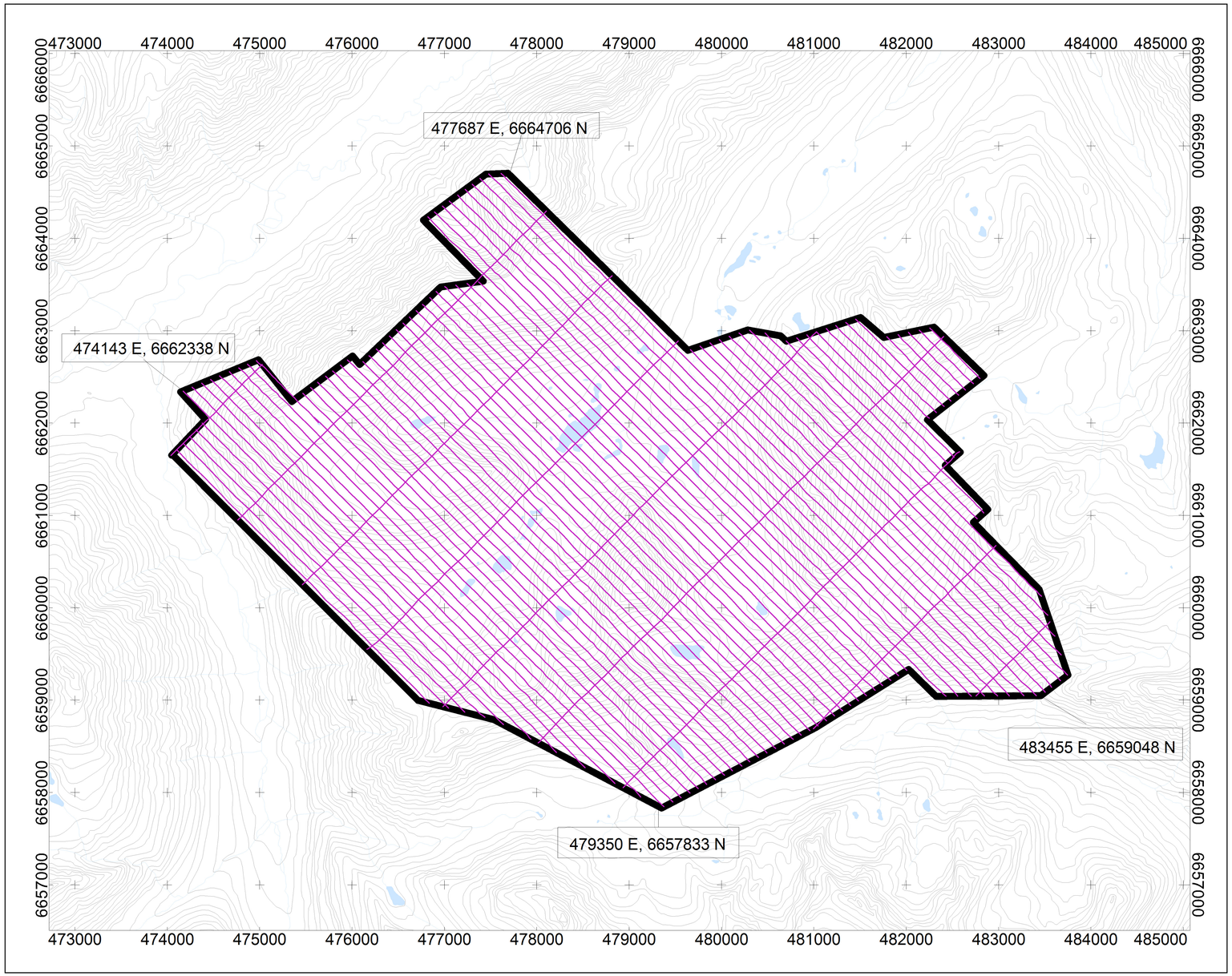

Scale 1:25000

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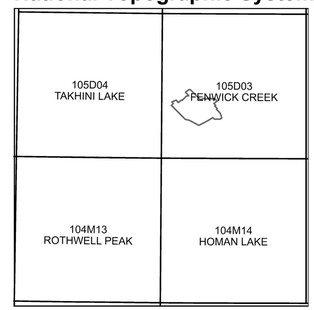
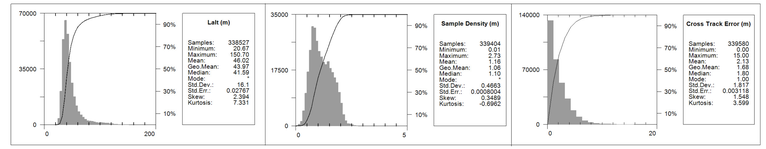
(meters)

WGS 84 / UTM zone 8N

National Topographic System





MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

- Water Bodies
- Elevation Contours, 100 ft Intervals
- Pike - Warden Survey Block Boundary
- Actual Flight Lines

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

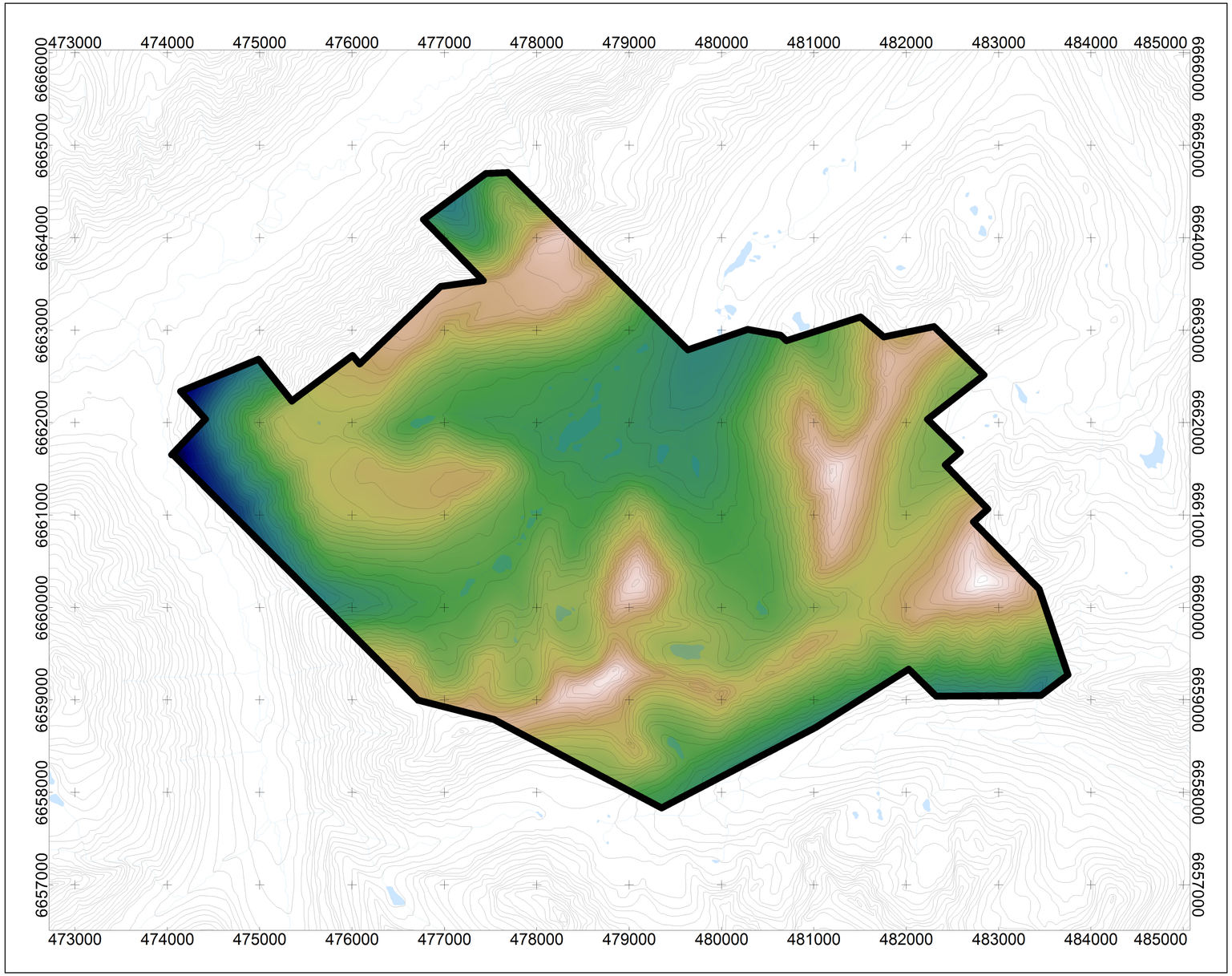
Overview Map

Actual Flight Lines

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 1
FL



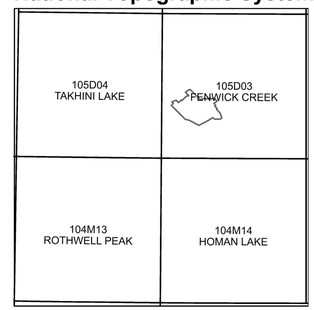
Scale 1:25000

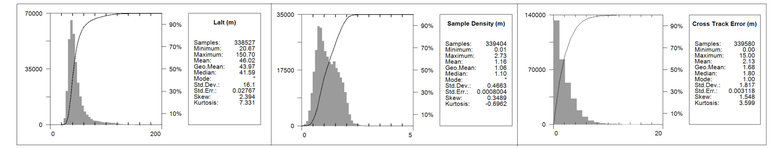
500 0 500 1000 1500

(meters)

WGS 84 / UTM zone 8N

National Topographic System





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2138.6
2110.4
2082.3
2054.1
2026.0
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1857.0
1828.8
1800.7
1772.5
1744.4
1716.2
1688.0
1659.9
1631.7
1603.6
1575.4
1547.2
1519.1
1490.9
1462.8
1434.6
1406.4
1378.3
1350.1
1322.0
1293.8
1265.6
1237.5
1209.3
1181.2
1153.0
1124.8
1096.7

DTM (m)

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Water Bodies.....

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

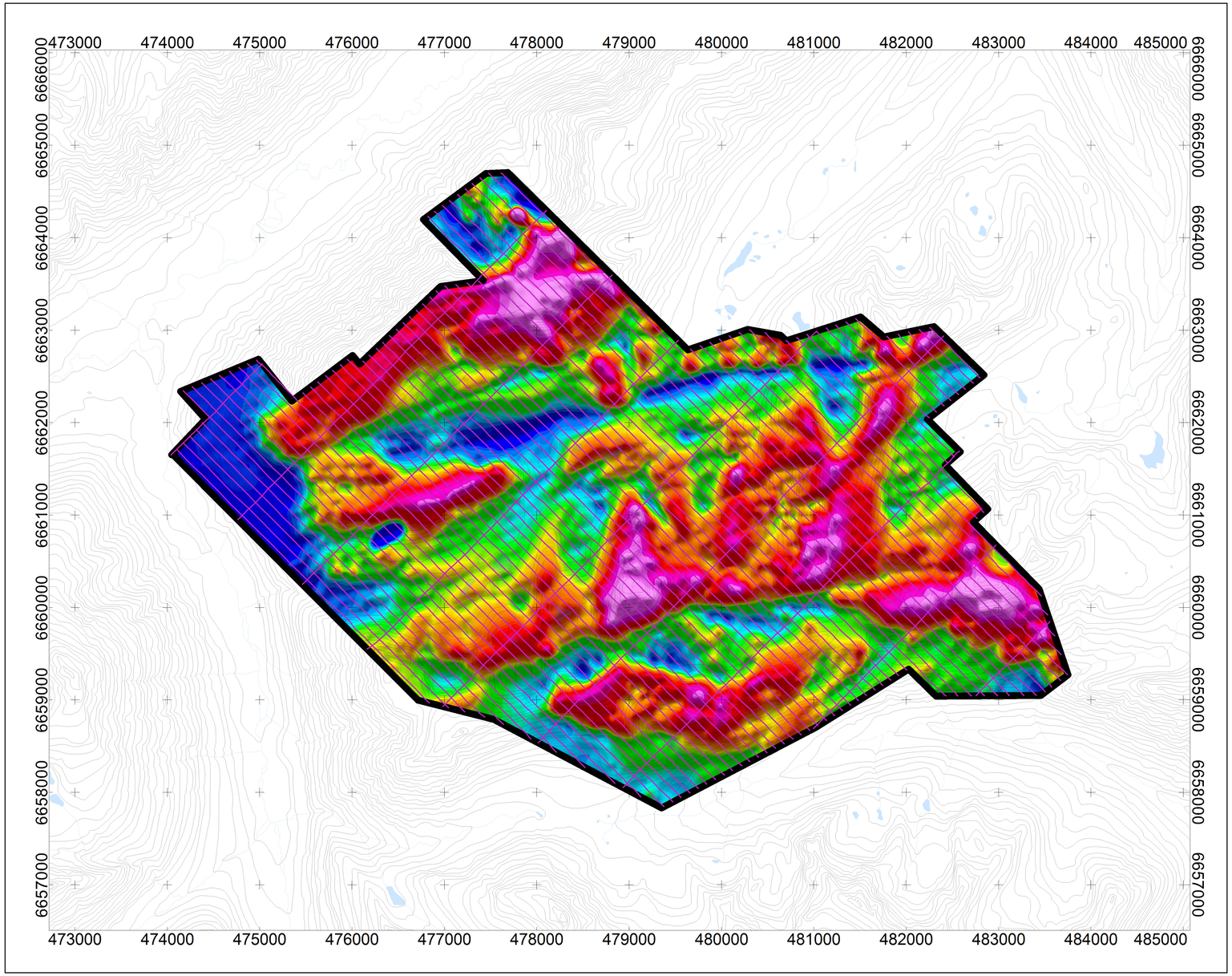
Overview Map

Digital Terrain Model

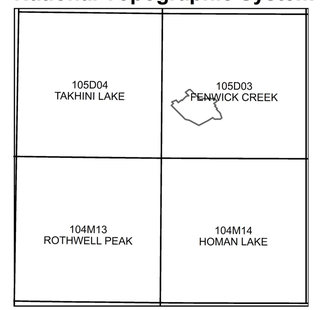
Precision GeoSurveys

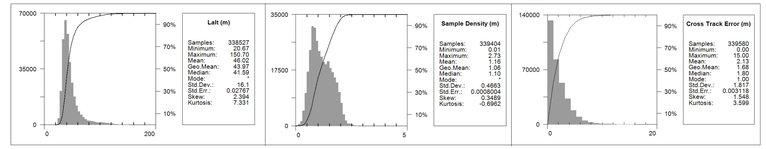
Job #21178
August 10, 2021

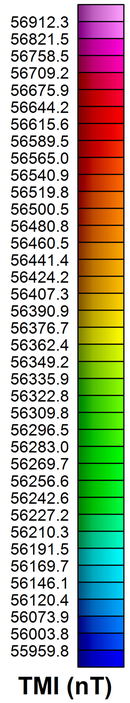
Plate 2
DTM



National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

- Water Bodies
- Elevation Contours, 100 ft Intervals
- Pike - Warden Survey Block Boundary
- Actual Flight Lines

DATA REFERENCE
Magnetic data from Mag 2 have been compensated and corrected for temporal variations, lag, and heading; then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. TMI is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:25000
500 0 500 1000 1500
(meters)
WGS 84 / UTM zone 8N

Pike-Warden Survey Block

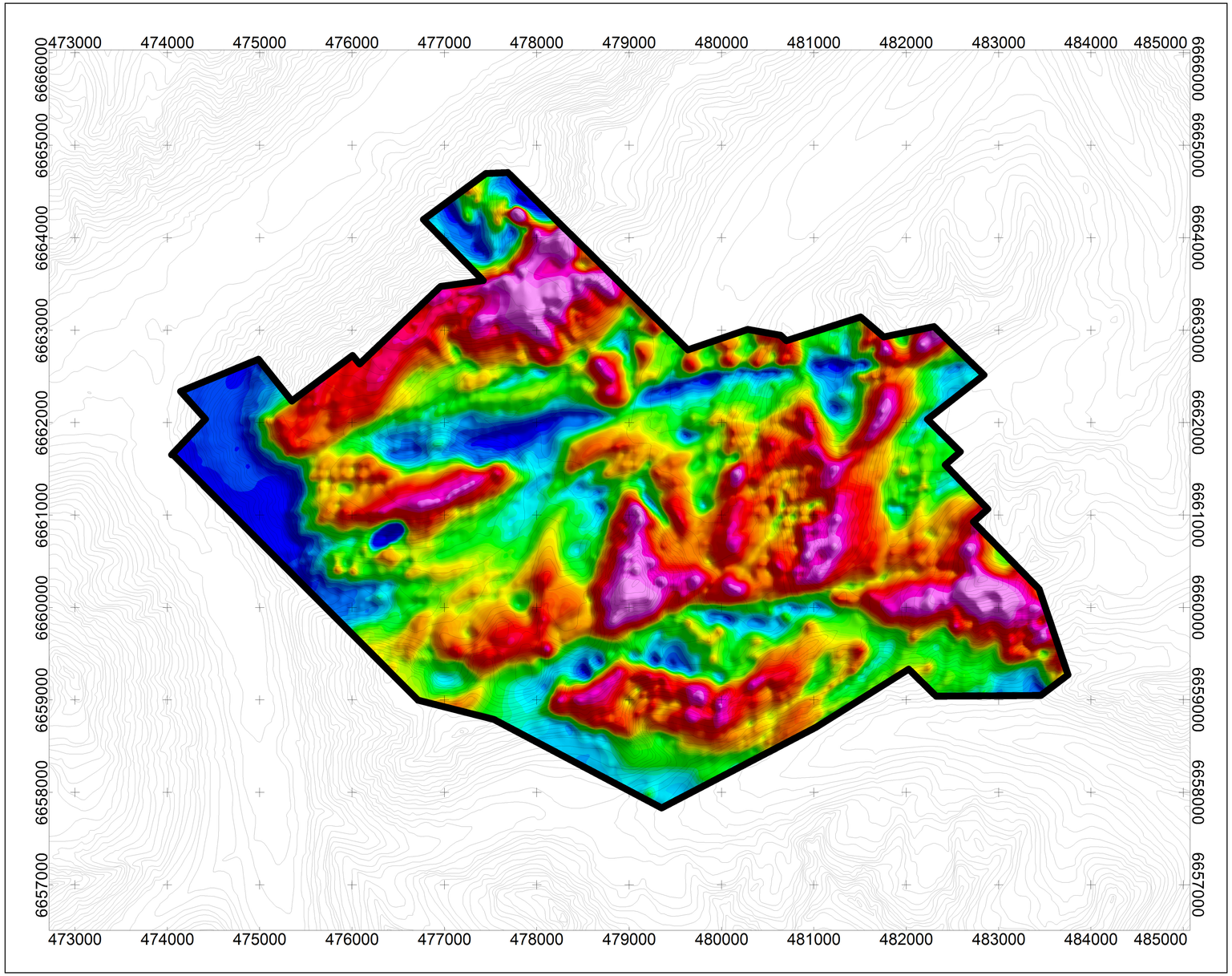
Magnetic Map

Total Magnetic Intensity with Actual Flight Lines

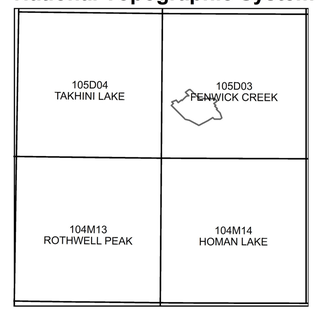
Precision GeoSurveys

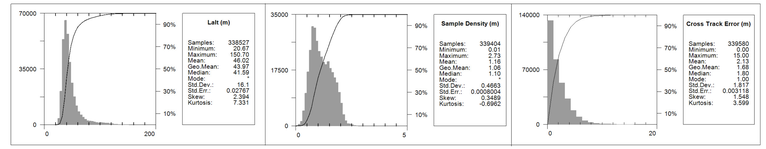
Job #21178
August 10, 2021

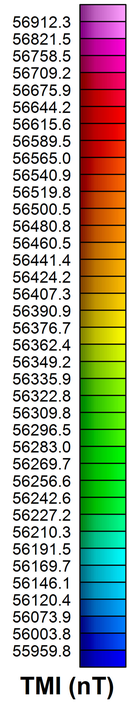
Plate 3
TMI_wFL



National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....
Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Magnetic data from Mag 2 have been compensated and corrected for temporal variations, lag, and heading; then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. TMI is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:25000
500 0 500 1000 1500
(meters)
WGS 84 / UTM zone 8N

Pike-Warden Survey Block

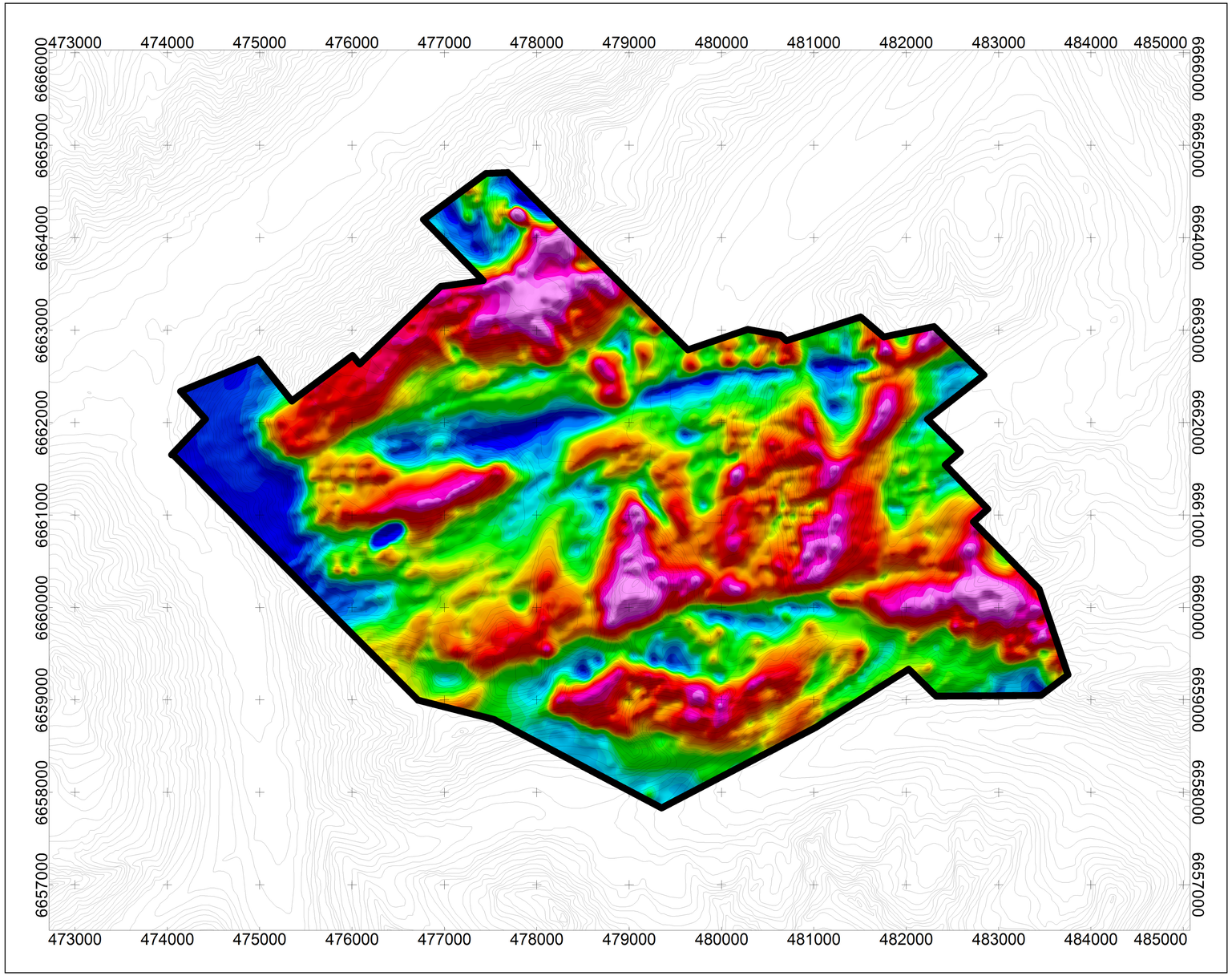
Magnetic Map

Total Magnetic Intensity

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 4
TMI



Scale 1:25000

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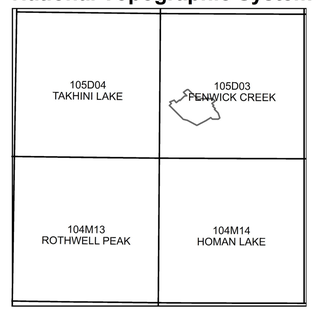
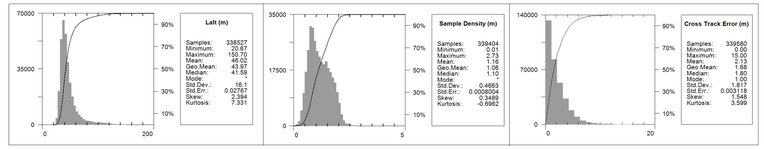
(meters)

WGS 84 / UTM zone 8N

National Topographic System





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394.6
374.2
355.2
337.9
321.2
304.8
290.0
276.5
262.9
248.5
234.7
221.5
208.3
195.2
181.6
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154.4
139.1
123.0
104.1
82.7
58.8
31.3
-14.6
-86.6
-131.7

RMI (nT)

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Residual Magnetic Intensity (RMI) is derived by taking the difference between Total Magnetic Intensity (TMI) and IGRF. Refer to report for details. RMI is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

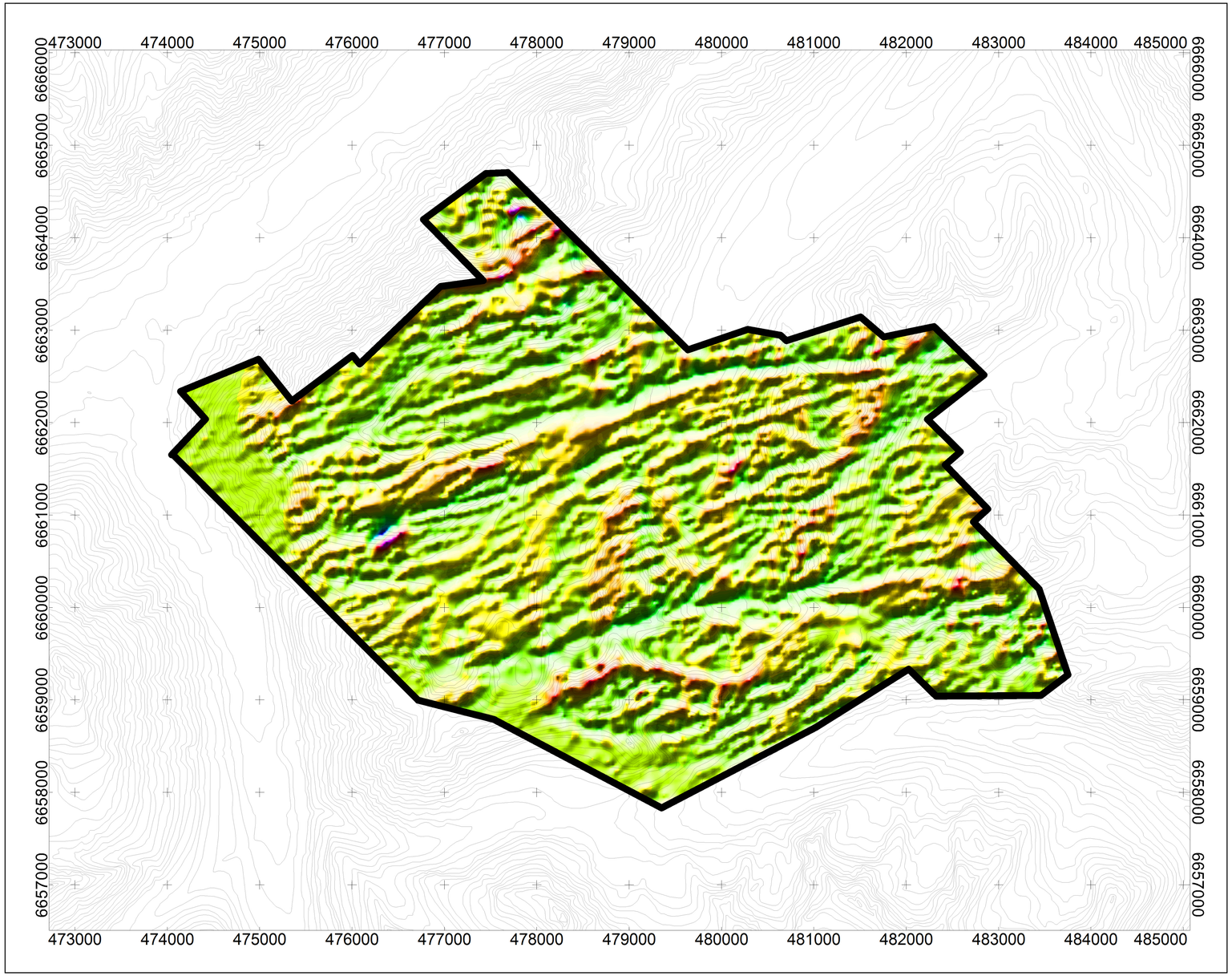
Magnetic Map

Residual Magnetic Intensity

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 5
RMI



Scale 1:25000

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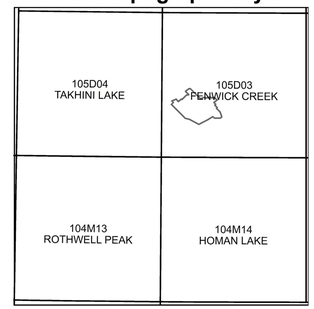
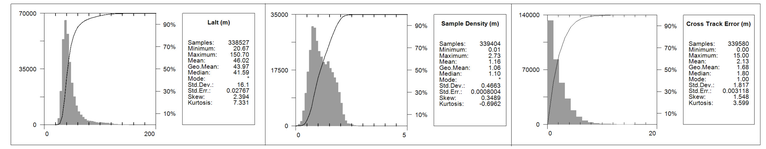
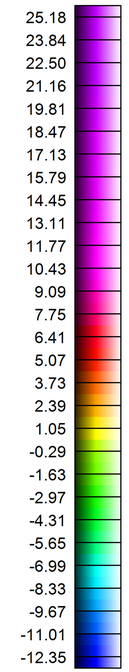
(meters)

WGS 84 / UTM zone 8N

National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
In-Line Gradient (ILG) is determined from successive measurements of Mag 2 along a flight line. Refer to report for details. ILG is represented as a grid and drawn with a linear wet-look colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

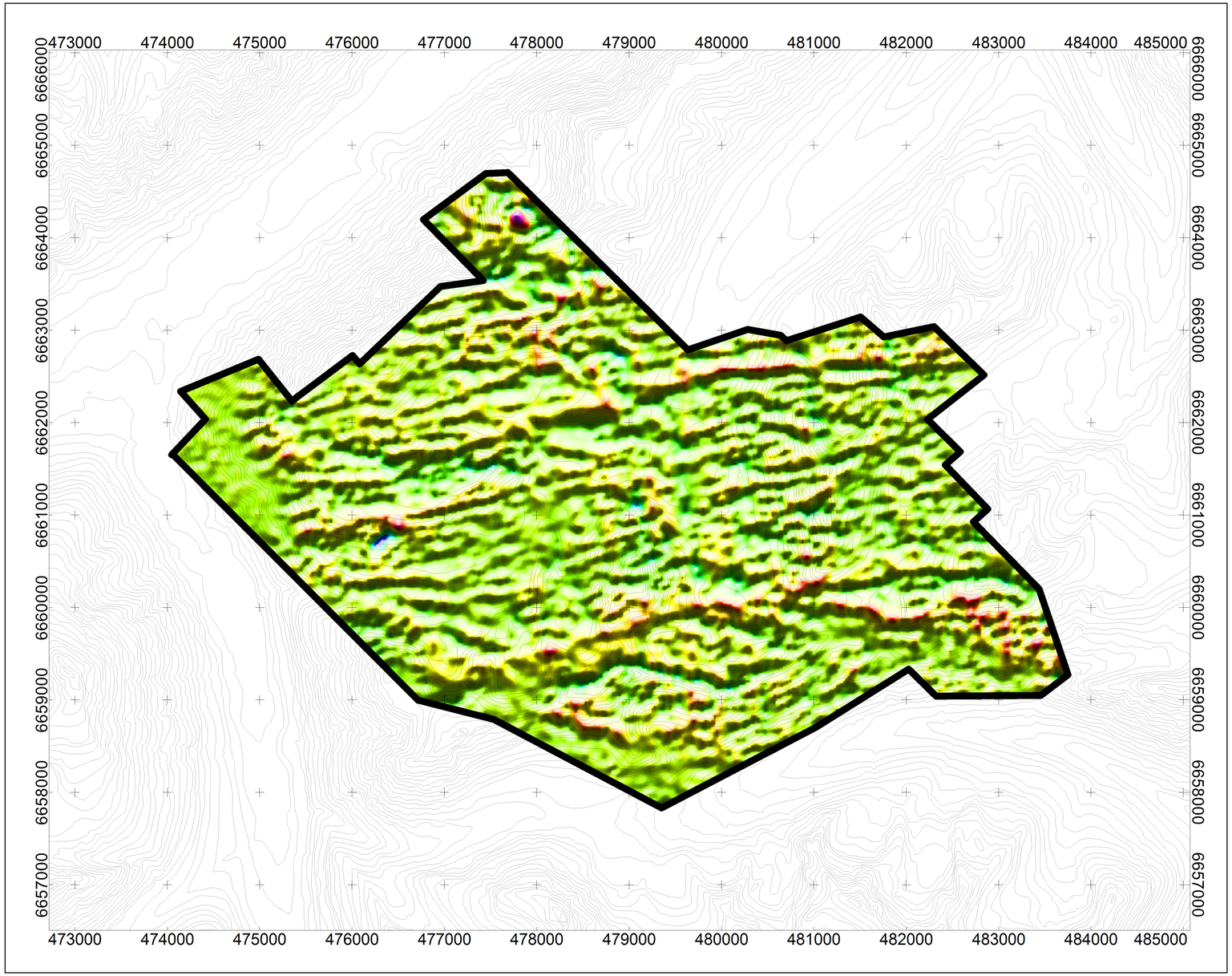
Magnetic Map

In-Line Gradient

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 6
ILG



Scale 1:25000

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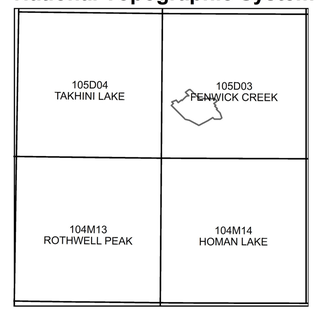
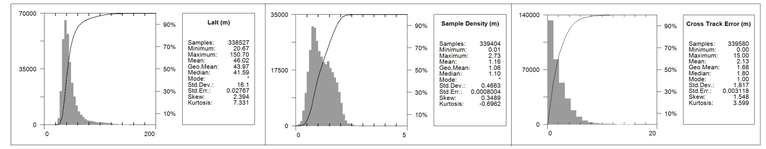
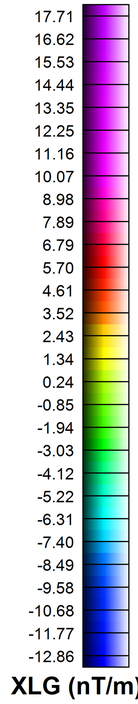
(meters)

WGS 84 / UTM zone 8N

National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Cross-Line Gradient (XLG) is the difference between Mag 1 and Mag 3 divided by the sensor separation. Refer to report for details. XLG is represented as a grid and drawn with a linear wet-look colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bnd/>[2007]

Pike-Warden Survey Block

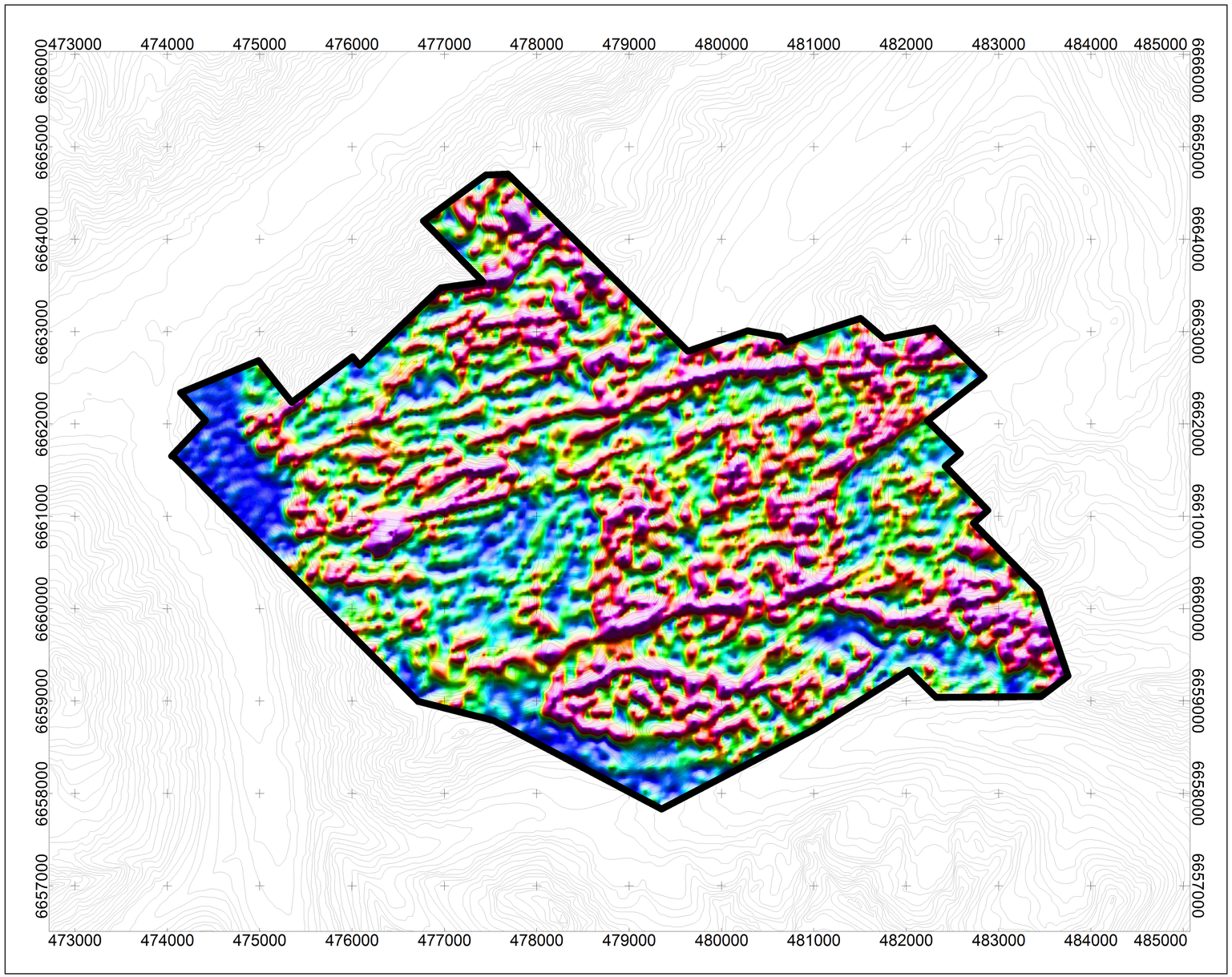
Magnetic Map

Cross-Line Gradient

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 7
XLG



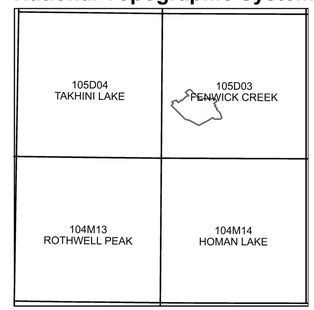
Scale 1:25000

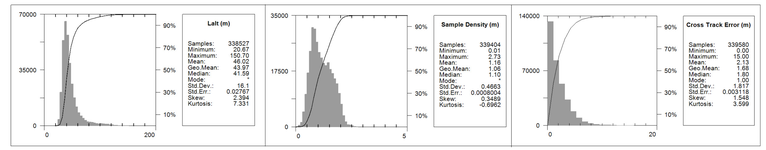
500 0 500 1000 1500

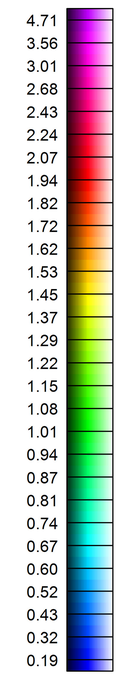
(meters)

WGS 84 / UTM zone 8N

National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Horizontal Gradient (HG) is the magnitude of the measured in-line and cross-line gradients. Refer to report for details. HG is represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

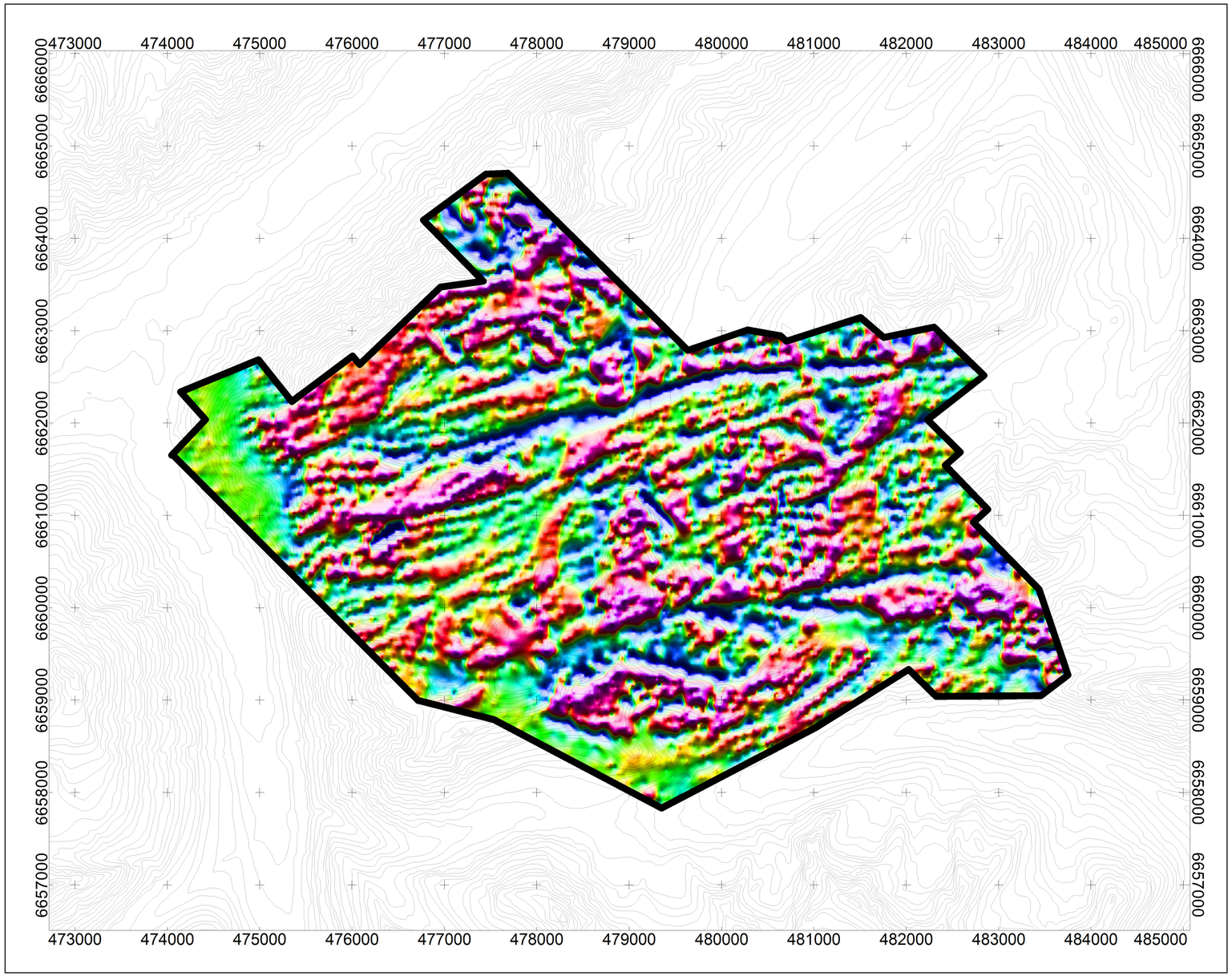
Magnetic Map

Horizontal Gradient

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 8
HG



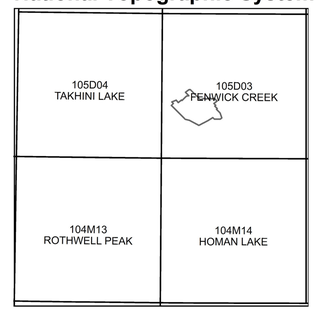
Scale 1:25000

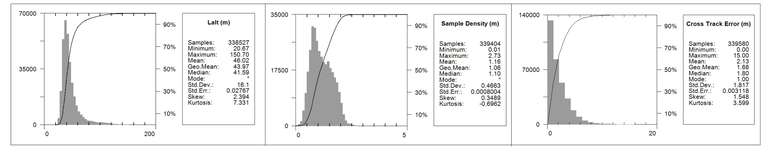
500 0 500 1000 1500

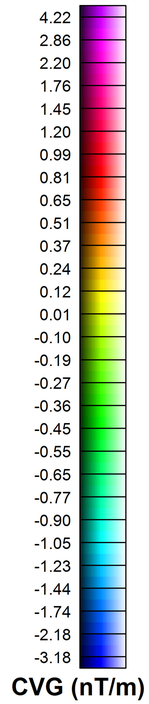
(meters)

WGS 84 / UTM zone 8N

National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Calculated Vertical Gradient (CVG) is the first order vertical component of Residual Magnetic Intensity (RMI). Refer to report for details. CVG is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

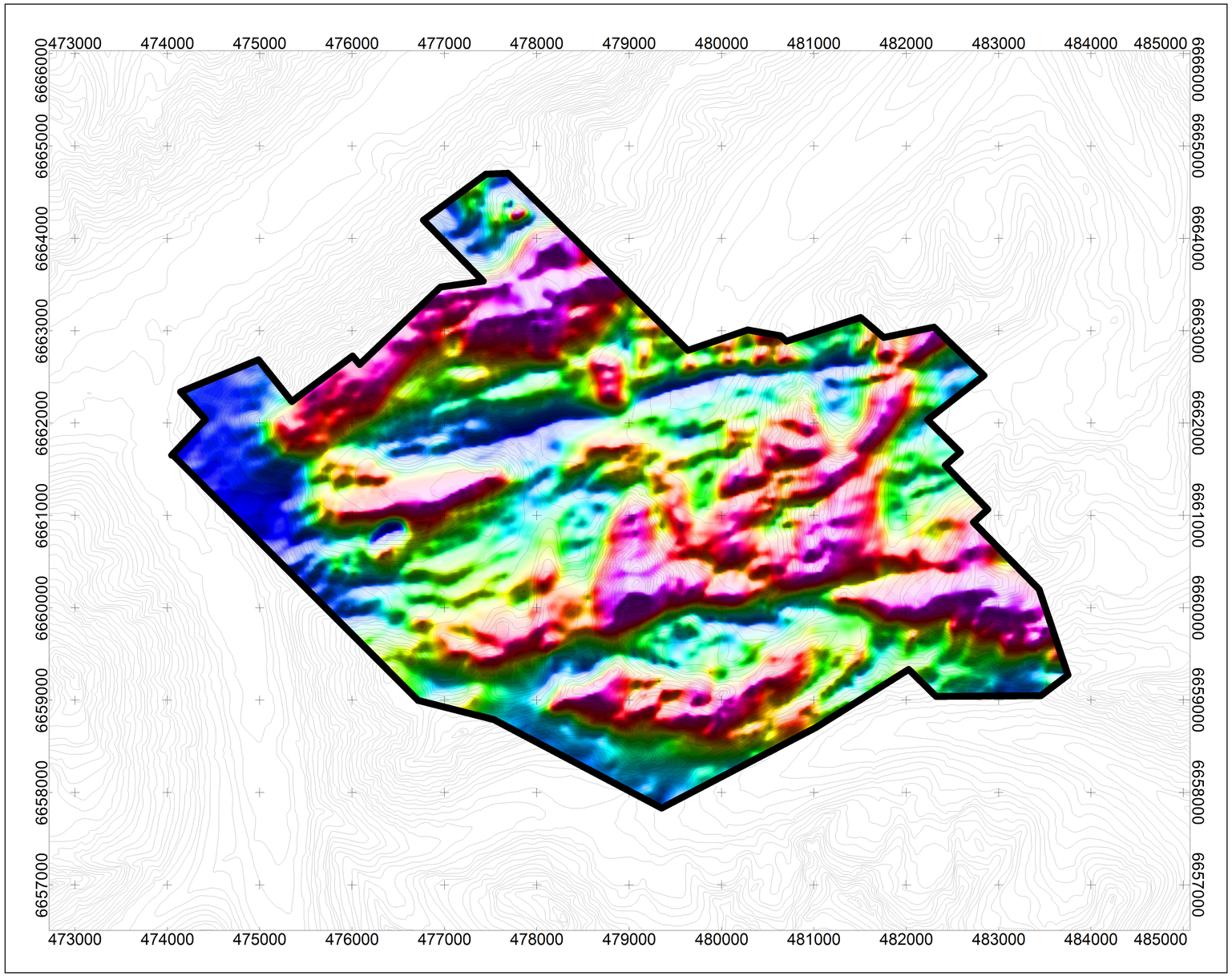
Magnetic Map

Calculated Vertical Gradient

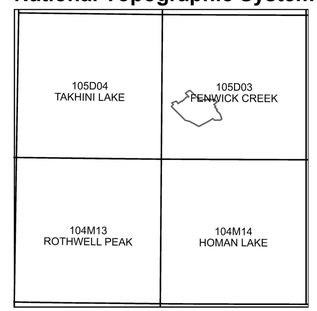
Precision GeoSurveys

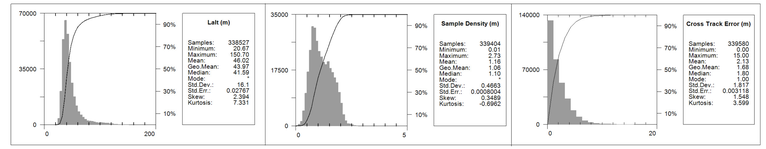
Job #21178
August 10, 2021

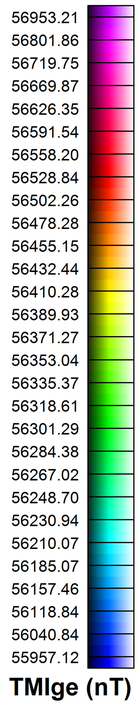
Plate 9
CVG



National Topographic System







MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

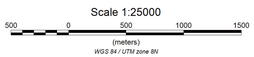
Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....
Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Gradient enhanced Total Magnetic Intensity (TMIge) is derived by adding the IGRF to the gradient enhanced Residual Magnetic Intensity (RMIge). Refer to report for details. TMIge is represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Pike-Warden Survey Block

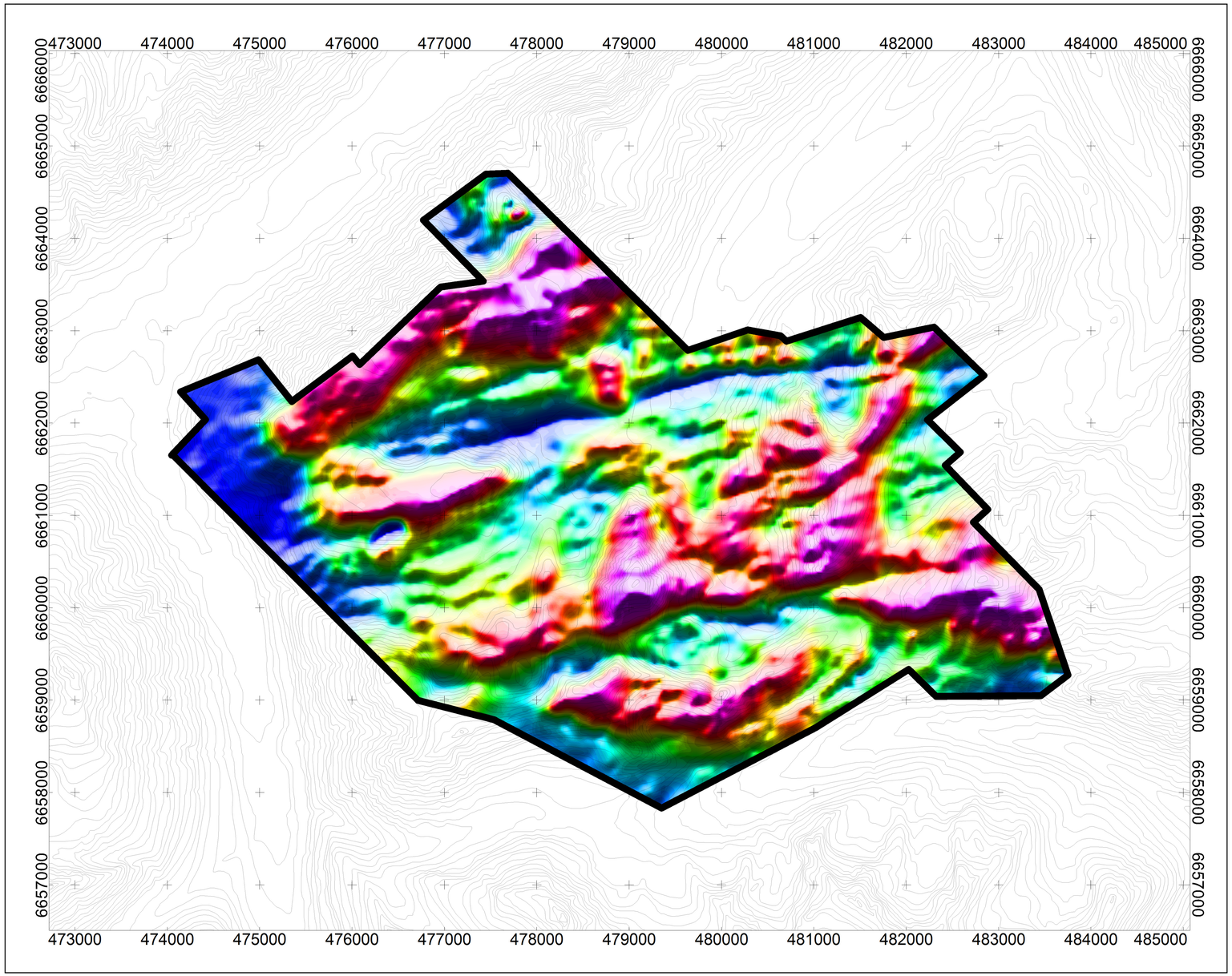
Magnetic Map

Gradient Enhanced Total Magnetic Intensity

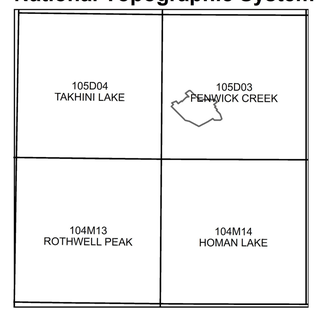
Precision GeoSurveys

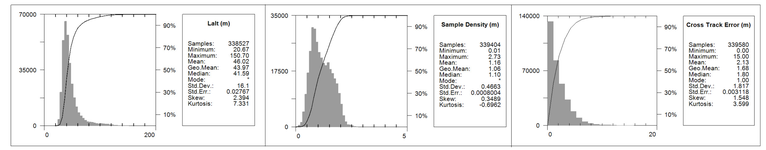
Job #21178
August 10, 2021

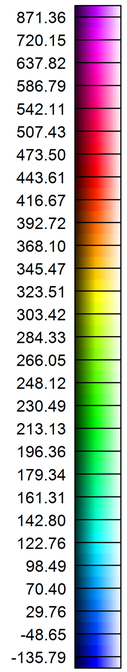
Plate 10
TMIge



National Topographic System







RMIge (nT)

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
Gradient enhanced Residual Magnetic Intensity (RMIge) is calculated from the measured in-line and cross-line gradients. Refer to report for details. RMIge is represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:25000

500 0 500 1000 1500

(meters)

WGS 84 / UTM zone 8N

Pike-Warden Survey Block

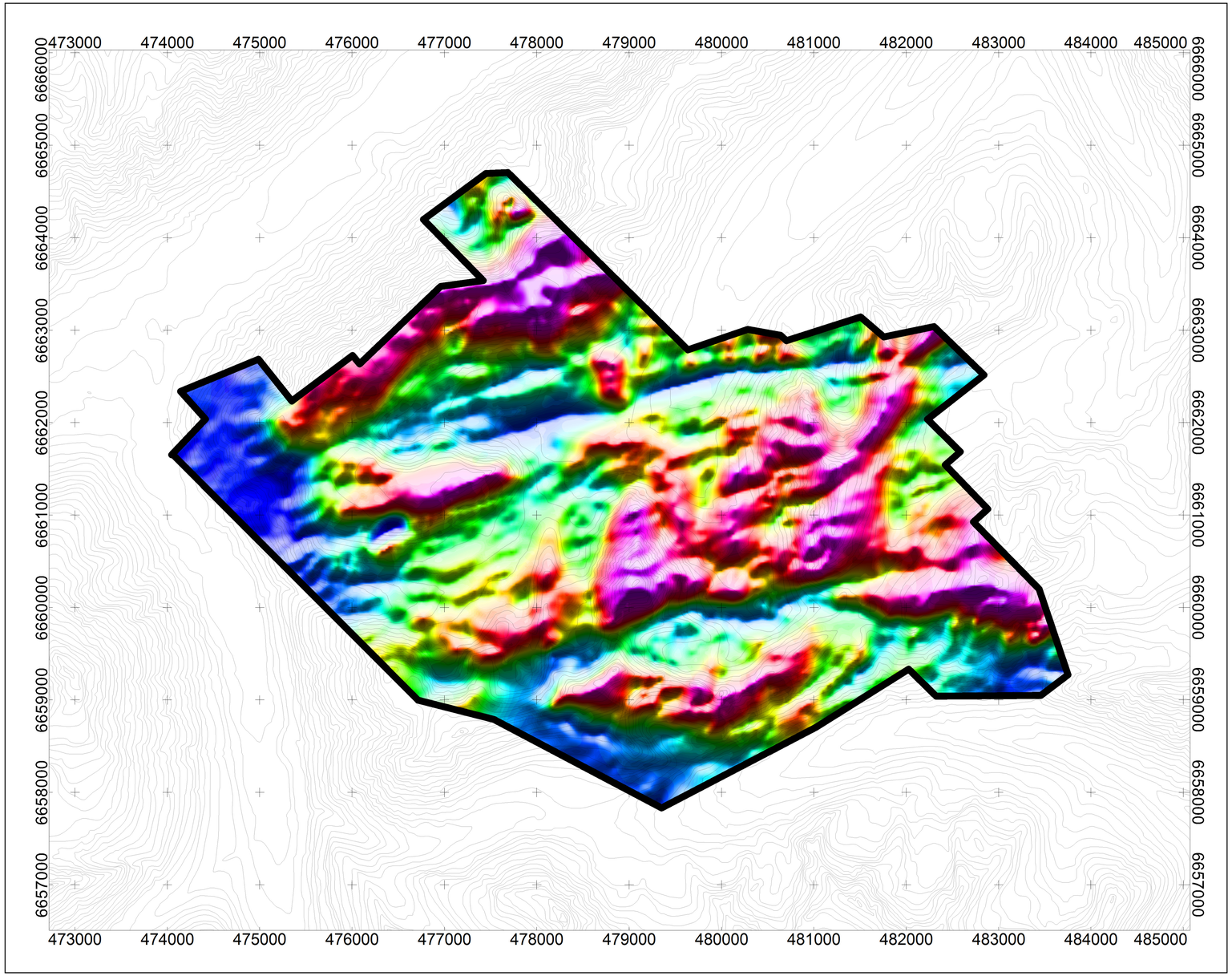
Magnetic Map

Gradient Enhanced Residual Magnetic Intensity

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 11
RMIge



Scale 1:25000

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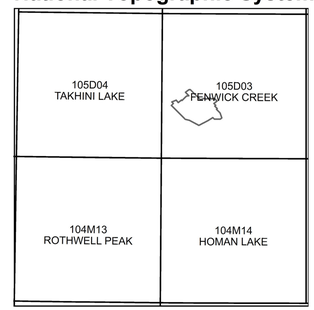
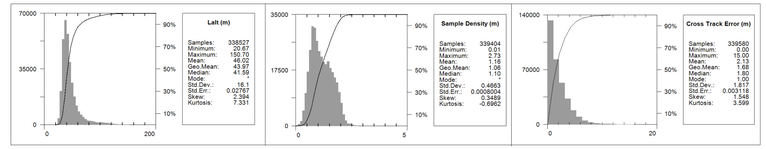
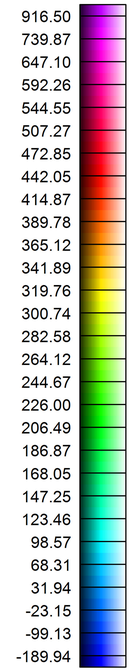
(meters)

WGS 84 / UTM zone 8N

National Topographic System







MAP PROJECTION

Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE

Gradient enhanced Reduced to Magnetic Pole (RTPge) is derived from the gradient enhanced Residual Magnetic Intensity (RMIge). Refer to report for details. RTPge is represented as a grid and drawn with a histogram-equalized wet-look colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

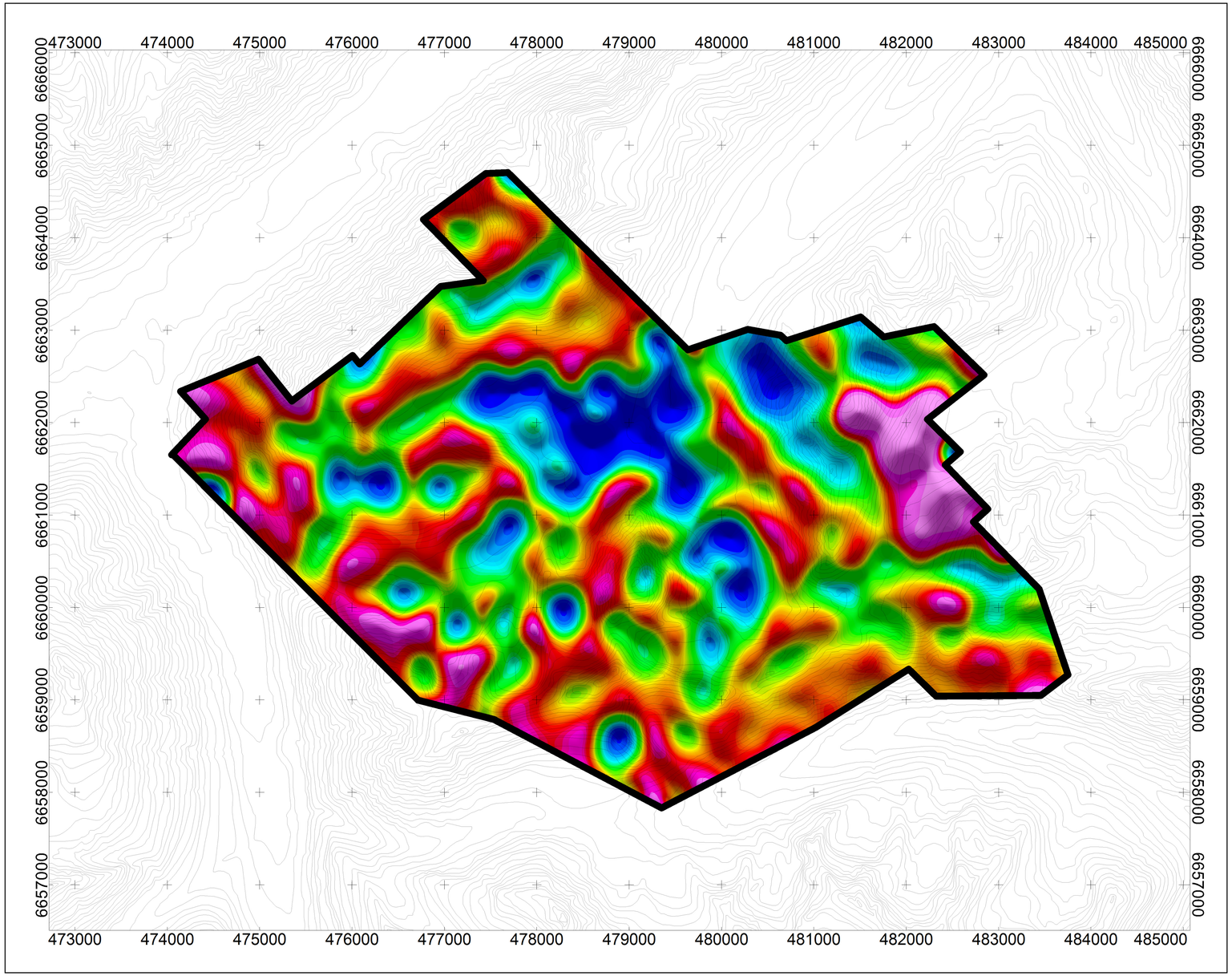
Magnetic Map

Gradient Enhanced Reduced to Magnetic Pole

Precision GeoSurveys

Job #21178
August 10, 2021

Plate 12
RTPge



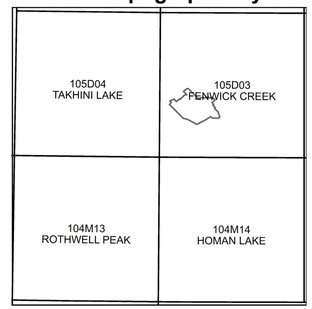
Scale 1:25000

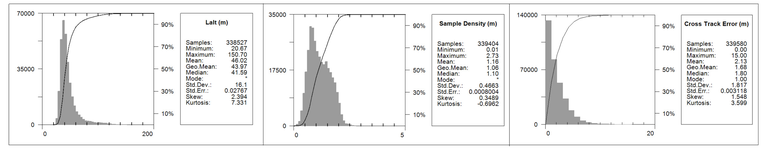
500 0 500 1000 1500

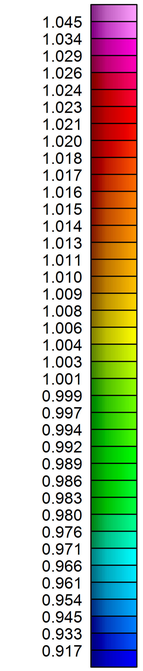
(meters)

WGS 84 / UTM zone 8N

National Topographic System







NML Total Field

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
NML Total Field (NML_TF) data have been normalized and leveled. Data values are arbitrary units. Refer to report for details. NML_TF is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

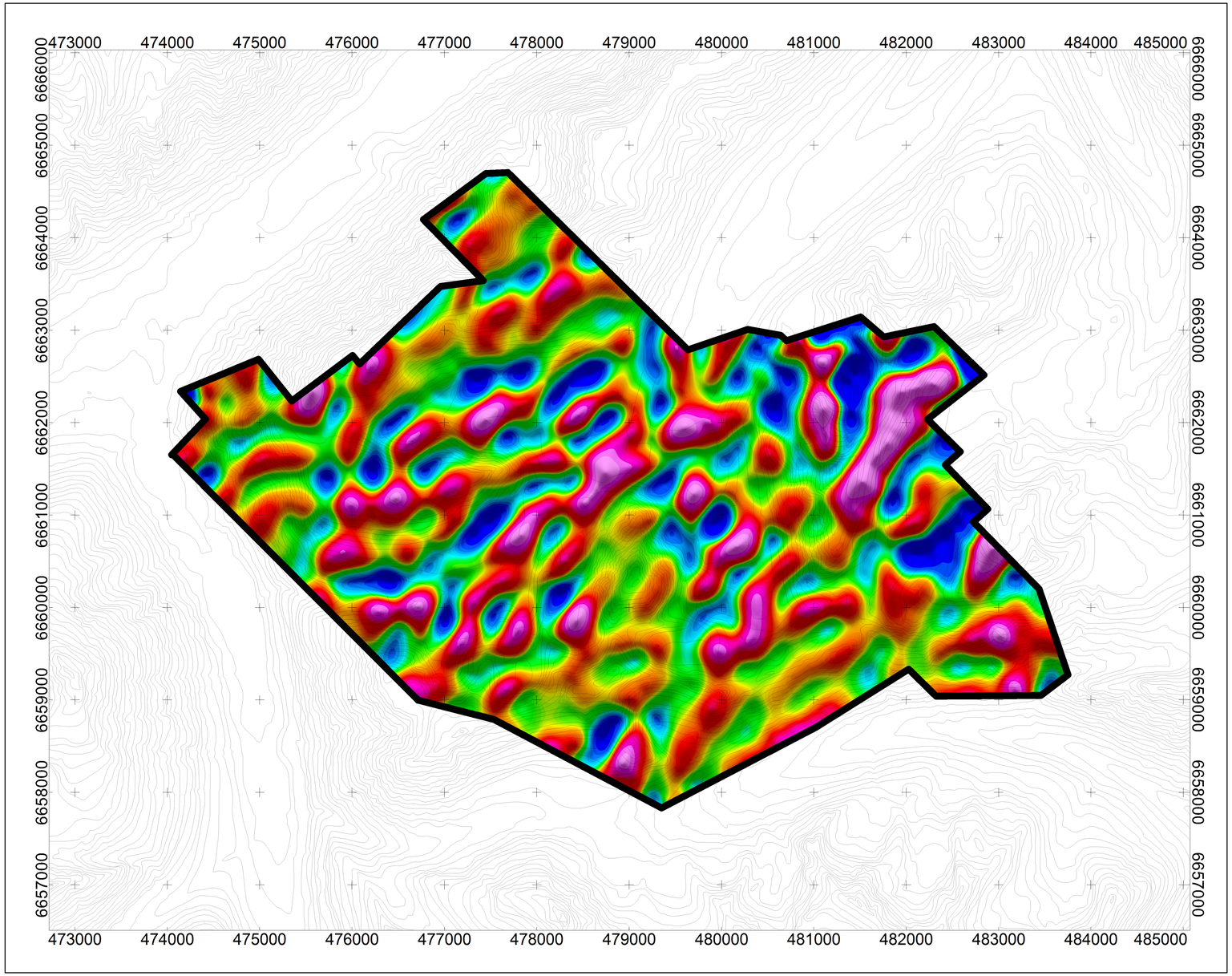
VLF Electromagnetic Map

NML Total Field

Precision GeoSurveys

Job #21178
August 11, 2021

Plate 13
NML_TF



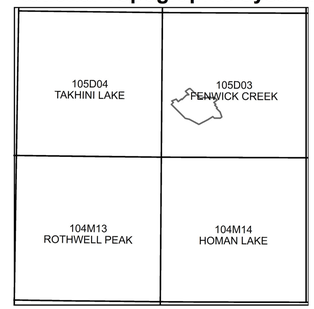
Scale 1:25000

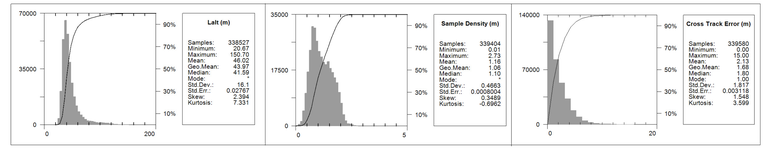
500 0 500 1000 1500

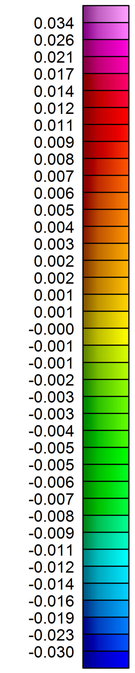
(meters)

WGS 84 / UTM zone 8N

National Topographic System







NML Vert Quad

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
NML Vertical Quadrature (NML_VQ) data have been corrected for lag, direction, normalized, leveled, and Fraser filtered. Data values are arbitrary units. Refer to report for details. NML_VQ is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

VLF Electromagnetic Map

NML Vertical Quadrature

Precision GeoSurveys

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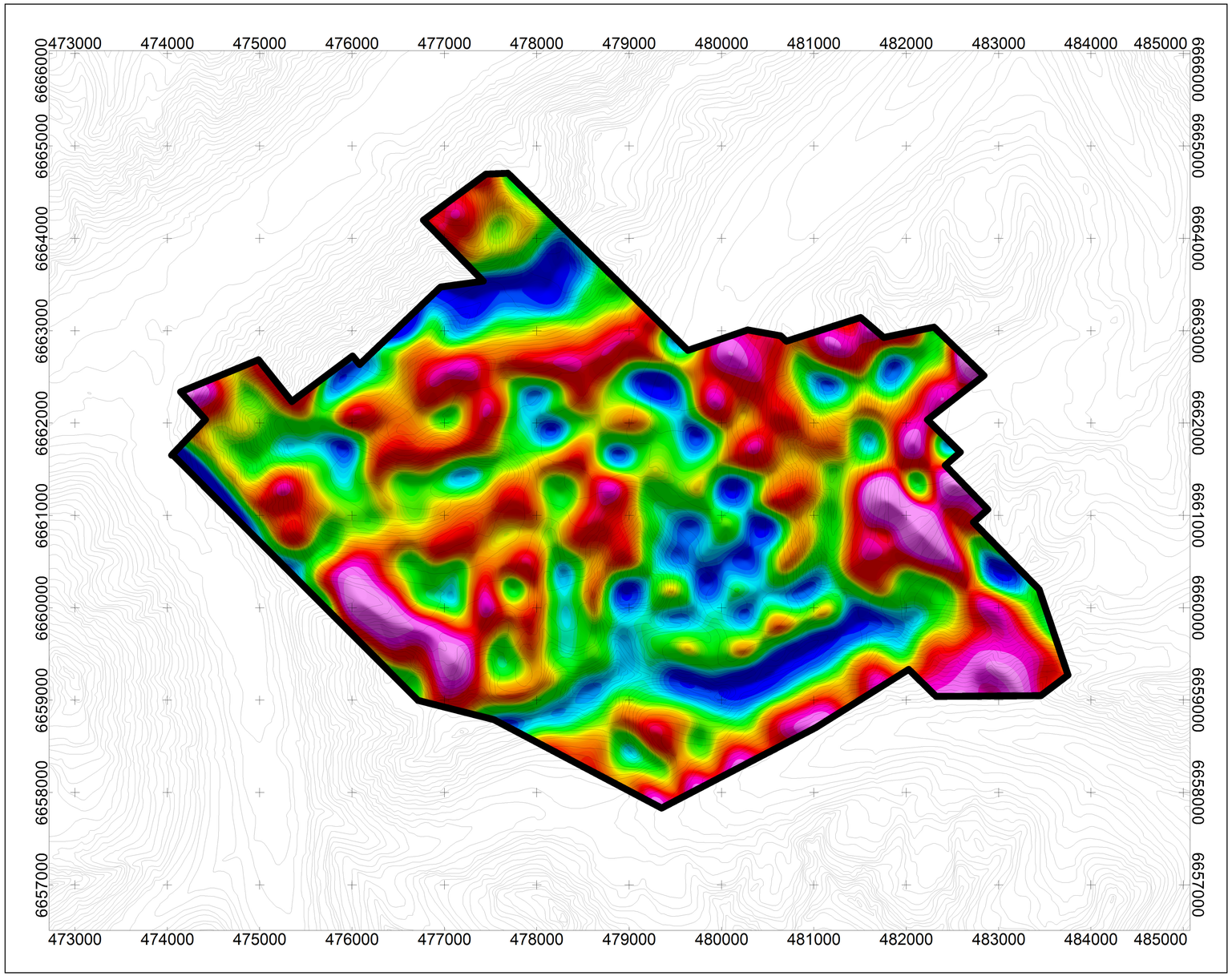
August 11, 2021

Plate 14
NML_VQ



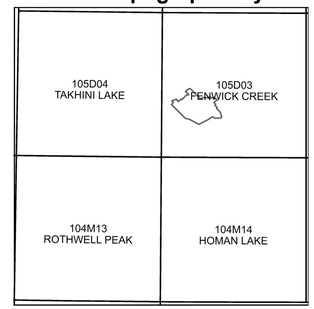
Scale 1:25000

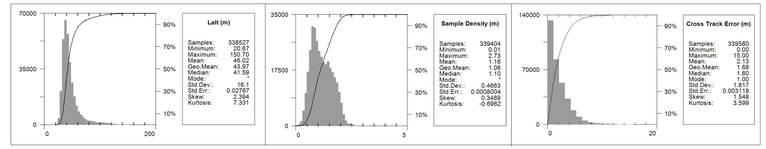
500 0 500 1000 1500

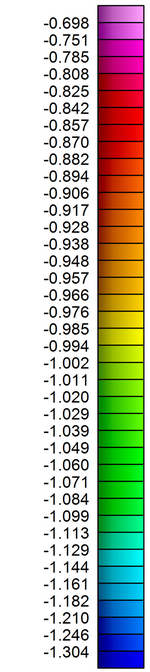
(meters)

WGS 84 / UTM zone 8N

National Topographic System







NLK Total Field

MAP PROJECTION
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
Aircraft Type:	Airbus AS350 helicopter
Registration:	C-GSVY
Survey Technology:	Gradient magnetic, VLF-EM, and radiometric survey
Total Line km:	395 km
Mean Survey Height:	46.0 meters
Survey Line Spacing:	100 meters
Survey Line Direction:	135°/315°
Tie Line Spacing:	1000 meters
Tie Line Direction:	045°/225°

AIRBORNE SURVEY SYSTEM

Magnetometer Sensors:	2 x Scintrex CS-3 Cesium 1 x Geometrics G-822A Cesium
Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
Sample Rate:	20 Hz
Transmitter Stations:	NML – LaMoure, ND 25.2 kHz NLK – Seattle, WA 24.8 kHz
Gamma Ray Spectrometer:	Pico Envirotec AGRS-5
Downward-Looking Crystals:	16.8 litres of NaI(Tl)
Upward-Looking Crystal:	4.2 litres of NaI(Tl)
Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE
NLK Total Field (NLK_TF) data have been lagged, normalized, and leveled. Data values are arbitrary units. Refer to report for details. NLK_TF is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 0° and declination at 000°.

TOPOGRAPHIC REFERENCE
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

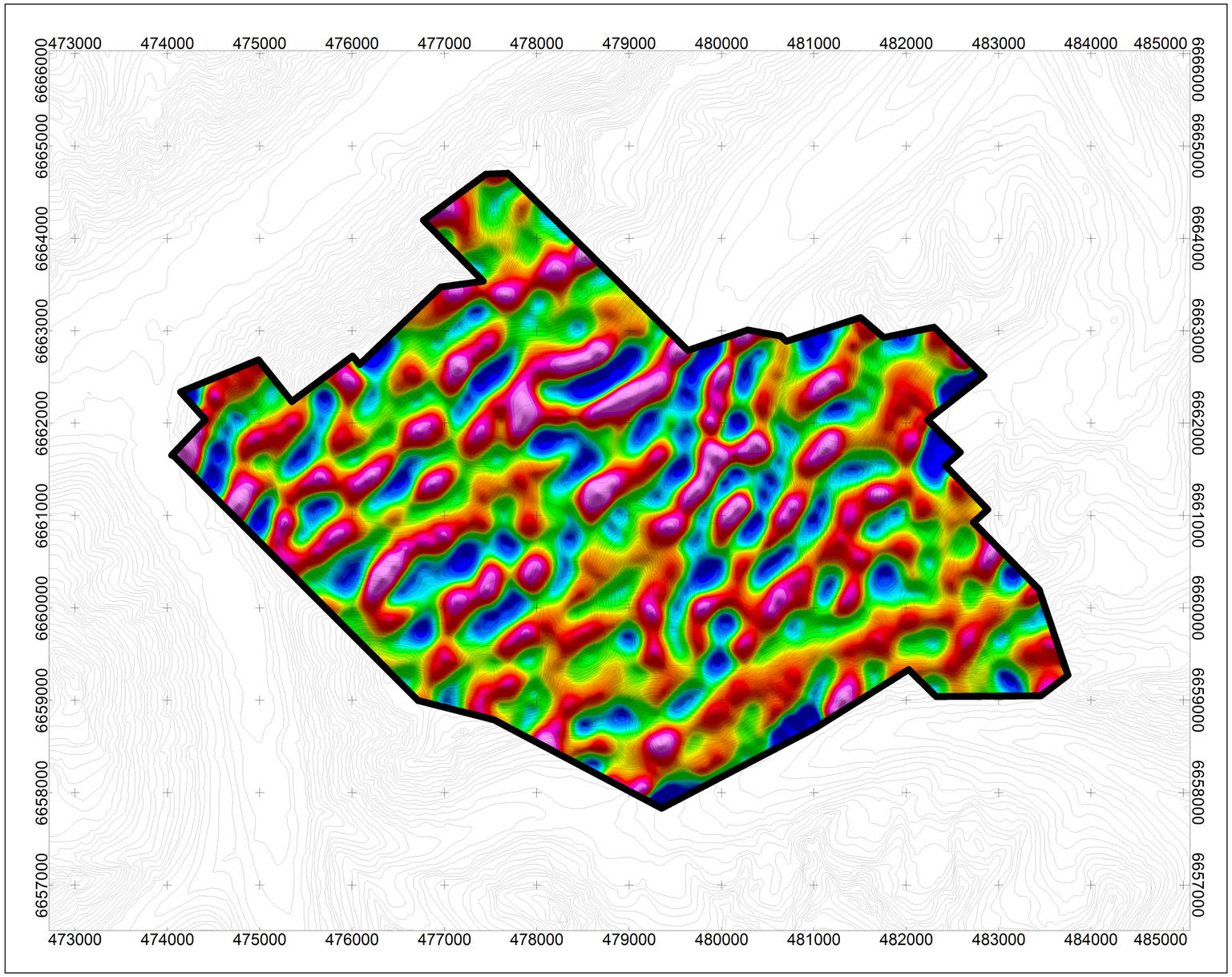
VLF Electromagnetic Map

NLK Total Field

Precision GeoSurveys

Job #21178
August 11, 2021

Plate 15
NLK_TF



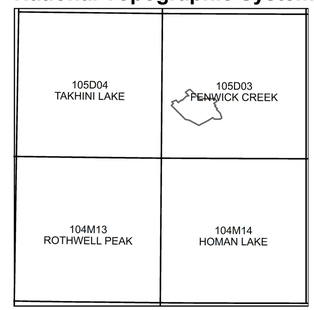
Scale 1:25000

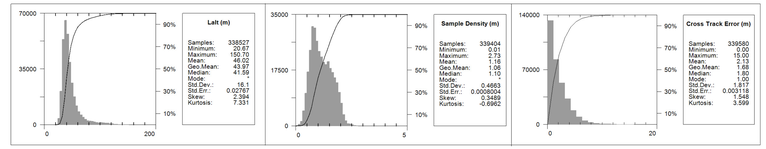
500 0 500 1000 1500

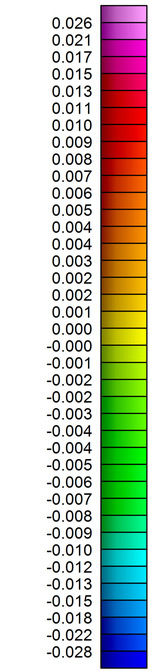
(meters)

WGS 84 / UTM zone 8N

National Topographic System







NLK Vert Quad

MAP PROJECTION

Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

PIKE-WARDEN SURVEY SPECIFICATIONS

Survey Dates:	July 8 and July 9, 2021
Survey Base:	Mt. Skukum camp, BC
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AIRBORNE SURVEY SYSTEM

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Configuration:	Triple gradient boom with 3 axis compensation
Sample Rate:	20 Hz
Sensitivity:	0.0006 nT √Hz rms
VLF-EM Receiver:	Herz Totem-2A
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Downward-Looking Crystals:	16.8 litres of NaI(Tl)
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Sample Rate:	1 Hz (Resampled to 20 Hz)

Legend

Elevation Contours, 100 ft Intervals.....

Pike - Warden Survey Block Boundary.....

DATA REFERENCE

NLK Vertical Quadrature (NLK_VQ) data have been corrected for lag, direction, normalized, leveled, and Fraser filtered. Data values are arbitrary units. Refer to report for details. NLK_VQ is represented as a grid and drawn with a histogram-equalized colour shade; sun illumination inclination at 45° and declination at 045°.

TOPOGRAPHIC REFERENCE

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Pike-Warden Survey Block

VLF Electromagnetic Map

NLK Vertical Quadrature

Precision GeoSurveys

Job #21178
August 11, 2021

Plate 16
NLK_VQ