

ATTACHMENT 11

LTWP Preliminary Design Report – Appendix B – Topographic Survey

City of Iqaluit

Topographic Survey Report

Long Term Water Program – Supply and Storage
Iqaluit, Nunavut

January 2024



Topographic Survey - DRAFT

Long Term Water Program – Supply and Storage

January 2024

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1 Introduction

Arcadis Canda Inc. (Arcadis) was retained by City of Iqaluit (City) to complete a topographic survey for a parcel of untitled land located northeast of the surveyed portion of the City. The topographic survey was conducted to meet the project requirements pursuant to the objectives of the City's Long Term Water Program (LTWP) – Supply and Storage. The topographic survey was completed in accordance with the requirements outlined in the Supplementary Scope of Work of the Request for Proposal 2023-RFP-048 issued by the City.

1.1 Project Description

The LTWP involves the design and construction of new infrastructure for the City's water supply to meet growth projections. Information on the project design is in the development phase. Based on the concept design the new infrastructure is anticipated to include the following:

- Construction of a reservoir using an earth dam and dykes around an unnamed grouping of two lakes located northeast of Lake Geraldine.
- The construction of a pump station at Lake Qikiqtalik (LQ).
- Construction of a pipeline to convey water from the LQ to the new reservoir.

1.2 Survey Area

The Survey Area was established based on the design requirements for the proposed upgrades to the water supply system. The Survey Area includes the area of the proposed reservoir and the water conveyance corridor from the proposed reservoir to LQ. **Figure 1-01**, appended, shows the full extent of the Survey Area.

1.3 Subcontractor

The services of Adaptive Baseline Geotechnical Limited (ABG) were retained by Arcadis to complete the topographic survey. ABG were responsible for the in-field collection of survey data and subsequent data processing.

2 Methodology

The topographic survey establishes surface elevations and the location of key natural and human-made features across the project site. Ground surface elevation data obtained by ABG through multiple ground-based surveys were used to generate the topographical contour lines presented in this report.

2.1 Ground-Based Surveys

The ground-based surveys completed by ABG for this topographical survey were carried out between September 21 and November 19, 2023. The surveys were conducted using Global Navigation Satellite System (GNSS) observations via a Topcon HiPer-VR Real-Time Kinematic Global Positioning System (RTK GPS) receiver. All observations were on the grid referenced to the 6-degree Universal Transverse Mercator (UTM) projection (Zone

19), central meridian 69-degrees West, based on the horizontal reference frame NAD83 (CSRS), Epoch 2010.0. All elevations are geodetic, referenced to the Canadian Geodetic Vertical Datum of 2013 (CGVD2013).

2.2 Control Points

Control points were established on the project site using more than 75 hours of static GNSS observations and Natural Resources Canada's (NRCan's) Precise Point Positioning Service (PPP). The control points were marked by crosses cut into the bedrock. Table 2-1 provides details on the four control points established for this project.

Table 2-1 - Project Control Points

Control Point No.	UTM Coordinates and Elevation	
500	Northing	7070599.652
	Easting	526229.575
	Elevation	119.191
501	Northing	7071609.986
	Easting	526333.626
	Elevation	148.673
502	Northing	7072824.722
	Easting	526782.180
	Elevation	213.080
503	Northing	7069696.218
	Easting	524703.026
	Elevation	127.463

Control point locations relative to the project site are shown on **Figure 1-01**.

2.3 Control Monument

Coordinate Control Monument No. 28 (CCM28) was used as a benchmark to verify the accuracy of the survey data collected. The coordinate values for CCM28 were originally published in March 2010 and the elevation is referenced to the Canada's previous geodetic datum (CGVD28). For this topographical survey, the coordinate values were obtained in the current geodetic datum, and updated to reflect advancements in the PPP service since the coordinate values were originally published in 2010. The resulting coordinate values for CCM28 used for this project are outlined in the Table 2-2.

Table 2-2 - Control Monument

Control Monument No.	UTM Coordinates and Elevation	
CCM28	Northing	7068622.839
	Easting	525561.325
	Elevation	117.298
	(NAD83(CSRS) Ep. 2010.0 and CGVD2013)	

GNSS observations were performed on CCM28 throughout the course of the topographic survey, and all measured values on CCM28 fell well within the expected tolerances for RTK GPS observations. The average error was 0.003 metres horizontally and 0.010 metres vertically.

The location of control monument CCM28 relative to the project site is shown on **Figure 1-01**.

3 Topographic Survey Figure Index

Due to the large size of the Survey Area (0.73 km²), the topographic survey has been divided into multiple figures. An index for the figures showing survey data around the proposed reservoir and water conveyance corridor are presented on **Figure 2-01** and **Figure 3-01**, respectively. All contour elevations shown on figures are in metres above sea level (masl). Table 3-1 provides a description of the figures appended.

Table 3-1 - Figure Index and Descriptions

Figure No.	Name	Description
1-01	Site Survey Limits	Figure provides an overview of the project site and the limits of the Survey Area. Survey control points and monument are shown on this figure.
2-01	Reservoir Index	Figure shows the grid index for all figures showing survey data at and around the proposed reservoir.
2-02 to 2-09	Reservoir Survey Site Features	Figures show site features and topographical contours at and around the north side of the proposed reservoir.
2-09 to 2-14	Reservoir Survey Site Features	Figures show site features and topographical contours at and around the south side of the proposed reservoir.
3-01	Water Conveyance Corridor Index	Figure shows the grid index for all figures showing survey data across the proposed water-conveyance corridor.
3-02 to 3-07	Water Conveyance Corridor Features	Figures show site features and topographical contours along proposed water-conveyance corridor south of Niaqunnguk River.
3-07 to 3-30	Water Conveyance Corridor Features	Figures show site features and topographical contours along proposed water-conveyance corridor north of Niaqunnguk River.
3-31 to 3-32	Pump Station Site Features	Figures show site features and topographical contours at and around the proposed pump station site.

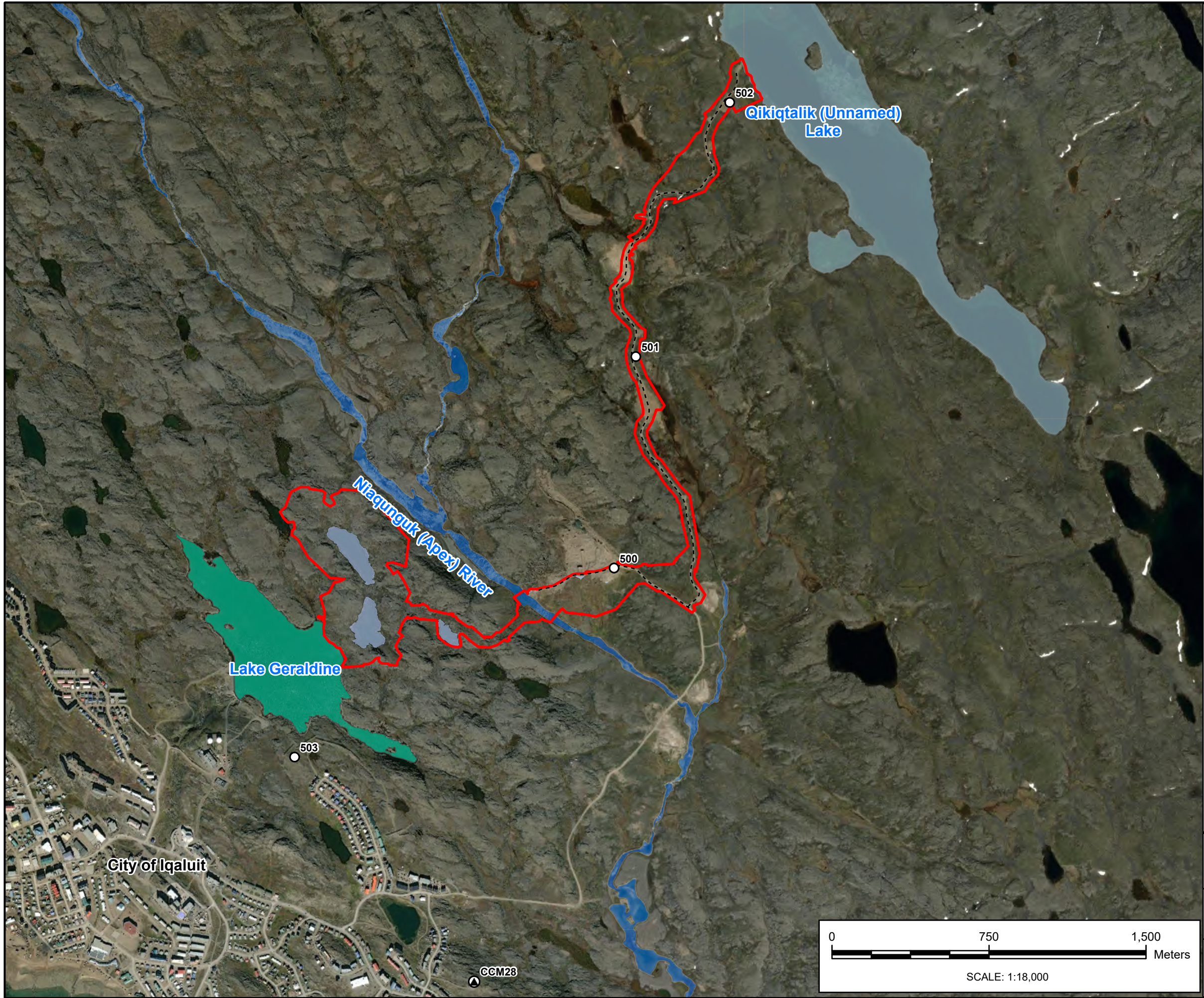
4 References

City of Iqaluit (Iqaluit). 2023. Request for Proposal, Long Term Water Program Raw Water Supply and Storage Owner's Engineer 2023-RFP-048. P7201-950302569-68 (1.0)

Natural Resources Canada (NRC). 2022. *National Standards for the Survey of Canada Lands*. Version 1.2. Cat. No. M124-8/2022E-PDF. ISBN 978-0-660-40960-3.

Figures

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LEGEND

- Geo-Referenced Control Points (GCP)
- ▲ Coordinate Control Monument (CCM)
- Road Centre Line
- Lake Geraldine
- Watercourse
- Qikiqtalik Lake (Unnamed Lake)
- Limits of Survey Area

NOTES:

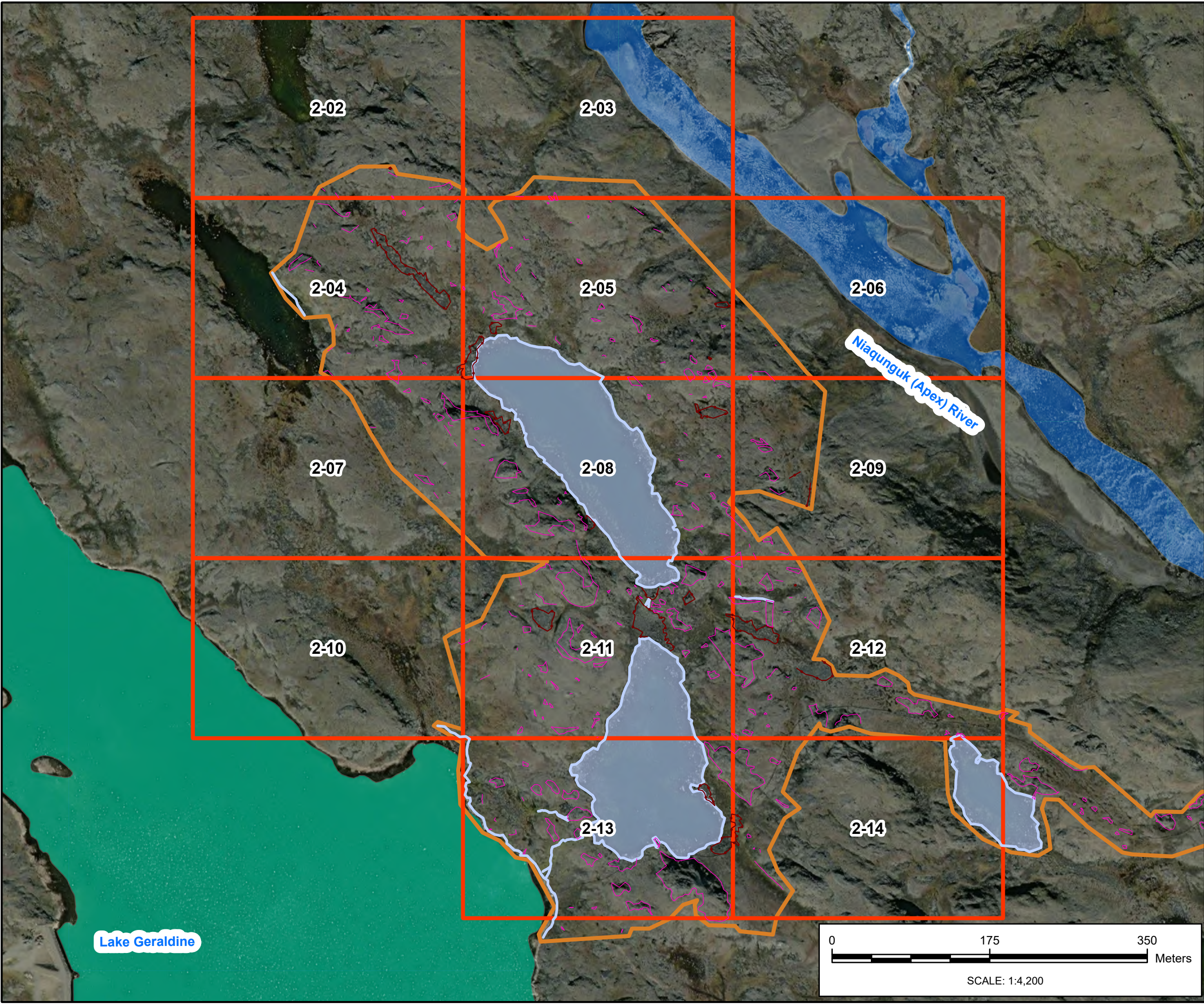
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501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

SITE SURVEY LIMITS

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LEGEND

- Bedrock
- Limit of Boulders
- Water
- Reservoir Grid Index
- Lake Geraldine
- Watercourse
- Qikiqtalik Lake (Unnamed Lake)
- Limits of Survey Area

NOTES:

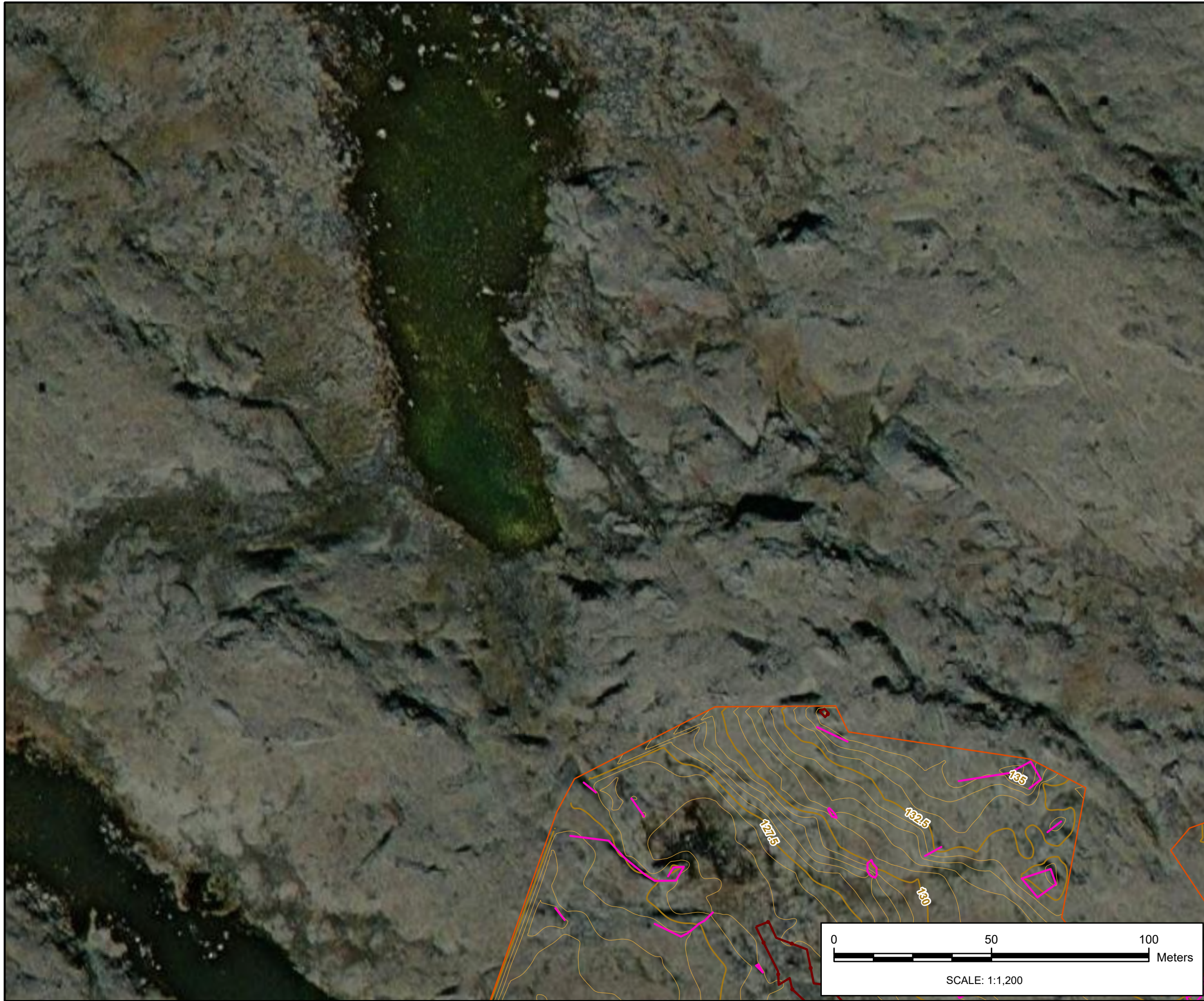
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 - 502: 7072824.722 N, 526782.180 E, Elev. 213.080
 - 503: 7069696.218 N, 524703.026 E, Elev. 127.463
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQUALUIT, NUNAVUT
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RESERVOIR INDEX

ARCADIS | **FIGURE 2-01**

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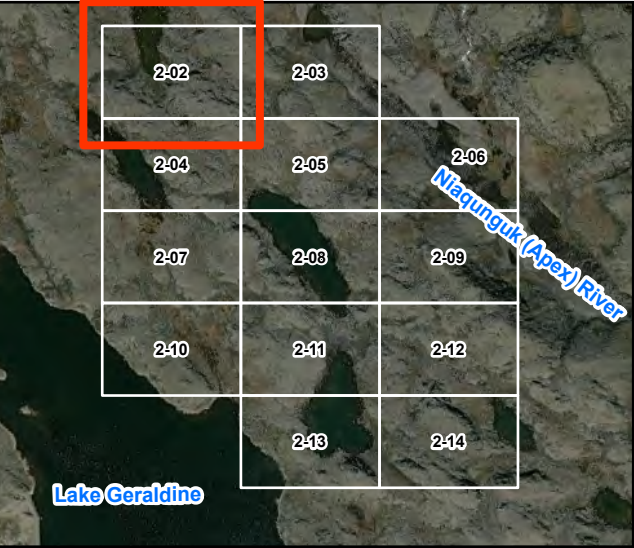


LEGEND

- Bedrock
- Limit of Boulders
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
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- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



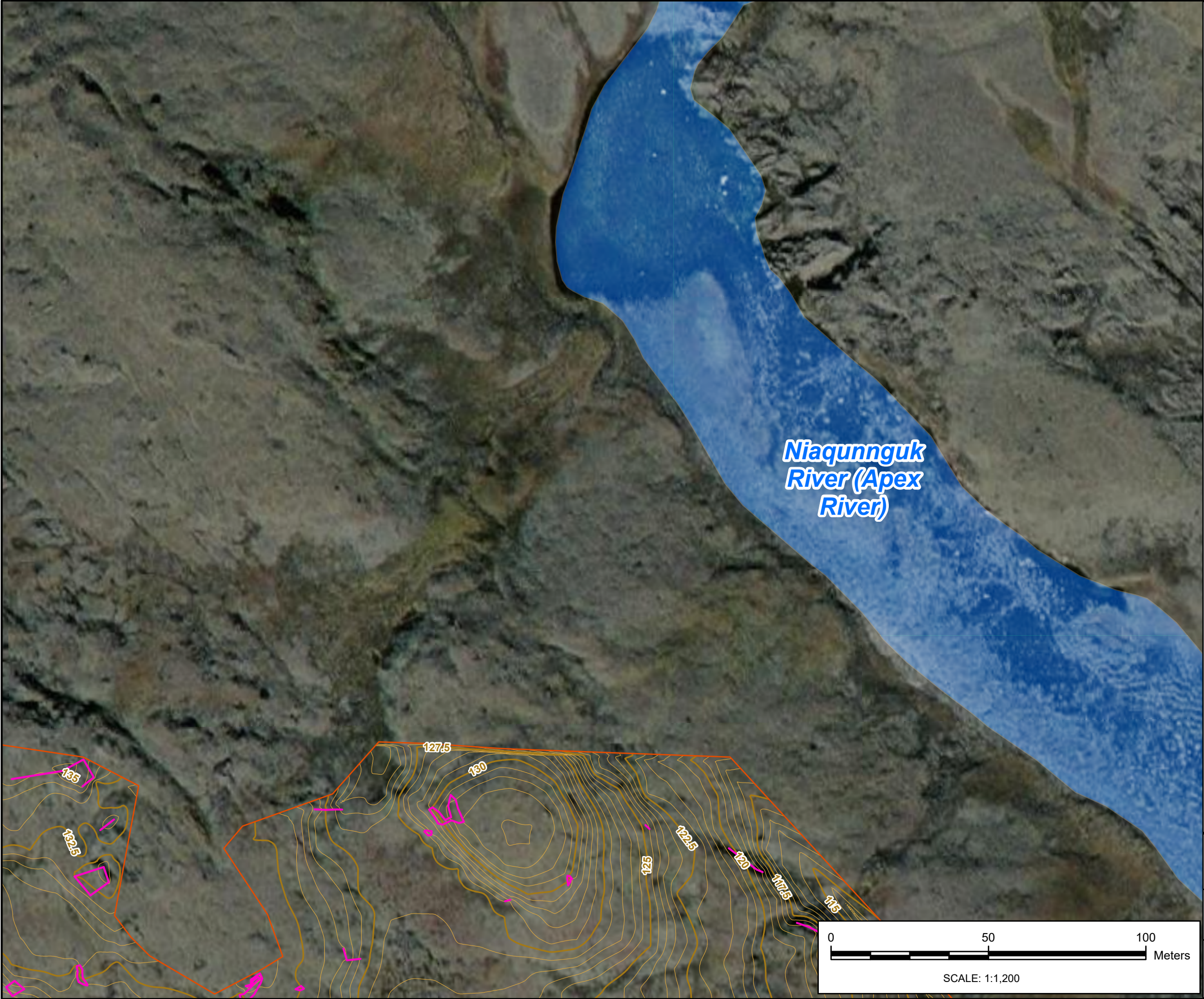
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES



FIGURE
2-02

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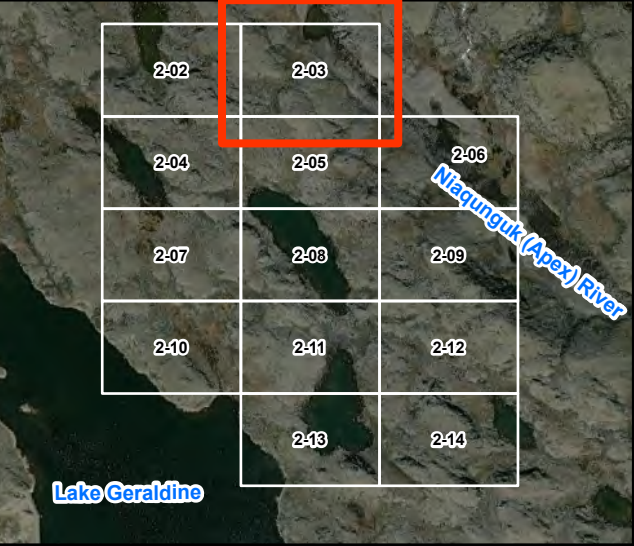


LEGEND

- Bedrock
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
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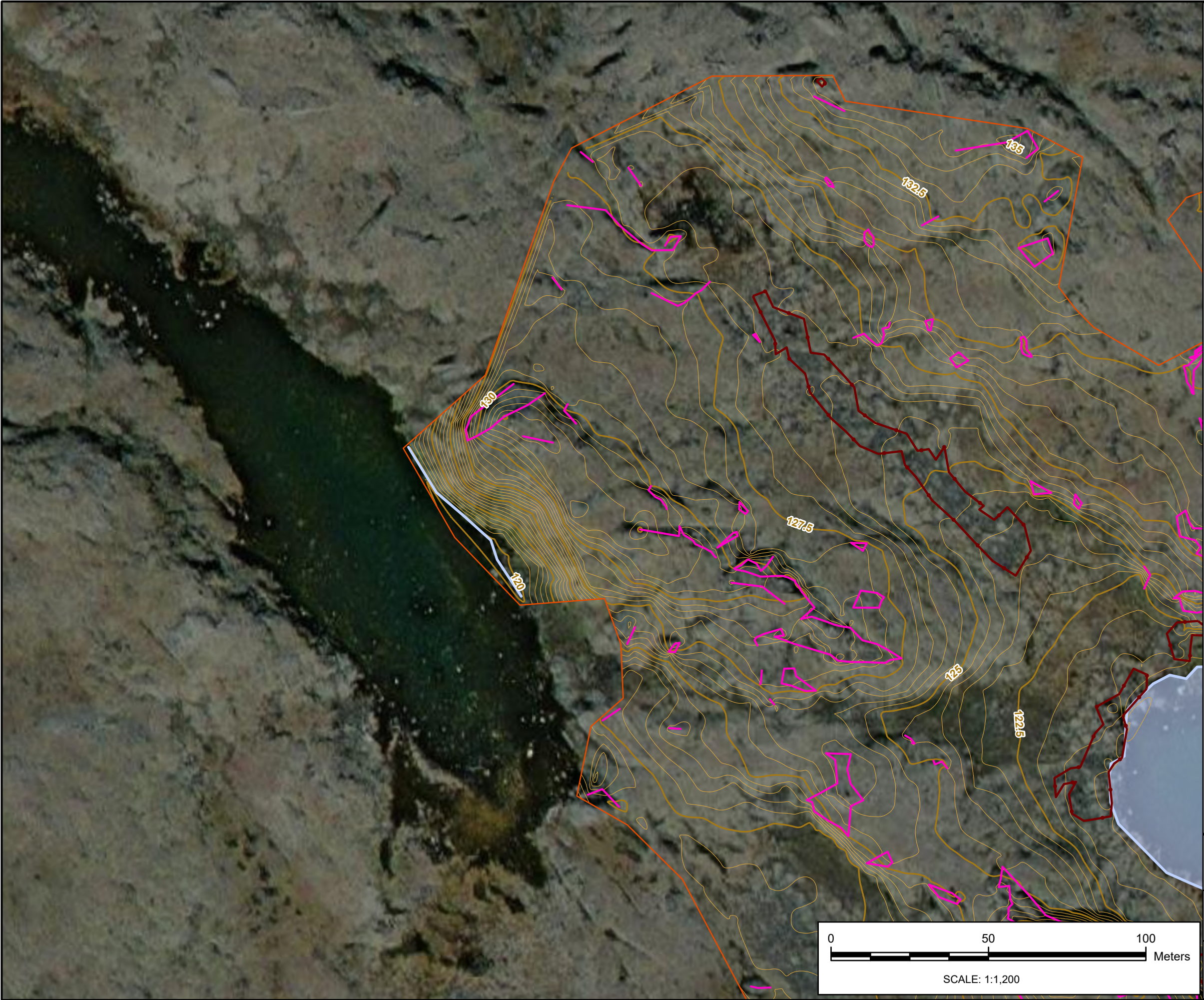
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES



FIGURE
2-03

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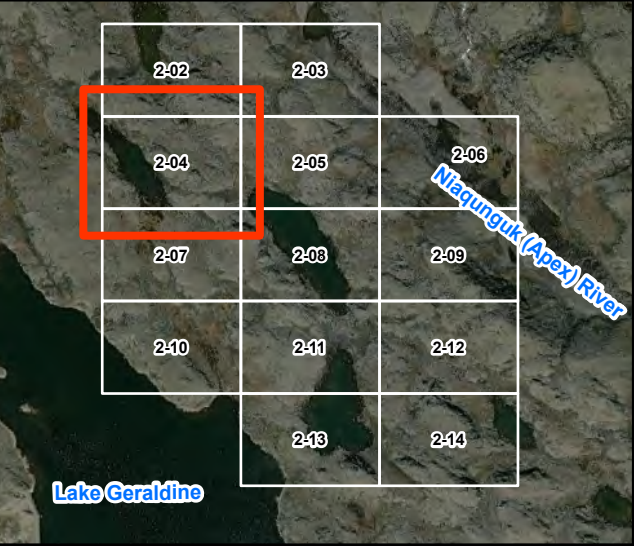


LEGEND

- Bedrock
- Limit of Boulders
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
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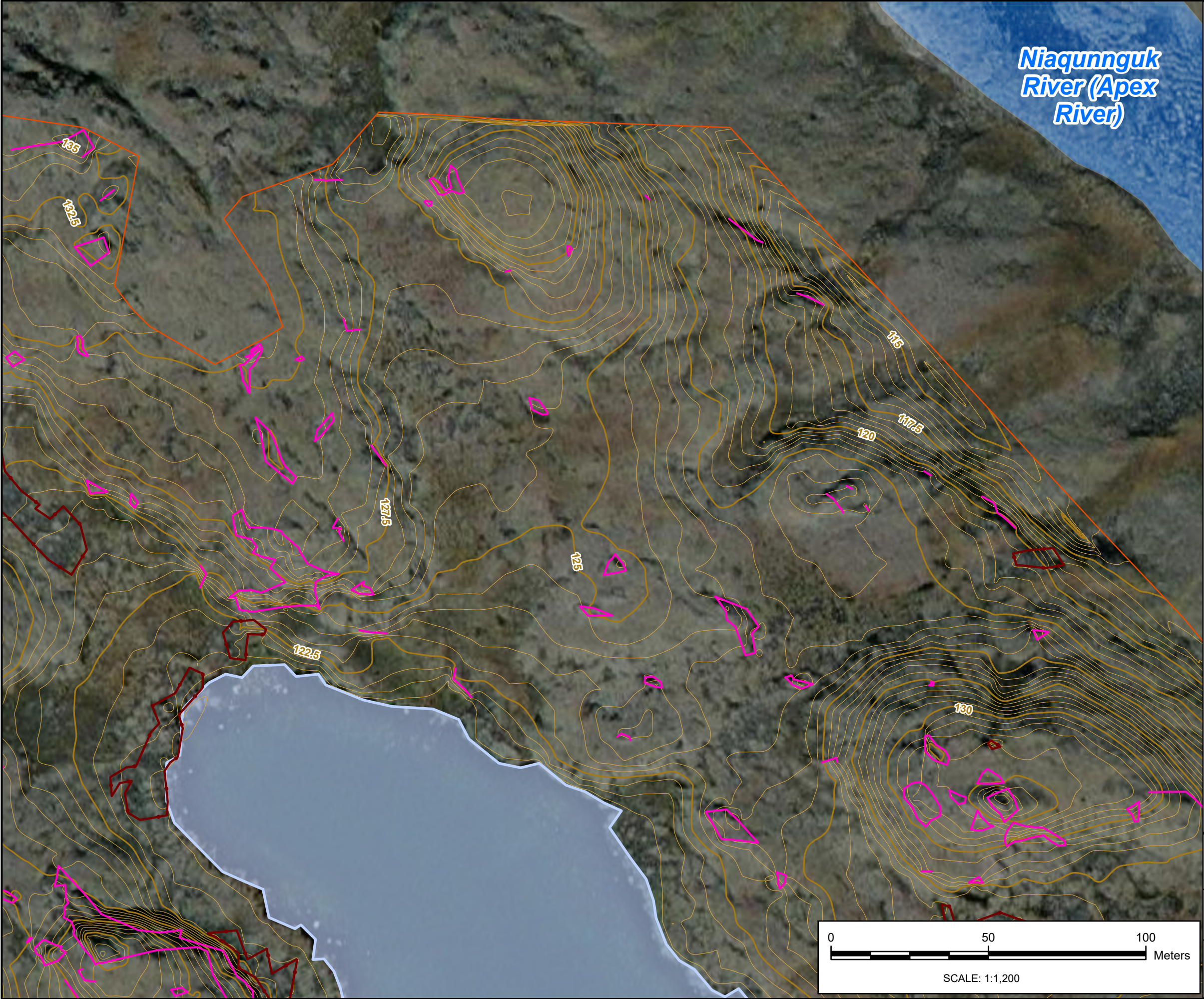


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES

ARCADIS | **FIGURE 2-04**

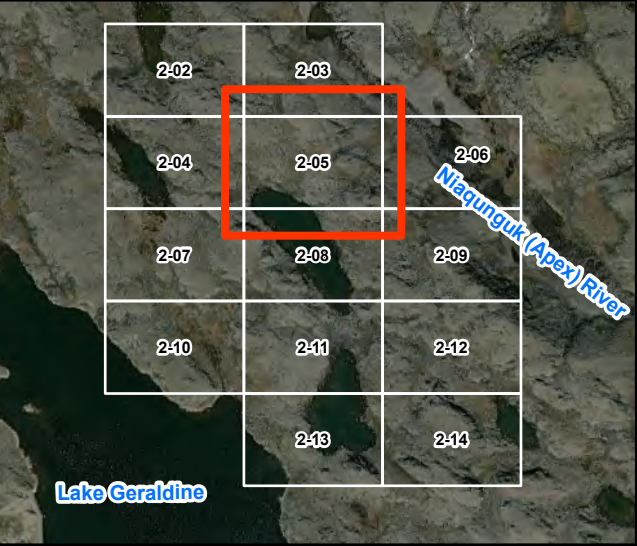
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LEGEND

- Bedrock
- Limit of Boulders
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Watercourse
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
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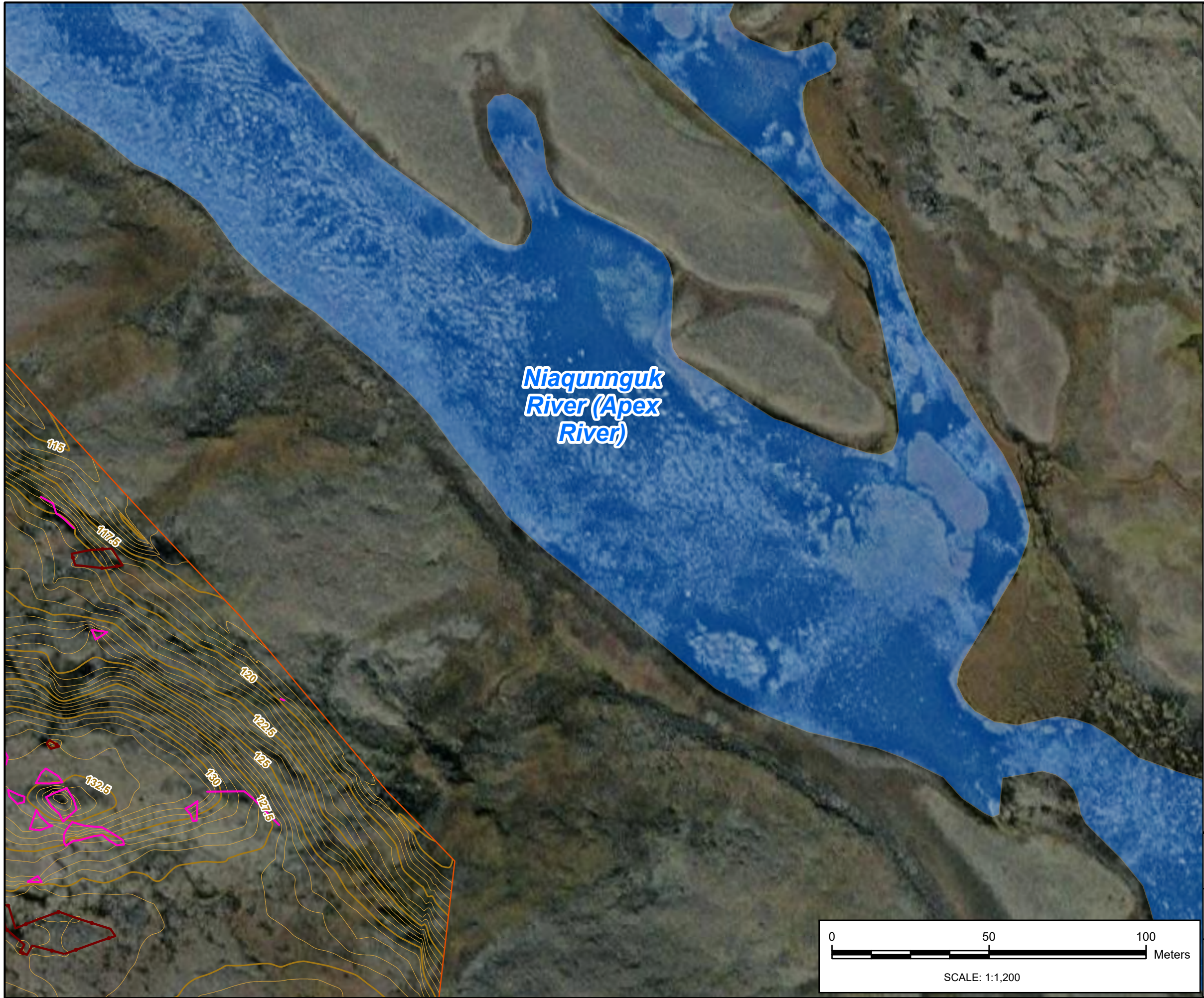
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES



FIGURE
2-05

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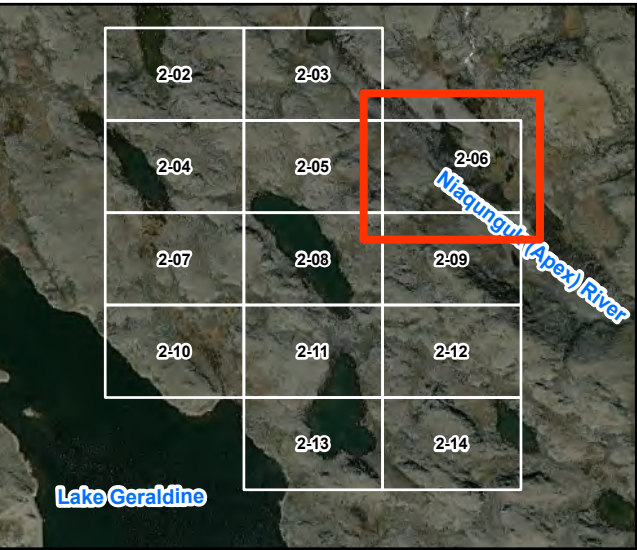


LEGEND

- Bedrock
- Limit of Boulders
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

NOTES:

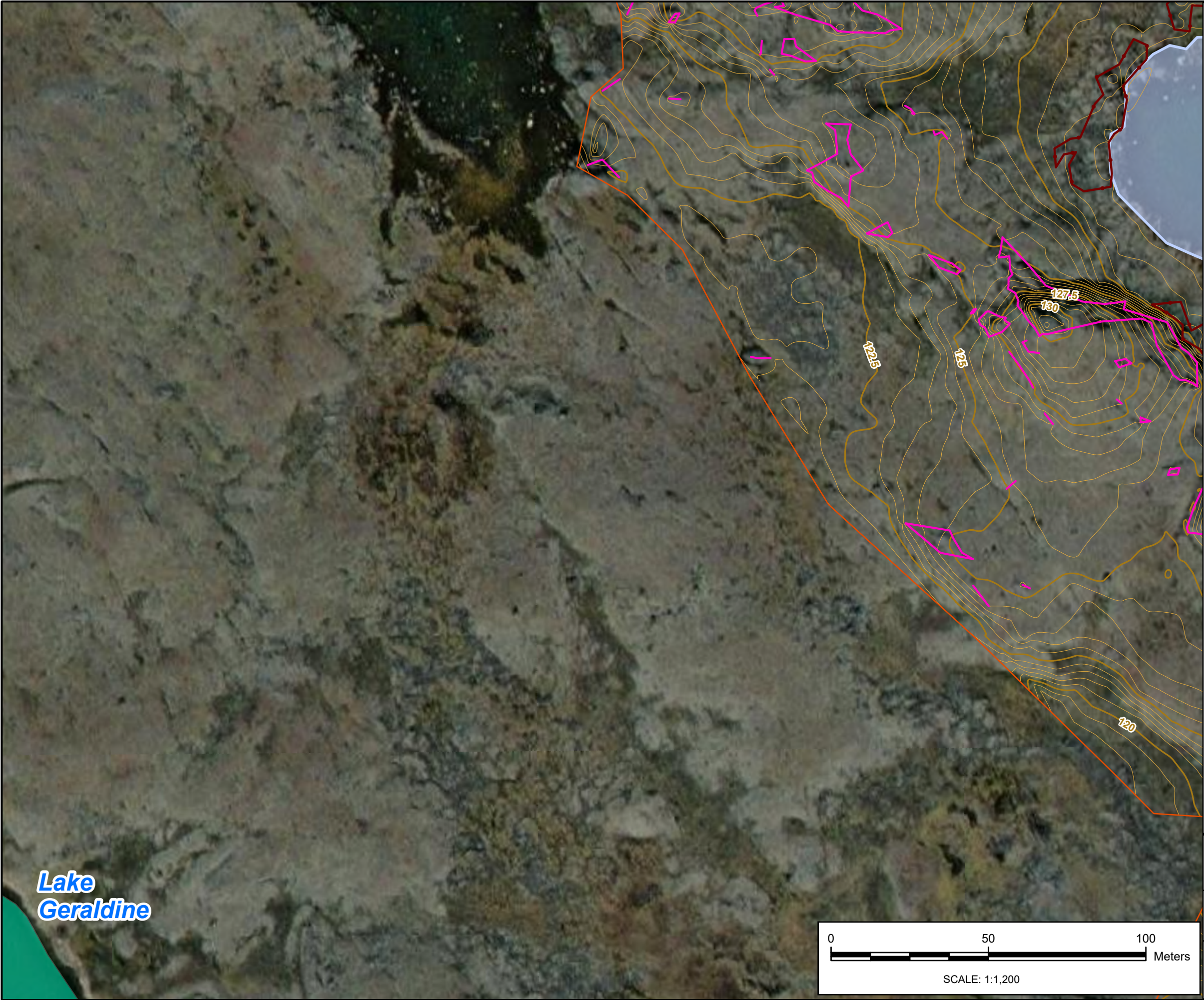
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQUALUIT, NUNAVUT
CITY OF IQUALUIT

RESERVOIR SURVEY SITE FEATURES

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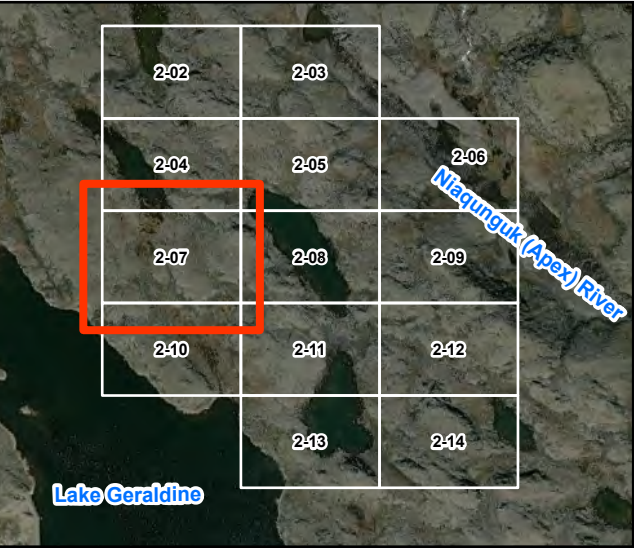


LEGEND

- Bedrock
- Limit of Boulders
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Lake Geraldine
- Limits of Survey Area

NOTES:

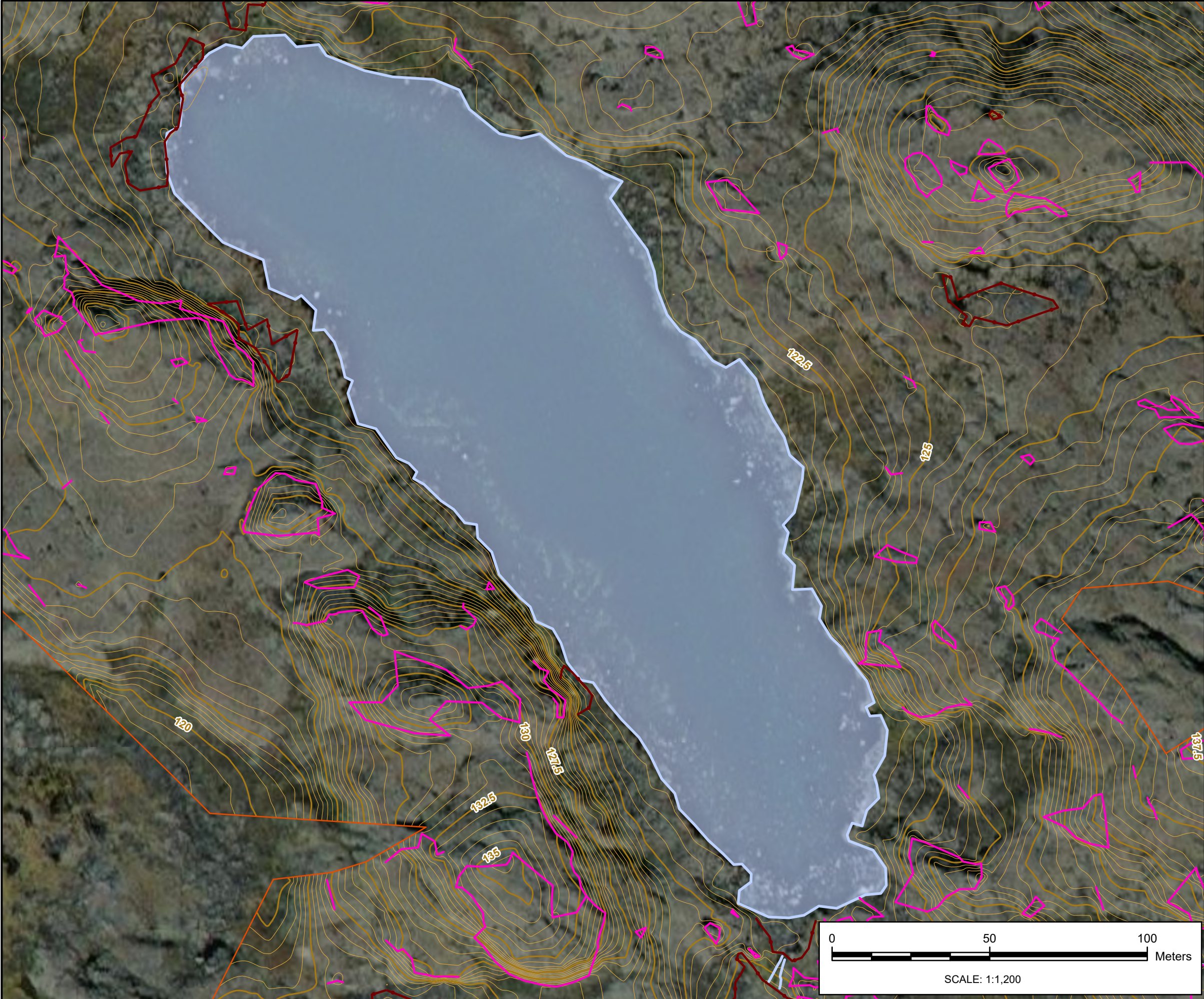
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TOPOGRAPHICAL SURVEY -
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RESERVOIR SURVEY SITE FEATURES

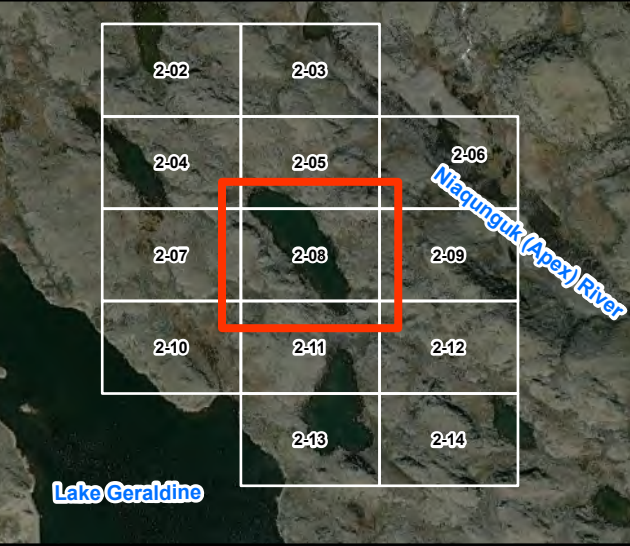
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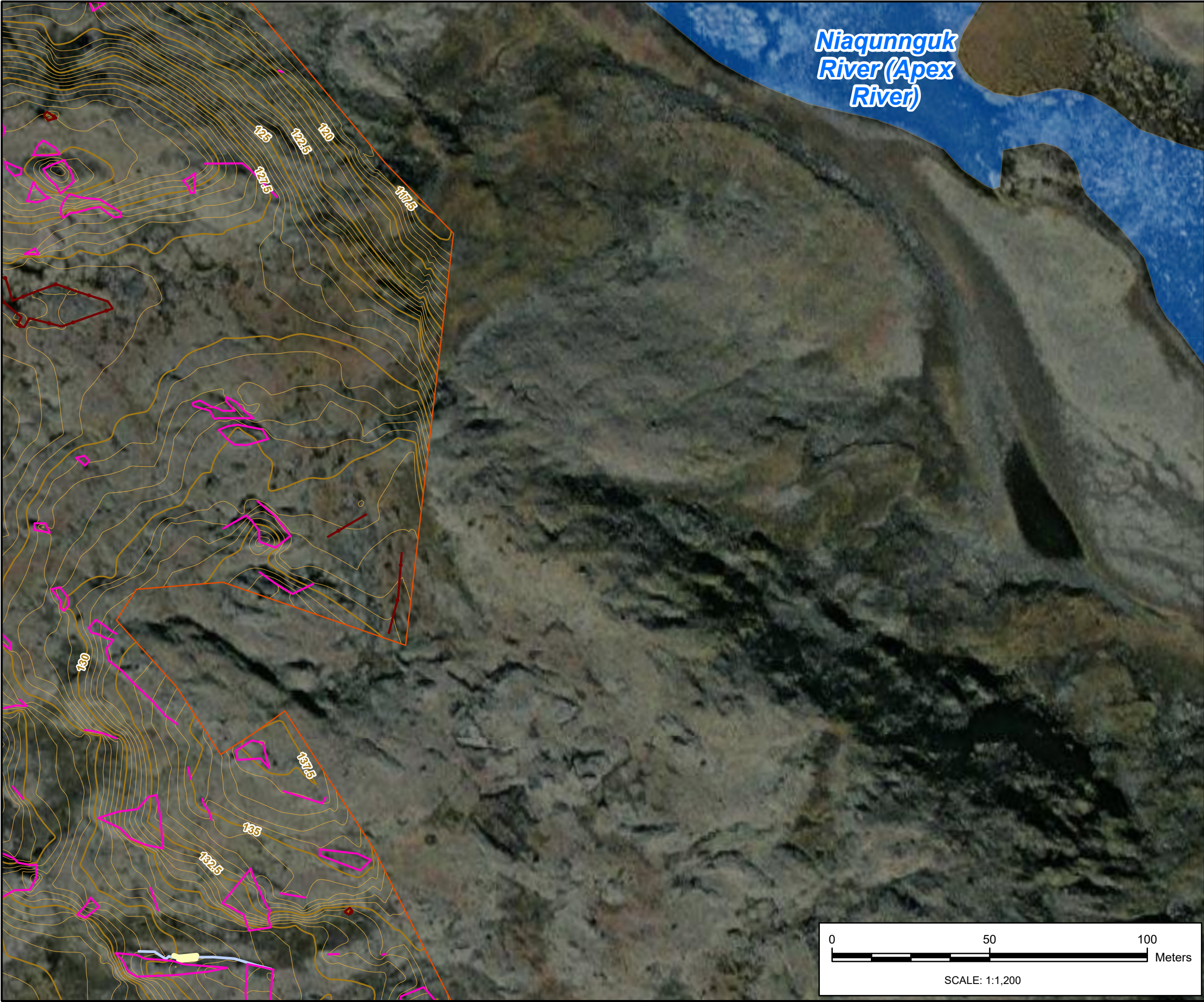
- Bedrock
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
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RESERVOIR SURVEY SITE FEATURES



LEGEND

- Bedrock
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

NOTES:

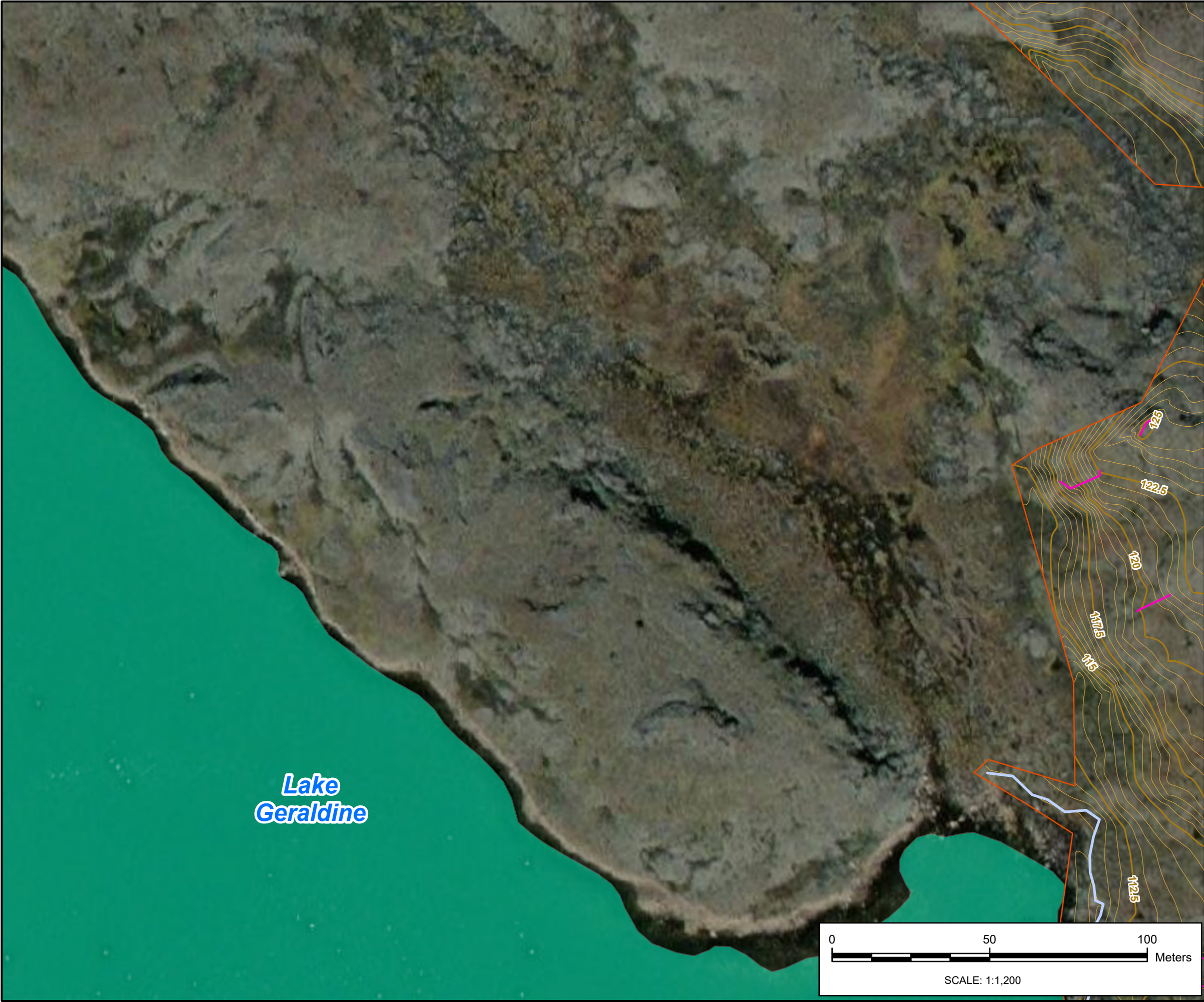
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES

ARCADIS | **FIGURE 2-09**

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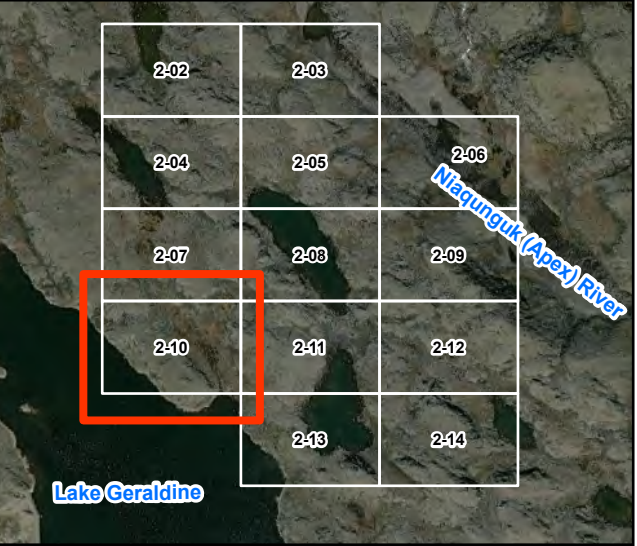


LEGEND

- Bedrock
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Lake Geraldine
- Limits of Survey Area

NOTES:

- Control Points
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- Control Monument
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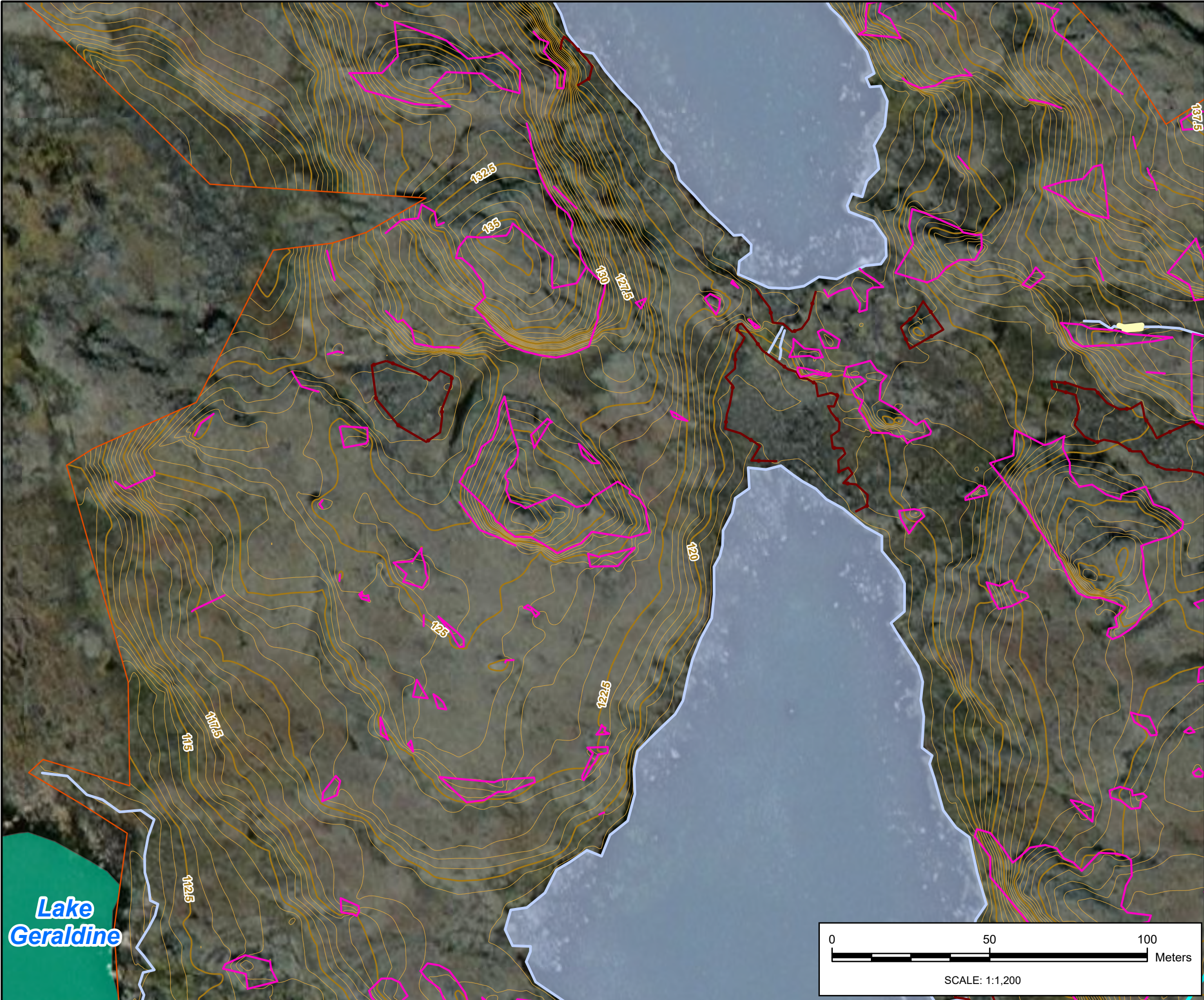
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES



FIGURE
2-10

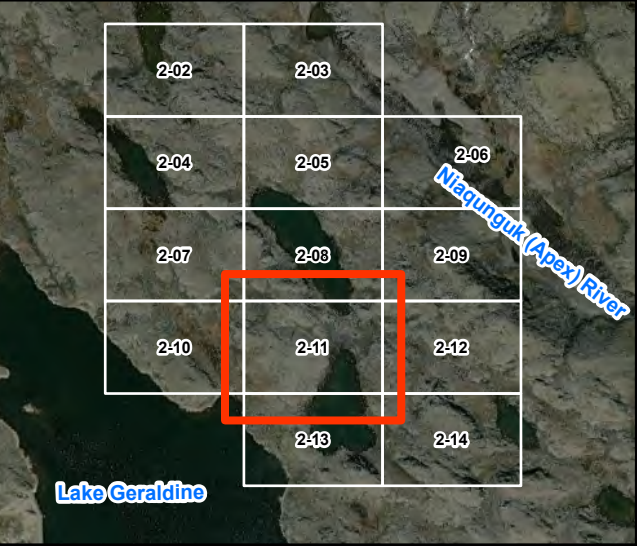
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LEGEND

- Bedrock
- Water Conveyance Pipeline
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Lake Geraldine
- Limits of Survey Area

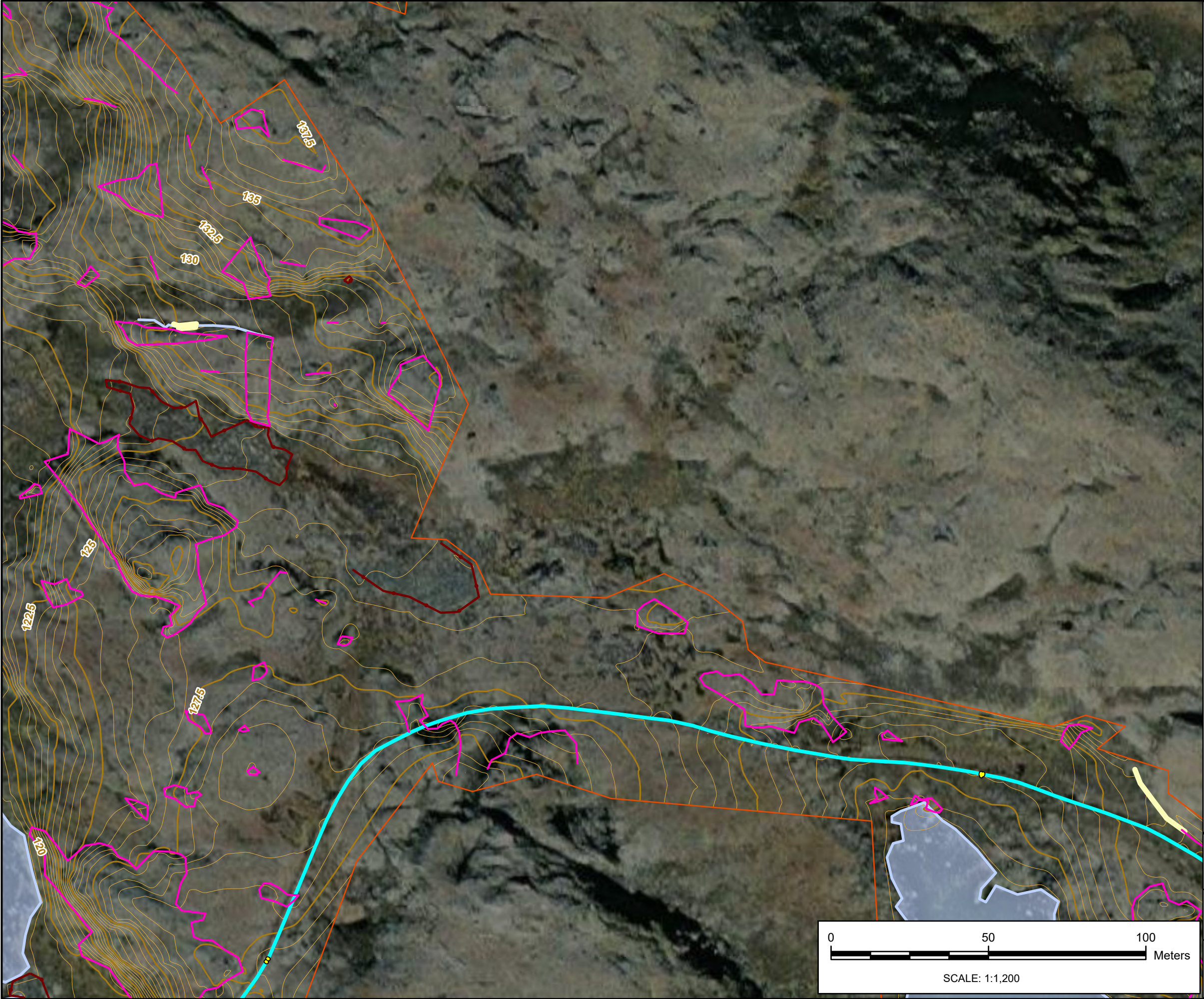
- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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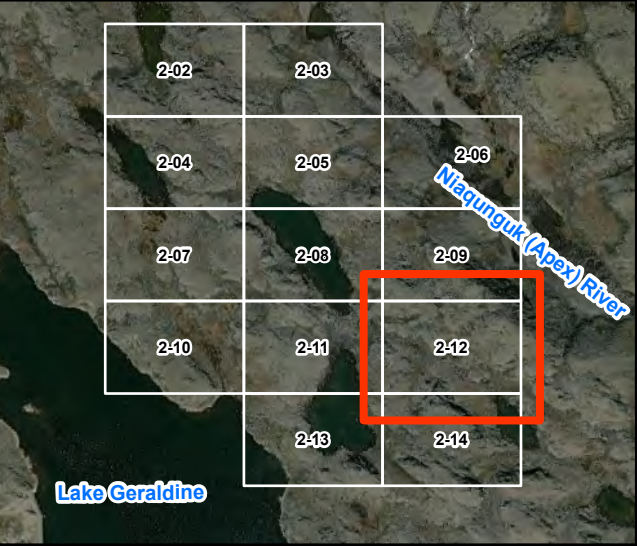


LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



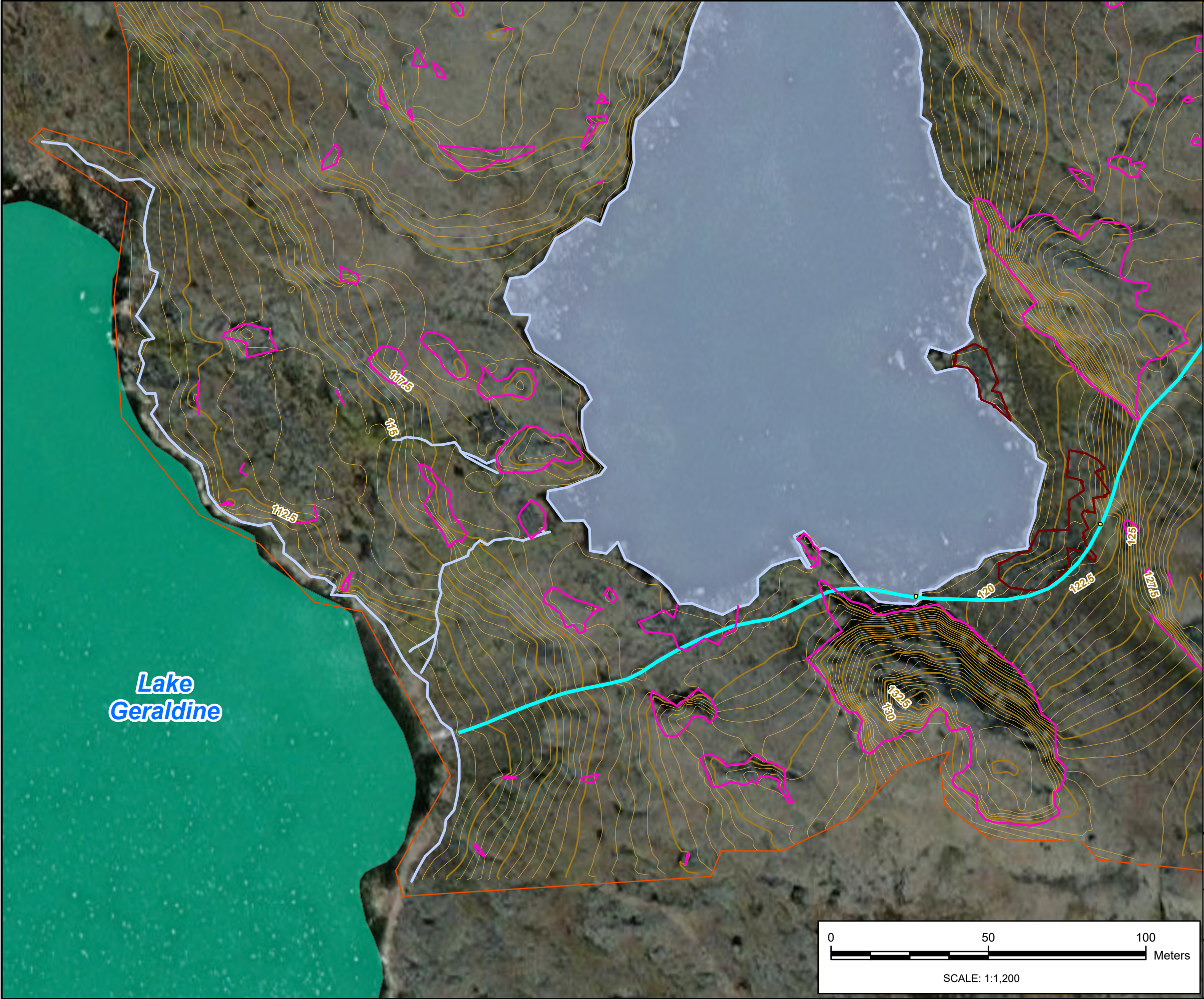
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES



FIGURE
2-12

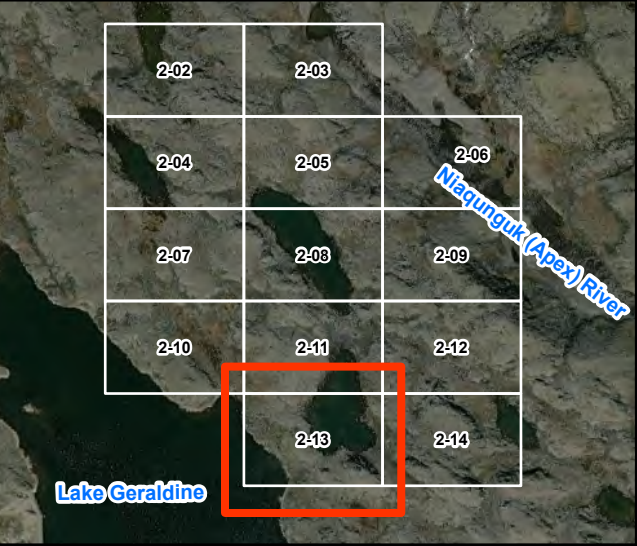
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LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Limit of Boulders
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Lake Geraldine
- Limits of Survey Area

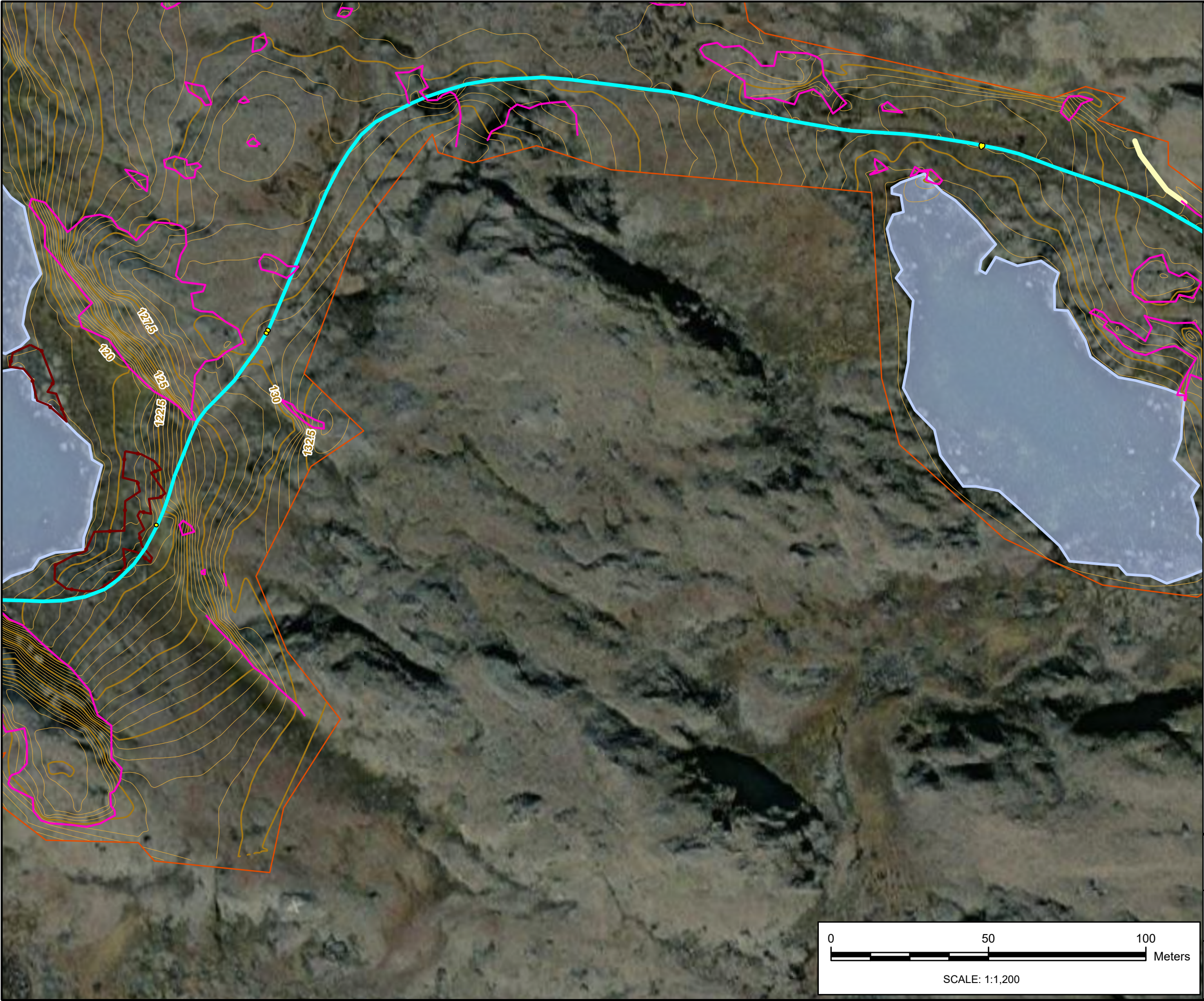
- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES

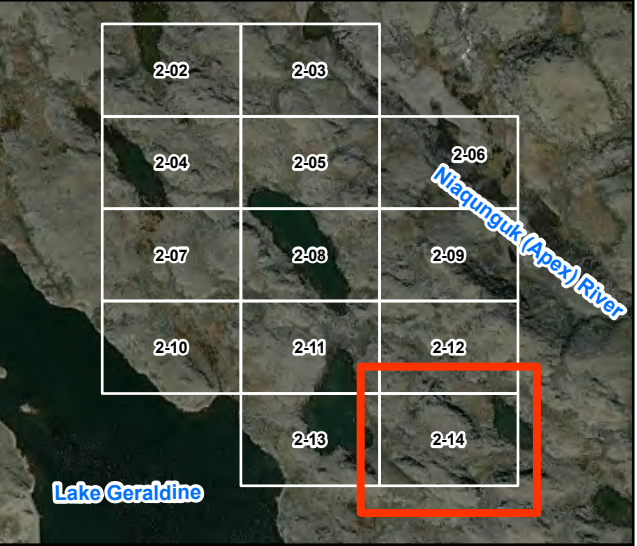
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LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water Bodies
- Limits of Survey Area

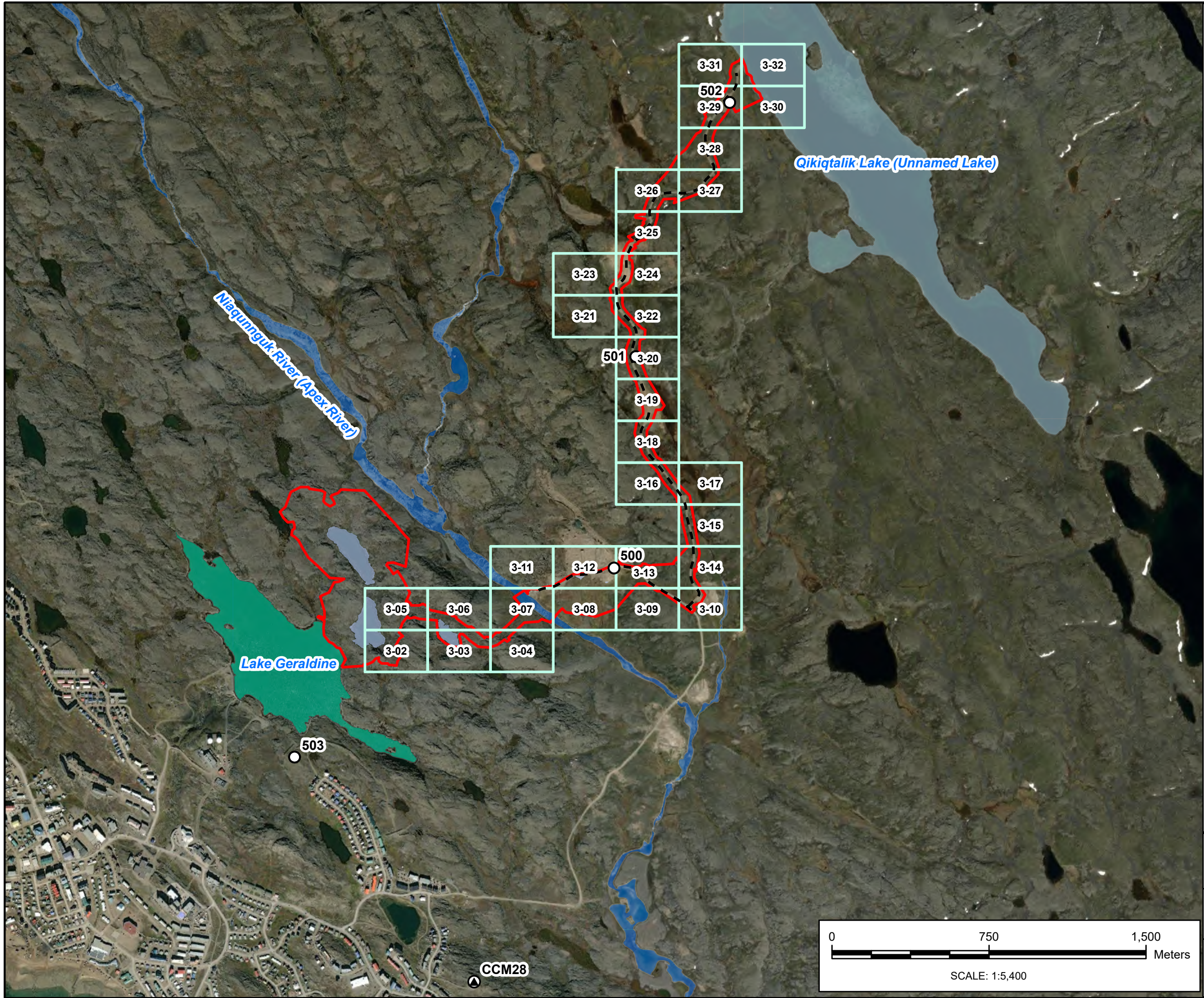
- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

RESERVOIR SURVEY SITE FEATURES

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LEGEND

- Geo-Referenced Control Points (GCP)
- ▲ Coordinate Control Monument (CCM)
- - Road Centre Line
- Conveyance Grid Index
- Water Bodies
- Lake Geraldine
- Watercourse
- Qikiqtalik Lake (Unnamed Lake)
- Limits of Survey Area

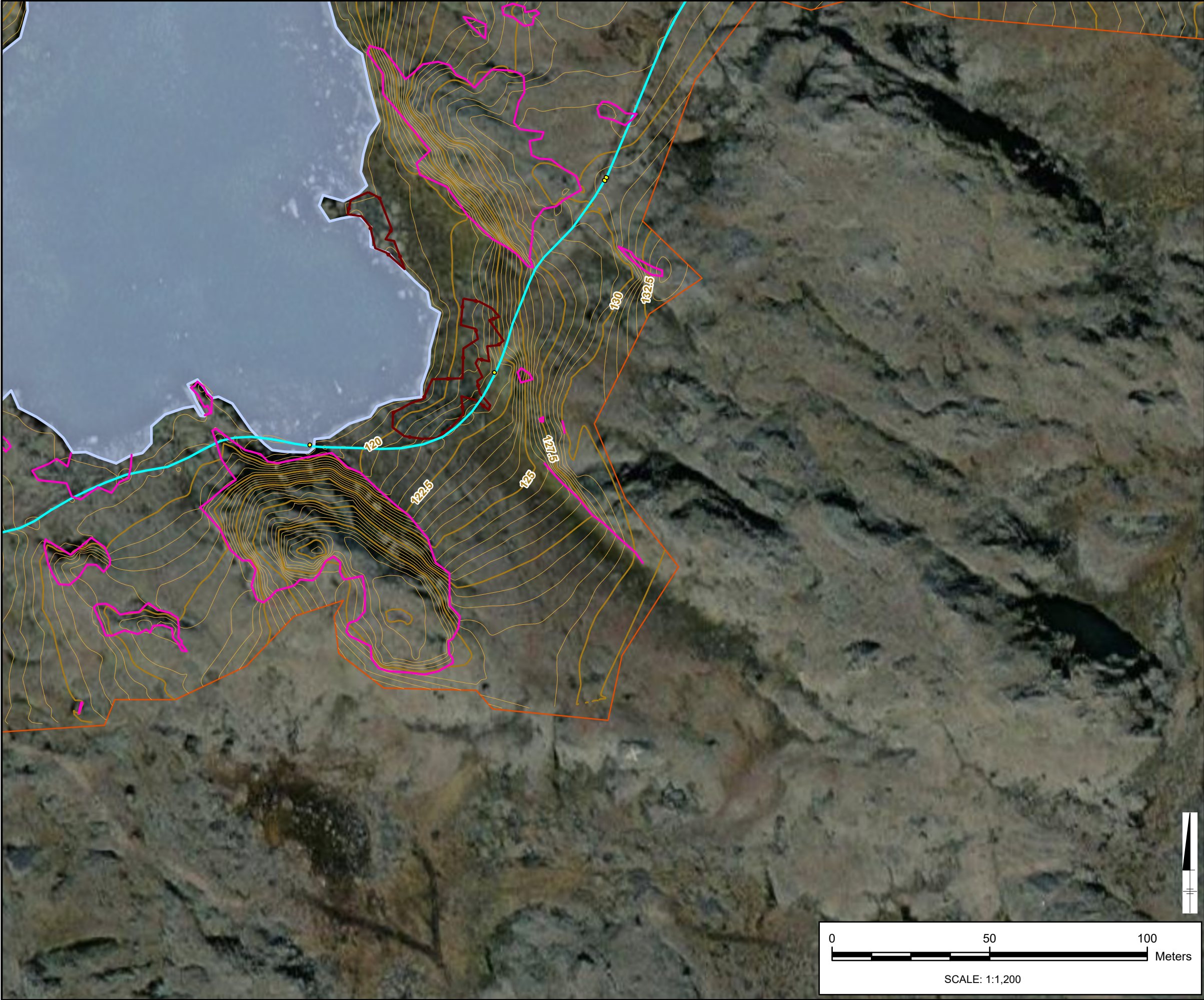
NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR INDEX

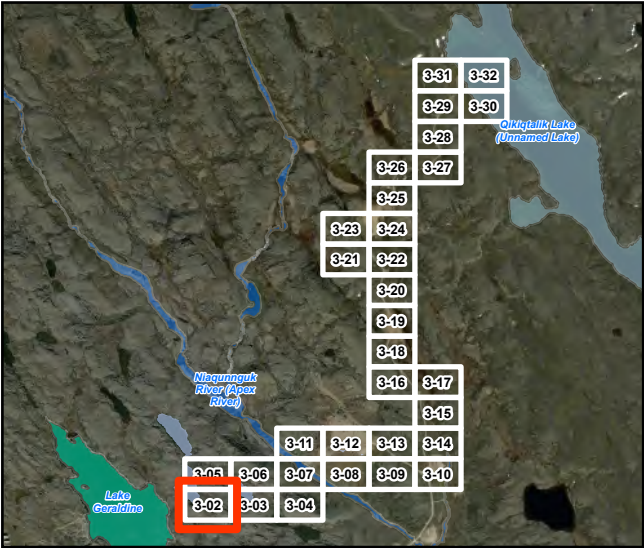
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LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Limit of Boulders
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



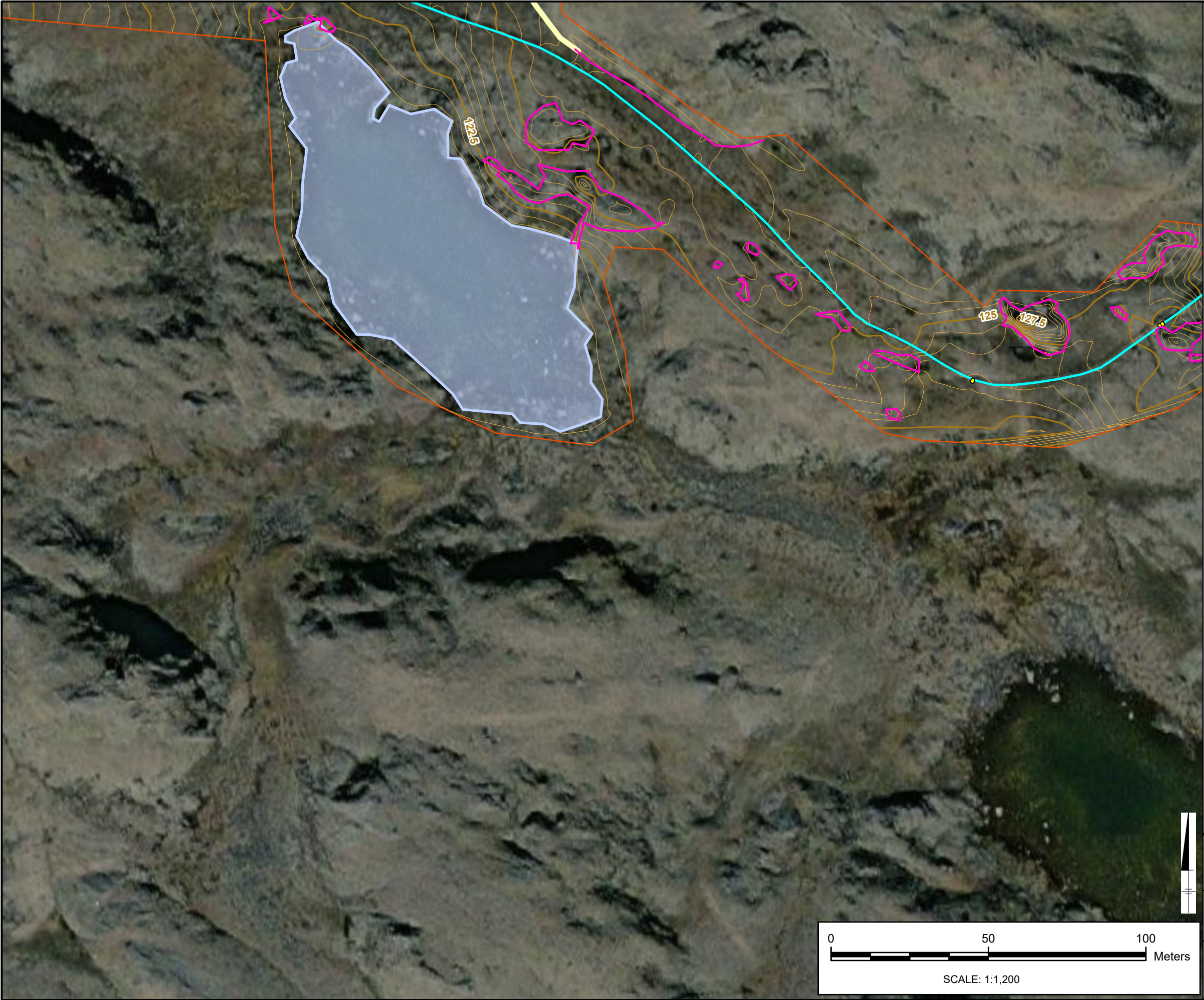
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-02

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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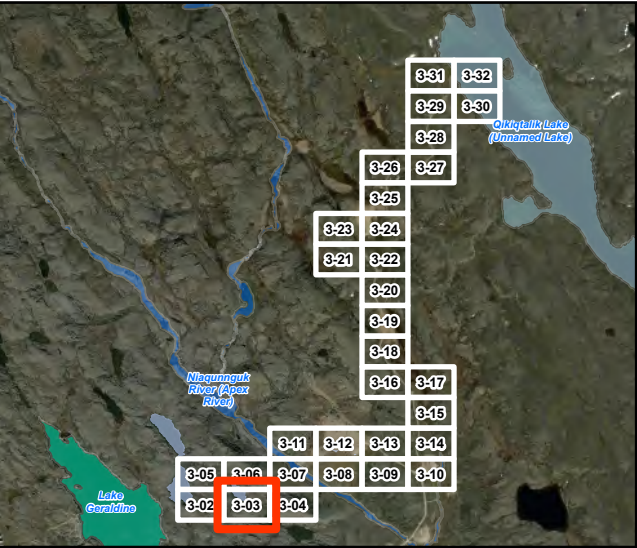


LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

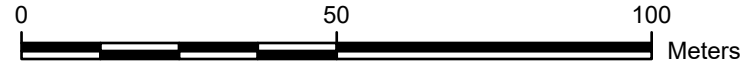


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES

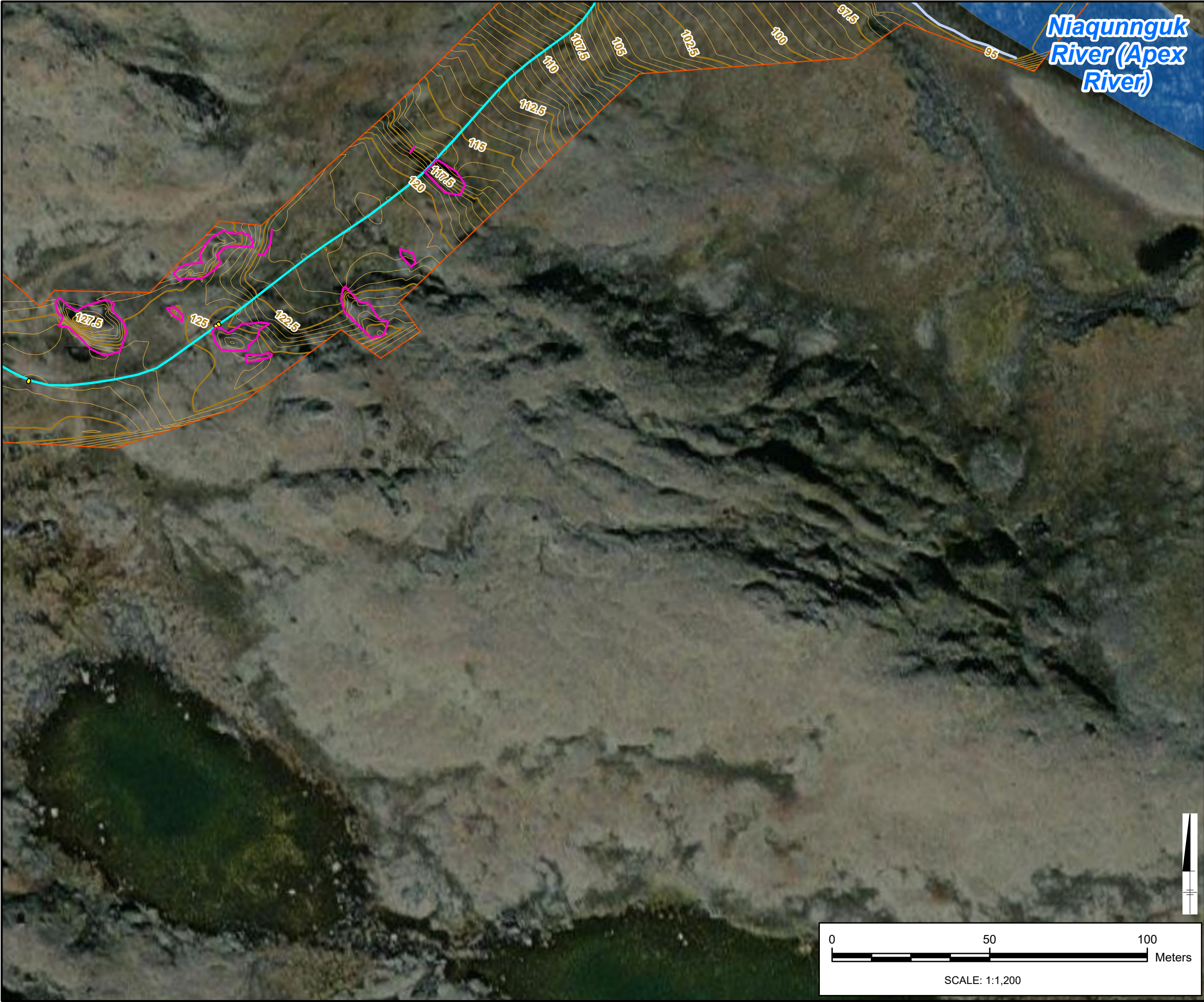


FIGURE
3-03



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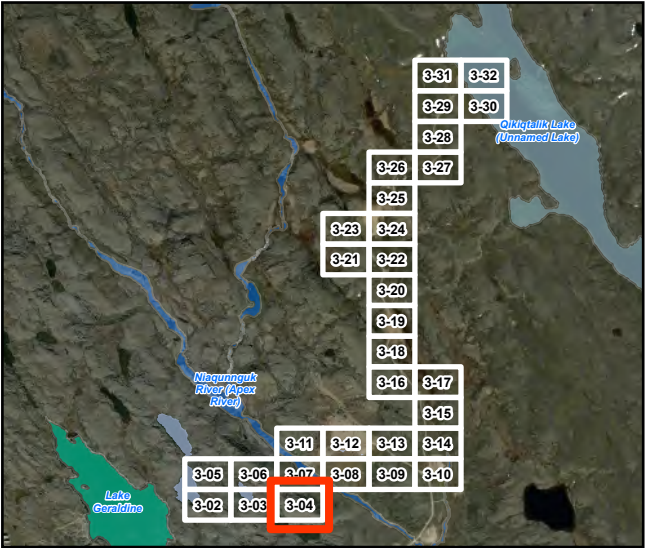
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LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
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 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



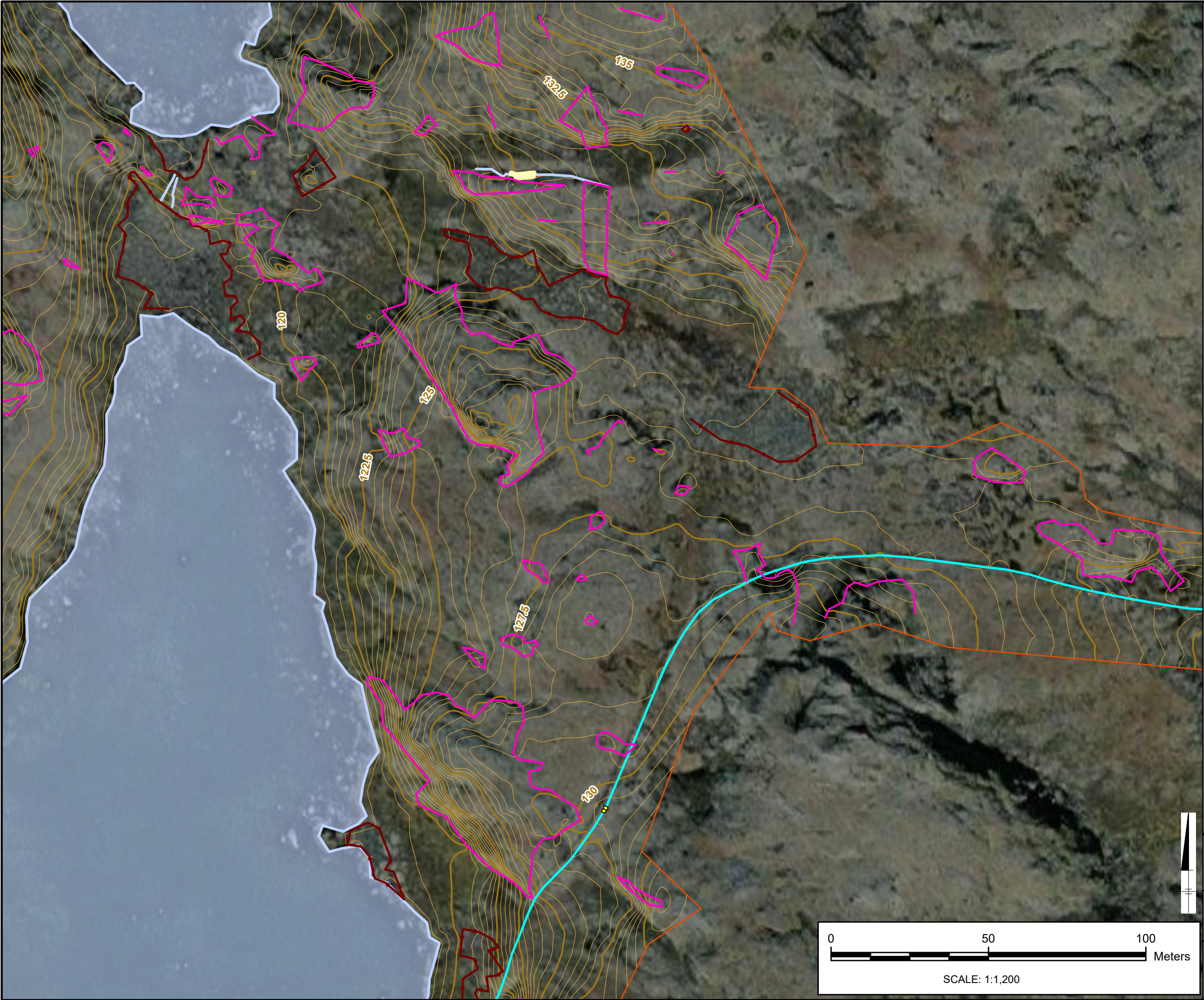
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-04

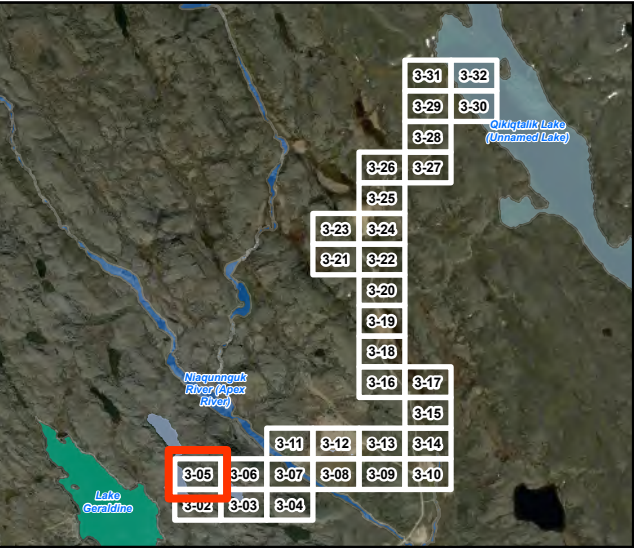
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LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

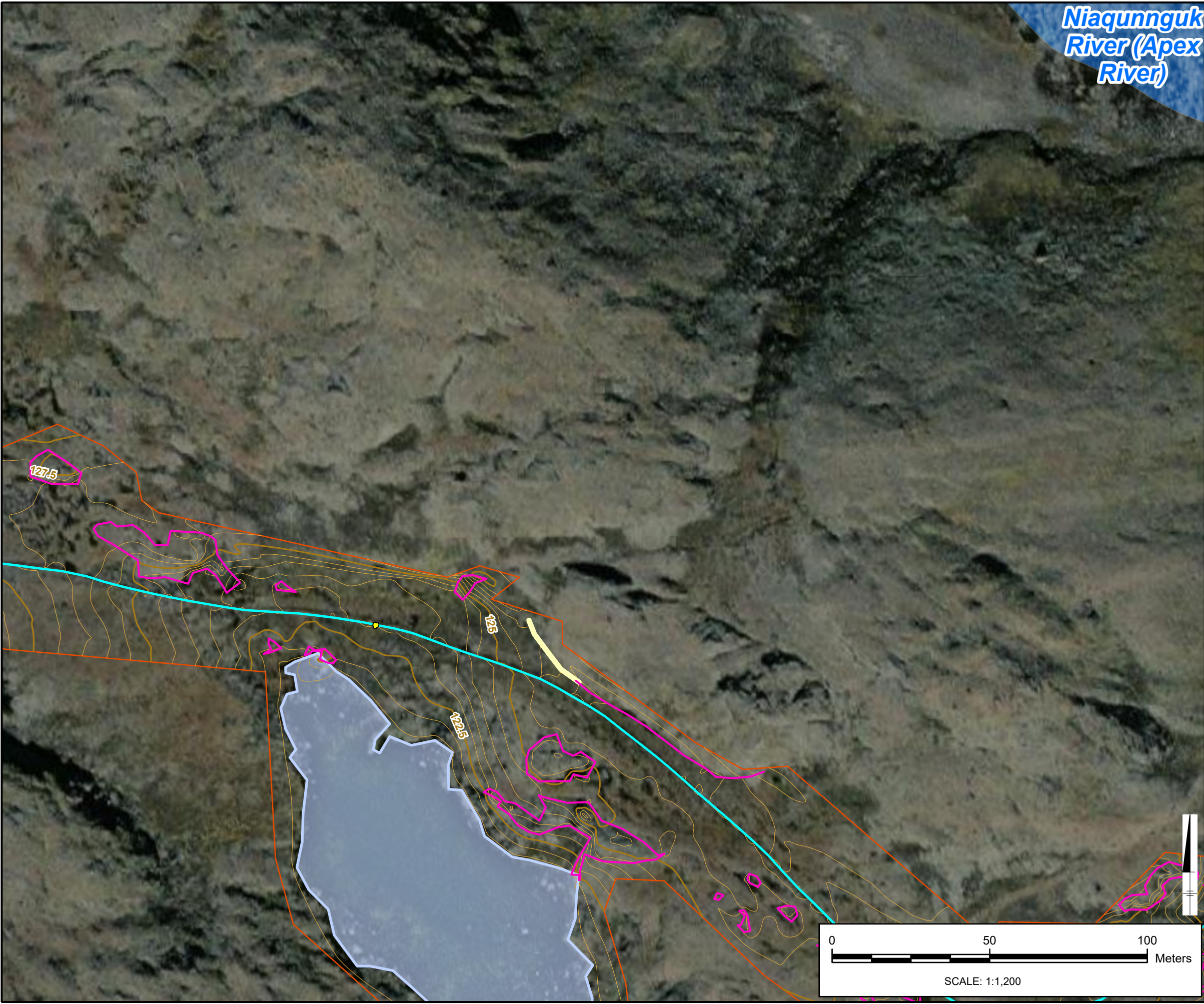


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-05

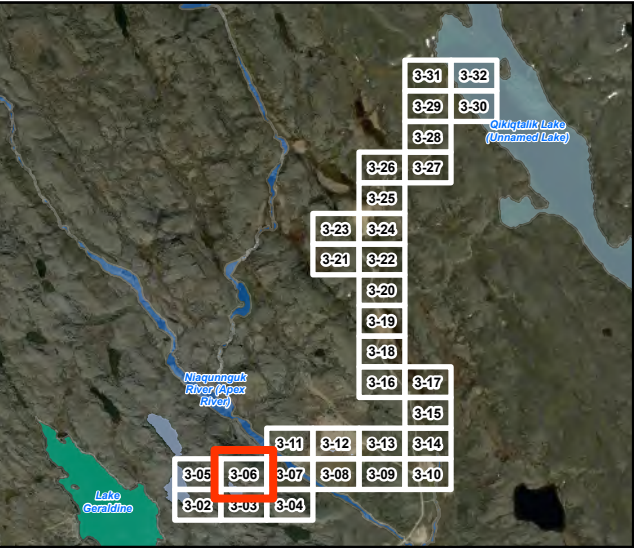


**Niaqunnguk
River (Apex
River)**

LEGEND

- Bedrock
- Culvert
- Water Conveyance Pipeline
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Watercourse
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



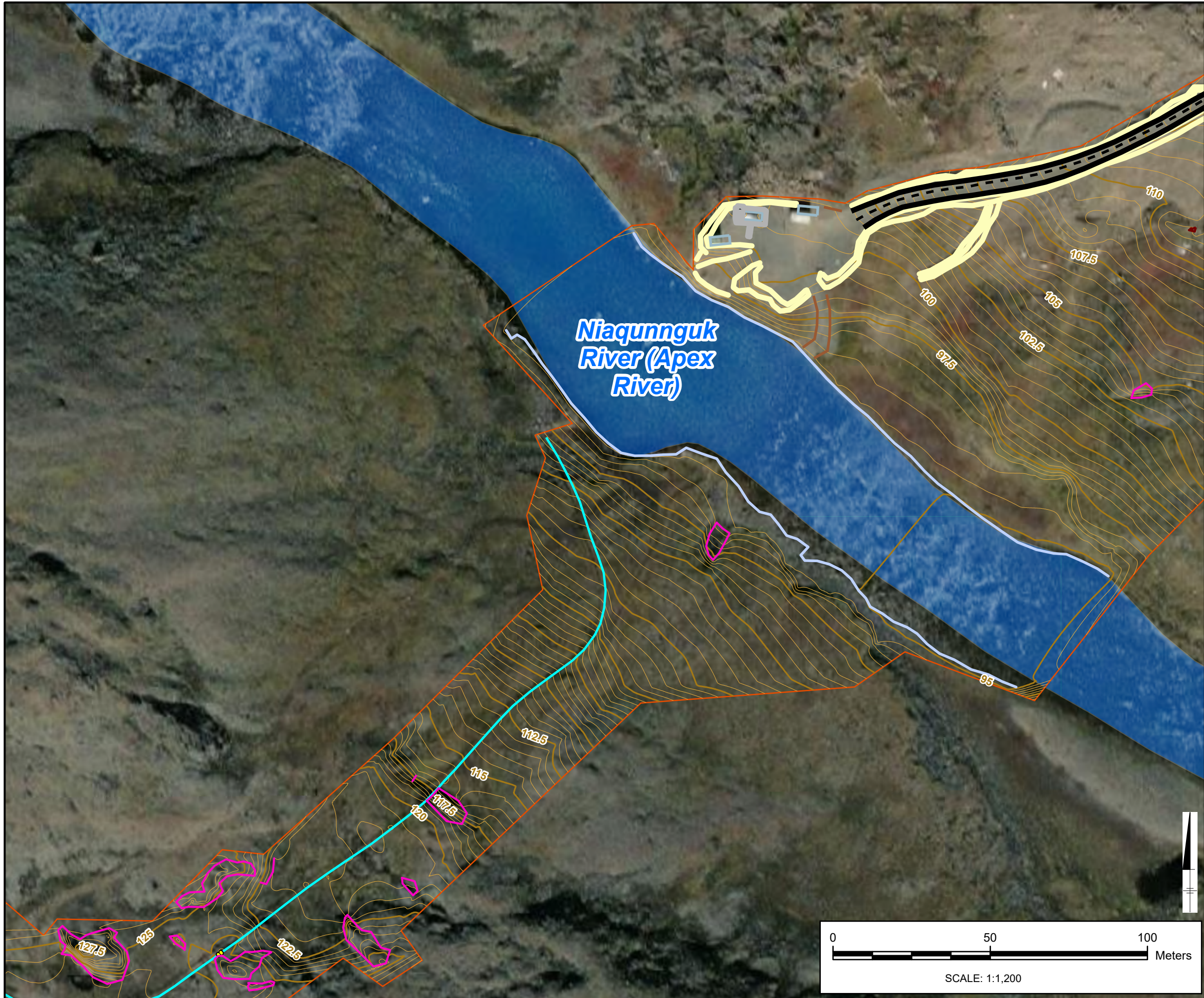
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQUALUIT, NUNAVUT
CITY OF IQUALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-06

City: SYR Div/Group: I/MDV Created By: J.RAPP Last Saved By: mayyar7350
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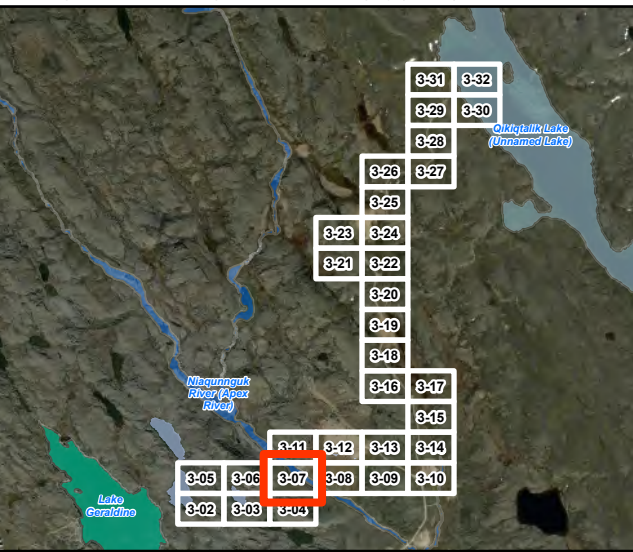


LEGEND

- Road Centre Line
- Bedrock
- Concrete Slab
- Culvert
- Water Conveyance Pipeline
- Edge Gravel
- Limit of Boulders
- Seacans
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



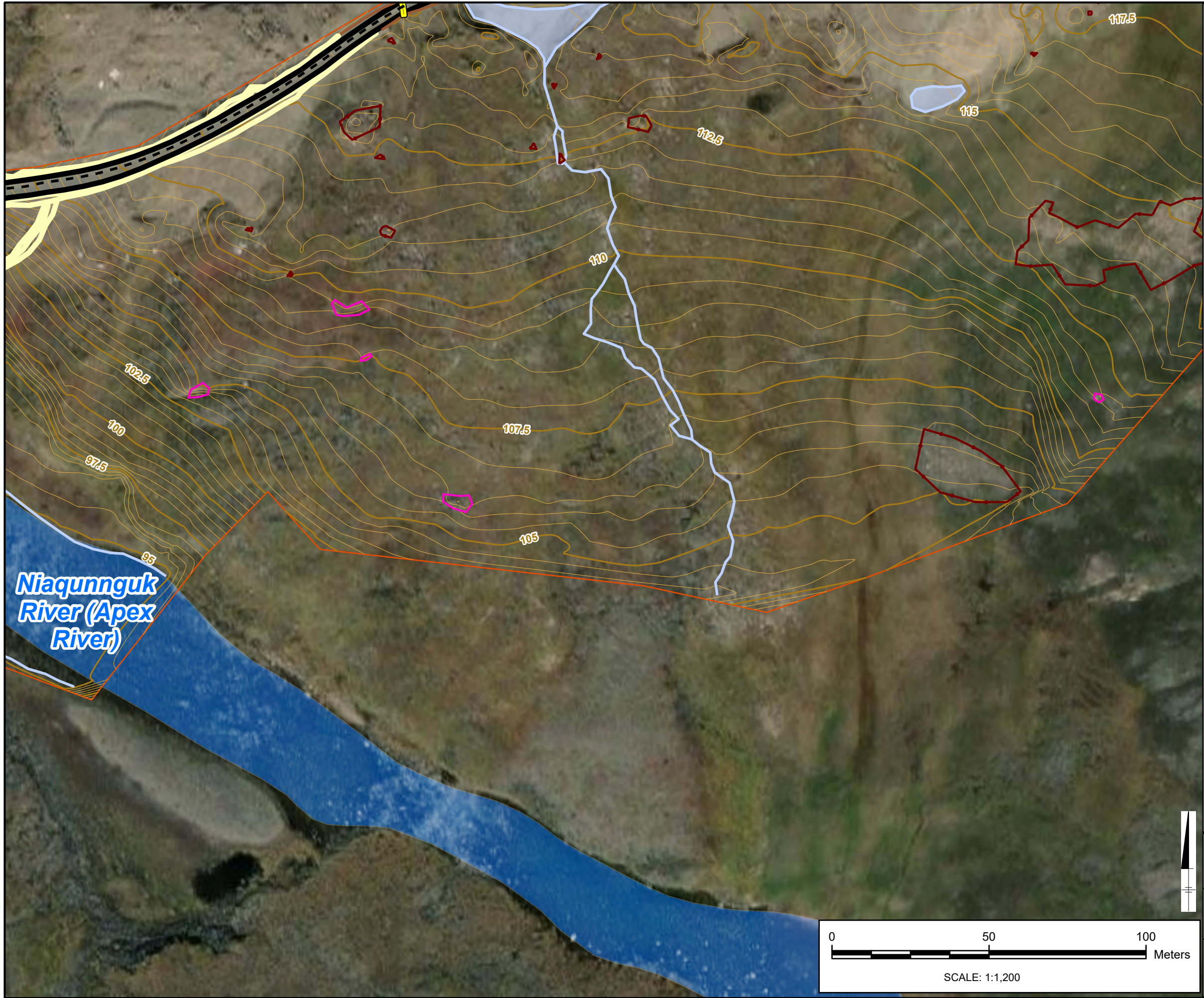
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



FIGURE
3-07

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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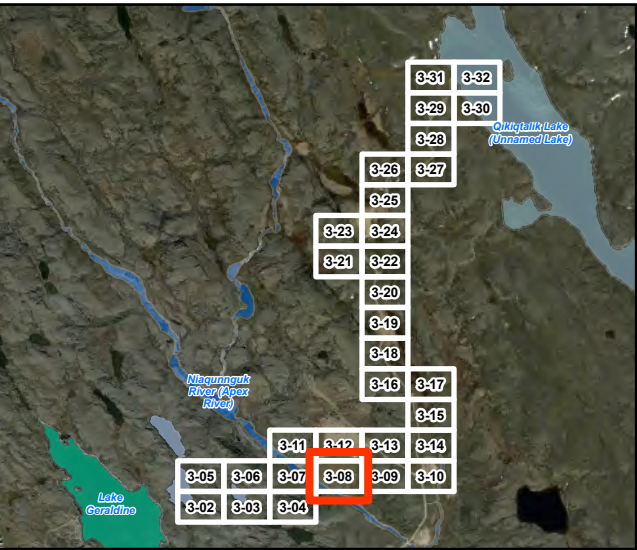


LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Watercourse
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

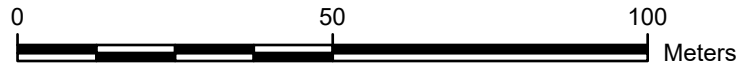


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES

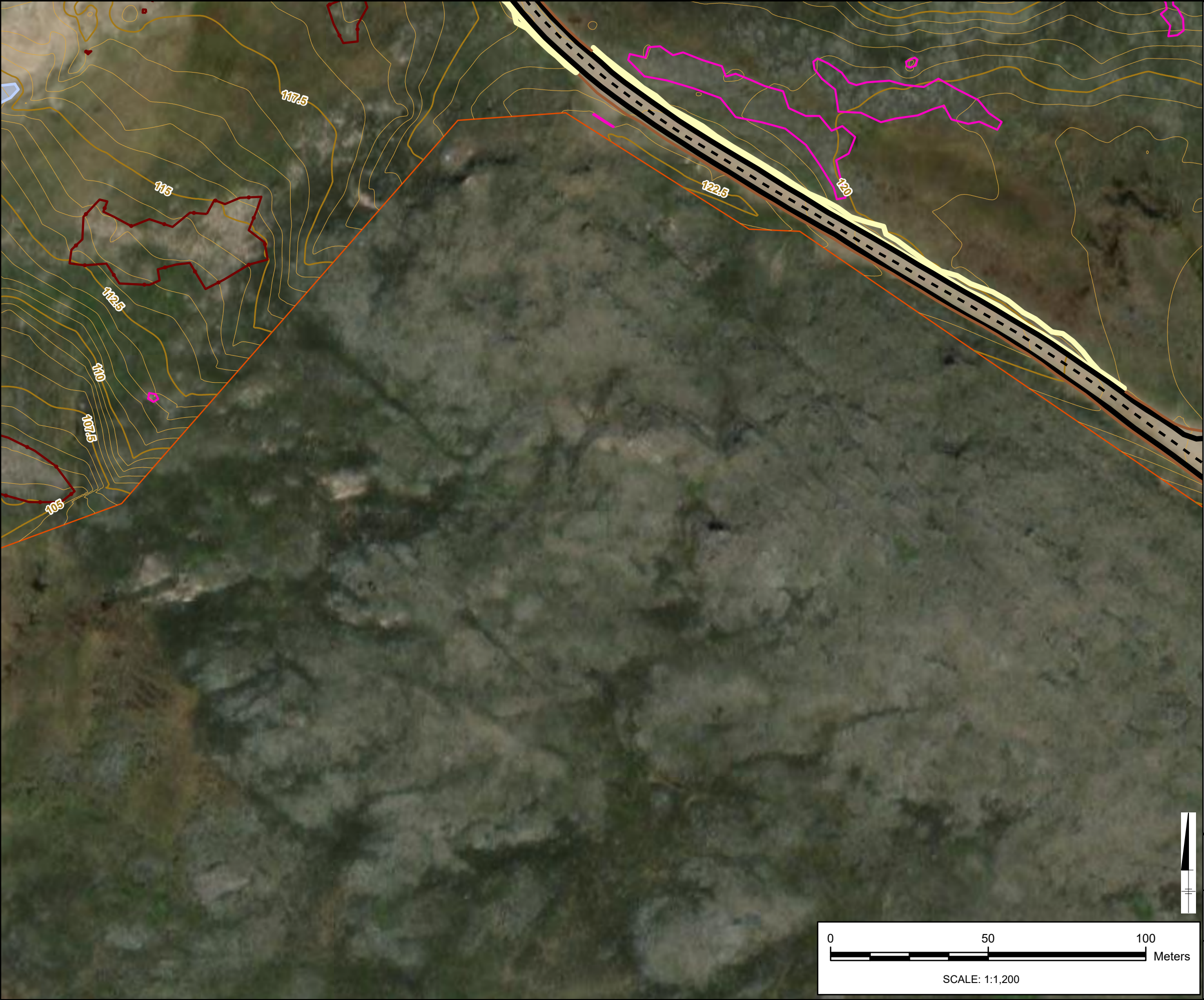


FIGURE
3-08



SCALE: 1:1,200

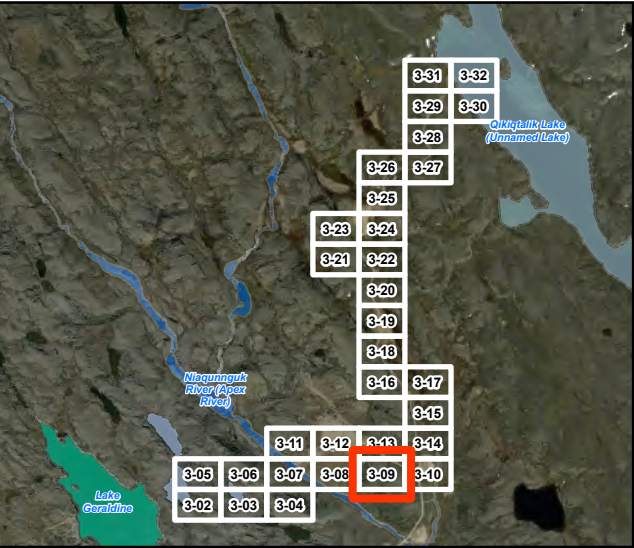
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LEGEND

- Road Centre Line
- Bedrock
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

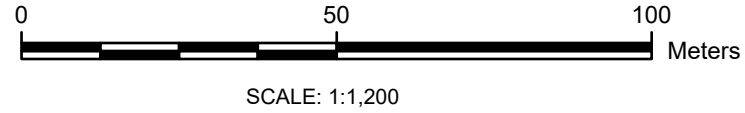


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

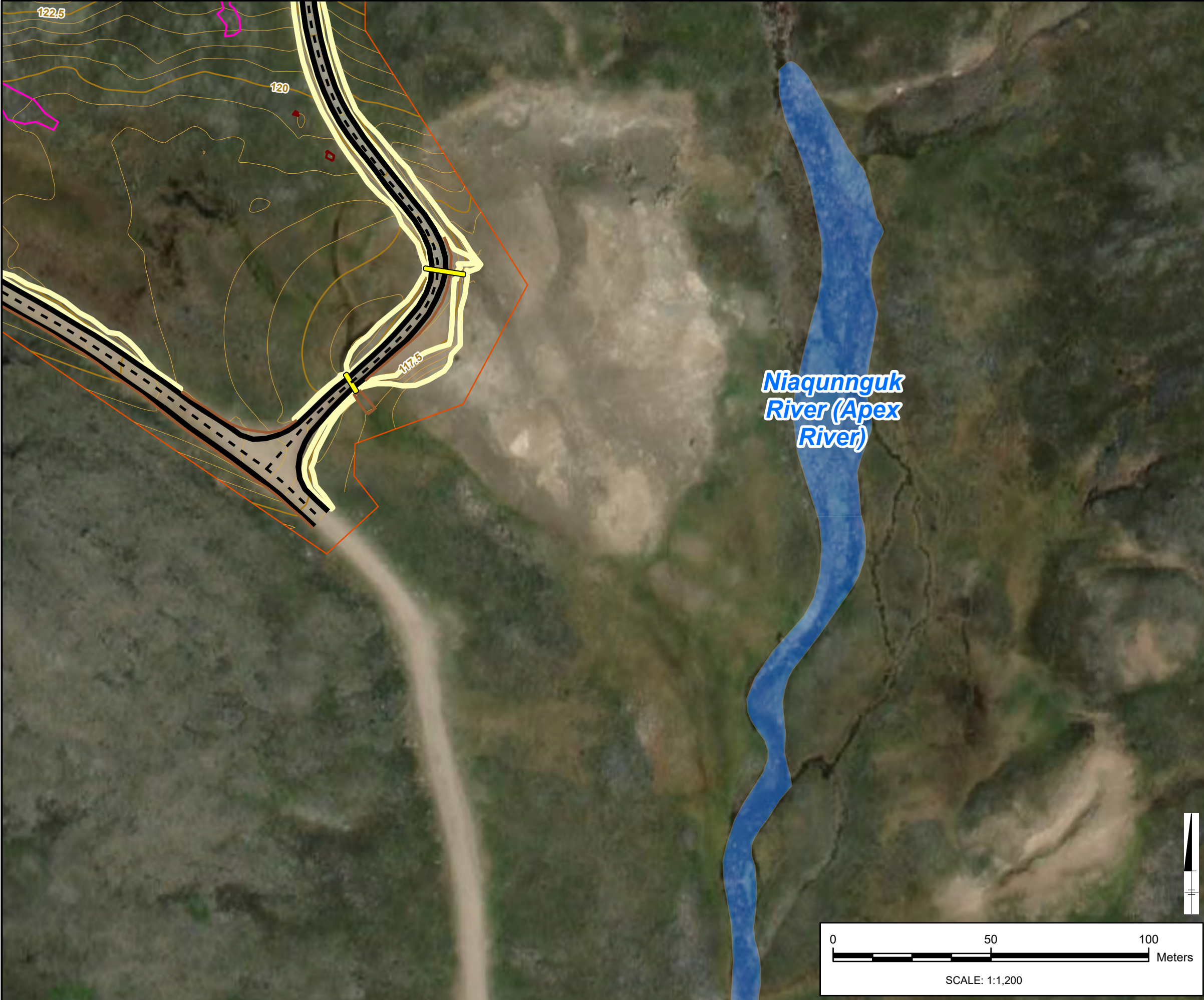
**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-09



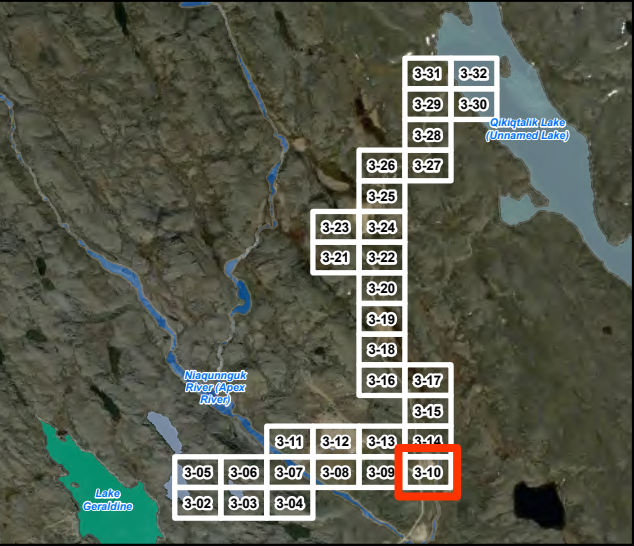
City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-10

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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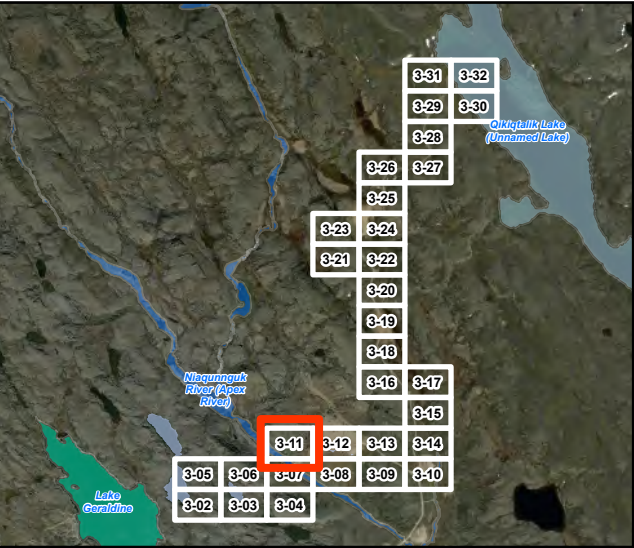


LEGEND

- Road Centre Line
- Concrete Slab
- Edge Gravel
- Limit of Boulders
- Seacans
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



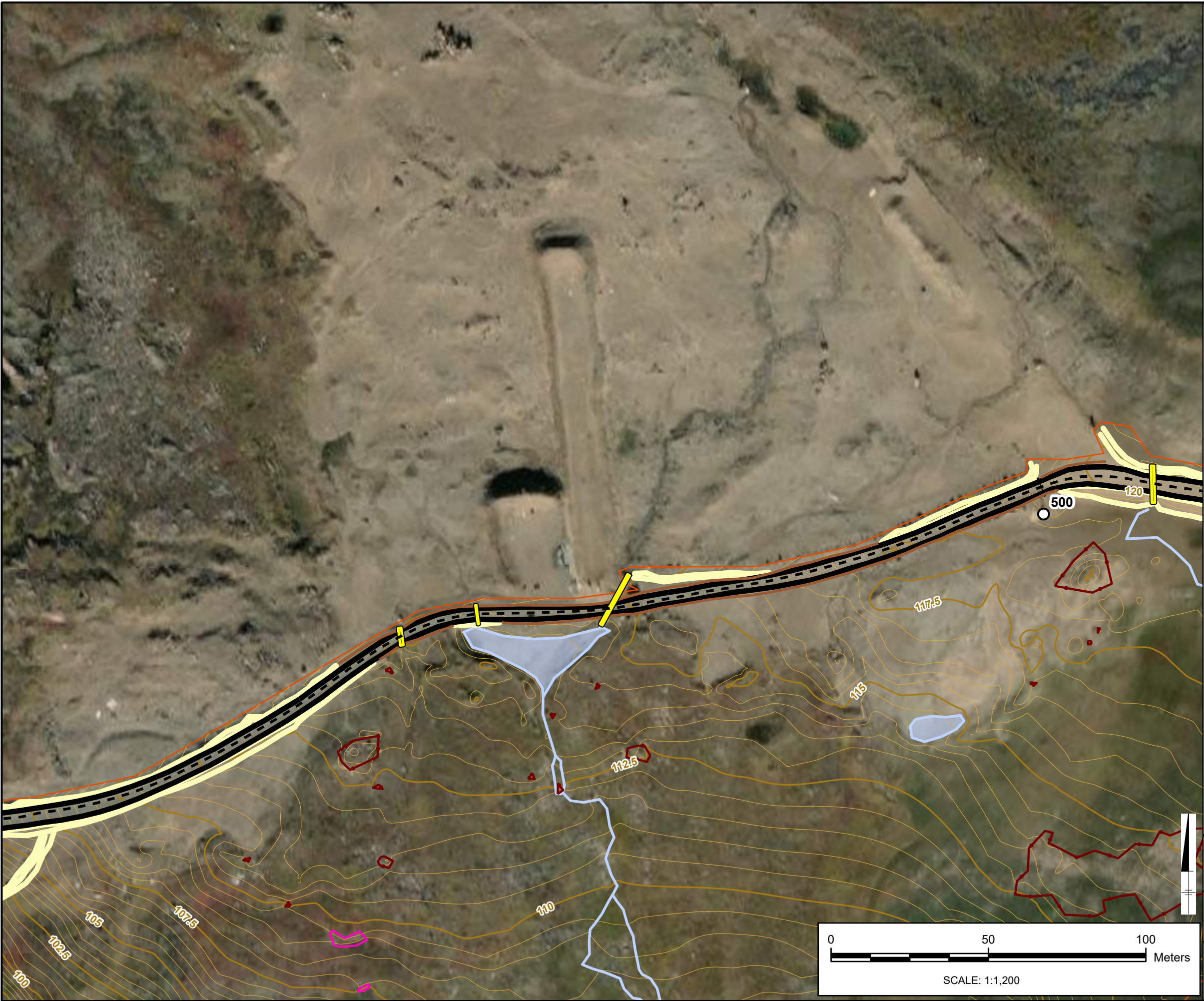
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



FIGURE
3-11

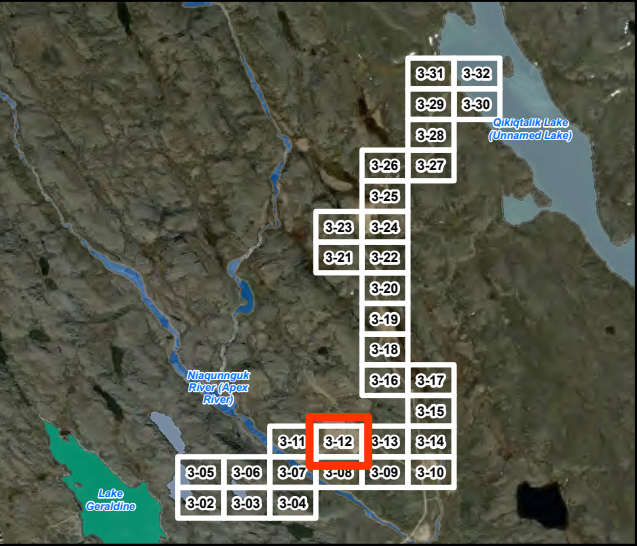
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LEGEND

- Geo-Referenced Control Points (GCP)
- - - Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Fence
- Limit of Boulders
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Limits of Survey Area

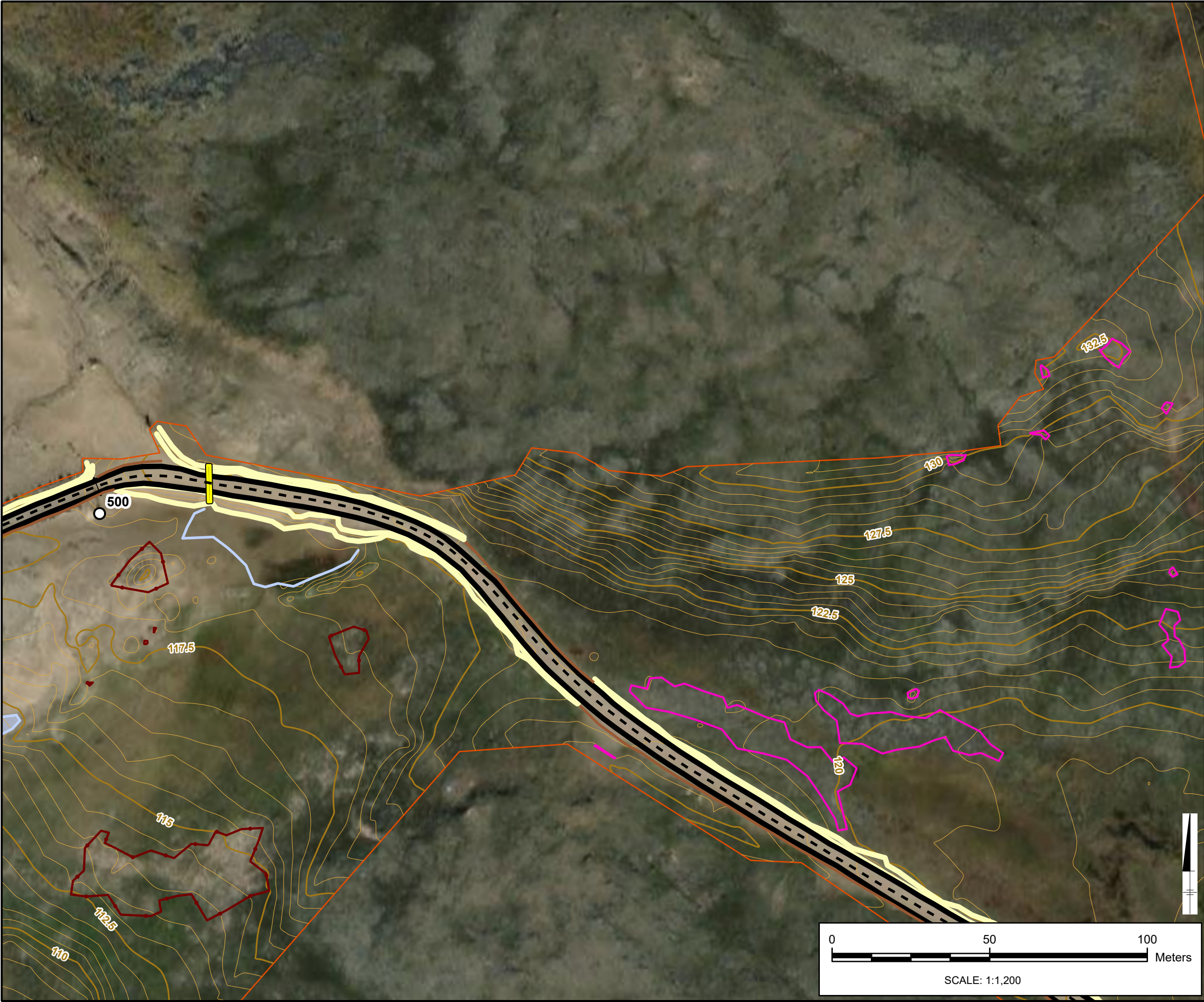
- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**

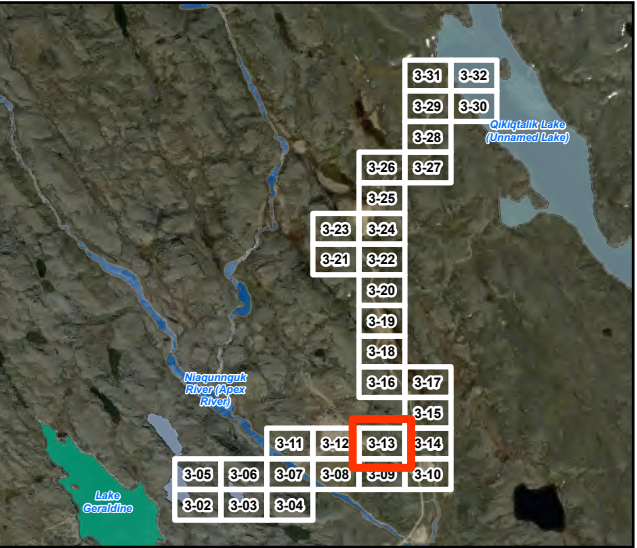
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LEGEND

- Geo-Referenced Control Points (GCP)
- - - Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Fence
- Limit of Boulders
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Water
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-13

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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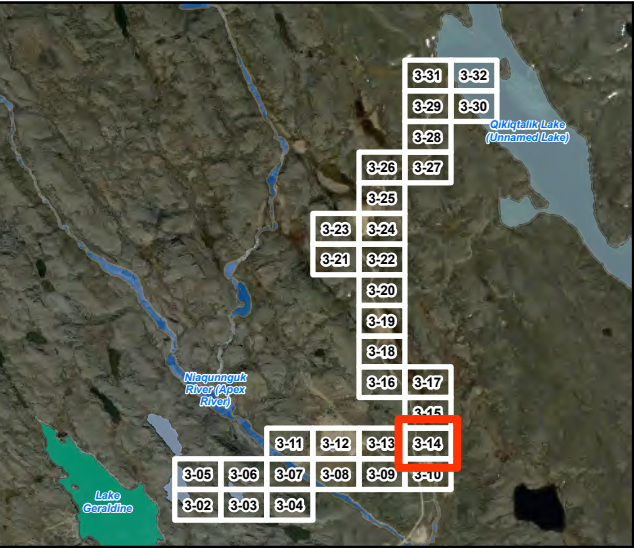


LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Fence
- Limit of Boulders
- Road Shoulder
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Watercourse
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

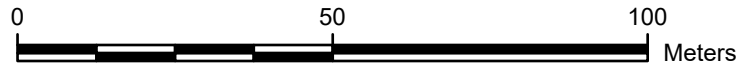


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQUALUIT, NUNAVUT
CITY OF IQUALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-14



SCALE: 1:1,200

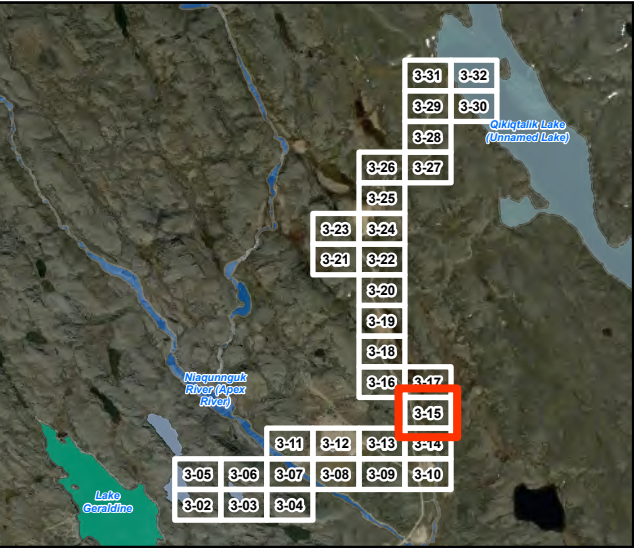
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LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



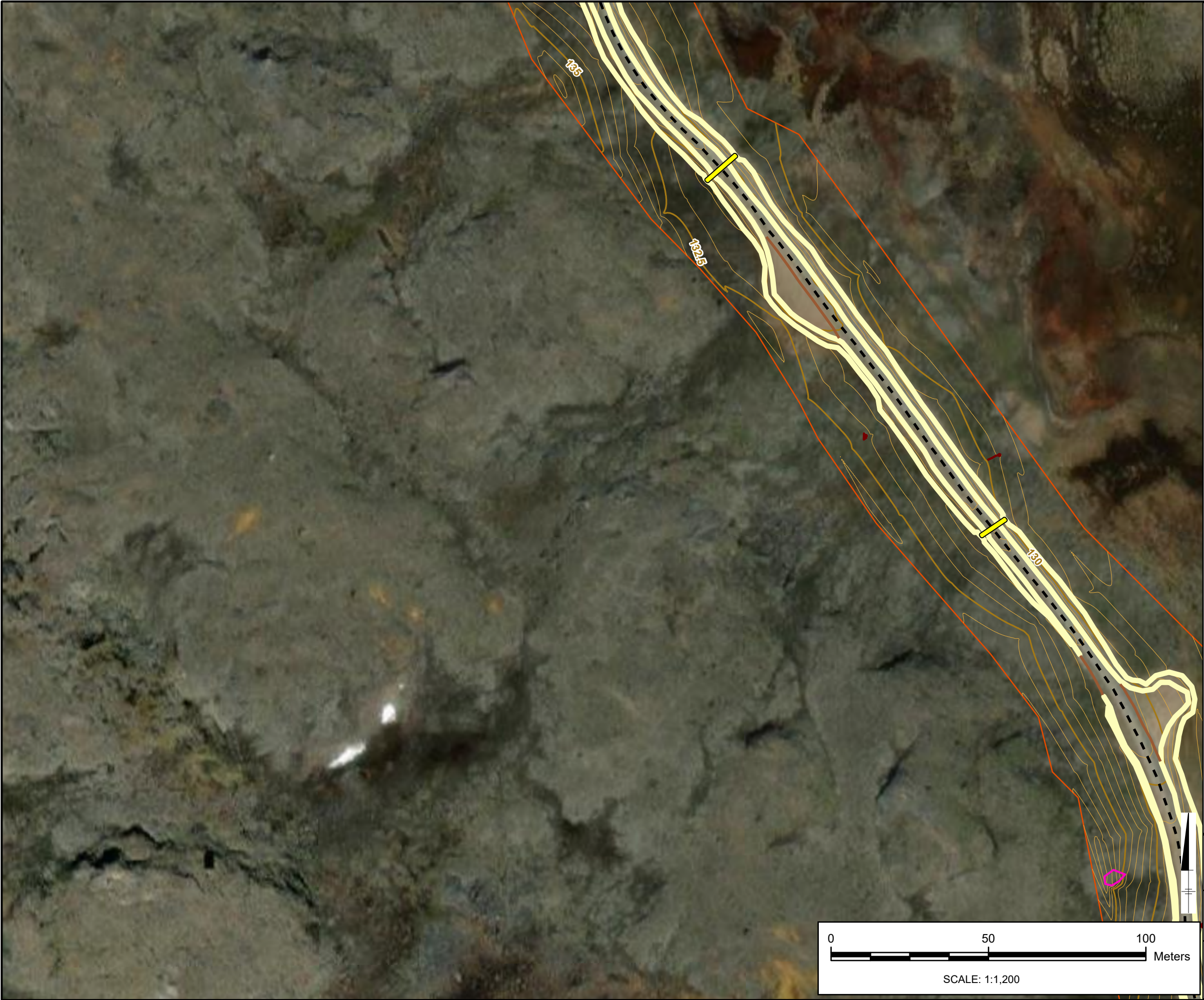
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-15

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**

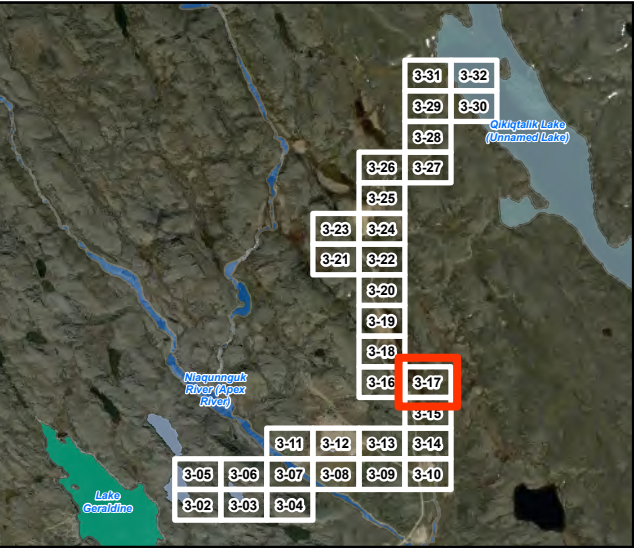
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LEGEND

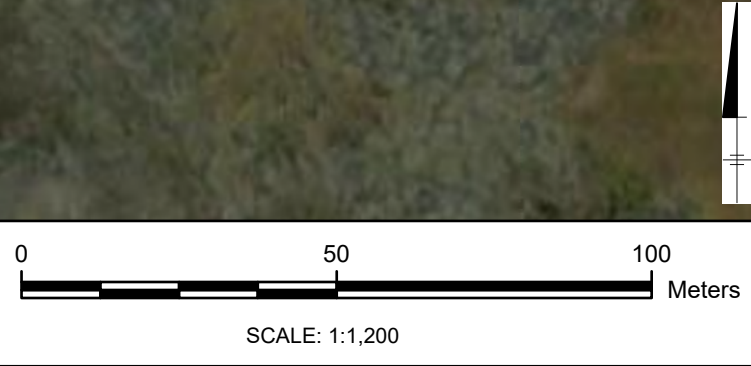
- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

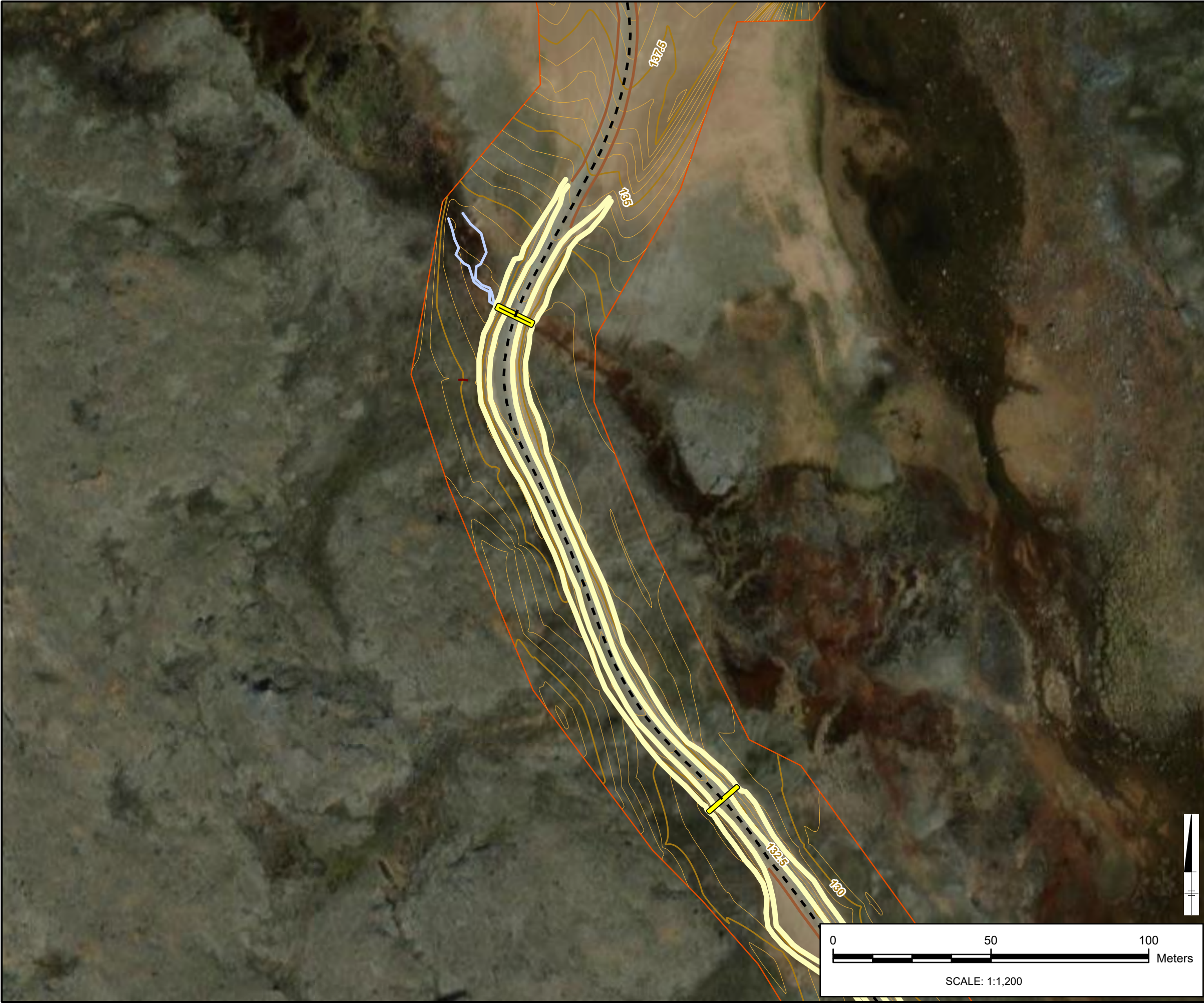


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



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LEGEND

- Road Centre Line
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

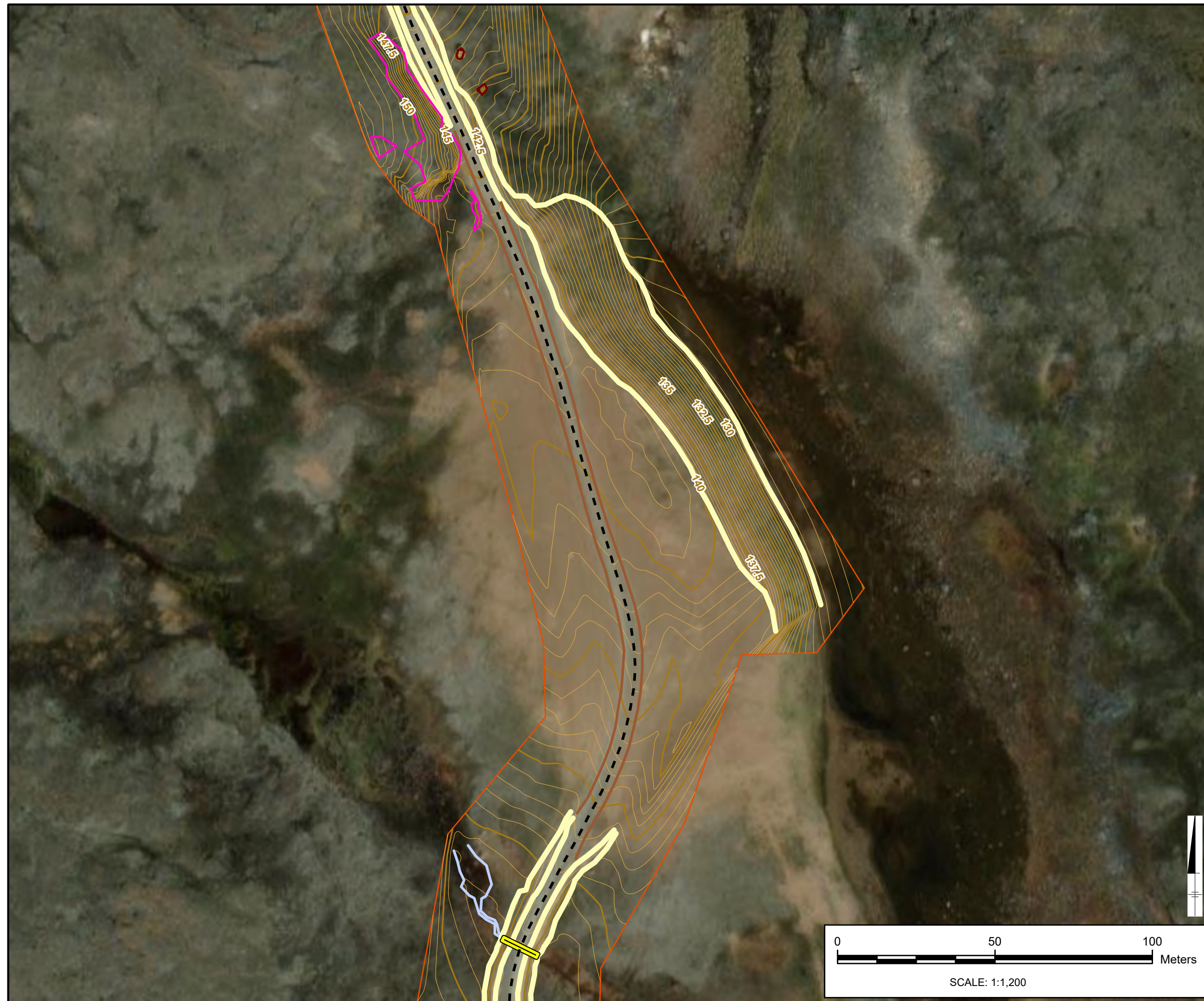


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



FIGURE
3-18



LEGEND

-  Road Centre Line
-  Bedrock
-  Culvert
-  Edge Gravel
-  Limit of Boulders
-  Slope
-  Water
-  Index Contours (2.5 m Intervals)
-  Intermediate Contours (0.5 m Intervals)
-  Limits of Survey Area

NOTES:

1. Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
2. Control Monument
CCM20: 706862.839 N, 525561.325 E, Elev. 117.298
Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
All units are in metric.
Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



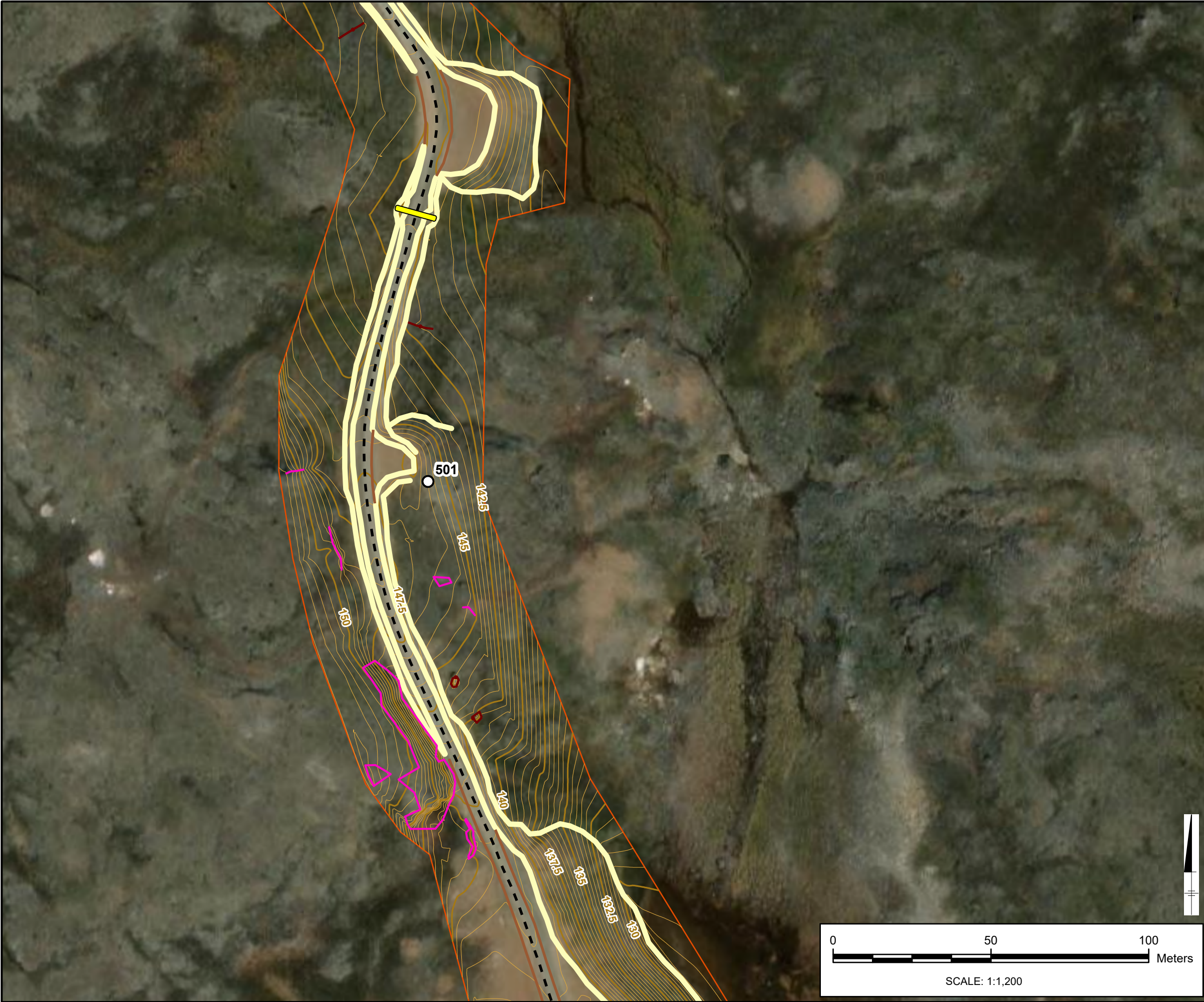
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



FIGURE 3-19

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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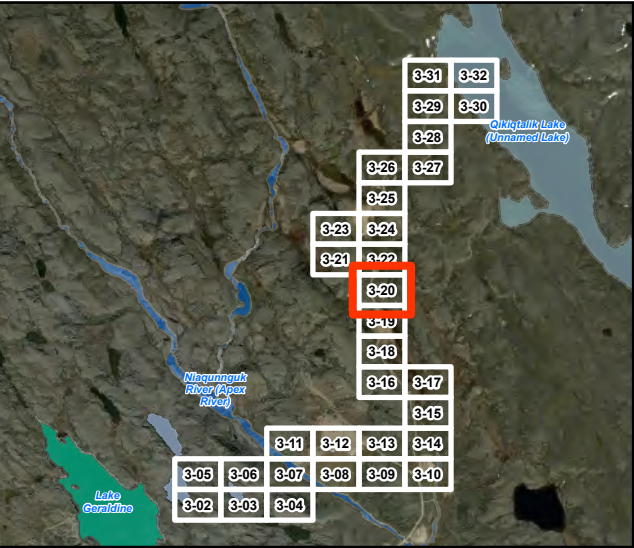


LEGEND

- Geo-Referenced Control Points (GCP)
- - - Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

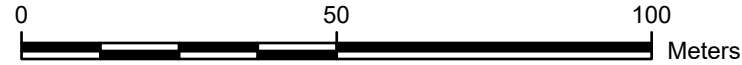


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES

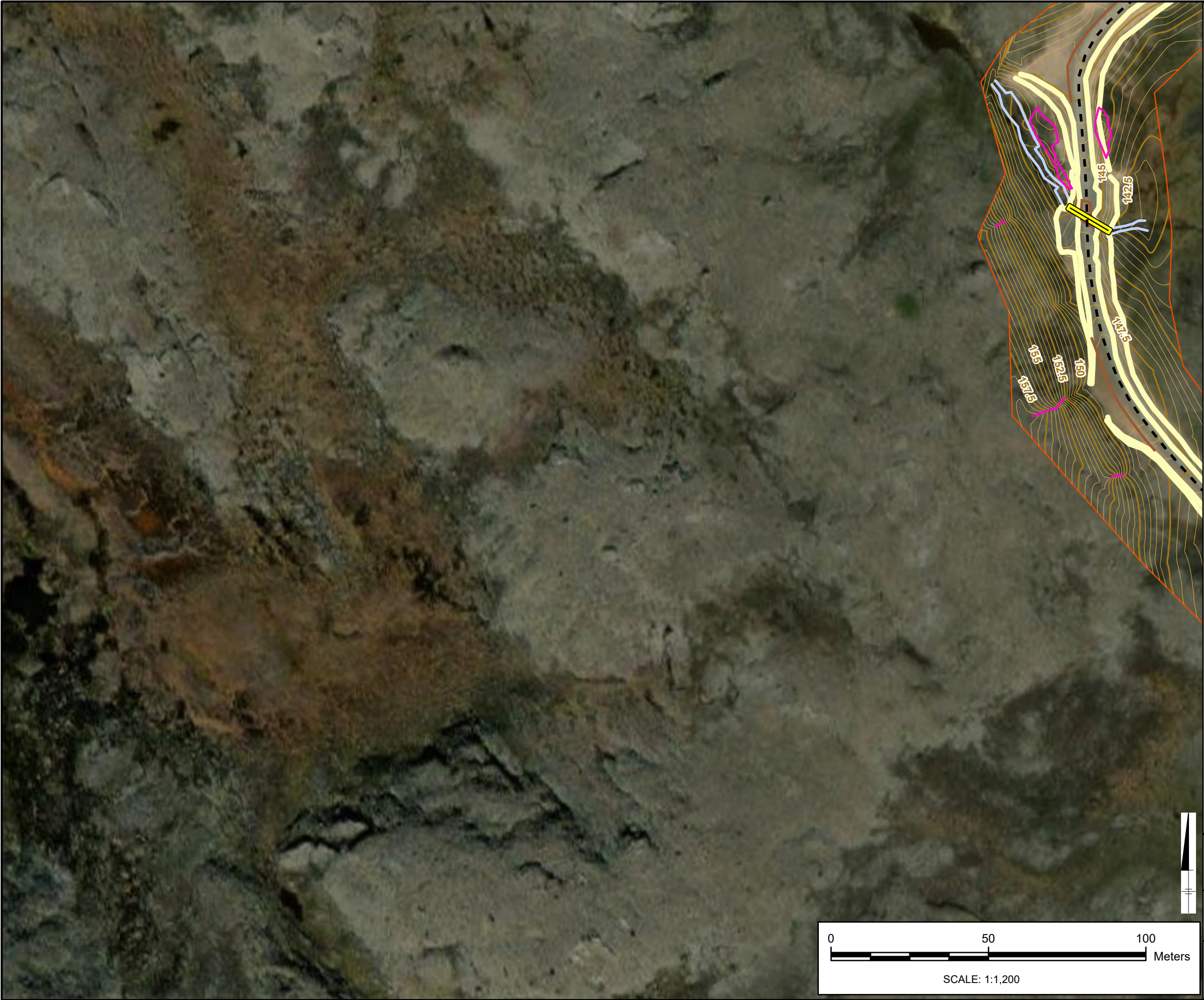


FIGURE
3-20



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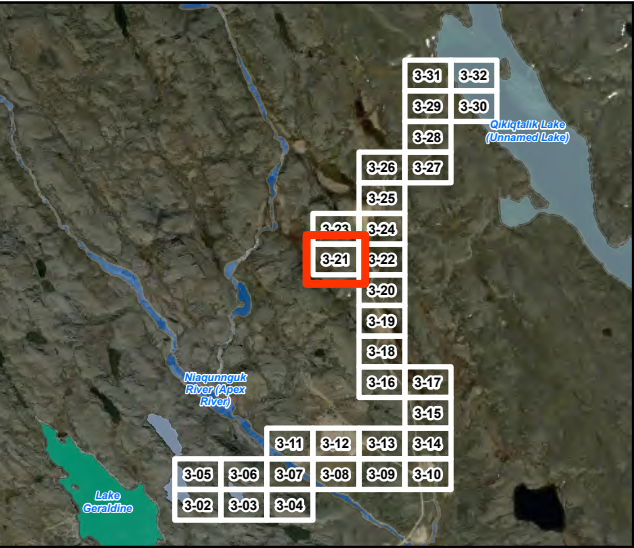
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LEGEND

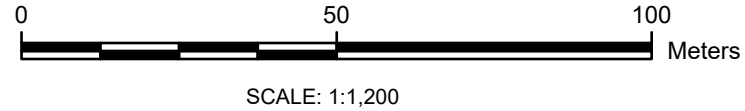
- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

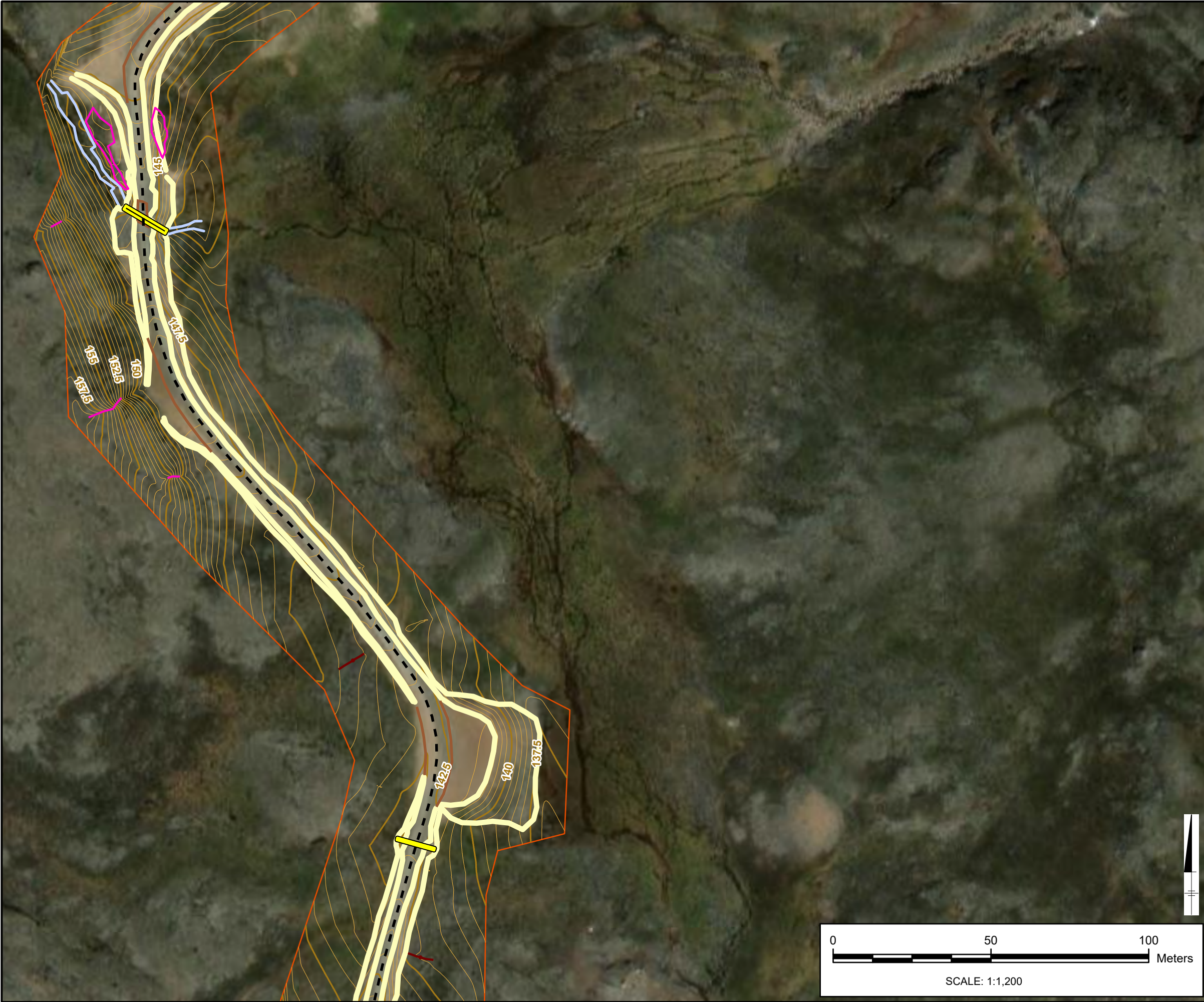


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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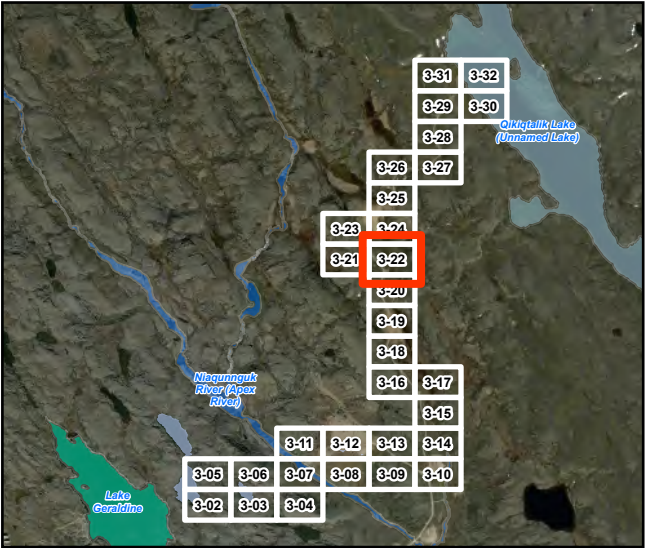


LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



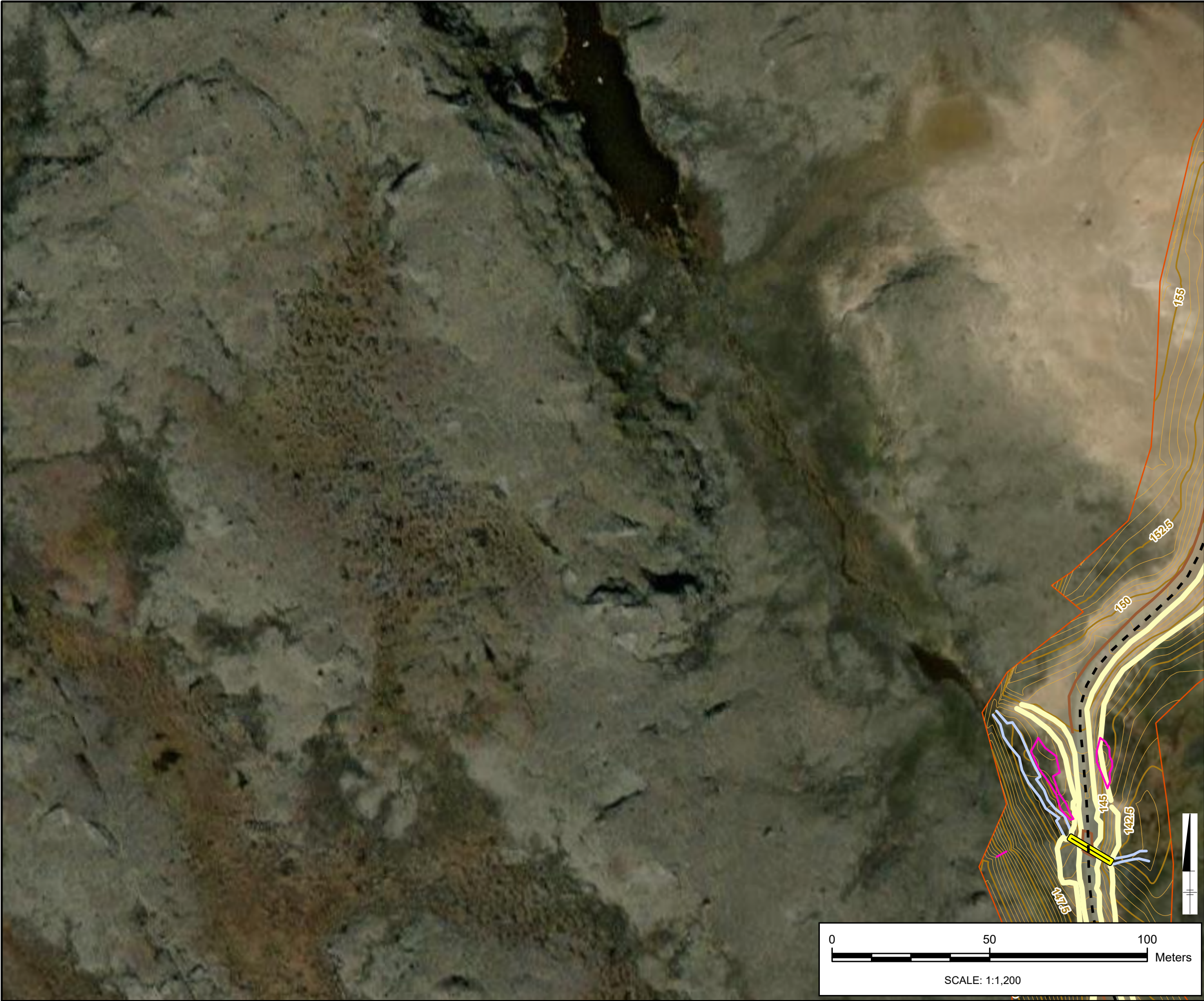
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-22

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



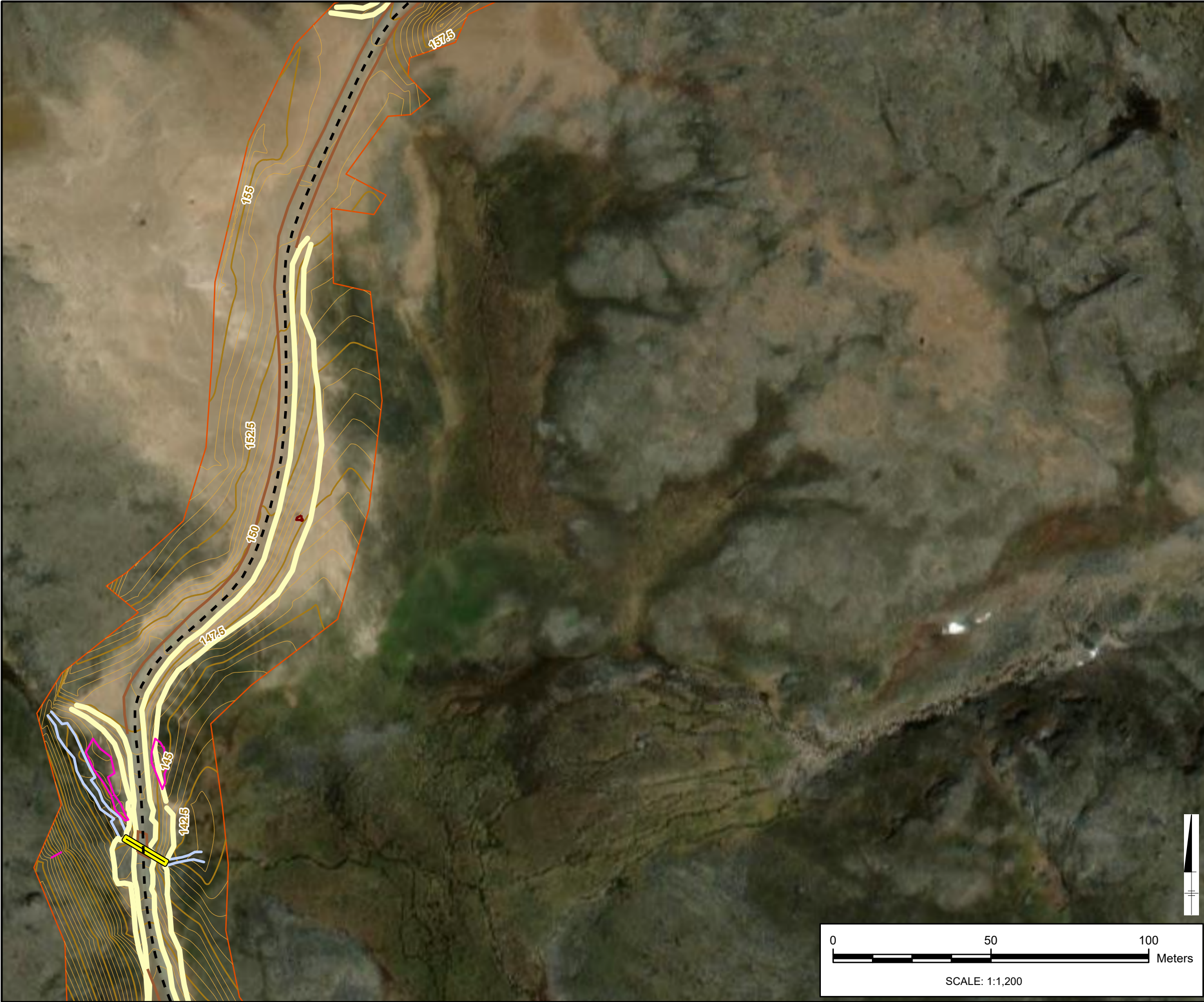
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



FIGURE
3-23

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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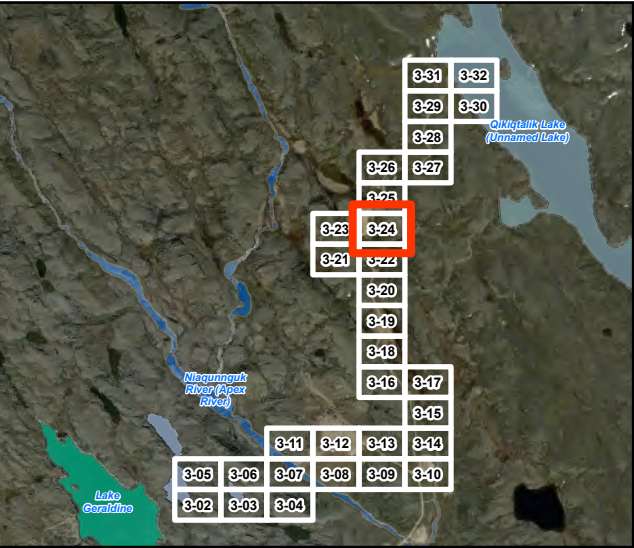


LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

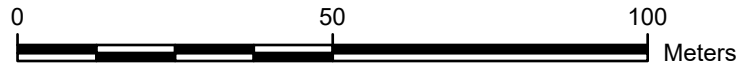


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES

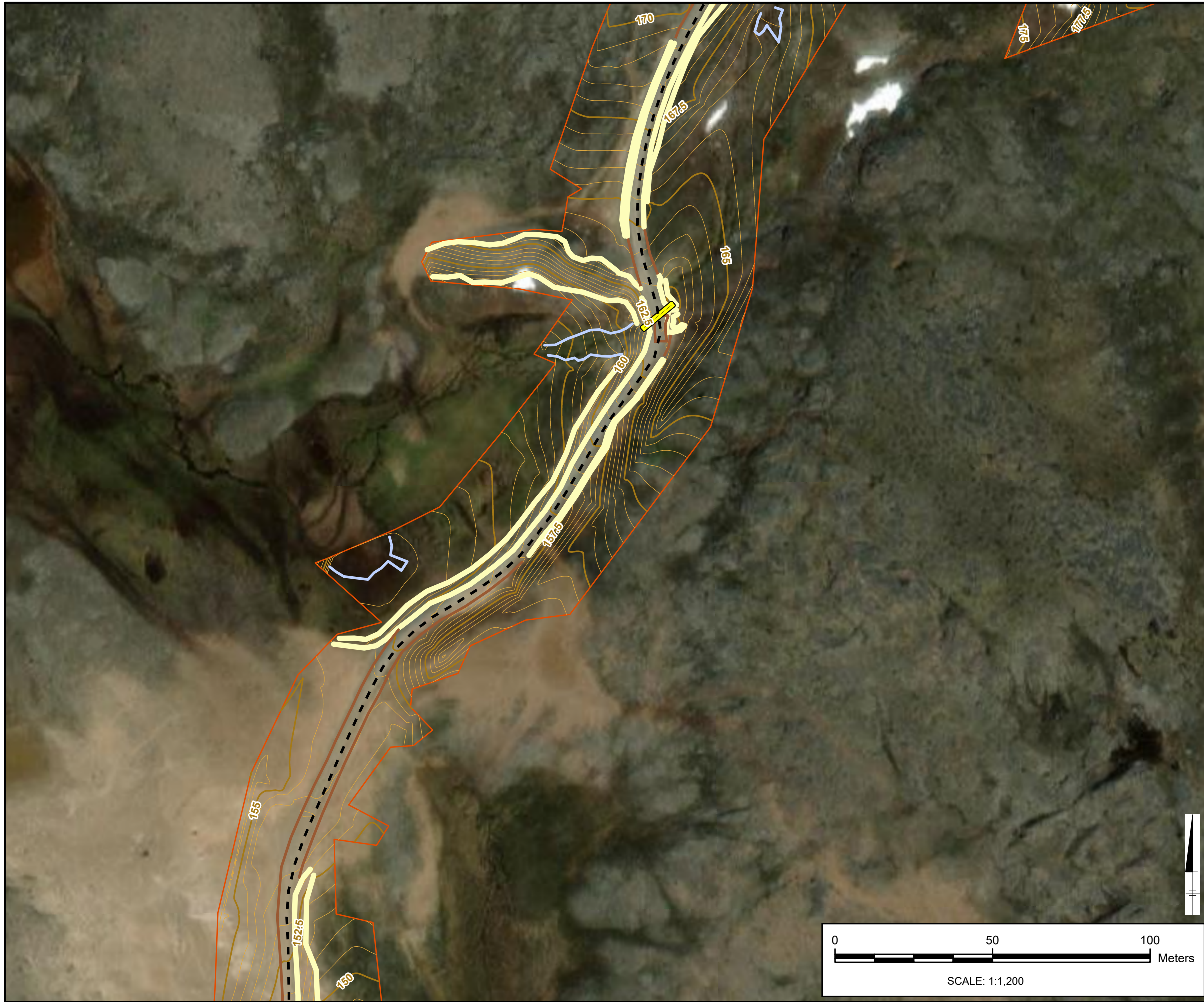


FIGURE
3-24



SCALE: 1:1,200

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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LEGEND

- Road Centre Line
- Culvert
- Edge Gravel
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

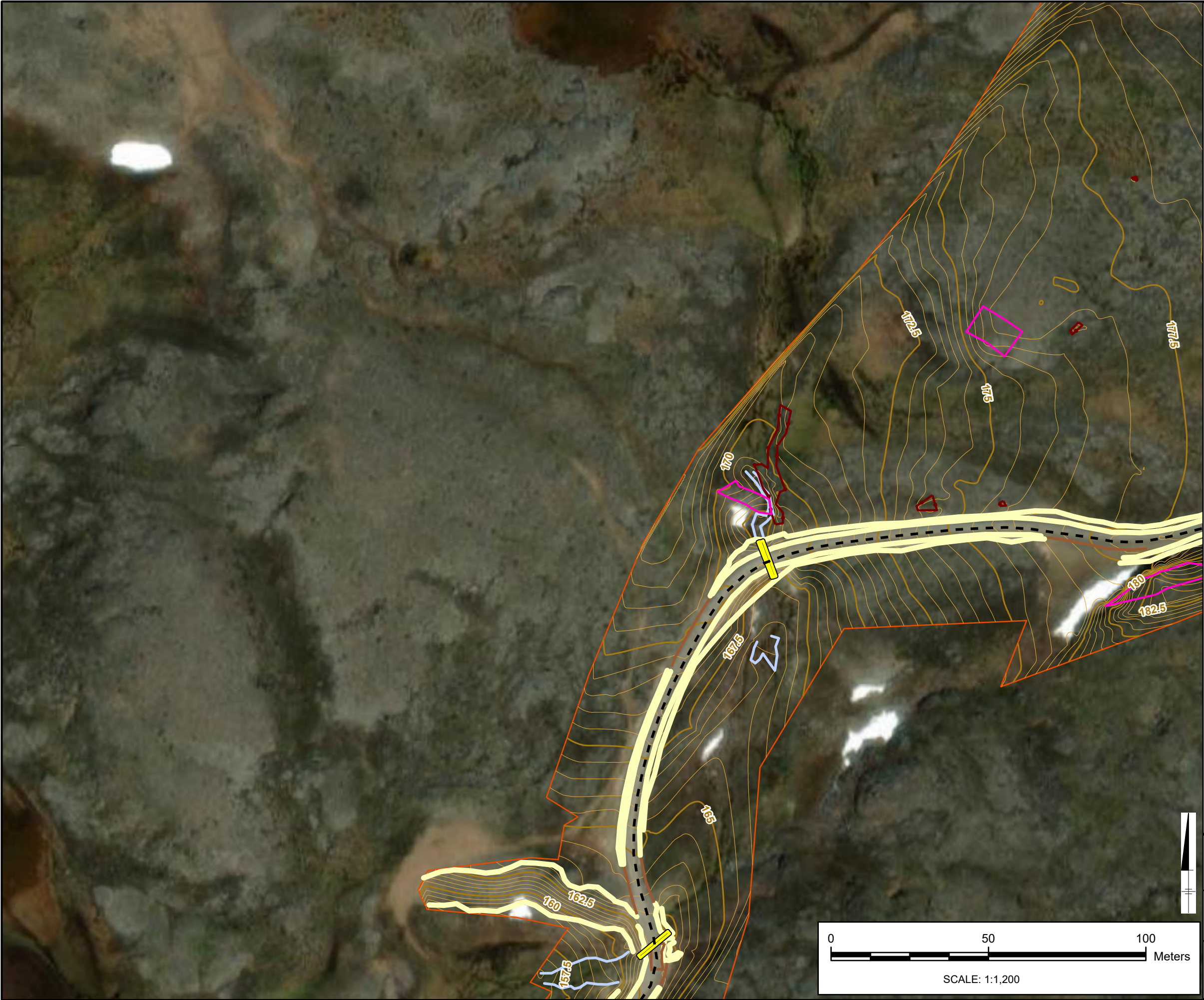
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES

City: SYR Div/Group: IM/DV Created By: J.RAPP Last Saved By: mayyar7350
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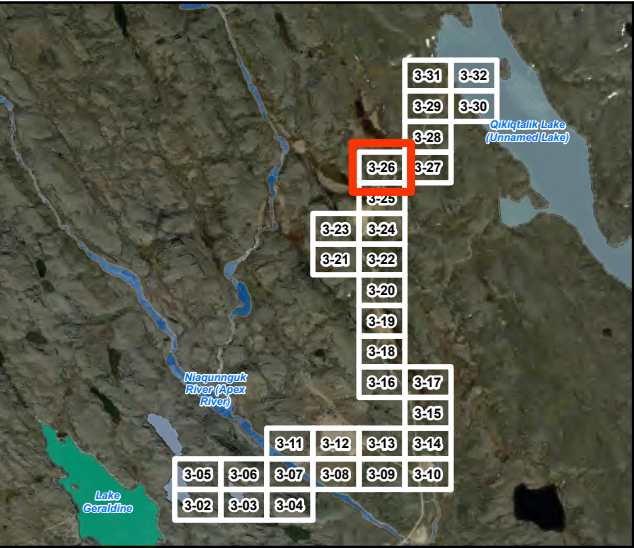


LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



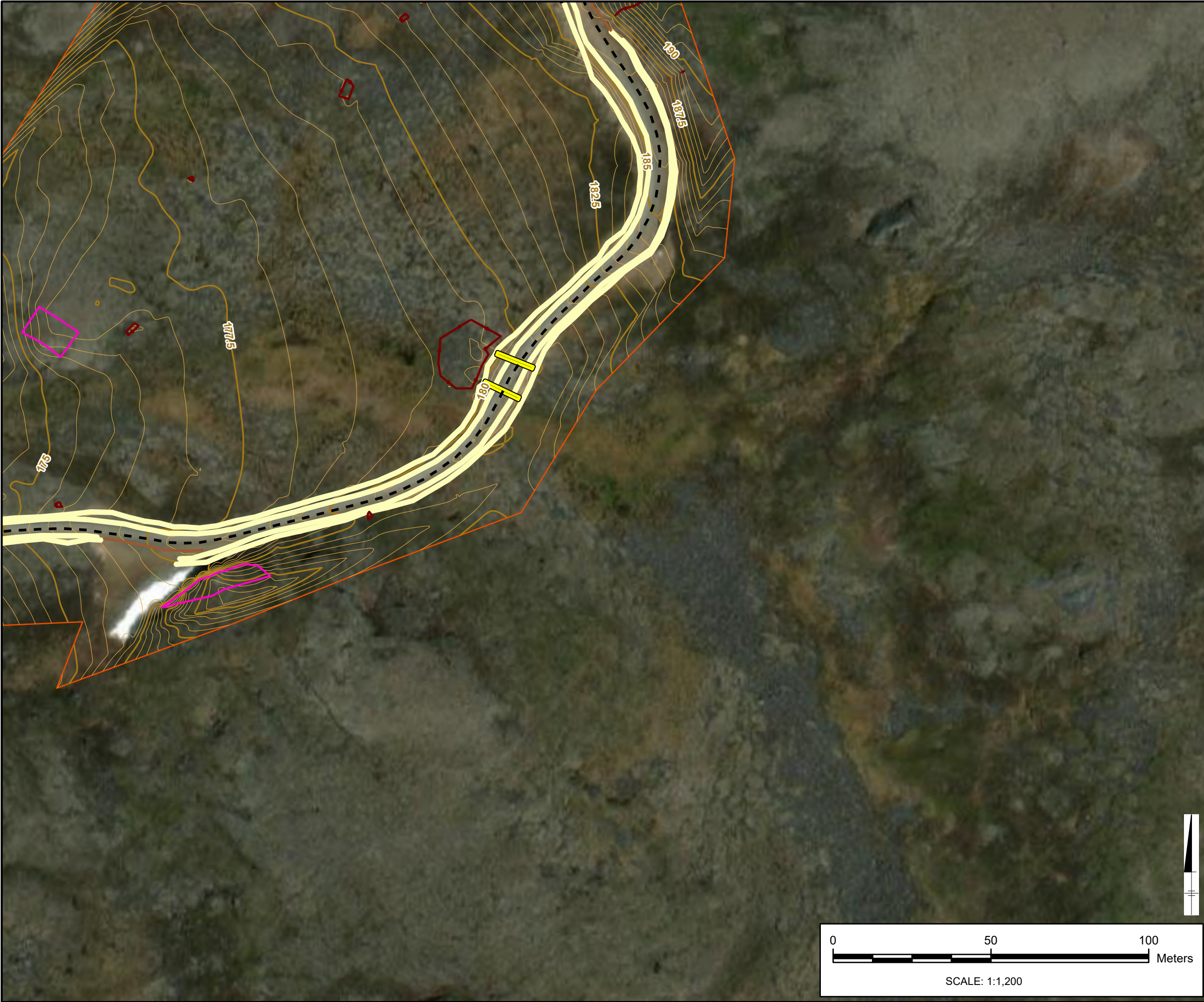
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQUALUIT, NUNAVUT
CITY OF IQUALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-26

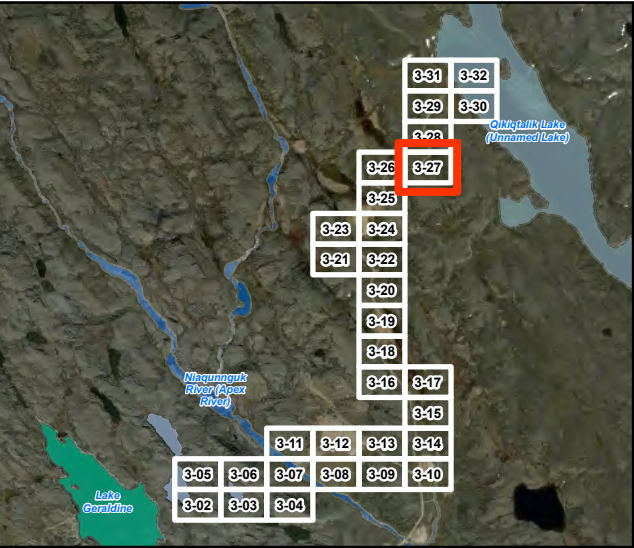
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LEGEND

- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

- NOTES:**
- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
 - Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
 - Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
 - All units are in metric.
 - Background Satellite Image: ESRI World Imagery (Maxar) Web Service.

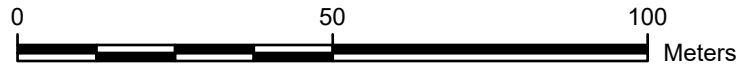


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



FIGURE
3-27



SCALE: 1:1,200

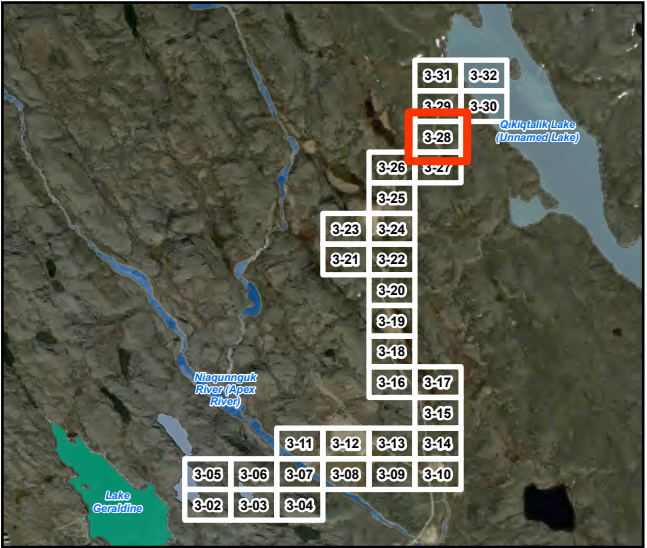
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LEGEND

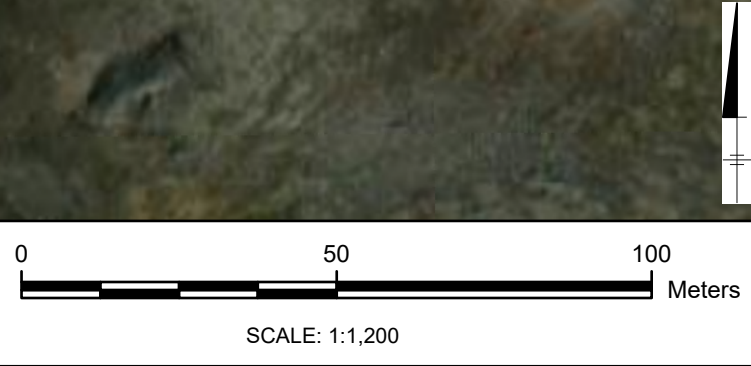
- Road Centre Line
- Bedrock
- Culvert
- Edge Gravel
- Limit of Boulders
- Slope
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Limits of Survey Area

- NOTES:**
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



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LEGEND

- Geo-Referenced Control Points (GCP)
- - - Road Centre Line
- Culvert
- Water Conveyance Pipeline
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Qikiqtalik Lake (Unnamed Lake)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

WATER CONVEYANCE CORRIDOR FEATURES



LEGEND

- Road Centre Line
- Water Conveyance Pipeline
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Water
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- Intermediate Contours (0.5 m Intervals)
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 - 501: 7071609.986 N, 526333.626 E, Elev. 148.673
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 - CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
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TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**WATER CONVEYANCE
CORRIDOR FEATURES**



FIGURE
3-30

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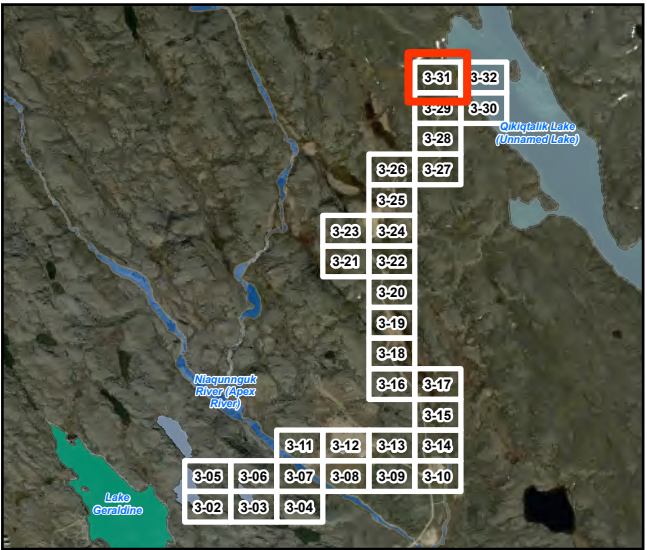


LEGEND

- Road Centre Line
- Concrete Slab
- Water Conveyance Pipeline
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Tires
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Qikiqtalik Lake (Unnamed Lake)
- Limits of Survey Area

NOTES:

- Control Points
500: 7070599.652 N, 526229.575 E, Elev. 119.191
501: 7071609.986 N, 526333.626 E, Elev. 148.673
502: 7072824.722 N, 526782.180 E, Elev. 213.080
503: 7069696.218 N, 524703.026 E, Elev. 127.463
- Control Monument
CCM28: 7068622.839 N, 525561.325 E, Elev. 117.298
- Ref. UTM Zone 19, NAD83 (CSRS) Ep. 2010.0 and CGVD2013
- All units are in metric.
- Background Satellite Image: ESRI World Imagery (Maxar) Web Service.



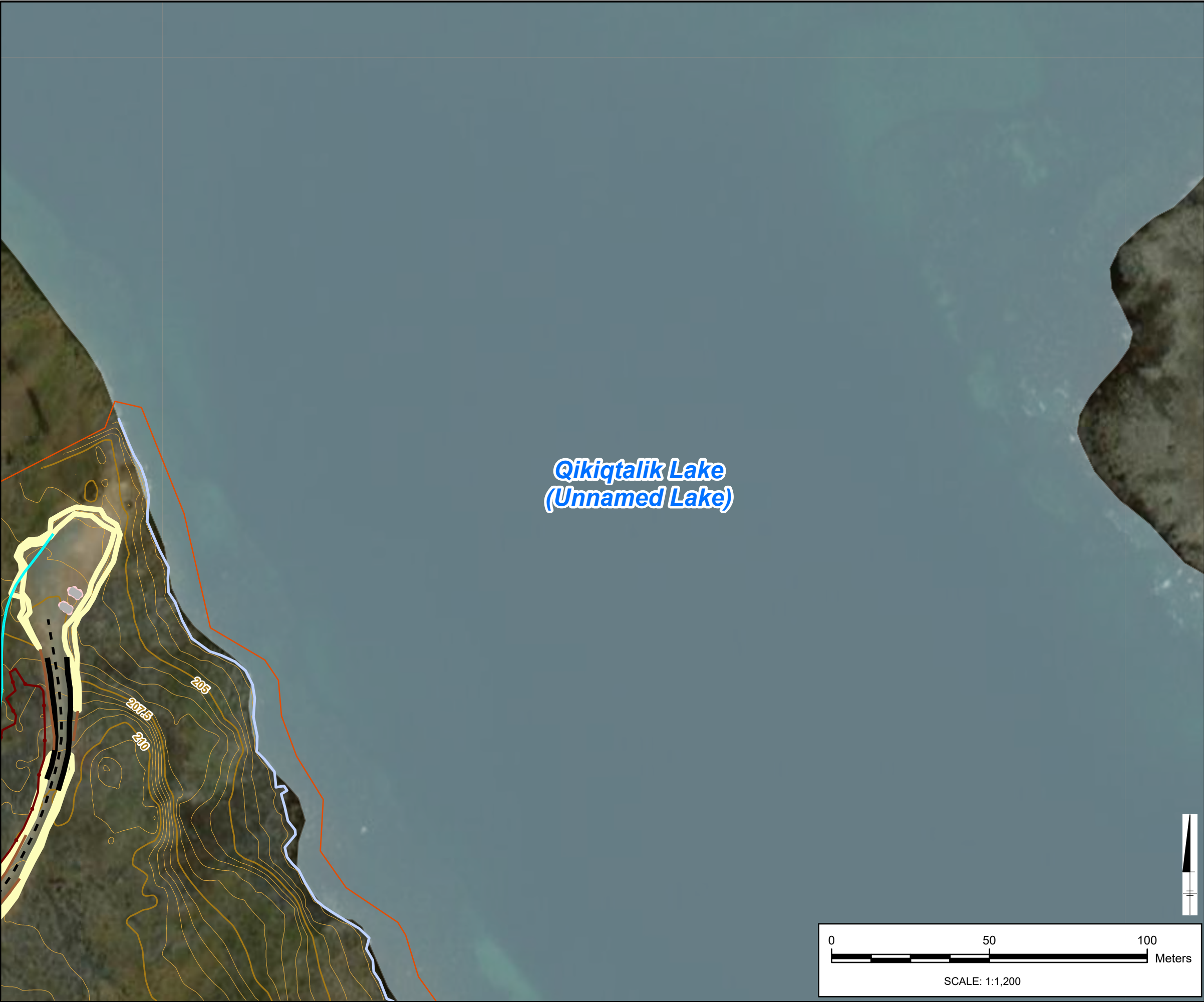
TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

PUMP STATION SITE FEATURES



FIGURE
3-31

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LEGEND

- Road Centre Line
- Concrete Slab
- Water Conveyance Pipeline
- Edge Gravel
- Limit of Boulders
- Road Shoulder
- Slope
- Tires
- Water
- Index Contours (2.5 m Intervals)
- Intermediate Contours (0.5 m Intervals)
- Qikiqtalik Lake (Unnamed Lake)
- Limits of Survey Area

- NOTES:**
- Control Points
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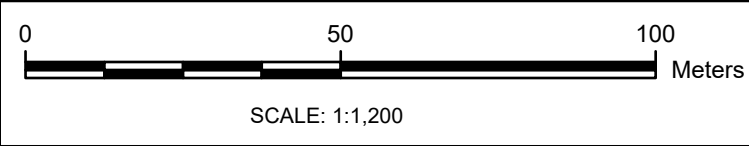


TOPOGRAPHICAL SURVEY -
LONG TERM WATER PROGRAM IN IQALUIT, NUNAVUT
CITY OF IQALUIT

**PUMP STATION SITE
FEATURES**



FIGURE
3-32



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