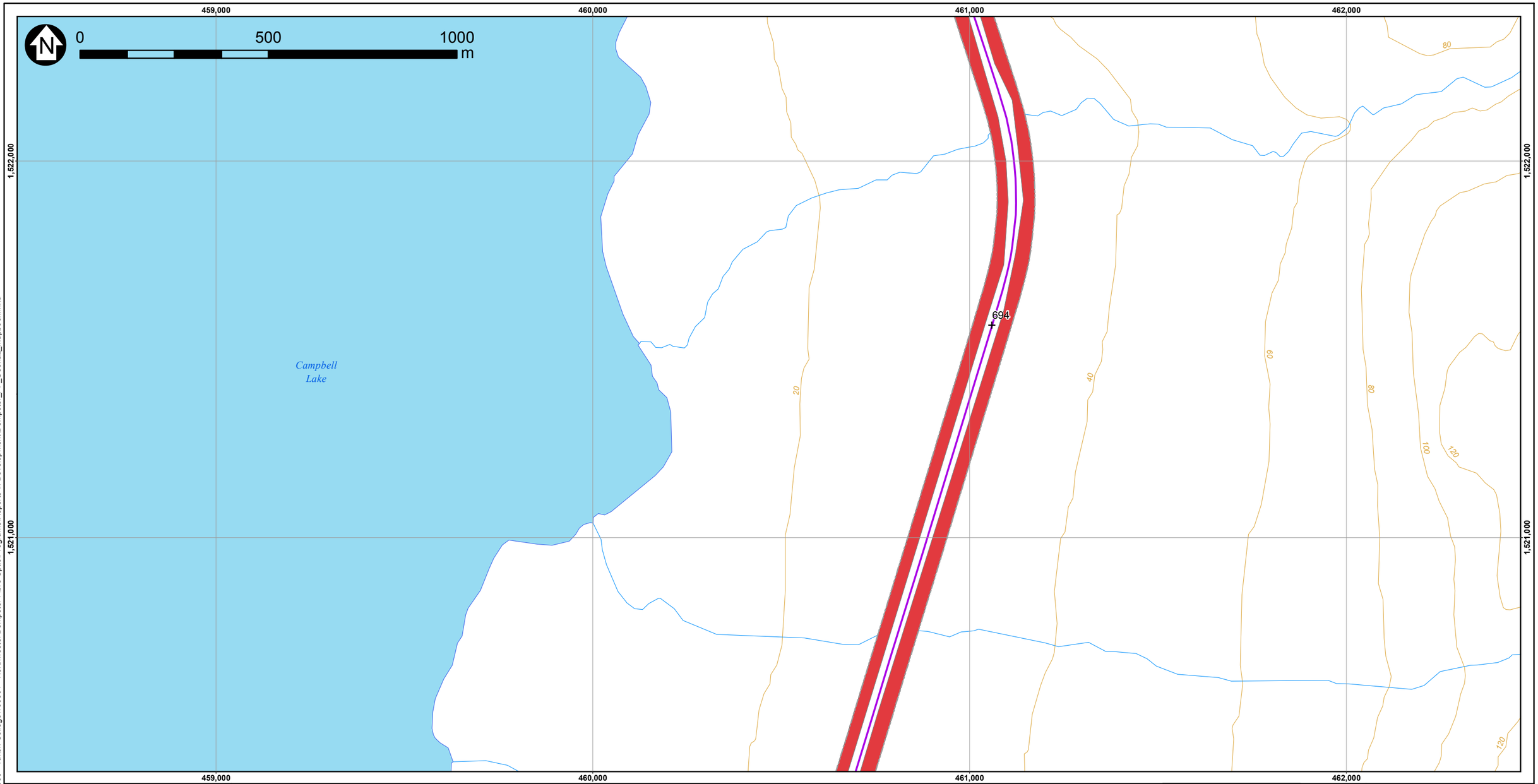


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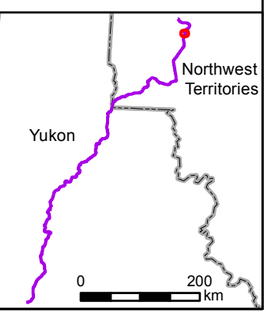
LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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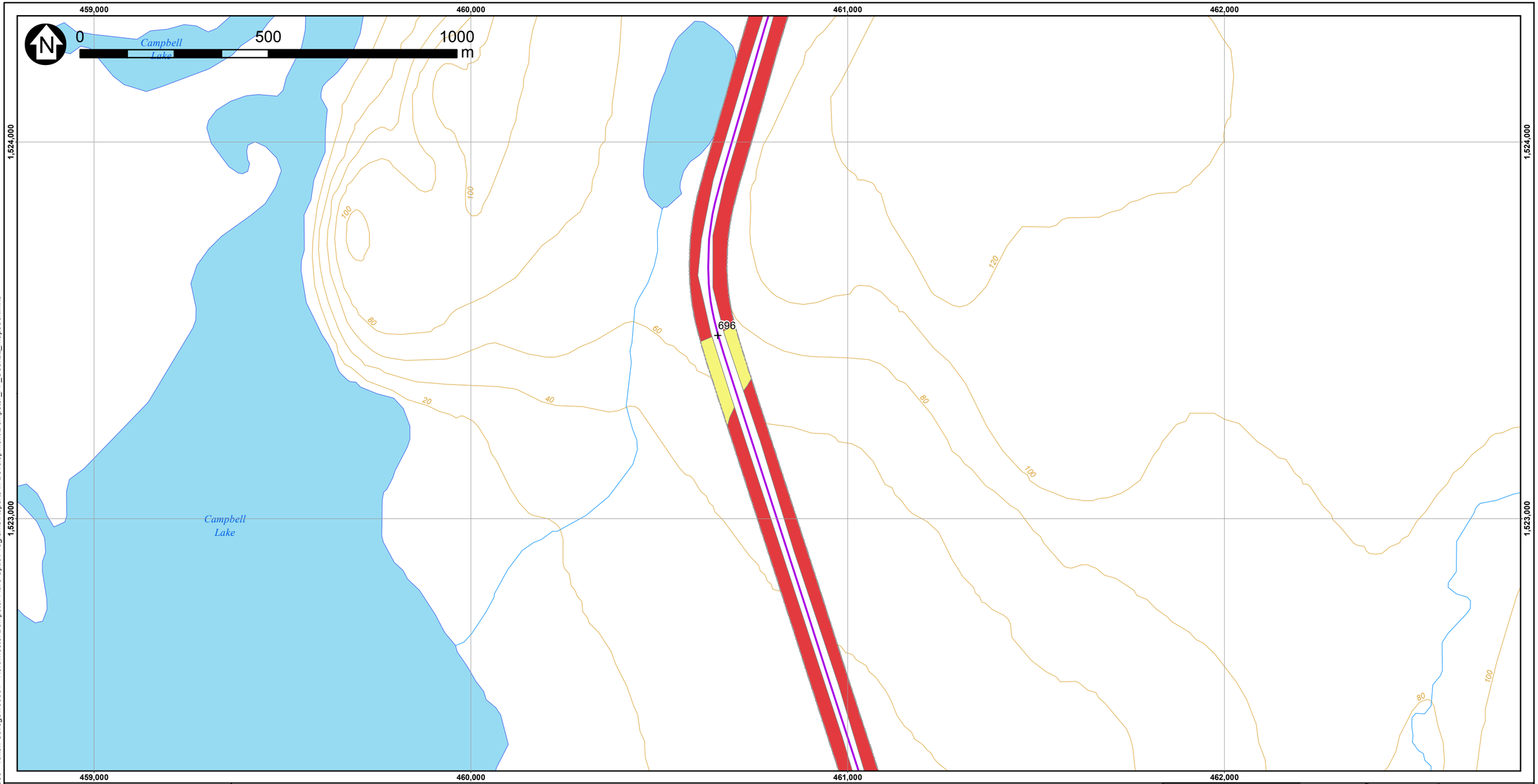


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| | |
|---|---|
| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
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BASE MAP: http://geogratis.gc.ca/
PROJECTION: NAD 1983 Yukon Albers
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SCALE: 1:10 000
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**Permafrost-related Ground Movement Potential (PGMP) Following Disturbance**

| *Symbol* | *PGMP* | *Active Layer Thickness* |
|---|---|---|
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| | High | Thick |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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- ***Xs*** - Slopewash
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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
Watercourse

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LEDCOR GROUP | NorthwesTel

**Dempster Highway Fibre Optic Line**

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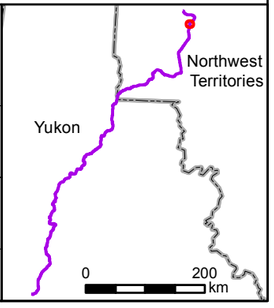


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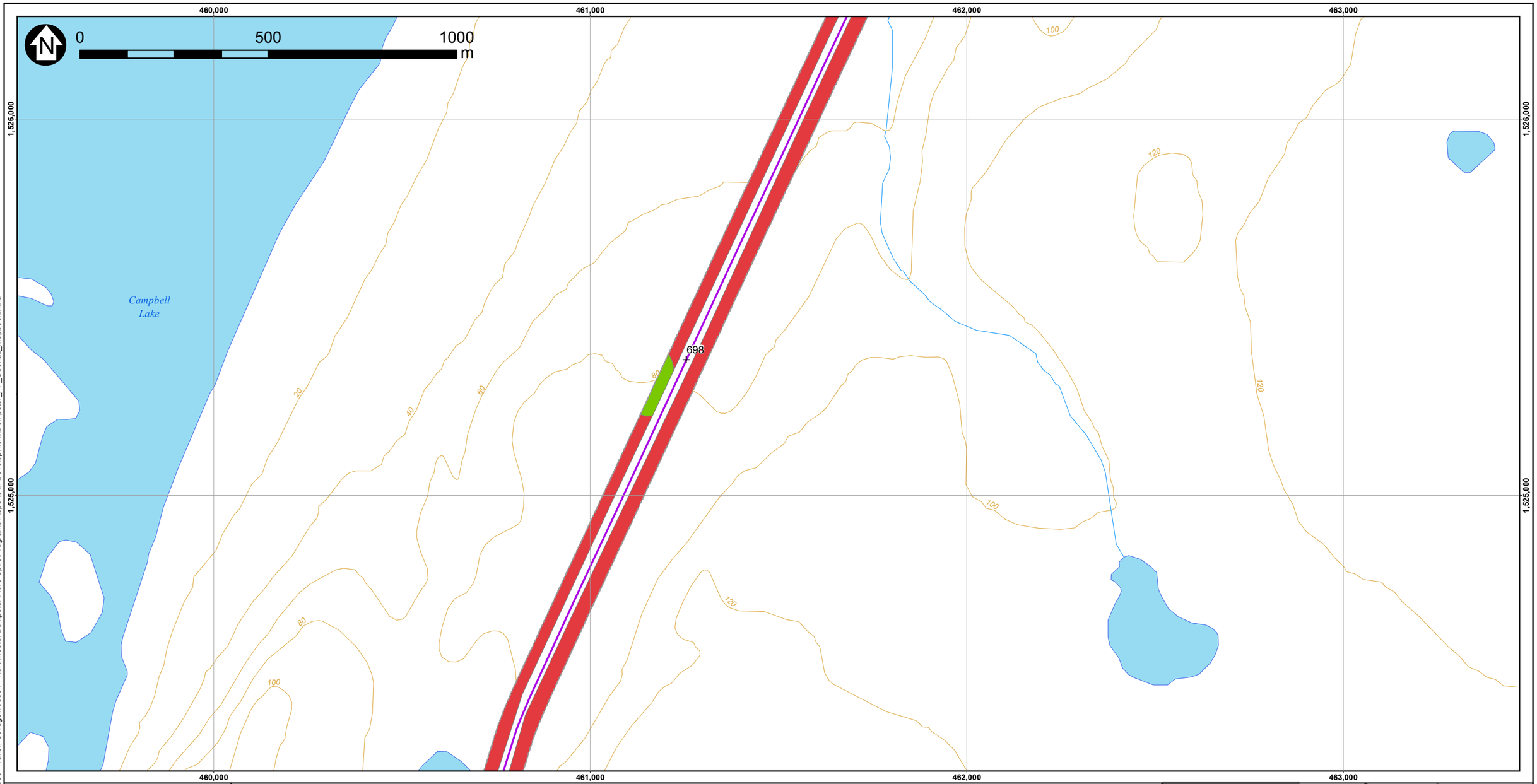


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**Potential Movement Direction**

Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
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Contour (m)
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**Dempster Highway Fibre Optic Line**

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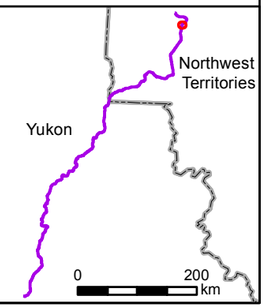


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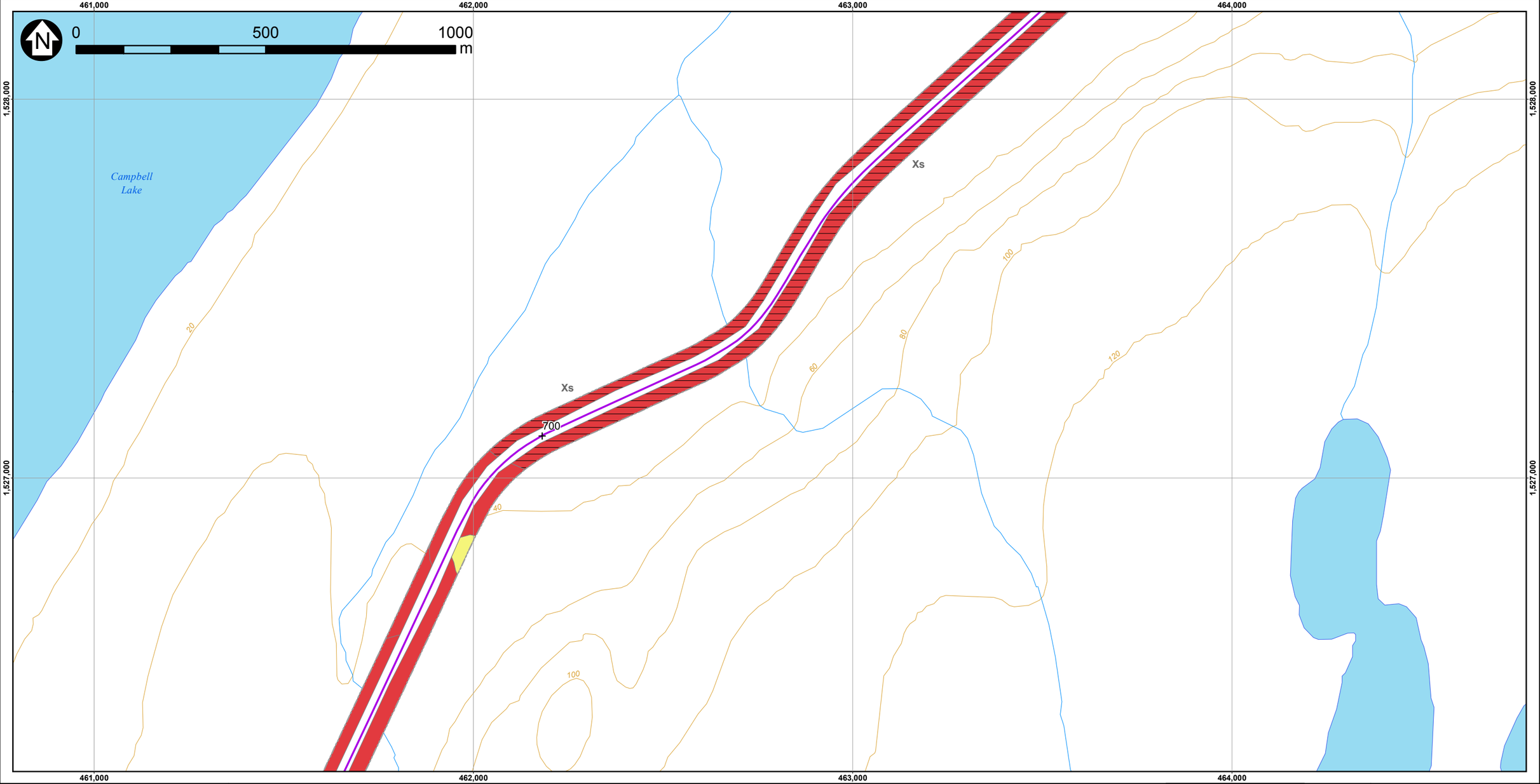


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| | | | |
|---|---|---|---|
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**Potential Movement Direction**

Horizontal Vertical Both

PGMP Mapping Boundary
Dempster Highway
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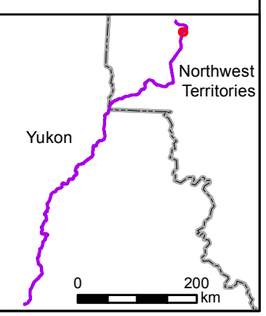


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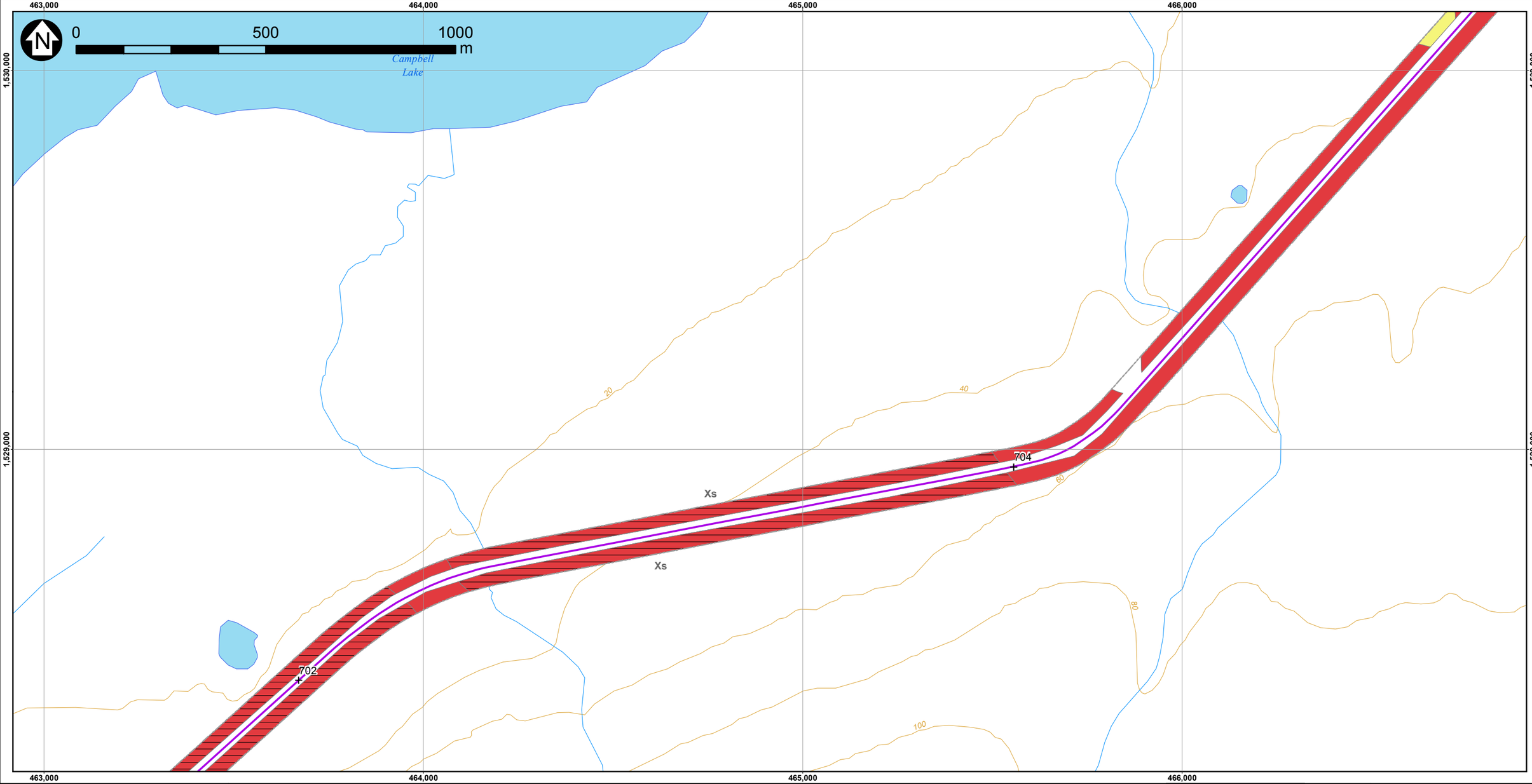


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Horizontal | Vertical | Both

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# Dempster Highway Fibre Optic Line

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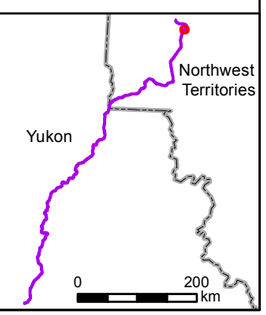

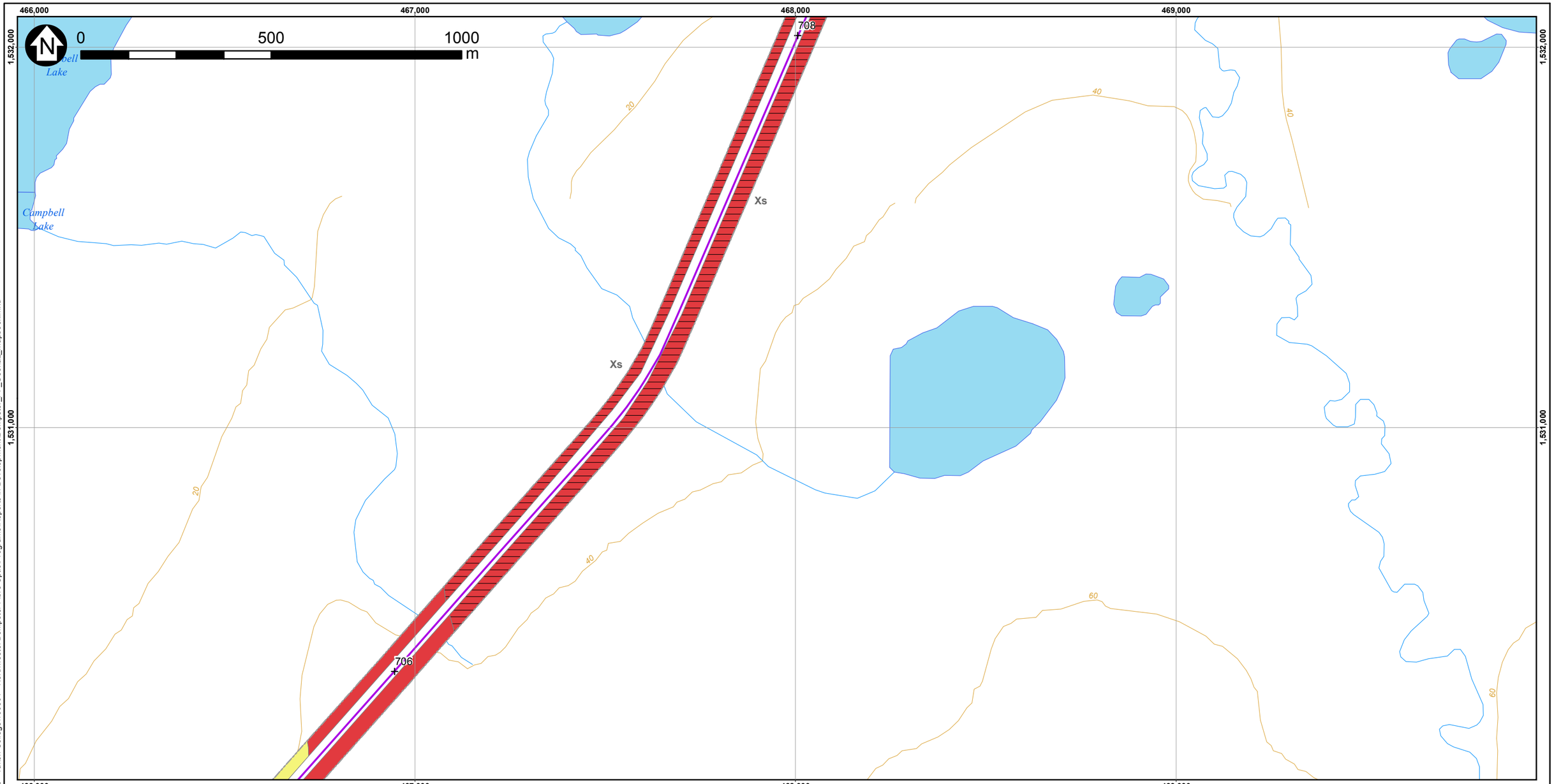


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### Potential Movement Direction

Horizontal | Vertical | Both

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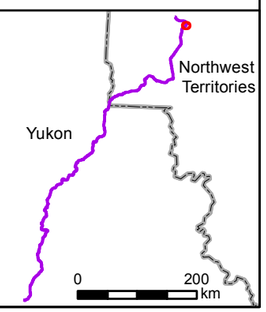

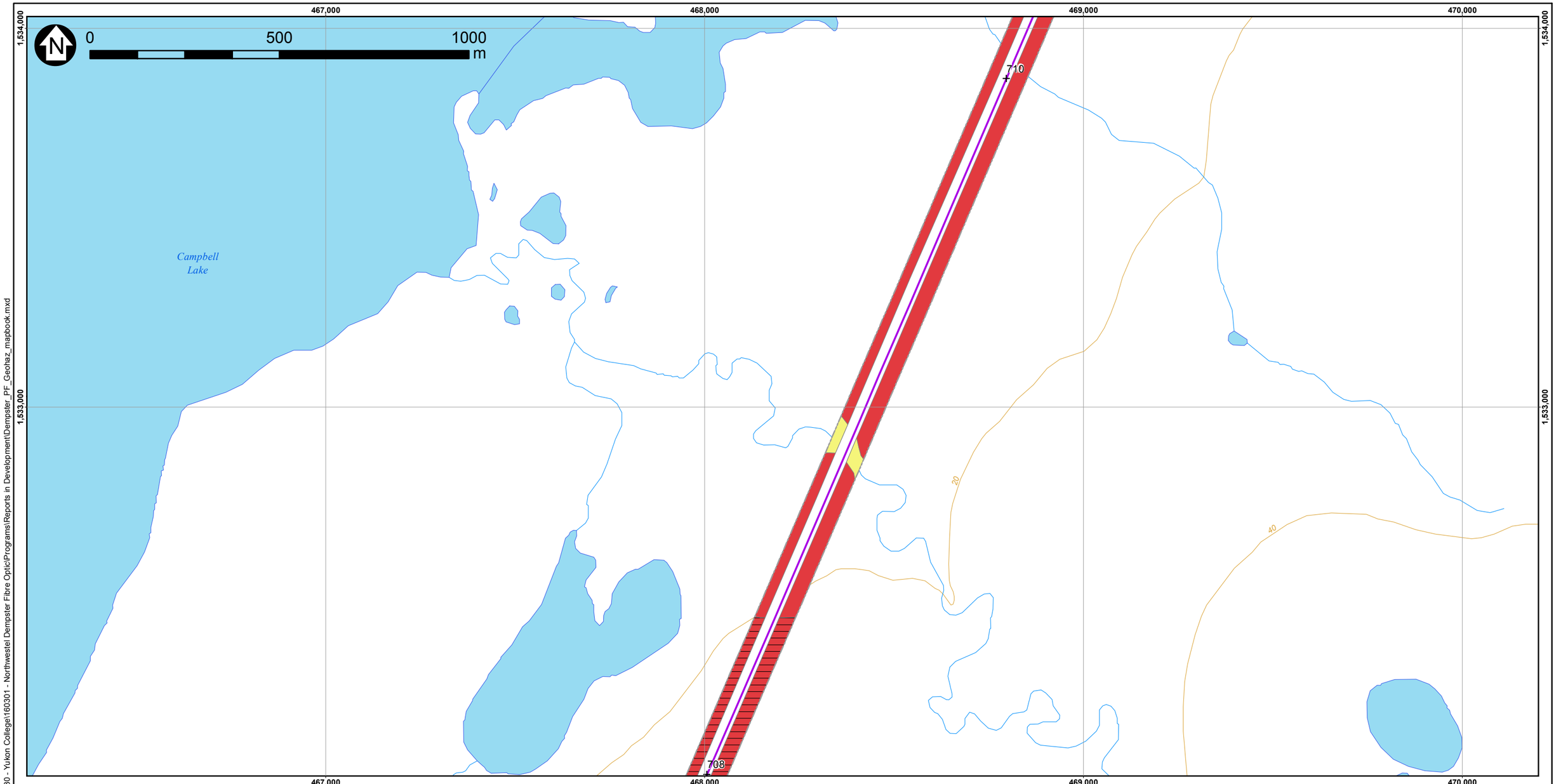


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Horizontal | Vertical | Both

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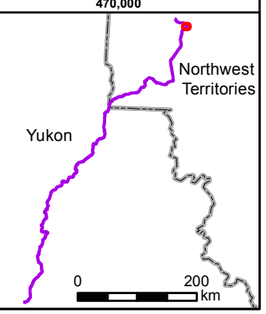

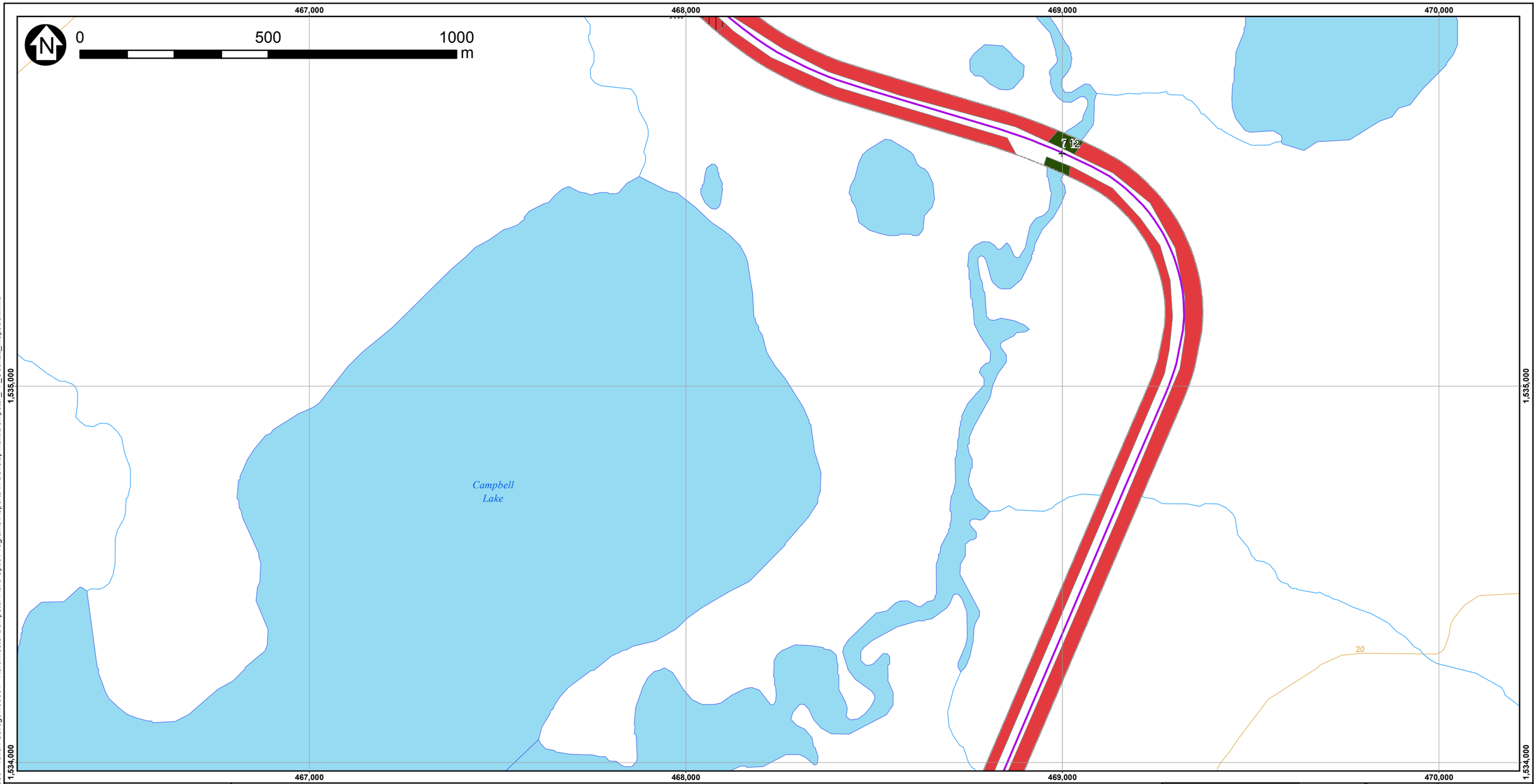


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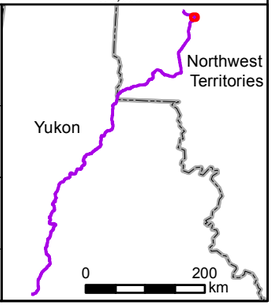

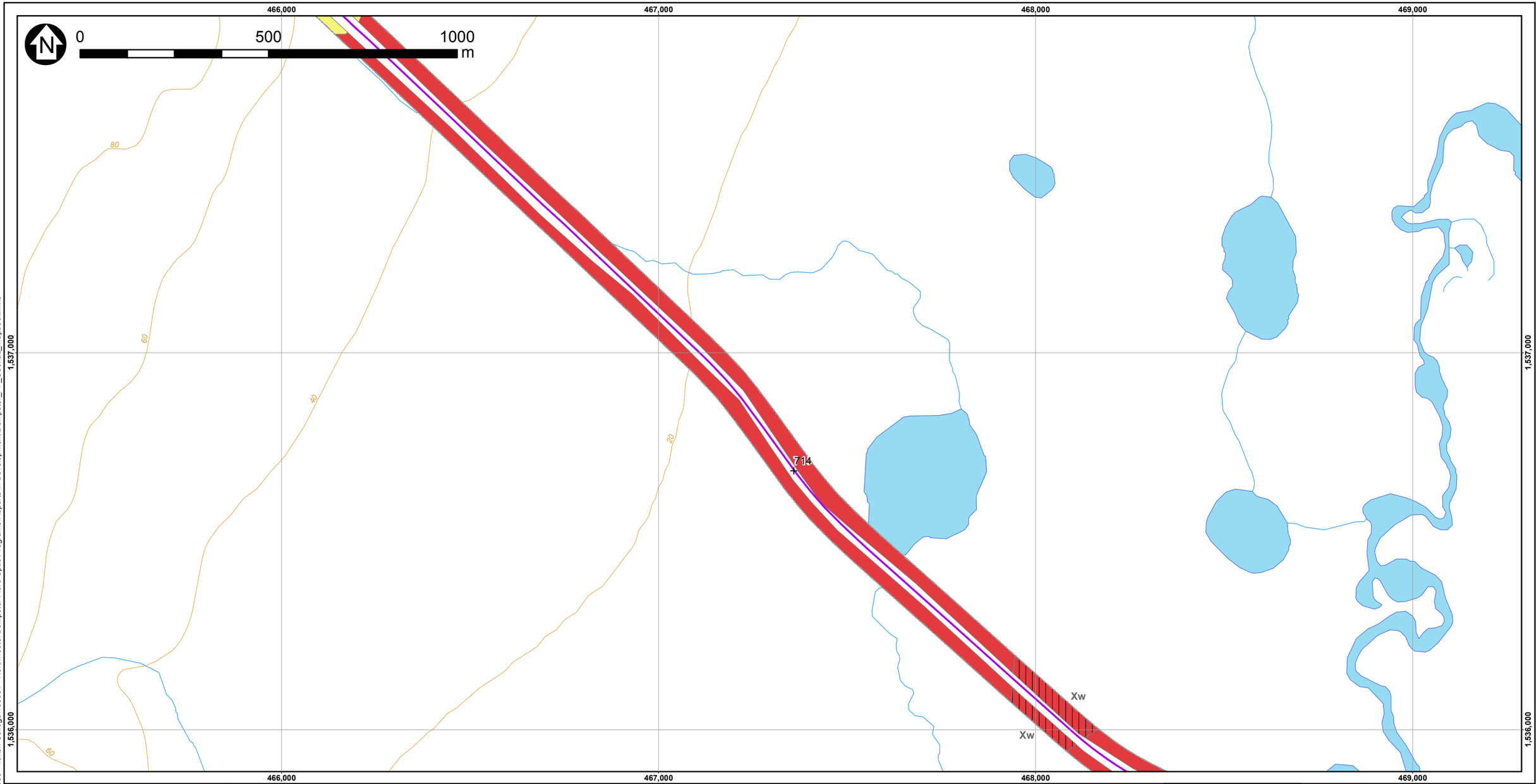


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| *Symbol* | *PGMP* | *Active Layer Thickness* |
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| | High | Thick |
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| | Low | Thin |
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**Mass Movement Geohazard**

- ***DS*** - Debris Slide
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**Periglacial Process/Feature**

- ***Xs*** - Slopewash
- ***Xe*** - Thermal Erosion
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**Potential Movement Direction**

Horizontal | Vertical | Both

- PGMP Mapping Boundary
- Dempster Highway
- +234 Kilometre Post
- Contour (m)
- Watercourse

**Map Notes:**
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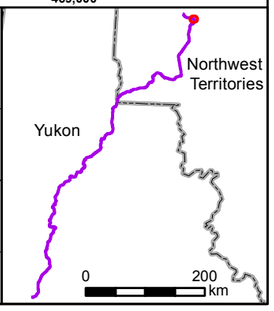
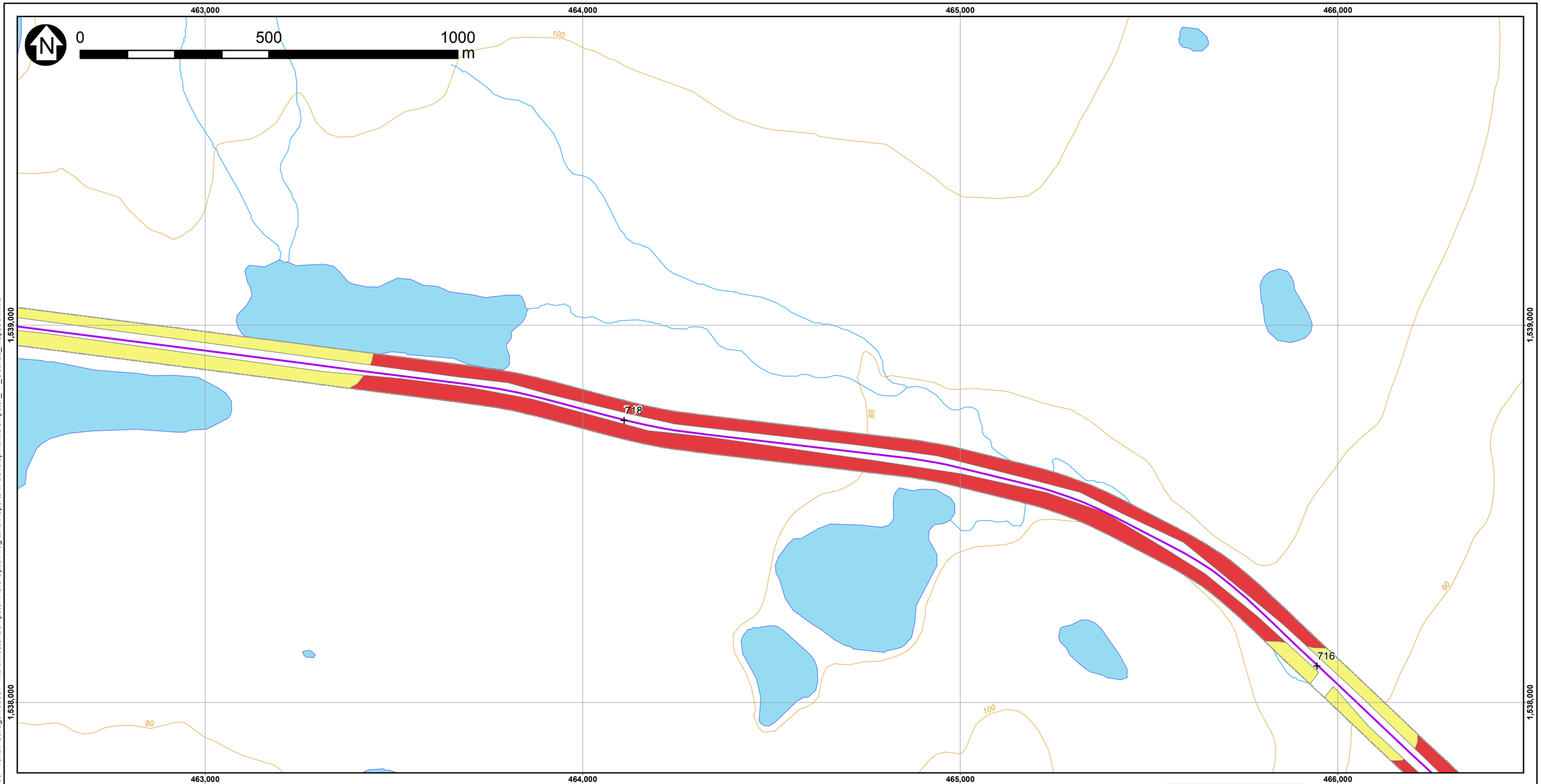
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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| GEOLOGY | DS/RM/CB |
| DRAWN | DS |
| CHK'D | RM |
| APP'D | RM |
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BASE MAP: http://geogratis.gc.ca/
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Horizontal | Vertical | Both

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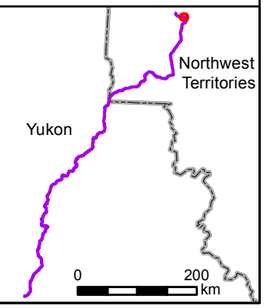
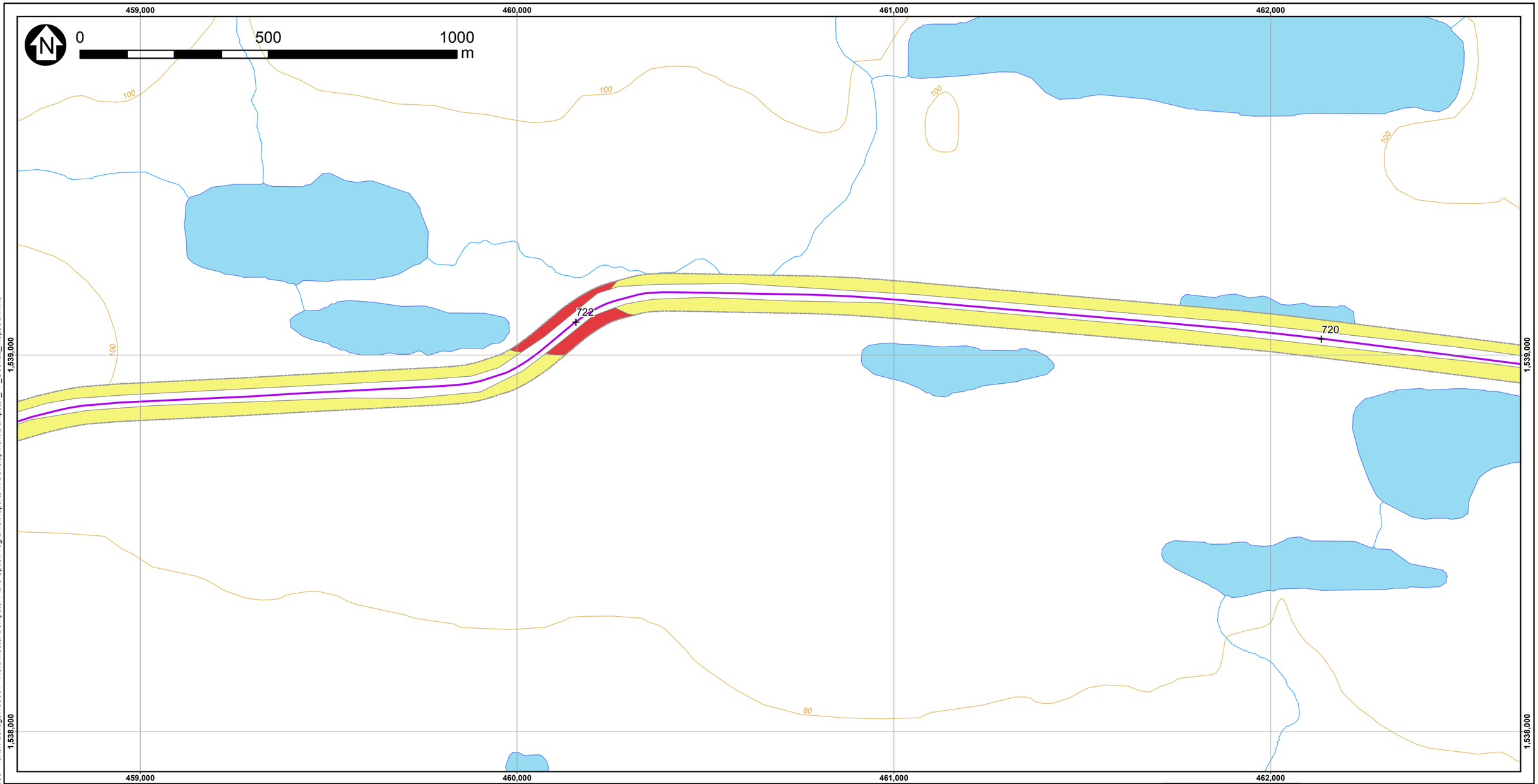
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**





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Horizontal | Vertical | Both

PGMP Mapping Boundary
Dempster Highway
+234 Kilometre Post
Contour (m)
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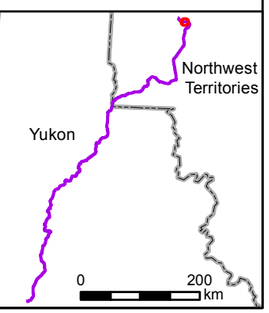
**Dempster Highway Fibre Optic Line**

**Preliminary Permafrost and Geohazard Mapping**



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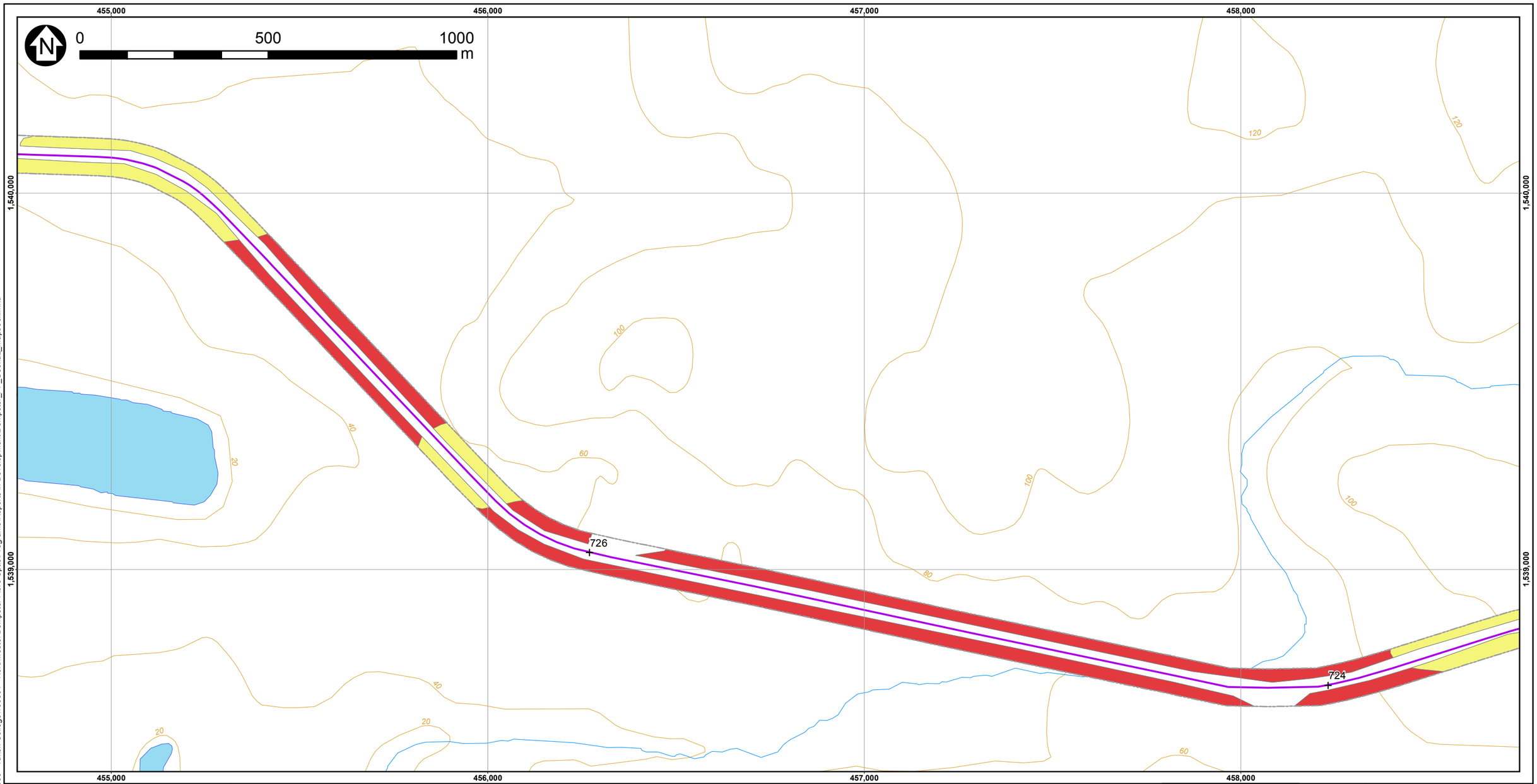


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# Dempster Highway Fibre Optic Line

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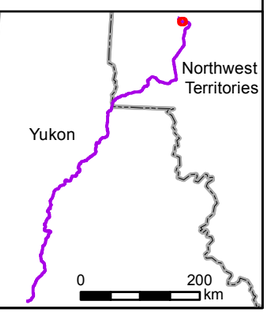

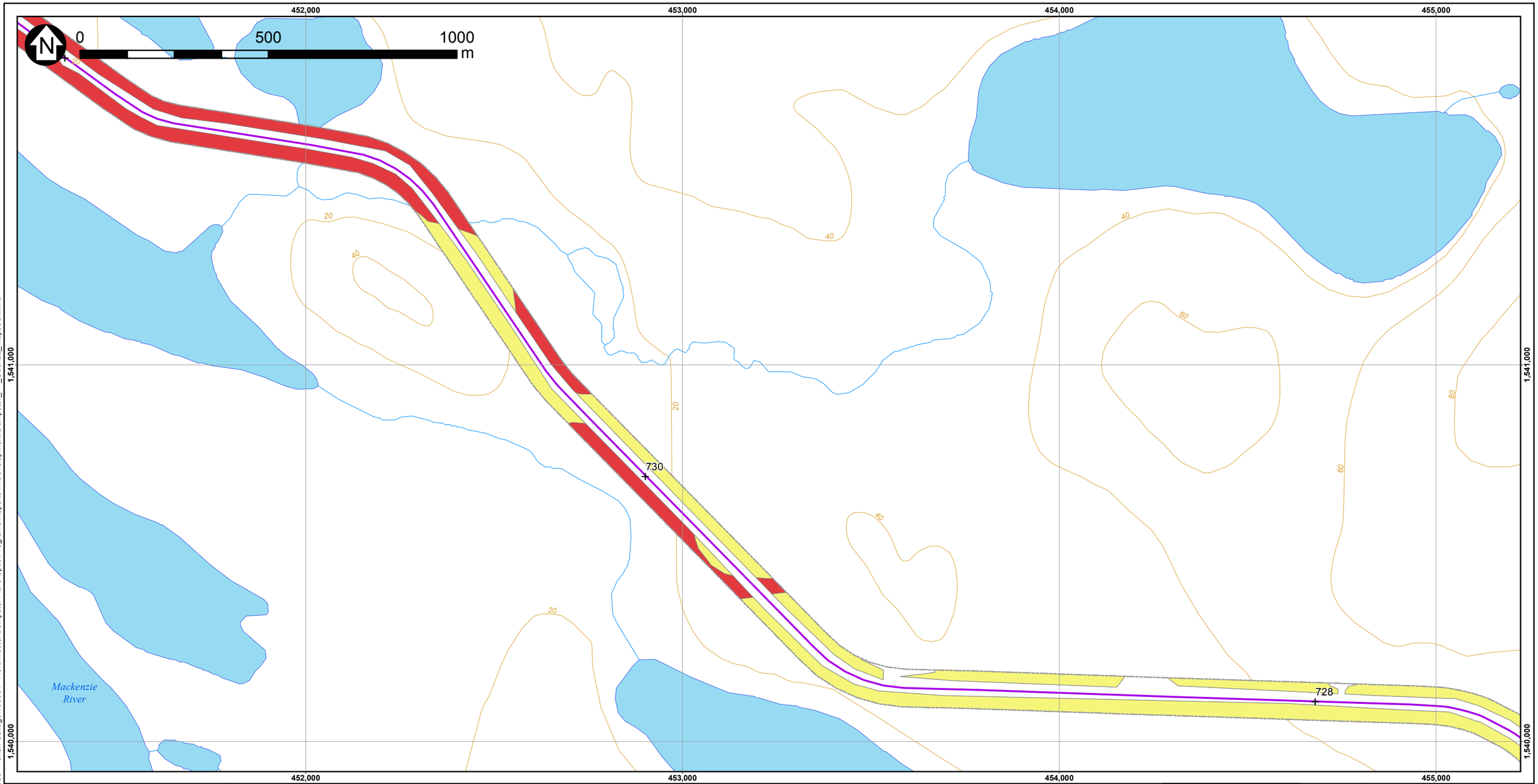


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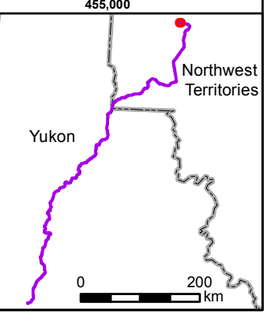


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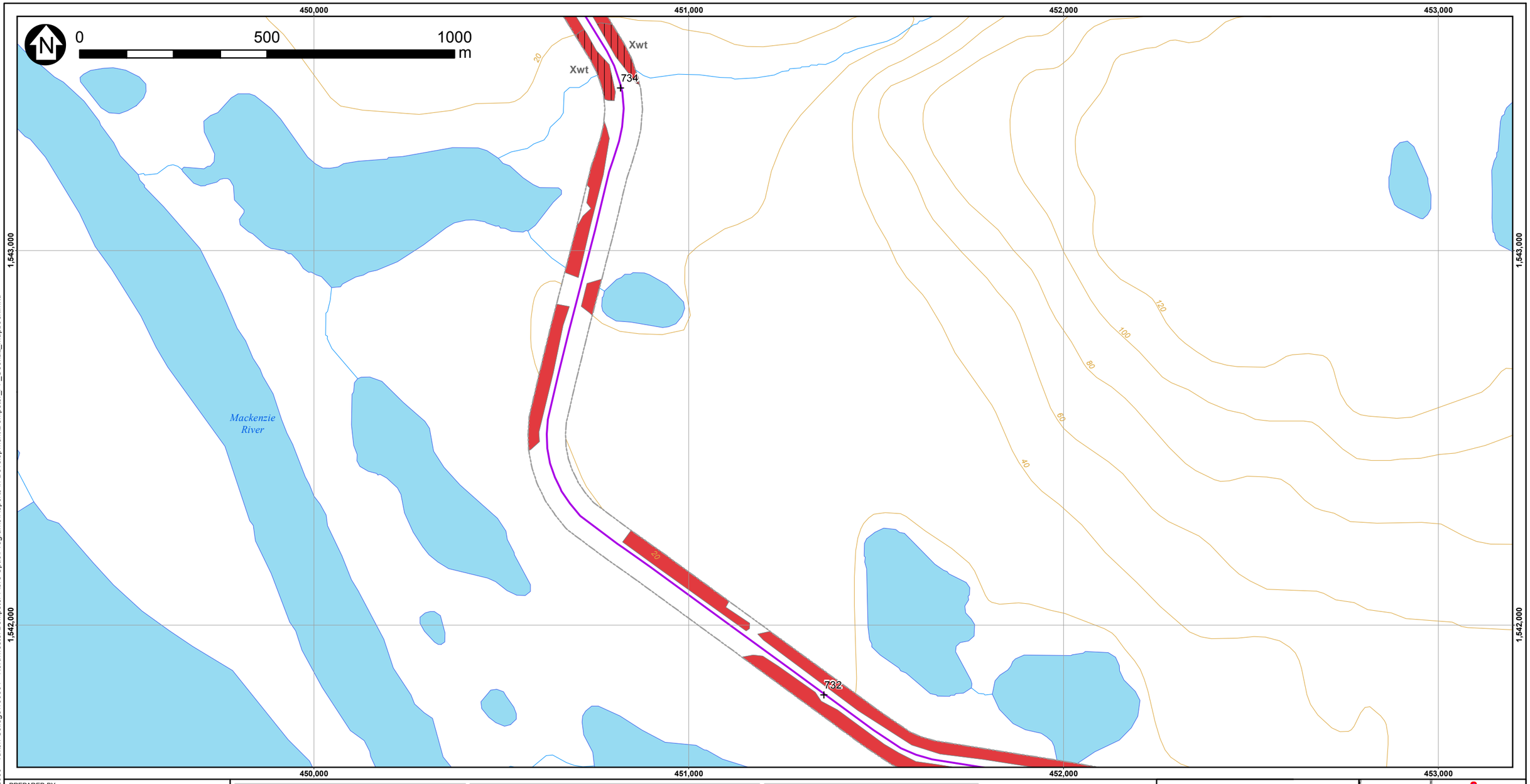


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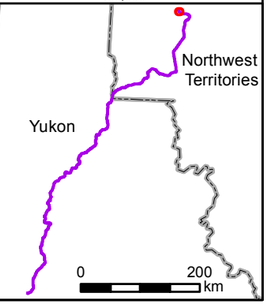

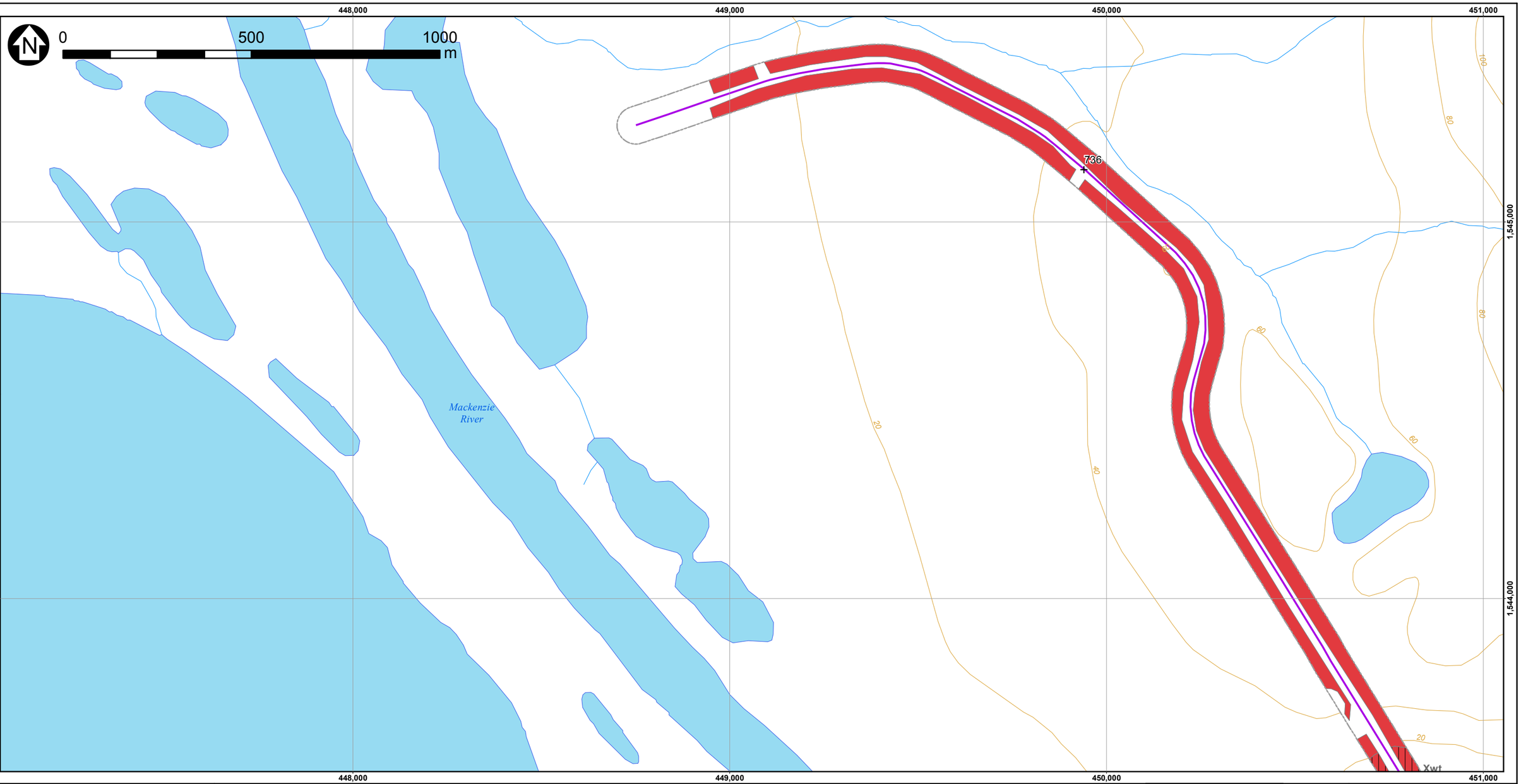


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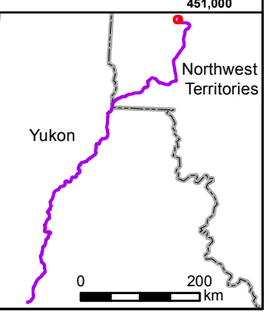


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