2016 YMEP Target Evaluation Assessment Report

Goodman and Seattle Properties, Mayo Mining District

YMEP No. 16-038

Nevada Zinc Corp.

Author: D. Ferraro, HBSc.
Date: Feb 1st, 2017
Claims:
‘MQ’ 103-200 (YD94403 – YD94500),
‘MQ’ 201-342 (YD95501 – YD95642),
‘G’ 1-10 (YD155911 – YD155920),
‘G’ 15-74 (YD155925 – YD155984),
‘GM’ 1-65 (YD55601 – YE55665), and
‘G’ 75-78 (YD155995 – YD155998)
‘Sea’ 1-48 (YD95651 – YD95698)
NTS Mapsheets: 115P16, 116A01, 106D03, 105M13
UTM Coordinates: E440000, N7088000 (NAD83, Zone 8)
Owner: Goldspike Exploration Inc. (Nevada Zinc Corp.)

TABLE OF CONTENTS

Figures and Photos

Appendices

1.0 SUMMARY

This document is to fulfill the requirements of the Yukon Mineral Exploration Program (YMEP) grant application submitted in March, 2016 for an exploration program on the Goodman and Seattle Properties, Mayo Mining District, Yukon that are owned by Nevada Zinc Corp. of Toronto, ON.

The properties are situated in the Goodman Creek area along the South McQuesten River, approximately 150 km ESE of Dawson City and 40 km NNW of Mayo. Goodman can be reached by truck from Mayo via the Silver Trail Highway, the McQuesten River Bridge, a series of placer mining roads, and an access road running along the north side of the McQuesten River.

Geologically, the properties are located in the western Selwyn Basin, a highly mineralized area east of the Tintina Fault. Numerous mineral showings and strong multi-element geochemical anomalies are related to high level, multi-phase quartz monzonite stocks of mid-Cretaceous age that intrude Upper Proterozoic to Silurian metasediments. The properties are underlain by Upper Proterozoic quartzite, schist, phyllite, conglomerate, and slate.

The properties were staked and worked from 2011 to 2016. Over 2800 soil samples and 370 rock samples have been taken from Goodman and 346 soil samples and 66 rock samples taken from Seattle and the surrounding area. Numerous areas of interest have presented themselves. First and foremost, the southwest area of the property (called Rodin Creek area) hosts a significant NE-trending gold anomaly with soil samples assaying up to 230 ppb Au. Next, the Goodman Creek area hosts a series of gold soil anomalies with limited outcropping and one 588 ppb Au rock sample. The central area of the property called Murphy's Creek (formerly termed Cofer Creek) hosts a stibnite showing with significant gold soil geochemistry. There is a distinct antimony trend which shows elevated values from here extending east. The Peso claims are a group of 4 claims bordering the historic Peso Silver Mine which have shown strong evidence to host the western extension of the No. 1 vein. The Seattle Property hosts the Seattle lead-silver occurrence and displays a compelling Ag-Mo-Tl-Zn-Cu-Ni-Co geochemical trend.

The 2016 program involved 519 line km of airborne magnetic and radiometric surveys over the Goodman and Seattle properties. A highly prospective 5x2km magnetic and radiometric potassic high was revealed in the Murphy's Creek area which bears a strong resemblance to the size and orientation of the Dublin Gulch Stock and corresponds with Au-As-Sb-W soil geochemistry in the area. The area also bears a strong resemblance to mineralization at Scheelite Dome. The survey at Seattle was successful in demonstrating a magnetic high following the Ag-Mo-Tl-Zn-Cu-Ni-Co soil geochemistry. There is a strong possibility of a mineralized intrusive in this area, possibly mafic or ultramafic in origin.

The 2016 program also involved mechanical trenching in the Rodin Creek area using a Kubota KX41 mini excavator. A crew of 4 spent 5 days digging 12 pits and taken 30 rock samples and 7 soil samples. Overburden ended up being too thick to trench so pits were dug, often to the maximum capability of the machine at 9.5 ft. Results were generally unfavourable due to the limitations of the ground and machine. Rocks taken within the Ag-As-Pb-Zn-Cd anomalous area showed anomalous values corresponding to the soil geochemistry but no significant mineralization was encountered.

The Murphy's Creek area hosts an excellent exploration target for Fort Knox-style intrusive-related gold mineralization similar to that found at Dublin Gulch and Scheelite Dome. There is a likelihood that the intrusion is buried under a cover of schist, but there is also a possibility that the bulk of the mineralization is found within the adjacent hornfels metasediment as at Scheelite Dome. A simple drill program is recommended, using a fast and cheap RAB or RC -type drill to test for lithological changes within the intrusion. Diamond drilling is recommended southeast of the intrusion to test for mineralized veining and investigate orientation and structure of veins and wallrock. Mechanical trenching using a large backhoe is also recommended southeast of the intrusion.

Rodin Creek is a more difficult target to explore. A GeoProbe survey would be a faster and more efficient method to test bedrock in tighter spacings. This should be done in three locations: the silver-base metal anomalous area, along the potential gold-bearing structure, and on top of the hill where a magnetic high has been revealed by the airborne survey.

An exploration target has presented itself 3 km east of the Rodin Creek area. A radiometric potassium high and magnetic low corresponds with a line of anomalous Ag-As-Pb-Zn geochemistry. Further sampling and prospecting is recommended in this area.

The Seattle Property requires further claims to be staked to the east to cover the remaining extent of the magnetic high and soil anomalies. Prospecting and geological mapping is required in this area to investigate the presence of an intrusive body. Further processing and interpretation of the geophysical data is also recommended.

2.0 INTRODUCTION

This document is written to fulfill the requirements of the Yukon Mineral Exploration Program (YMEP) grant application submitted in March, 2016 for an exploration program on the Goodman and Seattle Properties, Mayo Mining District, Yukon that are owned by Nevada Zinc Corp. of Toronto, ON. Its second purpose is to fulfil assessment requirements of the Yukon Mining Recorder.

3.0 PROPERTY LOCATION AND ACCESS

The Goodman and Seattle Properties are situated in the McQuesten River area, approximately 150 km ESE of Dawson City and 40 km NNW of Mayo (Figure 1). They can be reached by truck from Mayo by taking the Silver Trail Highway, then branching west to the McQuesten River bridge. This leads to various placer mining roads on the east side of the property (Secret Creek area) and an all-weather road that extends west along the north side of the McQuesten River.

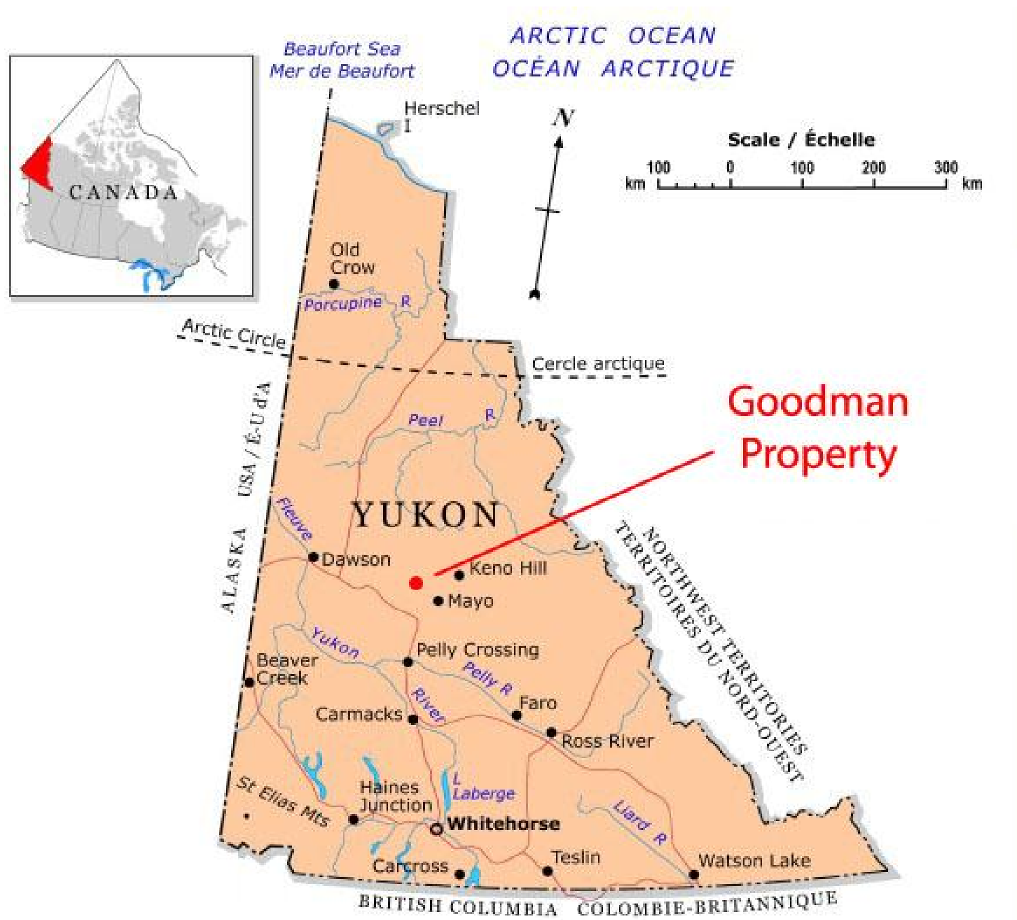


Figure 1: General location of the Goodman and Seattle Properties (modified from NRCAN, 2006).

4.0 TOPOGRAPHY, VEGETATION, AND CLIMATE

The Goodman and Seattle Properties are situated in a lower elevation area adjacent to the McQuesten River. The McQuesten River valley is mostly at about 2000 ft elevation. Mountain peaks on the property are mostly at about 3500 ft, but reach as high as 4000 ft on the east side of the property.

Vegetation consists of evergreen and deciduous forest which dominates the slopes. The mountain tops are also vegetated due to lower elevations. Some areas of south facing slopes have sparse spruce tree covering. Bedrock exposure is quite limited across the area due to glacial activity (<3%). Only peaks on the east side of Goodman have any significant outcroppings. Outcrop can also be found in the high relief creek valley in the southwest corner east of Rodin Creek. Outcropping at Seattle is mostly limited to the peak in the south of the property.

The Yukon has a subarctic continental climate with a mean summer temperature of 10 degrees celcius and a mean winter temperature of -23 degrees celcius. Temperature extremes of 35 degrees and -55 degrees celcius are common in the summer and winter, respectively.

Photo 1: Physiography of the Goodman Property (facing west from the Peso area)

5.0 PROPERTY DESCRIPTION

The Goodman Property consists of 379 quartz claims in the Mayo Mining District. The 240 'MQ' claims, 65 'GM' claims, and 74 'G' claims can be found on NTS mapsheets 115P16, 116A01, 106D03, and 105M13 (see Figure 2). All claims are contiguous except for 4 'G' claims (G75-78) in the northeast corner, which are referred to as the 'Peso' claims in this report. The claims are owned 100% by Goldspike Exploration Inc. (now Nevada Zinc Corp.) of Toronto, Ontario with the exception of 31 claims in the process of transferring.

The Seattle Property consists of 48 contiguous quartz claims in the Mayo Mining District. The 48 'Sea' claims can be found on NTS mapsheet 115P16. The claims are located on the south side of the McQuesten River, just 2 km south of the Goodman Property. They are owned 100% by Goldspike Exploration Inc.

See Appendix I for a complete list of claims and their statuses.

6.0 PROPERTY HISTORY

6.1 Historical Exploration

There is very little previous hard rock exploration on the Goodman Property, but the area has a rich history of placer mining reaching back to the 1890s. Specifically Secret Creek and Goodman Creek have shown placer production up to the present day.

The southwest of the property was staked as the Rodin claims in 1963 and restaked as the RC claims in 1994. No work was done (Minfile 115P005). The SECRET Minfile occurrence located on Secret Creek was explored as a tin-tungsten prospect by Canada Tungsten Mining Corp. and Queenstake Resources Ltd. in 1978, based on government stream sediment geochemistry (Minfile 115P028). A geochemical survey of the SECRET property included 211 silt and 265 one metre-deep auger soil samples in an area described as largely overburden and brush-covered. Canada Tungsten's assessment report considered gold values over 10 ppb to be anomalous for the area, and identified three areas of anomalous gold in silt with values of 70 to 140 ppb Au. The gold was inferred to be related to east-northeast extensional faults that are contemporaneous with intrusive activity in the area (Bremner, 2010).

The Peso claims are adjacent to the historic Peso Silver Mine which operated throughout the 1960s mining a series of 1-5m quartz veins hosting Ag-Pb-Zn-Sb mineralization.

The Property borders Victoria Gold's DUB claims, termed the Dublin Gulch Property. Victoria Gold has loosely defined the 'Potato Hills trend', a 20 km long, ENE zone of mineralization. This trend hosts the Eagle Gold Project (3 km east of Goodman). Recent drilling at Eagle has defined an indicated mineral resource of 4.8 million ounces gold. Victoria Gold has also conducted drilling at Rex-Peso, adjacent to Nevada Zinc's Peso claims (G75-78), showing 27.44m of 382 g/t Ag along with numerous grab samples up to 3 g/t Au and <6000 g/t Ag (Mosher and Triebel, 2011).

South of the McQuesten River at the Seattle Property, the Seattle showing was staked in 1963 to cover lead-silver veins in Mississippian quartzite that has been suggested to be a western extension of the Keno Hill quartzite. Peso Silver Mines Ltd. explored the property with grid soil sampling, road construction and bulldozer trenching in 1963-64 (Morgan, 1964; Minfile 115P002). Bulldozer trenching uncovered a northeast-trending vein fault, and galena float found on the property assayed 40.3% Pb and 1556.5 g/t Ag. It appears that gold was never assayed, and that there was no subsequent work on the property (Bremner, 2010).

6.2 Work Performed by Nevada Zinc on the Goodman and Seattle Properties

Nevada Zinc Corp. has staked and held the Goodman and Seattle properties since 2010. The company has carried out a variety of surveys and studies since that time (Tables 1 and 2).

Table 1: Summary of Work Performed by Nevada Zinc on the Goodman Property.

Year	Area	Description of Exploration Work
2011	Property-wide (minus Secret Creek area and Peso)	A large scale, first pass soil sampling program, along with geological reconnaissance and prospecting (1305 soil samples, 36 rock samples, 12 silt samples). Additional claims were staked in the Secret Creek area as well as Peso at the end of the season.
2012	Property-wide	Follow-up soil sampling at Rodin, soil grid at Murphy's Creek, first pass soil sampling and prospecting at Peso, follow-up at Goodman Creek (1180 soil samples, 29 silt samples, 269 rock samples on main block. 86 soil samples, 1 silt sample, 17 rock samples on Peso).
2013	Peso	One day property visit with prospecting and geological reconnaissance on the Peso claims (4 rock samples).
2015	Rodin Creek, Peso. Briefly Goodman Creek and Cofer Creek.	IP survey and ground magnetic surveys performed at both Peso and Rodin. Geochemical survey at Rodin. 251 soil samples, 1 silt sample, 35 rock samples, 13.2 km ground mag, 6.7 km IP on main block (Mostly Rodin). 5 rock samples, 6 km ground mag, 1 km IP on Peso.
2016	Property-wide and Rodin Creek	Airborne magnetic and radiometric survey conducted across the Goodman Property. 377 line km were flown. A small Kubota trackhoe was used to dig pits at the Rodin Creek geochemical anomalies. 30 rock samples and 7 soil samples were taken.

Table 2: Summary of Work Performed by Nevada Zinc on the Seattle Property.

Year	Area	Description of Exploration Work
2011	Seattle	3 day work program of soil sampling and prospecting. Although gold results were limited, a pronounced thallium-silver-molybdenum signature was found trending eastwest in the northern area of the property. 215 soil samples, 2 silt samples, and 22 rock samples were taken.
2012	Seattle and off claims to the east	Follow-up sampling conducted on the property as well as off the claims to the east to investigate the Tl-Ag-Mo anomaly. 131 soil samples and 42 rock samples were taken.
2016	Seattle and off claims to the east	Airborne magnetics and radiometrics survey conducted over the Seattle Property and to the east to cover the geochemical anomaly. 142 line km were flown.

7.0 GEOLOGY

7.1 Regional Geology

The Clear Creek-McQuesten River region is a highly mineralized area east of the Tintina Fault. Numerous mineral showings and strong multi-element geochemical anomalies are related to high level, multi-phase quartz monzonite stocks of mid-Cretaceous age that intrude Upper Proterozoic to Silurian metasediments. Showings in the area, as well as regional silt geochemistry and industry soil sampling, demonstrate a strong correlation between gold, arsenic, antimony, tungsten and bismuth, typical of Tintina Gold Belt type intrusive hosted gold targets. Major deposits in the area include Red Mountain (18km WNW of Goodman, molybdenum-copper-gold porphyry), Dublin Gulch (15km ENE, gold-bearing sheeted quartz veins), and Scheelite Dome (10km south, gold-bearing quartz veins).

The Property is located in the western Selwyn Basin, a fault controlled epicratonic basin. The stratigraphy in the area can be categorized into four, predominantly clastic lithological units. From youngest to oldest they are: the Lower Schist (Mesozoic), Keno Hill Quartzite (Paleozoic), Upper Schist (Paleozoic, Devonian-Mississippian), and the Hyland Group, formerly the Grit Unit (Upper Proterozoic). These units have been juxtaposed by laterally extensive, northward-directed thrusting that occurred in early Cretaceous time.

7.2 Property Geology

7.2a Goodman

The Goodman Property is underlain by Upper Proterozoic quartzite, schist, phyllite, and conglomerate. A large slate unit is mapped by Muphy and Heon (1996) covering the northwestern edge of the property (Figure 3). Various thin units of limestone are also mapped throughout the region. Small, <500m, units of Lower Tertiary porphyry/rhyolite units are mapped adjacently east to the Peso claims

The MQ claims cover active and historic placer claims in Goodman Creek, Rodin Creek, and an unnamed east-flowing tributary of Secret Creek, as well as one 98th percentile (46 ppb) and three 95th percentile (26, 18 and 17 ppb) gold silt anomalies in unnamed tributaries of the McQuesten River, Red Creek, and Secret Creek. These gold placers and silt anomalies drain in all directions from an east-northeast trending ridge system that is approximately on trend with the Dublin Gulch deposit, and is underlain by the same Hyland Group metamorphic rocks that host the Dublin Gulch deposit (Bremner, 2010).

Observations during field work programs reveal the property is dominated by quartzite and muscovite-chlorite schists. Slate and limestone outcrops were observed in northwest of the property. Schists are generally well foliated and display varying degrees of deformation. Isoclinal folds are commonly observed where outcrop is available. On the west side of the property, the metasediments appear to strike ENE and dip shallowly to the north. To the east, the strike and dip tends to be more EW while still dipping shallowly to the north.

Quartz veining is consistent in outcrop and in angular boulders throughout the property. Veins have been observed as wide as 2 ft thick. Stockwork was also found in boulders east of Goodman Creek. Rocks are generally well oxidized, rusty, and weathered. Pyrite mineralization is fairly common in the quartz veins and wallrock. Galena, pyrite, chalcopyrite, and scorodite were observed in the southwest of the property in quartz veins within mica-graphite schist as well as in a tributary of Goodman Creek. A showing of stibnite mineralization with sulfur was discovered in the quartzites near Murphy's Creek (formerly termed Cofer Creek).

Arsenic-rich granite float has been recovered from the Murphy's Creek area which supports the existence of a 5x2km Tombstone-age intrusion as indicated by the recently completed airborne magnetic survey.

7.2b Peso

The Peso area is underlain by Proterozoic quartz mica schists, chlorite schists, minor quartzite, and granite of likely mid-late Cretaceous age. The 4 claims are just west of the Peso Silver Mine's No. 1 vein, and likely cover its potential extension. The No. 1 vein has an approximate 250 degree strike and dips 60 degrees to the NW. The vein has a true width of approximately 20 ft and is mineralized with jamesonite, tetrahedrite, siderite, pyrite, arsenopyrite, chalcopyrite, and secondary chalcocite. Grades vary from 6 to 50 oz/t Ag (Aho, 1962).

Dr. Aro Aho, chief geologist of operations at the Peso Silver Mine outlines multiple reasons for continuity of the No. 1 vein to the southwest (on to Nevada Zinc's claims) in his 1962 report:

> *"Continuity of No. 1 vein to the southwest appears more likely than before for the following reasons:*

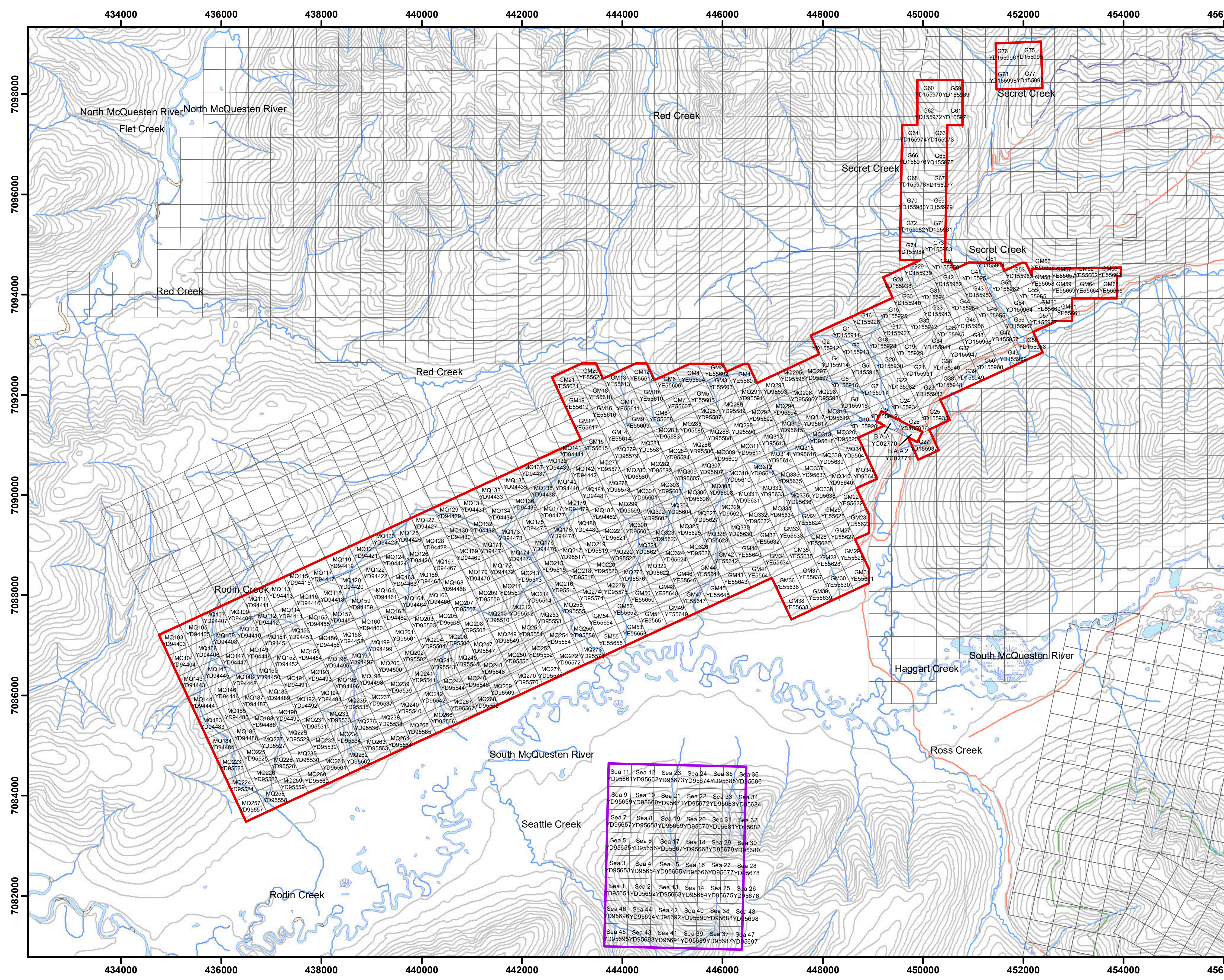
a) *The evidence for being faulted off on surface is not clear and there is little evidence of such conditions underground as yet.*
b) *Water seepages west along the slope suggest a possible channelway.*
c) *Local change in direction to S80W and narrowing, as in the section 100 feet southwest of No.1 shaft, may have concealed the extension by swinging the vein down hill.*
d) *A vein-fault zone as strong as this is likely to continue farther unless offset by later faulting."*

<u>7.2c Seattle</u>
The Seattle Property area was mapped by Muphy and Heon (1996). The property is dominated by a thrust fault-controlled unit Mississippian shale and quartzite (Figure 3). The northern extent shows a unit of Early Mississippian volcanic flows, tuffs, and chert. The southeast corner of the property is underlain by the region's dominant Upper Proterozoic-Lower Cambrian Hyland Group metasediments.

The Sea claims cover the inferred source of a 95th percentile (20 ppb) gold silt anomaly on the ridge between Seattle Creek and Ross Creek, which are north-flowing tributaries of the McQuesten River.

Observations during the 2011and 2012 work programs revealed the property is dominated by quartzite and muscovite-chlorite schists. Schists are generally well foliated and display varying degrees of deformation. Quartz-poor, oxidized metasedimentary breccia was observed in the southeast of the property. Although it is fairly deformed, the quartzite unit appears to have a WNW strike and dips shallowly to the south. There is evidence of multiple events of quartz veining on the property, often crosscutting foliation. The metasediments are generally well oxidized, rusty, and weathered. Pyrite mineralization is limited in the quartz veins and wallrock.

One outcrop of probable volcanic origin was observed with rare pieces of float found around the property. It is a well foliated amphibolite, likely representing the Early Mississipian volcanic unit mapped in the north of the property.



Goodman and Seattle Properties

Fig. 2: Claim Location Map

Nevada Zinc Corp.

Goodman Creek area, Mayo Mining District

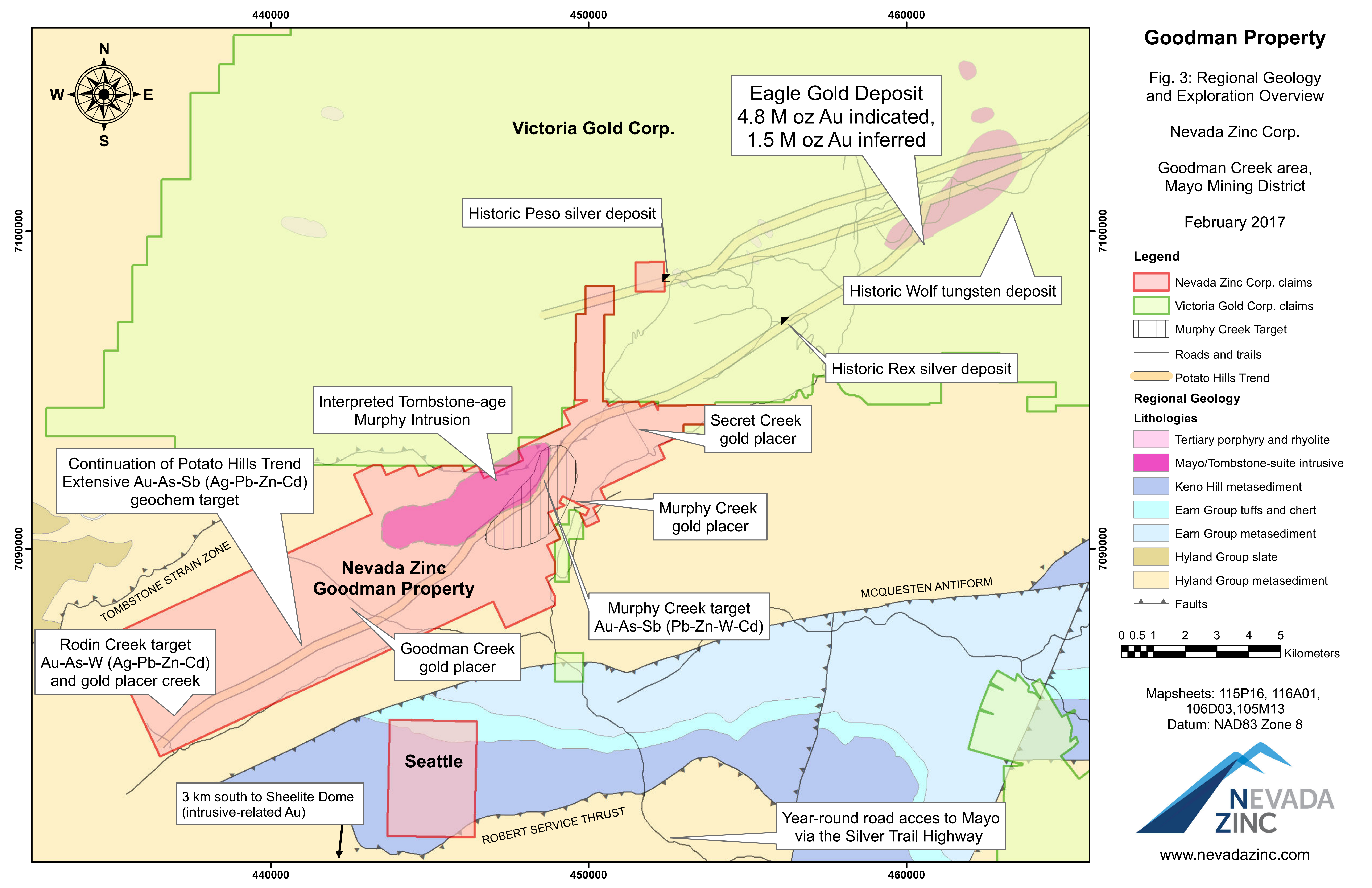
Legend

- Goodman Property
- Seattle Property
- Yukon quartz claims

1:70,000

0 435 870 1,740 2,610 3,480 Meters

Date: December, 2016
Mapsheets: 115P16, 116A01, 106D03,105M13
Datum: UTM NAD83 Zone 8


Goodman Property
Fig. 3: Regional Geology and Exploration Overview
Nevada Zinc Corp.
Goodman Creek area, Mayo Mining District
February 2017
Legend
Nevada Zinc Corp. claims
Victoria Gold Corp. claims
Murphy Creek Target
Roads and trails
Potato Hills Trend
Regional Geology
Lithologies
Tertiary porphyry and rhyolite
Mayo/Tombstone-suite intrusive
Keno Hill metasediment
Earn Group tuffs and chert
Earn Group metasediment
Hyland Group slate
Hyland Group metasediment
Faults
0 0.5 1 2 3 4 5
Kilometers
Mapsheets: 115P16, 116A01, 106D03,105M13
Datum: NAD83 Zone 8
NEVADA ZINC
www.nevadazinc.com
440000
450000
460000
7100000
7090000
N
S
W
E
Victoria Gold Corp.
Eagle Gold Deposit
4.8 M oz Au indicated,
1.5 M oz Au inferred
Historic Peso silver deposit
Historic Wolf tungsten deposit
Historic Rex silver deposit
Interpreted Tombstone-age
Murphy Intrusion
Secret Creek
gold placer
Continuation of Potato Hills Trend
Extensive Au-As-Sb (Ag-Pb-Zn-Cd)
geochem target
Murphy Creek
gold placer
TOMBSTONE STRAIN ZONE
Nevada Zinc
Goodman Property
MCQUESTEN ANTIFORM
Murphy Creek target
Au-As-Sb (Pb-Zn-W-Cd)
Rodin Creek target
Au-As-W (Ag-Pb-Zn-Cd)
and gold placer creek
Goodman Creek
gold placer
Seattle
3 km south to Sheelite Dome
(intrusive-related Au)
ROBERT SERVICE THRUST
Year-round road acces to Mayo
via the Silver Trail Highway

8.0 2016 WORK PROGRAM – Mechanical Trenching

8.1 Sampling Method and Approach

A mechanical trenching program was conducted on the Goodman Property from October 11th, 2016 to October 17th, 2016. Working out of Mayo, YT, a crew of 3 men accompanied a Kubota KX41 mini track excavator and operator (Photo 2). While the original intent was trenching, the program became more of a pit-digging exercise due to the amount of overburden encountered. Trail had to be chainsaw-cut for the excavator to gain access to the pit locations. A total of 12 pits (with a combined total of 91 ft depth) were dug in the Rodin Creek area. Pit locations were based on prior geochemical results (Figure 4). Geologists collected 30 rock samples and 7 soil samples from the pits (with the exception of 1 rock collected from a bedrock exposure). Some pits were dug to the maximum depth of the Kubota's reach, which was about 9.5 ft. All pits were reclaimed upon completion of sampling. The machine proved to be excellent at navigating tight bush conditions with minimal disturbance. However, due to the amount of overburden, a larger machine or GeoProbe would be ideal for future operations.

Rock samples were taken based on mineralogy and lithology. Generally, a representative sample was taken from every lithology or unique appearing quartz vein encountered in each pit. Samples were placed inside labeled plastic poly bags with the corresponding sample tag. Sample descriptions were recorded in a field notebook and the location recorded by GPS unit.

Soil samples were also taken during the program. Samples were taken from the pits when unique horizons were encountered during digging. Occasionally a sample of sand was taken when no rock or 'c' horizon soil was met. Samples were collected in inside labeled plastic poly bags with the corresponding sample tag. Sample descriptions were recorded in a field notebook and the location recorded by GPS unit. Rock and soil sample descriptions can be found in Appendix II and assays in Appendix III.

Photo 2: The Kubota KX41 used for the 2016 program.

8.2 Sample Preparation, Analysis, and QA/QC

Samples were shipped to Bureau Veritas' (formerly Acme Labs) prep lab Whitehorse, YT facility shortly after the completion of the program.

The soil samples were dried at 60° C and sieved to -80 mesh (<177 microns). A 15.0 gram sub-sample was digested in hot (95° C) Aqua Regia (HCl-HNO3-H2O). Following this, the samples were analysed by inductively-coupled plasma mass spectrometry (ICP-MS) techniques. Bureau Veritas' AQ201 package was used, giving analyses of 36 elements.

The rock samples were crushed, split to 250 g, pulverized, and a split was sieved to -200 mesh. A 0.5 gram split was leached in hot modified Aqua Regia. Bureau Veritas' AQ200 package was used, giving analyses of 36 elements. All rock samples were also analysed for gold by fire assay which uses a 30 gram split and ICP-ES finish (lab code FA330-Au).

Quality control samples from the lab include control blanks, duplicates and standards. Sample blanks (BLK), pulp duplicates and standards (STD DS8) were run with the batch analysis; no problems were noted with analytical accuracy or precision.

8.3 Results

The purpose of the 2016 program was to follow-up on geochemical trends in the Rodin Creek area. This area is located in the southwest corner of the Goodman Property, just east of Rodin Creek; a historically mined placer gold creek with current activity.

There are two geochemically distinct targets in the Rodin Creek area (see Figure 4). The first is Au-W-Sn. A clear anomalous gold trend running ~040 degrees spans the southern portion of the hill. Tungsten and tin (Sn was only assayed for in 2012) are strongly concordant with gold in this area, while arsenic, copper, zinc, and silver are weakly concordant. Gold-in-soil values reach up to 234 ppb. Some of these stronger gold values come from sandy samples, but many come from just above the sand deposit. This trend also corresponds with a likely graphitic shear zone interpreted from the results of the 2015 IP survey.

The other target is a 600x500m area of As-Cu-Zn-Pb-Ag-Cd anomalous soil samples. This is located closer to the base of the hill (south of the gold trend). These samples were taken in good soil conditions, generally composed of clay and rock chips.

A challenging aspect of geochemical sampling in this area of the property is the amount of sand. According to correspondence with YGS geologists, these sand deposits are glacial-lacustrine in origin, related to ponding by a valley glacier in the South McQuesten. The age of this glaciation is 120,000 years ago (J. Bond, personal communication, Sept. 10, 2015). There are at least two 'benches' running across the slope, which are identifiable in the field as poplar forested areas. They generally do not exceed 250m in downslope width.

Pit 1

This pit was dug on the potential gold-bearing structure at Rodin Creek. It was dug to a depth of 7.5 ft where it bottomed out at the bedrock interface. The majority of the soil profile was dominated by glacial-lacustrine sand. Two rock samples were taken from the pit: 1771701 and 1771702. Sample 1771701 was composed of wallrock material; competent grey quartzite with graphitic cleavage planes. Sample 1771702 was composed of orange rusty quartz vein material observed in the wallrock and loose in the pit. Neither sample returned significant assay values.

Pit 2

This pit was dug 80m south of Pit 1 along the same structure. The pit was dug to 8 ft, hitting the bedrock interface at 7 ft. As with Pit 1, the soil profile was dominated by sand. Sample 1771703 was taken from wallrock material; schist and quartzite with graphitic cleavage planes. Sample 1771704 was composed of quartz vein material which was the dominant rock type recovered from the pit. Remnant pyrite cubes were observed in the quartz and the rock smelled of sulfur when broken. Neither sample returned significant assay values.

Pit 3

This pit was dug 120m south of Pit 2, in between the gold-bearing structure and the base metal anomaly. The pit was dug to the maximum capability of the Kubota, 9.5 ft. It displayed a fairly different profile than the previous 2. The material was much more silty than the aforementioned sand profiles. It met a 2” orange oxidized layer at 3 ft depth, and then a 6” grey graphitic clay layer at 5 ft depth (Photo 3). The bottom of the pit seemed to be close to bedrock, but not much rock was encountered. Four rock samples were taken (1771705 – 1771708); one of schist material and 3 of various quartz vein pieces encountered. No rock samples returned anomalous values.

A soil sample was taken from the graphitic clay (1207052). It returned anomalous zinc (115 ppm) and slightly elevated copper and lead.

Photo 3 (right): orange oxidized layer and grey graphitic clay layers encountered in Pit 3.

Pit 4

This pit was dug roughly 200m southeast of Pit 3 in the As-Cu-Zn-Pb-Ag-Cd anomalous area. A similar graphitic horizon to Pit 3 was encountered 3 ft from surface. Sand was encountered at 7 ft. The pit was completed at 8.5 ft seemingly close to the bedrock interface. Three rock samples were taken (1771709-1771711); one of graphitic quartzite-schist and 2 of quartz vein material. The only significantly anomalous element returned was strontium (for all 3 samples).

Pit 5

This pit was dug about 100m SSE of Pit 4 within the same silver-base metal area. A 30cm graphitic clay horizon was met at 2 ft depth. Below this, oxidized schist rock chips were found from 2 to 4 ft. Graphitic rock chips were met from 4 to 6 ft. Finally, the Kubota pulled up large bedrock slabs from 6 ft to the bottom of the pit at 8.5 ft. Bedrock consisted of graphitic mica schist with fine grained quartzite layered and 2" quartz veining. Quartz vein material accounted for about 30% of the rock recovered from the pit. Sample 1771712 was from wallrock while samples 1771713 and 1771714 were quartz veining. Rock samples in general in this area have begun to show weakly anomalous silver (1.4 ppm) and arsenic values (13.9 ppm). The quartz vein samples returned high manganese values (up to 1615 ppm), corresponding with observed MnO in the rocks.

Pit 6

This pit was dug about 100m south of Pit 5. Very little sand was encountered in comparison to previous pits. A graphitic rock chip layer was dug through at 3-4 ft, and then hematitc rock chips from 5-6 ft. From 6 to 9 feet a golden-orange incompetent mica schist unit was met (Photo 4). This unit is fairly unique to the area. It is somewhat clay-y in composition, but mostly a greasy micaceous mash. More competent rock was encountered in the last foot of the pit (9.5 ft total depth): orange mica schist with quartz veining.

Photo 4: golden orange schist recovered from Pit 6

This pit yielded the most significant assay values of the program. Five rock samples and one soil samples were taken (1771715 – 1771719 and 1207053). Rock sample 1771715 and soil sample

1207053 were taken from the same material; a greasy micaceous golden-orange mash recovered from 6-9 ft. The samples yielded up to 58 ppb Au, 826 ppm As, 6.4 ppm Ag, 538 ppm Pb, and 578 ppm Zn. A rock sample of more competent oxidized schist (1771716) and a sample of chloritic quartz veining (1771717) assayed with similar anomalous elements, though not as high concentrations.

Pit 7

This pit was dug 100m SW of Pit 6. The pit encountered a similar graphitic layer at 2.5 ft, then tan micaceous soil and rock chips to the bottom at 5.5 ft. At this point permafrost was encountered and the Kubota could dig no further. Three rock samples were taken of schist and quartzite wallrock, quartz vein material and semi-consolidated micaceous rock. Assays were not significant, save for a high Mn value from a sample of graphitic schist (1156 ppm).

Pit 8

This pit was dug 100m SW of Pit 7 continuing through the silver-base metal zone. Very little sand was encountered in the pit. A graphitic horizon was once again encountered at 2 ft. Bedrock was hit at 6 ft and the pit terminated at 7 ft. Quartz vein material was the dominant rock recovered from the pit with the wallrock being composted of graphitic oxidized schist (sample 1771723). Quartz veining hosted graphitic seams and minor iron carbonate (samples 1771724 and 1771725). Some MnO and specular hematite was observed in the veining but no significant assays returned save for 1366 ppm Mn in 1771725 (Photo 5).

Photo 5: Sample 1771725 from Pit 8 – quartz vein material with iron carbonate and manganese oxide

Pit 9

This pit was dug 100m SW of Pit 8 at the edge of the silver-base metal anomalous area. The pit was dug above a poplar forest in a depressed area. Only beach-like sand was encountered for its entire 8.25 ft of depth. No samples were taken.

Pit 10

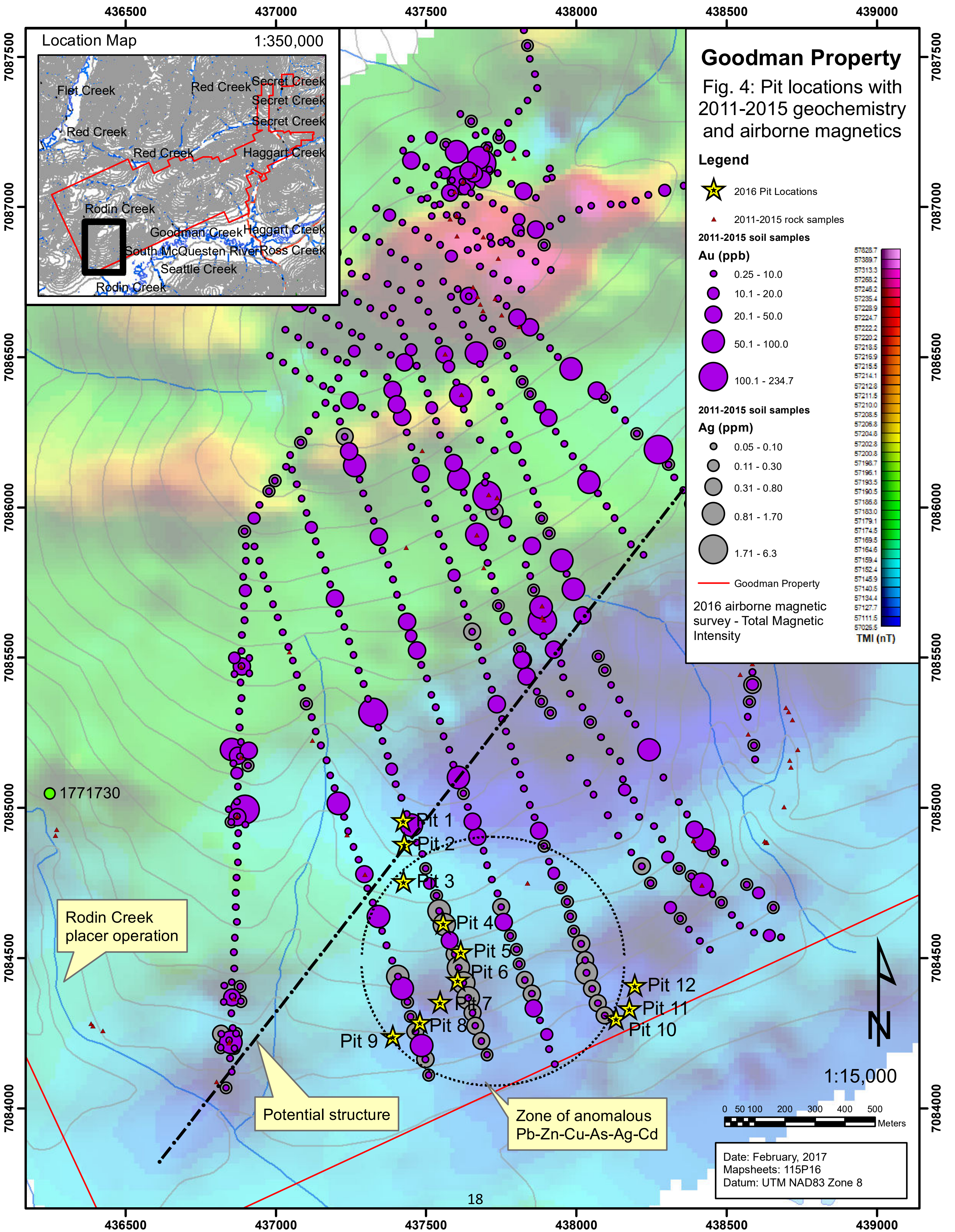
Pits 10 to 12 were dug on a new trail ~500m east of the previous 9 pits. This trail is still within the silver-base metal anomalous zone; however it is within an area of lower magnetic susceptibility. Glacial sand and till was mostly encountered in the pit, and permafrost was hit at 5.5 ft. Some angular quartz float was recovered and sampled but did not return significant assays.

Pit 11

This pit was dug 75m NE of Pit 10. It was dug in an old drainage depression to a depth of 6 ft. Only sand was encountered in the pit. A soil sample was taken from the sand assaying 77 ppb Au.

Pit 12

This pit was dug 100m NE of Pit 11. Again, sand dominated the profile. Rock float showed up past 5 ft mixed with sand and the pit was terminated at 8 ft. The rock did appear to be semi-local, composed of schist and quartzite with graphitic and chloritic oxidized quartz veining (samples 1771727 – 1771729). No significant assays were returned.


Goodman Property
Fig. 4: Pit locations with 2011-2015 geochemistry and airborne magnetics
Legend
2016 Pit Locations
2011-2015 rock samples
2011-2015 soil samples
Au (ppb)
0.25 - 10.0
10.1 - 20.0
20.1 - 50.0
50.1 - 100.0
100.1 - 234.7
2011-2015 soil samples
Ag (ppm)
0.05 - 0.10
0.11 - 0.30
0.31 - 0.80
0.81 - 1.70
1.71 - 6.3
Goodman Property
2016 airborne magnetic survey - Total Magnetic Intensity
TMI (nT)
Location Map
1:350,000
Flat Creek
Red Creek
Secret Creek
Haggart Creek
Rodin Creek
Goodman Creek
South McQuesten River
Ross Creek
Seattle Creek
1771730
Rodin Creek placer operation
Potential structure
Zone of anomalous Pb-Zn-Cu-As-Ag-Cd
Pit 1
Pit 2
Pit 3
Pit 4
Pit 5
Pit 6
Pit 7
Pit 8
Pit 9
Pit 10
Pit 11
Pit 12
N
1:15,000
0 50 100 200 300 400 500
Meters
Date: February, 2017
Mapsheets: 115P16
Datum: UTM NAD83 Zone 8
436500
437000
437500
438000
438500
439000
7087500
7087000
7086500
7086000
7085500
7085000
7084500
7084000

9.0 2016 WORK PROGRAM – Airborne Geophysics

9.1 Goodman Property

An airborne magnetic and radiometric survey was flown over the Goodman Property on September 19th, 2016. Precision GeoSurveys Inc. of Langley, BC flew 377 line km over the property covering a roughly 19 x 3 km area (see Figure 5 for a map of the survey location and property highlights and see Appendix IV for the full Precision GeoSurveys report and figures). Lines were flown at 150m spacing with tie lines flown at 1500m spacing.

The purpose of the survey was to investigate the suspected presence of a buried intrusion in the Murphy's Creek area indicated by regional geophysical data. It was also hoped that an intrusion would appear at Rodin Creek in the vicinity of the silver-base metal anomalous area.

The survey was successful in defining the presence of a likely intrusive body in the Murphy's Creek area. The body is roughly 4.5x1.5 km to 5x2 km in size and oriented at ~055 degrees. The magnetic response is fairly low and is best highlighted on the calculated vertical gradient map. This is to be expected for a reduced intrusion with a lack of magnetite. It is very possibly Tombstone/Mayo Suite age (mid-Cretaceous) bearing similarities to the Dublin Gulch Stock and Scheelite Dome Stock. Magnetic response is also likely low due to the likelihood that the intrusion is buried by a thin layer of schist or quartzite.

The Murphy's Creek area also shows up as a high on the potassium radiometric survey. This indicates potassic alteration which in turn indicates a high concentration of felsic minerals (feldspar) and thus further evidence for the presence of a buried intrusion. Soil geochemistry in the area also supports this evidence which is discussed further in Section 10 and displayed in Figure 6.

Another area with a radiometric potassium high is seen roughly 3 km NE of the Rodin Creek area (on Figure 5 it is annotated with 'New exploration target outlined'. This coincides with a magnetic low and anomalous As-Ag-Pb-Zn-Cd soil geochemistry.

The Rodin Creek area did not show a distinct magnetic signature in the area of the As-Cu-Zn-Pb-Ag-Cd soil geochemistry. The top of the hill, however, shows a thin band of higher magnetic response similar to that at Murphy's Creek with dimensions up to 3 x 1 km.

9.2 Seattle Property

An airborne magnetic and radiometric survey was flown over the Seattle Property on September 20th, 2016. Precision GeoSurveys Inc. of Langley, BC flew 142 line km over the property covering a roughly 6.5 x 3 km area (see Figure 5 for a map of the survey location and property highlights and see Appendix V for the full Precision GeoSurveys report and figures). Lines were flown at 150m spacing with tie lines flown at 1500m spacing.

The purpose of the survey here was to explain the distinct Ag-Zn-Mo-Tl (Ni-Co-Cu-Mg) soil geochemistry trend outlined during the 2011 and 2012 sampling programs (Figure 7). It was very successful in this domain. Best viewed on the calculated vertical gradient map, a similar magnetic high signature to that seen at Murphy's Creek coincides with the elevated Ag-Mo-Tl values. The magnetic response is less cohesive and fewer inferences can be made as to its meaning due to the size of the survey. Further processing of the data and inversions would likely aid interpretation.

Potassium radiometrics show a high in the southwest of the survey area. This coincides more with gold-in-soil values seen on the property (up to 45 ppb Au).

10.0 DISCUSSION

10.1 Murphy's Creek area

There is significant evidence for a buried intrusion in the Murphy's Creek area. There is also evidence that it is of the Tombstone/Mayo Suite of intrusions and of economic value.

Airborne magnetic data indicates a magnetic high with and inverted magnetic low halo with dimensions between 4.5x1.5km and 5x2km. The body (termed the Murphy Intrusion) has an orientation of 50-60 degrees. This size and orientation is almost identical to the Dublin Gulch Stock which hosts Victoria Gold's Eagle Deposit (4.8M Oz indicated). The Murphy Intrusion is along the regional geological strike with the Dublin Gulch Stock and appears to be a continuation of the Potato Hills Trend as defined by Victoria Gold. It is located just south of the mapped Tombstone Strain Zone which continues to the northeast towards Dublin Gulch.

The likelihood that it would be of Tombstone or Mayo Suite (mid-Cretaceous) in age is probable. As mentioned it has many similarities to Dublin Gulch and is also flanked to the south by the similar-aged Scheelite Dome Stock. It appears to be a reduced intrusion due to the lower magnetic signature which is consistent with mineralized stocks of the Tintina Gold Belt.

Physical evidence of the intrusion exists as well. Rock outcroppings are minimal in the area. On top of the hill some quartzite and schist has been observed which leads to the conclusion that the intrusion is buried under some amount of sediment cover. However in the lower elevations to the southeast which make up the Murphy's Creek drainage area there is almost no outcropping. One large mudslide area has produced a variety of rock float. Many granite rock samples have been recovered from here which yield significant arsenic (up to 350 ppm) and anomalous antimony values (up to 18 ppm), and occasionally host visible arsenopyrite. Other rock samples of hornfels quartz breccia and quartzite yield up to 349 ppm As and 32 ppm Sb.

The potential for gold mineralization related to the Murphy Intrusion is supported by soil geochemistry and the limited rock sampling. One of the very few outcrops southeast of the intrusion hosts stibnite mineralization in quartzite yielding >2000 ppm Sb and up to 390 ppb Au, 375 ppm As, 775 ppm Zn, 108 ppm Cu between three grab samples. Extensive soil sampling in the area reveals a distinct signature showing very little anomalous values over the intrusion itself but a trend of anomalous samples occurring to the southeast (Figure 6). Values up to 172 ppb Au, 809 ppm As, 782 ppm Sb are found in soil samples with gold correlating best with arsenic (0.61), antimony (0.24), and tungsten (0.15). Soil sampling conditions are not ideal in this area due to large amounts of overburden and glacial material which may account for weak correlations. A silver-lead-zinc relationship exists as well, but not as pronounced as other areas of the property.

In their paper on the geology and metallogenic signature of gold occurences at Scheelite Dome Mair et al. (2000) describe two distinct geochemical suites found within the area of the gold-in-soil anomaly at Scheelite Dome. The first suite, characterized by Au-Te-Bi +/- As possesses the stronger gold association and is typical of occurrences found elsewhere in the Tombstone Gold Belt. The second suite is characterized by Ag-Pb-Zn-Cd-Sb +/- Au which is more typical of mineralization found in the Keno Hill district. They go on to say that field observations and chemical analysis indicate that the two suites are paragenetically related, that is, both related to Tombstone-age intrusive activity.

Gold at both Scheelite Dome and Dublin Gulch is hosted by east and northeast trending, variably dipping sheeted quartz-k-feldspar veins. Arsenopyrite is the dominant sulphide mineral at Scheelite Dome with stibnite occurring as a later stage mineralizing event. Veins at Dublin Gulch host more pyrrhotite and pyrite. Element suites at Dublin Gulch vary across the numerous showings, but generally gold is associated with Bi-As-Te-W-Mo-Sb with low base metal values (Mosher, 2011).

What significantly differs Scheelite Dome from Dublin Gulch is that the bulk of the gold mineralization occurs within the hornfels metasediment south of the intrusion, whereas at Dublin Gulch the majority is found within the intrusion itself (although both deposits have significant outliers).

These sheeted veins within the hornfels metasediment found at Scheelite Dome are a likely model to what is happening southeast of the Murphy Intrusion. However, mineralization within the intrusion itself cannot be ruled out from current geochemical results due to the likelihood that the intrusion is buried under an unknown quantity of schist and quartzite.

10.2 Rodin Creek area

Rodin Creek has proved to be a difficult target to explore using classic techniques. Soil sampling runs into problems with the amount of glacial-lacustrine sand; there is almost no outcrop in the area; and mechanical trenching ended up as pit digging due to the depth to bedrock. Although gold-in-soil values are sporadic, there does appear to be a trend which correlates with the IP data (Ferraro, 2015). There is likely a large structure in this area. It is also undeniable that there is a significant amount of very high gold-in-soil values in the area which does not occur elsewhere. While this presents a problem for vectoring in, the As-Ag-Pb-Zn-Cd occurrence shows a clear 500x600m area of anomalous samples which were taken from material representative of the local bedrock.

With knowledge of Fort Knox-style Au-bearing sheeted quartz veins and Keno Hill style mineralization including that which occurs at Peso, it is easy to visualize an intrusive-related gold target with associated lead-silver mineralization in this area. It was hoped that the airborne magnetic survey would give further opportunities to narrow down a trenching target, but that was not the case. Given the tools and budget available, the exploration program went well, but the machine was not ideal for this area. When trying to hit a vein, long trenches are required, similar to what has been done in the White Gold district. Digging pits to find a vein in an area that large has very low odds of success, even in an area like Dublin Gulch.

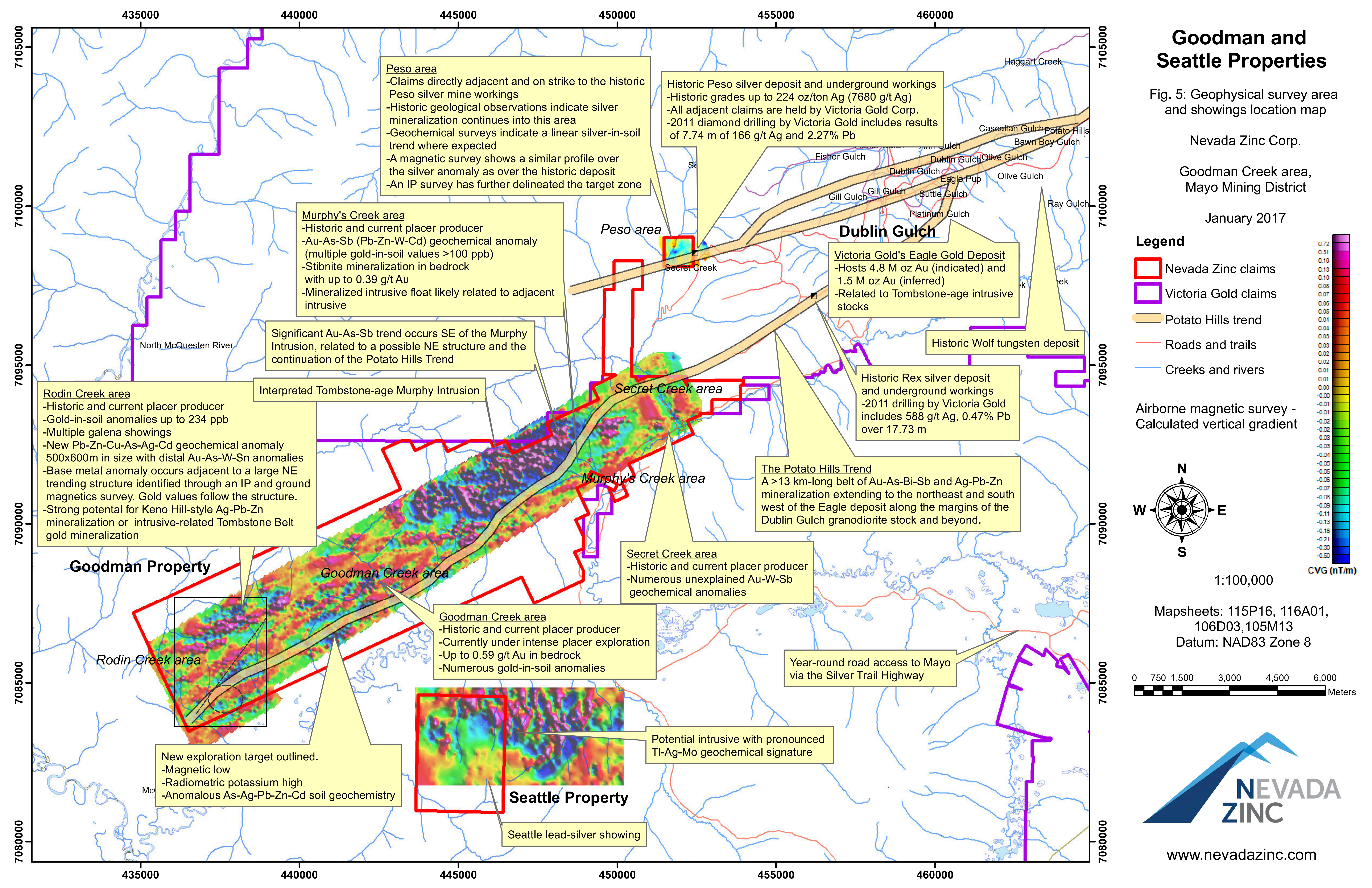
While nothing came out of the few pits dug along the gold target, all of the pits in the silver area yielded rock samples with weakly anomalous values, including a few rocks with high base metal values. It is the author's belief that there are indeed mineralized lead-silver veins in this 500x600m area similar to the No. 1 vein found at Peso, but that glacial activity has 'smeared' the soil around giving a more diffuse and indirect geochemical signature. Some support for this would be the extreme magnetic low in this area, which was also observed in the ground magnetic survey at the No. 1 Peso vein and through the western extension on the Peso claims (Ferraro, 2015). There is also very likely a gold target on this hill somewhere, but the chemistry is much more spread out and difficult to vector in. The peak of the hill shows a magnetic high similar to the Murphy Intrusion. This may be a better target for further exploration.

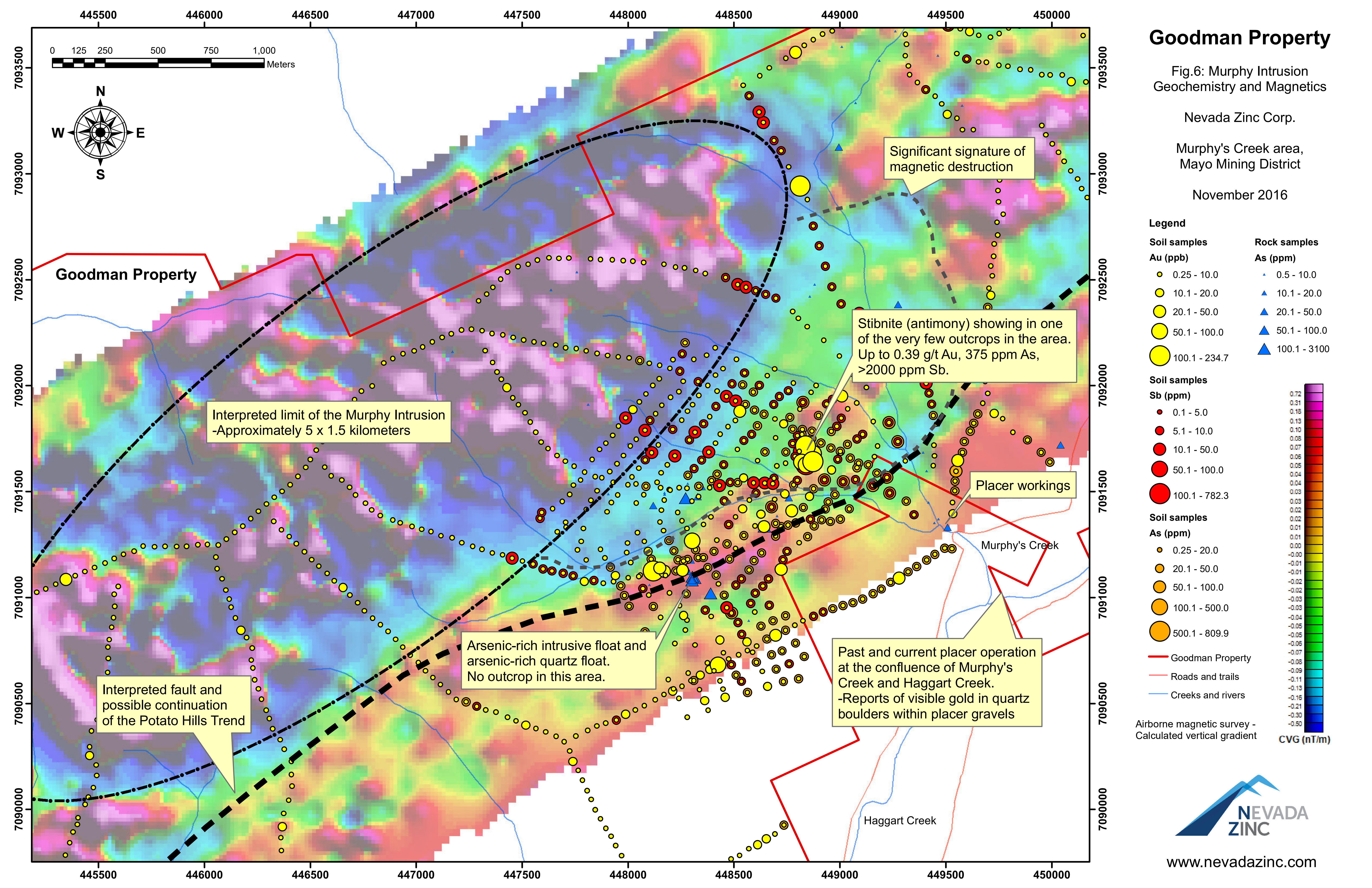
10.3 Seattle area

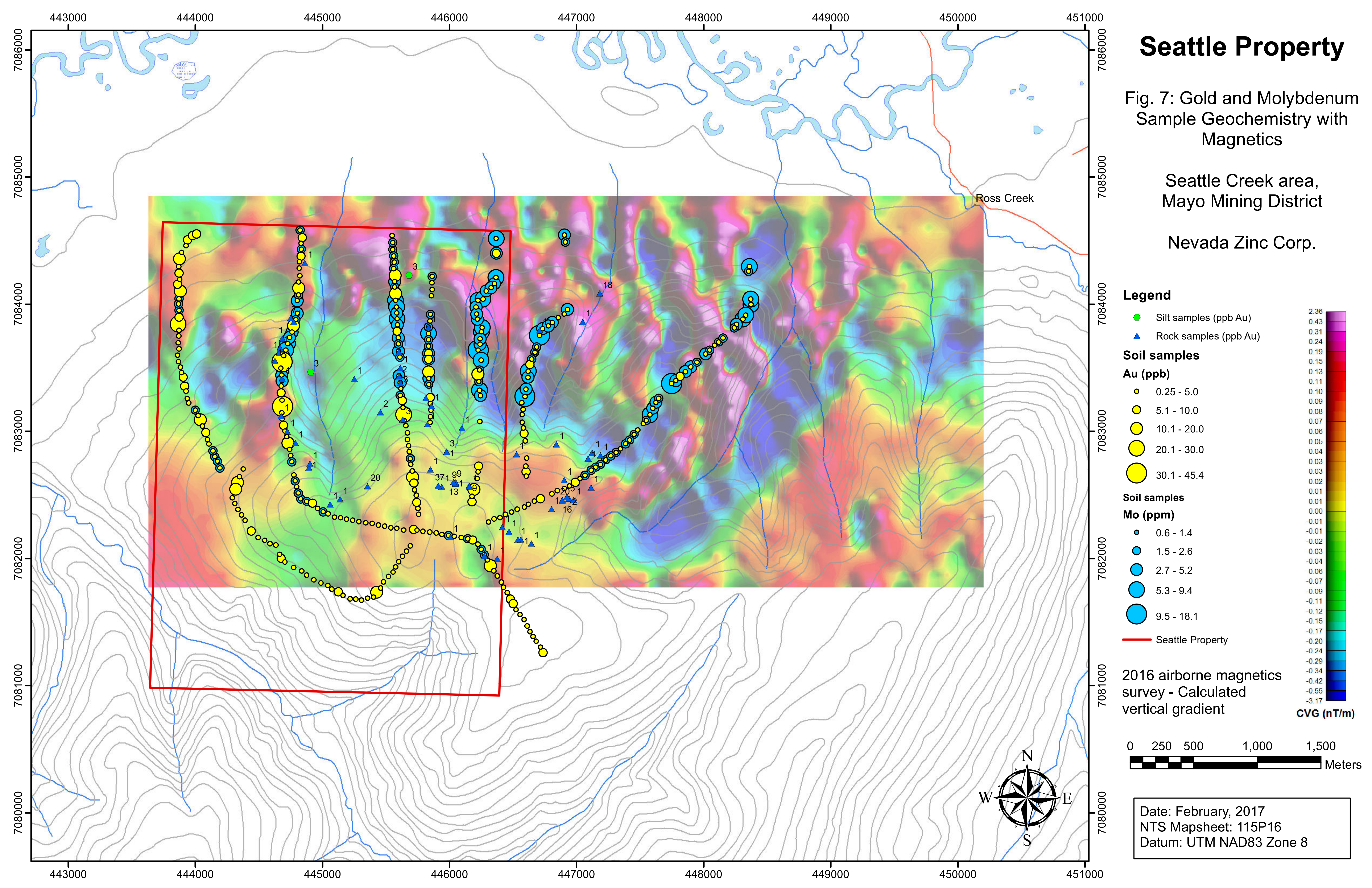
The Seattle airborne survey was successful in giving legitimacy to the Ag-Zn-Mo-Tl-Ni-Co-Cu trend observed in the soil geochemistry. Figure 7 displays molybdenum as an example which the similar to the other aforementioned element. As to what this magnetic response represents is debateable. It does not have the same appearance as the Muphy's Creek anomaly yet has similar levels of response. The radiometics do not bear many similarities. The geochemistry is also fairly different from the Goodman Property to the north, primarily lacking lead and antimony. Gold has a very poor correlation to any other element at Seattle.

Due to the unique element suite, it is possible the magnetics represents a mafic or ultramafic intrusion. Nickel, cobalt and copper (common elements in mafic intrusions) follow the trend, as well as magnesium. A felsic intrusion cannot be ruled out, either. Molybdenum, silver and zinc are common elements across Dublin Gulch and Scheelite Dome. The lack of lead is suspicious, however, as it is a fairly immobile element.

The presence of thalium is interesting. It is a common element found in Carlin-type deposits. However, it may be common in Tombstone-age intrusives but undocumented.


Goodman and Seattle Properties
Fig. 5: Geophysical survey area and showings location map
Nevada Zinc Corp.
Goodman Creek area, Mayo Mining District
January 2017
Legend
Nevada Zinc claims
Victoria Gold claims
Potato Hills trend
Roads and trails
Creeks and rivers
Airborne magnetic survey - Calculated vertical gradient
CVG (nT/m)
N
W
E
S
1:100,000
Mapsheets: 115P16, 116A01, 106D03,105M13
Datum: NAD83 Zone 8
0 750 1,500 3,000 4,500 6,000 Meters
NEVADA ZINC
www.nevadazinc.com
Peso area
-Claims directly adjacent and on strike to the historic Peso silver mine workings
-Historic geological observations indicate silver mineralization continues into this area
-Geochemical surveys indicate a linear silver-in-soil trend where expected
-A magnetic survey shows a similar profile over the silver anomaly as over the historic deposit
-An IP survey has further delineated the target zone
Historic Peso silver deposit and underground workings
-Historic grades up to 224 oz/ton Ag (7680 g/t Ag)
-All adjacent claims are held by Victoria Gold Corp.
-2011 diamond drilling by Victoria Gold includes results of 7.74 m of 166 g/t Ag and 2.27% Pb
Murphy's Creek area
-Historic and current placer producer
-Au-As-Sb (Pb-Zn-W-Cd) geochemical anomaly (multiple gold-in-soil values >100 ppb)
-Stibnite mineralization in bedrock with up to 0.39 g/t Au
-Mineralized intrusive float likely related to adjacent intrusive
Significant Au-As-Sb trend occurs SE of the Murphy Intrusion, related to a possible NE structure and the continuation of the Potato Hills Trend
Interpreted Tombstone-age Murphy Intrusion
Rodin Creek area
-Historic and current placer producer
-Gold-in-soil anomalies up to 234 ppb
-Multiple galena showings
-New Pb-Zn-Cu-As-Ag-Cd geochemical anomaly 500x600m in size with distal Au-As-W-Sn anomalies
-Base metal anomaly occurs adjacent to a large NE trending structure identified through an IP and ground magnetics survey. Gold values follow the structure.
-Strong potential for Keno Hill-style Ag-Pb-Zn mineralization or intrusive-related Tombstone Belt gold mineralization
Victoria Gold's Eagle Gold Deposit
-Hosts 4.8 M oz Au (indicated) and 1.5 M oz Au (inferred)
-Related to Tombstone-age intrusive stocks
Historic Wolf tungsten deposit
Historic Rex silver deposit and underground workings
-2011 drilling by Victoria Gold includes 588 g/t Ag, 0.47% Pb over 17.73 m
The Potato Hills Trend
A >13 km-long belt of Au-As-Bi-Sb and Ag-Pb-Zn mineralization extending to the northeast and south west of the Eagle deposit along the margins of the Dublin Gulch granodiorite stock and beyond.
Secret Creek area
-Historic and current placer producer
-Numerous unexplained Au-W-Sb geochemical anomalies
Goodman Creek area
-Historic and current placer producer
-Currently under intense placer exploration
-Up to 0.59 g/t Au in bedrock
-Numerous gold-in-soil anomalies
Year-round road access to Mayo via the Silver Trail Highway
New exploration target outlined.
-Magnetic low
-Radiometric potassium high
-Anomalous As-Ag-Pb-Zn-Cd soil geochemistry
Potential intrusive with pronounced Tl-Ag-Mo geochemical signature
Seattle lead-silver showing
Goodman Property
Seattle Property
Dublin Gulch
Peso area
Secret Creek
Secret Creek area
Murphy's Creek area
Goodman Creek area
Rodin Creek area
North McQuesten River
Haggart Creek
Cascallan Gulch
Potato Hills
Bawn Boy Gulch
Fisher Gulch
Dublin Gulch
Olive Gulch
Eagle Pup
Gill Gulch
Suttle Gulch
Platinum Gulch
Ray Gulch
435000
440000
445000
450000
455000
460000
7105000
7100000
7095000
7090000
7085000
7080000


Goodman Property
Fig.6: Murphy Intrusion Geochemistry and Magnetics
Nevada Zinc Corp.
Murphy's Creek area, Mayo Mining District
November 2016
Legend
Soil samples Au (ppb)
0.25 - 10.0
10.1 - 20.0
20.1 - 50.0
50.1 - 100.0
100.1 - 234.7
Rock samples As (ppm)
0.5 - 10.0
10.1 - 20.0
20.1 - 50.0
50.1 - 100.0
100.1 - 3100
Soil samples Sb (ppm)
0.1 - 5.0
5.1 - 10.0
10.1 - 50.0
50.1 - 100.0
100.1 - 782.3
Soil samples As (ppm)
0.25 - 20.0
20.1 - 50.0
50.1 - 100.0
100.1 - 500.0
500.1 - 809.9
Goodman Property
Roads and trails
Creeks and rivers
Airborne magnetic survey - Calculated vertical gradient
CVG (nT/m)
NEVADA ZINC
www.nevadazinc.com
0 125 250 500 750 1,000 Meters
N S W E
Goodman Property
Significant signature of magnetic destruction
Stibnite (antimony) showing in one of the very few outcrops in the area. Up to 0.39 g/t Au, 375 ppm As, >2000 ppm Sb.
Interpreted limit of the Murphy Intrusion -Approximately 5 x 1.5 kilometers
Placer workings
Murphy's Creek
Arsenic-rich intrusive float and arsenic-rich quartz float. No outcrop in this area.
Past and current placer operation at the confluence of Murphy's Creek and Haggart Creek. -Reports of visible gold in quartz boulders within placer gravels
Interpreted fault and possible continuation of the Potato Hills Trend
Haggart Creek
445500 446000 446500 447000 447500 448000 448500 449000 449500 450000
7093500 7093000 7092500 7092000 7091500 7091000 7090500 7090000


Seattle Property
Fig. 7: Gold and Molybdenum Sample Geochemistry with Magnetics
Seattle Creek area, Mayo Mining District
Nevada Zinc Corp.
Legend
Silt samples (ppb Au)
Rock samples (ppb Au)
Soil samples
Au (ppb)
0.25 - 5.0
5.1 - 10.0
10.1 - 20.0
20.1 - 30.0
30.1 - 45.4
Soil samples
Mo (ppm)
0.6 - 1.4
1.5 - 2.6
2.7 - 5.2
5.3 - 9.4
9.5 - 18.1
Seattle Property
2016 airborne magnetics survey - Calculated vertical gradient
2.36
0.43
0.31
0.24
0.19
0.15
0.13
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.03
0.02
0.01
0.01
0.00
-0.01
-0.01
-0.02
-0.03
-0.04
-0.06
-0.07
-0.09
-0.11
-0.12
-0.15
-0.17
-0.20
-0.24
-0.29
-0.34
-0.42
-0.55
-3.17
CVG (nT/m)
0 250 500 1,000 1,500
Meters
N
W
E
S
Date: February, 2017
NTS Mapsheet: 115P16
Datum: UTM NAD83 Zone 8
Ross Creek
443000
444000
445000
446000
447000
448000
449000
450000
451000
7086000
7085000
7084000
7083000
7082000
7081000
7080000

11.0 CONCLUSIONS AND RECOMMENDATIONS

The Murphy's Creek area presents an excellent exploration target. Multiple pieces of evidence point to the presence of a Tombstone-age intrusion: the airborne magnetics show a size, orientation and response similar to Dublin Gulch, the geochemistry is typical of Dublin Gulch and Scheelite Dome, and the position along the Tombstone Strain Zone gives a geological setting ideal for an intrusive body. One of the few outcrops in the area is mineralized, and arsenic-rich granite float has been recovered.

At this point, more intensive methods of exploration must be implemented to investigate this target. If trenching is to be done, a large backhoe would be required as overburden is thick. However, the most useful tool at this stage would be drilling. A simple rotary air blast (RAB) or reverse circulation (RC) drill would be useful on top of the hill to test for the presence of the intrusion should it be buried under a cover of schist. It would be fast, cheap and effective to test for lithological changes. This would also work southeast of the intrusion in the area of anomalous geochemistry; however, a diamond drill would be better suited to see structure, mineralization and orientation of veining. A program of 1000m RAB/RC drilling and 1000m diamond drilling would be ideal for a first pass at this target. Alternatively, 2 weeks with a large backhoe unit trenching to the southeast of the intrusion would also be beneficial. The area is fairly accessible by the same road which leads to Dublin Gulch.

Also useful would be additional processing on the geophysical data to give more information about the depth of this potentially buried intrusion.

The Rodin Creek area continues to be an elusive target. The Kubota pit-digging program, while a worthwhile investigative exercise, did little to prove or disprove the presence of gold mineralization or Keno Hill-style lead-silver mineralization. It is believed that high grade silver-lead veining is indeed present in the outlined 500x600m area, but glacial activity has displaced and/or diffused the geochemical signature. A more tightly spaced bedrock exploration technique will be required to explore this target. A tracked GeoProbe unit uses a percussion system to take a soil sample and sample the top few inches of bedrock at the depth required by the thickness of overburden in this area. Running a survey like this with spacings of 15m may be the most efficient way to vector in. Alternatively, a large backhoe unit could be used to dig a much larger trench. The area is close to the road and fairly accessible.

As for investigating the presence of gold-mineralized veins up the hill, the GeoProbe again may be the only solution. It is too large of an area to trench, and the GeoProbe will obtain a bedrock sample regardless of permafrost. The survey should cover the potential structure as outlined in the IP survey, but also the magnetic high closer to the top of the hill.

The radiometric potassium high/magnetic low 3 km east of the Rodin Creek target with associated As-Ag-Pb-Zn-Cd soil geochemistry should be followed up. Soil gridding and prospecting is all that is required in this area for a second pass approach.

The Seattle Property presents an interesting magnetic and geochemical signature. There is a strong potential for a mineralized intrusion, but it is quite possibly mafic or ultramafic. Further processing of the magnetic data and/or interpretation by an experience geophysicist may aid in determining the origin of the anomaly. Claims should be staked adjoining the property to the east for the extent of the magnetic survey coverage. Prospecting and geological mapping needs to be done in this area as it has seen almost no ground work save for the soil sampling lines. Platinum and palladium should also be assayed for in future programs at Seattle.

REFERENCES

Aho, A. (1962): Report on the No. 1 Crosscut into No. 1 Vein, February 28, 1962. Peso Silver Mines Limited. Assessment Report.

Bremner, T. (2010): Goodman Property MQ 1-342 Claims (applications pending) 115P16, Mayo Mining District, for YC Syndicate, Goldspike Exploration Inc.

Bremner, T. (2010): Seattle Property Sea 1-48 Claims (applications pending) 115P16, Mayo Mining District, for YC Syndicate, Goldspike Exploration Inc.

Ferraro, D. (2011): 2011 Geochemical Report on the Goodman Property, Mayo Mining District, Yukon Territory. For Goldspike Exploration Inc. Assessment Report.

Ferraro, D. (2012): 2012 Geochemical Report on the Goodman Property, Mayo Mining District, Yukon Territory. For Goldspike Exploration Inc. Assessment Report.

Ferraro, D. (2015): 2015 YMEP Target Evaluation Assessment Report. Goodman Property, Mayo Mining District, Yukon Territory. YMEP 15-047. For Nevada Zinc Corp. Assessment Report.

Mair, J.L., Hart, C.J.R, Goldfarb, R.J., O'Dea, M. and Harris, S., 2000. Geology and metallogenic signature of gold occurrences at Scheelite Dome, Tombstone gold belt, Yukon. *In:* Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 165-176.

Morgan, D (1964): Geochemical Survey "Alice" Group, Peso Silver Mines Ltd., Vancouver, BC.

Mosher, G. and Triebel, K. (2011): Technical Report on the Eagle Zone, Dublin Gulch Property, Yukon Territory, Canada. Victoria Gold Corp., Vancouver, BC.

Murphy, D. (1996): Geology of the McQuesten River Region, Northern McQuesten and Mayo Map Areas, Yukon Territory (115P/14, 15, 16; 105M/13, 14. Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 6, 122 p.

Murphy, D. and Heon, D. (1996): Geological map of Seattle Creek map area, western Selwyn Basin, Yukon (115P/16). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Geoscience Map 1996-3, scale 1:50,000.

Natural Resources Canada, Atlas, (12/05/2006):
http://atlas.nrcan.gc.ca/auth/english/maps/reference/provincesterritories/yukon_territory/referencemap_image_view (visited 01/02/2012)

STATEMENT OF EXPENDITURES

Costs associated with the Goodman and Seattle Work Program
Worked between September 19th and October 18th, 2016
Nevada Zinc Corp.

DAILY FIELD EXPENSES	firearms, hammers, augers, gps, batteries etc	$100/day * 28 man days	$2,800.00
TRANSPORT	fuel	by receipt	$422.19
ASSAYS	soil sample assays	$30 * 7 samples	$210.00
	rock sample assays	$35 * 30 samples	$1,050.00
	sample shipping (Kluane Freight)	by receipt	$99.12
CONSULTANT WAGES	geologist	$500/day * 9 days	$4,500.00
REPORT	assessment report		$5,000.00
GEOPHYSICS	Airborne mag contracted to Precsion Geosciences	by invoice/receipt	$56,108.00
TRENCHING	Contracted to Stewart Basin Exploration	by invoice/receipt	$5,400.00
ACCOMODATION	Bedrock motel in Mayo	by receipt	$1,210.00
DRUID INVOICE	Truck rental	$150/day * 9 days	$1,350.00
	Trailer rental	$50 * 7 days	$350.00
	ATV + tub trailer (x2)	$130 * 7 days * 2	$1,820.00
	Chainsaw rentals	$35 * 2 saws * 7 days	$490.00
	Extra crew gear rentals	$30 * 21 man days	$630.00
	Accomodation - Dawson	$45 * 4 man days	$180.00
	Staff geologist	$400 * 7 days	$2,800.00
	Staff prospector/technician	$350 * 7 days	$2,450.00
	Office rental	$45 * 4 days	$180.00
	TOTAL		**$87,049.31**

CERTIFICATE OF QUALIFICATIONS

I, Daniel Ferraro, of 835 Berkshire Dr., Woodstock, Ontario, Canada, certify that:

1. I am a graduate of Lakehead University, 2008, and a hold an H. B.Sc. Geology degree.

2. I am an independent geological consultant.

3. I am a member of the Ontario Prospectors Association (2010).

4. I have been employed as a geological assistant for the Ontario Geological Survey and the Geological Survey of Canada during the summers of, respectively, 2006 and 2007.

5. I have been working in the mineral exploration industry since 2008 consulting for Pacific North West Capital Corporation, East West Resources Corporation, Rainy Mountain Royalty Corporation, Black Panther Mining Corporation, White Tiger Mining Corporation, Trillium North Minerals Ltd., Nebu Resources Inc., Canoe Mining Ventures Corp., Harte Gold Corp., Goldstrike Resources Ltd., Goldspike Exploration Inc., and Nevada Zinc Corp.

6. This report was prepared by myself.

7. I have no personal knowledge from the date of this certificate of any material fact or change not reflected in this report.

____________________. Date: Feb. 15, 2017.

Daniel Ferraro, HBSc.

Appendix I: List of Claims

Appendix IA: List of claims comprising the Goodman Property

Claim Name	Claim Number	Grant Number	Claim Owner (100%)	Claim Expiry Date	Status	NTS Map Number
MQ	103	YD94403	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	104	YD94404	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	105	YD94405	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	106	YD94406	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	107	YD94407	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	108	YD94408	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	109	YD94409	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	110	YD94410	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	111	YD94411	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	112	YD94412	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	113	YD94413	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	114	YD94414	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	115	YD94415	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	116	YD94416	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	117	YD94417	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	118	YD94418	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	119	YD94419	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	120	YD94420	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	121	YD94421	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	122	YD94422	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	123	YD94423	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	124	YD94424	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	125	YD94425	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	126	YD94426	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	127	YD94427	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	128	YD94428	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	129	YD94429	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	130	YD94430	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	131	YD94431	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	132	YD94432	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	133	YD94433	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	134	YD94434	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	135	YD94435	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	136	YD94436	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	137	YD94437	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	138	YD94438	Goldspike Exploration Inc.	01/09/2021	Active	115P16

MQ	139	YD94439	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	140	YD94440	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	141	YD94441	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	142	YD94442	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	143	YD94443	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	144	YD94444	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	145	YD94445	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	146	YD94446	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	147	YD94447	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	148	YD94448	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	149	YD94449	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	150	YD94450	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	151	YD94451	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	152	YD94452	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	153	YD94453	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	154	YD94454	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	155	YD94455	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	156	YD94456	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	157	YD94457	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	158	YD94458	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	159	YD94459	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	160	YD94460	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	161	YD94461	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	162	YD94462	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	163	YD94463	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	164	YD94464	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	165	YD94465	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	166	YD94466	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	167	YD94467	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	168	YD94468	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	169	YD94469	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	170	YD94470	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	171	YD94471	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	172	YD94472	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	173	YD94473	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	174	YD94474	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	175	YD94475	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	176	YD94476	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	177	YD94477	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	178	YD94478	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	179	YD94479	Goldspike Exploration Inc.	01/09/2021	Active	115P16

MQ	180	YD94480	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	181	YD94481	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	182	YD94482	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	183	YD94483	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	184	YD94484	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	185	YD94485	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	186	YD94486	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	187	YD94487	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	188	YD94488	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	189	YD94489	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	190	YD94490	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	191	YD94491	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	192	YD94492	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	193	YD94493	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	194	YD94494	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	195	YD94495	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	196	YD94496	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	197	YD94497	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	198	YD94498	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	199	YD94499	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	200	YD94500	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	201	YD95501	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	202	YD95502	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	203	YD95503	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	204	YD95504	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	205	YD95505	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	206	YD95506	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	207	YD95507	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	208	YD95508	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	209	YD95509	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	210	YD95510	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	211	YD95511	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	212	YD95512	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	213	YD95513	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	214	YD95514	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	215	YD95515	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	216	YD95516	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	217	YD95517	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	218	YD95518	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	219	YD95519	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	220	YD95520	Goldspike Exploration Inc.	01/09/2021	Active	115P16

MQ	221	YD95521	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	222	YD95522	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	223	YD95523	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	224	YD95524	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	225	YD95525	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	226	YD95526	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	227	YD95527	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	228	YD95528	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	229	YD95529	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	230	YD95530	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	231	YD95531	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	232	YD95532	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	233	YD95533	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	234	YD95534	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	235	YD95535	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	236	YD95536	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	237	YD95537	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	238	YD95538	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	239	YD95539	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	240	YD95540	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	241	YD95541	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	242	YD95542	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	243	YD95543	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	244	YD95544	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	245	YD95545	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	246	YD95546	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	247	YD95547	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	248	YD95548	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	249	YD95549	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	250	YD95550	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	251	YD95551	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	252	YD95552	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	253	YD95553	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	254	YD95554	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	255	YD95555	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	256	YD95556	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	257	YD95557	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	258	YD95558	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	259	YD95559	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	260	YD95560	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	261	YD95561	Goldspike Exploration Inc.	01/09/2021	Active	115P16

MQ	262	YD95562	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	263	YD95563	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	264	YD95564	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	265	YD95565	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	266	YD95566	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	267	YD95567	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	268	YD95568	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	269	YD95569	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	270	YD95570	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	271	YD95571	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	272	YD95572	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	273	YD95573	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	274	YD95574	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	275	YD95575	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	276	YD95576	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	277	YD95577	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	278	YD95578	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	279	YD95579	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	280	YD95580	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	281	YD95581	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	282	YD95582	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	283	YD95583	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	284	YD95584	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	285	YD95585	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	286	YD95586	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	287	YD95587	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	288	YD95588	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	289	YD95589	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	290	YD95590	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	291	YD95591	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	292	YD95592	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	293	YD95593	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	294	YD95594	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	295	YD95595	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	296	YD95596	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	297	YD95597	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	298	YD95598	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	299	YD95599	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	300	YD95600	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	301	YD95601	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	302	YD95602	Goldspike Exploration Inc.	01/09/2021	Active	115P16

MQ	303	YD95603	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	304	YD95604	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	305	YD95605	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	306	YD95606	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	307	YD95607	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	308	YD95608	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	309	YD95609	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	310	YD95610	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	311	YD95611	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	312	YD95612	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	313	YD95613	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	314	YD95614	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	315	YD95615	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	316	YD95616	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	317	YD95617	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	318	YD95618	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	319	YD95619	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	320	YD95620	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	321	YD95621	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	322	YD95622	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	323	YD95623	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	324	YD95624	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	325	YD95625	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	326	YD95626	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	327	YD95627	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	328	YD95628	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	329	YD95629	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	330	YD95630	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	331	YD95631	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	332	YD95632	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	333	YD95633	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	334	YD95634	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	335	YD95635	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	336	YD95636	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	337	YD95637	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	338	YD95638	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	339	YD95639	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	340	YD95640	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	341	YD95641	Goldspike Exploration Inc.	01/09/2021	Active	115P16
MQ	342	YD95642	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	1	YD155911	*Jason Daigle**	01/09/2021	Active	115P16

G	2	YD155912	*Jason Daigle**	01/09/2021	Active	115P16
G	3	YD155913	*Jason Daigle**	01/09/2021	Active	115P16
G	4	YD155914	*Jason Daigle**	01/09/2021	Active	115P16
G	5	YD155915	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	6	YD155916	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	7	YD155917	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	8	YD155918	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	9	YD155919	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	10	YD155920	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	15	YD155925	*Jason Daigle**	01/09/2021	Active	115P16
G	16	YD155926	*Jason Daigle**	01/09/2021	Active	115P16
G	17	YD155927	*Jason Daigle**	01/09/2021	Active	115P16
G	18	YD155928	*Jason Daigle**	01/09/2021	Active	115P16
G	19	YD155929	*Richard Daigle**	01/09/2021	Active	115P16
G	20	YD155930	*Richard Daigle**	01/09/2021	Active	115P16
G	21	YD155931	*Richard Daigle**	01/09/2021	Active	115P16
G	22	YD155932	*Richard Daigle**	01/09/2021	Active	115P16
G	23	YD155933	*Richard Daigle**	01/09/2021	Active	115P16
G	24	YD155934	*Richard Daigle**	01/09/2021	Active	115P16
G	25	YD155935	*Richard Daigle**	01/09/2021	Active	115P16
G	26	YD155936	*Richard Daigle**	01/09/2021	Active	115P16
G	27	YD155937	*Richard Daigle**	01/09/2021	Active	115P16
G	28	YD155938	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	29	YD155939	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	30	YD155940	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	31	YD155941	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	32	YD155942	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	33	YD155943	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	34	YD155944	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	35	YD155945	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	36	YD155946	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	37	YD155947	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	38	YD155948	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	39	YD155949	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	40	YD155950	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	41	YD155951	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	42	YD155952	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	43	YD155953	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	44	YD155954	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	45	YD155955	Goldspike Exploration Inc.	01/09/2021	Active	115P16
G	46	YD155956	Goldspike Exploration Inc.	01/09/2021	Active	115P16

G	47	YD155957	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	48	YD155958	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	49	YD155959	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	50	YD155960	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	51	YD155961	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	52	YD155962	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	53	YD155963	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	54	YD155964	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	55	YD155965	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	56	YD155966	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	57	YD155967	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	58	YD155968	Goldspike Exploration Inc.	01/09/2021	Active	105M13
G	59	YD155969	*Richard Daigle**	01/09/2021	Active	116A01
G	60	YD155970	*Richard Daigle**	01/09/2021	Active	116A01
G	61	YD155971	*Richard Daigle**	01/09/2021	Active	116A01
G	62	YD155972	*Richard Daigle**	01/09/2021	Active	116A01
G	63	YD155973	*Richard Daigle**	01/09/2021	Active	115P16
G	64	YD155974	*Richard Daigle**	01/09/2021	Active	115P16
G	65	YD155975	*Richard Daigle**	01/09/2021	Active	115P16
G	66	YD155976	*Richard Daigle**	01/09/2021	Active	115P16
G	67	YD155977	*Richard Daigle**	01/09/2021	Active	115P16
G	68	YD155978	*Richard Daigle**	01/09/2021	Active	115P16
G	69	YD155979	*Richard Daigle**	01/09/2021	Active	115P16
G	70	YD155980	*Richard Daigle**	01/09/2021	Active	115P16
G	71	YD155981	*Richard Daigle**	01/09/2021	Active	115P16
G	72	YD155982	*Richard Daigle**	01/09/2021	Active	115P16
G	73	YD155983	*Richard Daigle**	01/09/2021	Active	115P16
G	74	YD155984	*Richard Daigle**	01/09/2021	Active	115P16
G	75	YD155995	Goldspike Exploration Inc.	01/09/2022	Active	106D04
G	76	YD155996	Goldspike Exploration Inc.	01/09/2022	Active	106D04
G	77	YD155997	Goldspike Exploration Inc.	01/09/2022	Active	106D04
G	78	YD155998	Goldspike Exploration Inc.	01/09/2022	Active	106D04
GM	1	YE55601	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	2	YE55602	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	3	YE55603	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	4	YE55604	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	5	YE55605	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	6	YE55606	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	7	YE55607	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	8	YE55608	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	9	YE55609	Goldspike Exploration Inc.	21/02/2020	Active	115P16

GM	10	YE55610	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	11	YE55611	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	12	YE55612	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	13	YE55613	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	14	YE55614	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	15	YE55615	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	16	YE55616	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	17	YE55617	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	18	YE55618	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	19	YE55619	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	20	YE55620	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	21	YE55621	Goldspike Exploration Inc.	21/02/2020	Active	115P16
GM	22	YE55622	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	23	YE55623	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	24	YE55624	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	25	YE55625	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	26	YE55626	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	27	YE55627	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	28	YE55628	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	29	YE55629	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	30	YE55630	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	31	YE55631	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	32	YE55632	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	33	YE55633	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	34	YE55634	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	35	YE55635	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	36	YE55636	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	37	YE55637	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	38	YE55638	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	39	YE55639	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	40	YE55640	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	41	YE55641	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	42	YE55642	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	43	YE55643	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	44	YE55644	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	45	YE55645	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	46	YE55646	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	47	YE55647	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	48	YE55648	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	49	YE55649	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	50	YE55650	Goldspike Exploration Inc.	21/02/2021	Active	115P16

GM	51	YE55651	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	52	YE55652	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	53	YE55653	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	54	YE55654	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	55	YE55655	Goldspike Exploration Inc.	21/02/2021	Active	115P16
GM	56	YE55656	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	57	YE55657	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	58	YE55658	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	59	YE55659	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	60	YE55660	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	61	YE55661	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	62	YE55662	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	63	YE55663	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	64	YE55664	Goldspike Exploration Inc.	21/02/2021	Active	105M13
GM	65	YE55665	Goldspike Exploration Inc.	21/02/2021	Active	105M13

*In process of being transferred to Goldspike Exploration Inc.

Appendix IB: List of claims comprising the Seattle Property

Claim Name	Claim Number	Grant Number	Claim Owner	(%)	Claim Expiry Date	Status
Sea	1	YD95651	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	2	YD95652	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	3	YD95653	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	4	YD95654	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	5	YD95655	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	6	YD95656	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	7	YD95657	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	8	YD95658	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	9	YD95659	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	10	YD95660	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	11	YD95661	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	12	YD95662	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	13	YD95663	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	14	YD95664	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	15	YD95665	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	16	YD95666	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	17	YD95667	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	18	YD95668	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	19	YD95669	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	20	YD95670	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	21	YD95671	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	22	YD95672	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	23	YD95673	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	24	YD95674	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	25	YD95675	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	26	YD95676	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	27	YD95677	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	28	YD95678	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	29	YD95679	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	30	YD95680	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	31	YD95681	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	32	YD95682	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	33	YD95683	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	34	YD95684	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	35	YD95685	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	36	YD95686	Goldspike Exploration Inc.	100	01/09/2022	Active

Sea	37	YD95687	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	38	YD95688	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	39	YD95689	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	40	YD95690	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	41	YD95691	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	42	YD95692	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	43	YD95693	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	44	YD95694	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	45	YD95695	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	46	YD95696	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	47	YD95697	Goldspike Exploration Inc.	100	01/09/2022	Active
Sea	48	YD95698	Goldspike Exploration Inc.	100	01/09/2022	Active

Appendix II: Sample Descriptions

Sample Descriptions

UTM NAD83 Zone 8

Abbreviations: qtz - quartz, py - pyrite, cpy - chalcopyrite, po - pyrrhotite, aspy - arsenopyrite, chl - chlorite, fg - fine grained, mg - medium grained, metased - metasedimentary, min - mineralization, OC - outcrop

Rock Samples

Sample ID	Easting	Northing	Elevation (m)	Date Taken	Rock Source	Description
1771701	437424	7084959	834	13-Oct-16	Pit 1	Hit bedrock at 7 ft depth. Competant grey quartzite w/ rusty oxidized fractures. Graphitic cleavage planes. 2" qtz veins. This sample is wallrock material.
1771702	437424	7084959	834	13-Oct-16	Pit 1	All quartz vein material from Pit 1. Translucent to white quartz with orange staining. Graphitic cleavage on margins. Rusty vugs. No visible sulphides but prospective looking.
1771703	437428	7084880	810	14-Oct-16	Pit 2	8 ft deep pit. Quartz vein at bedrock surface. This sample is wallrock. Very graphitic quartzite schist w/ 0.3cm quartzite layers. Rusty.
1771704	437428	7084880	810	14-Oct-16	Pit 2	Quartz vein material from Pit 2. Dominant material in pit. Thicker veining than Pit 1 (10cm) with similar graphitic wallrock. Rustier, more obvious remnant py cubes. Some sulfur smell when broken. Some MnO.
1771705	437426	7084757	787	14-Oct-16	Pit 3	Limited amount of rock material out of 9.5 ft pit. This sample is oxidized quartzite with 3mm schist planes. Some visible quartz grains.
1771706	437426	7084757	787	14-Oct-16	Pit 3	Quartz vein material from bottom of Pit 3 (dominant rock type recovered). Veining looks 2-3". Orange oxidation, MnO, minor chlorite, minor remnant sulphides.
1771707	437426	7084757	787	14-Oct-16	Pit 3	Pit 3. Outlier piece of quartz vein material looking different from rest of recovered rock. More clear/translucent colour with reddish-purple hematite and graphitic seams. Some finer remnant py cubes.
1771708	437426	7084757	787	14-Oct-16	Pit 3	Pit 3. Large 1 ft boulder on its own. Milky white quartz with green chlorite seams, some graphite. Pink and creamy white altered pockets with oxidation. Not calcite, some kind of talc? Black MnO or chalcocite, solid.
1771709	437557	7084618	763	14-Oct-16	Pit 4	Pit 4, 8.5 ft. Very sandy, beach sand. Did not make it to bedrock but likely close. More rock at bottom. Layer of graphitic rock 1m from surface. This sample is quartzite-schist with oxidation. Typical with pinkish quartz veining parallel to foliation or bedding.
1771710	437557	7084618	763	14-Oct-16	Pit 4	Various pieces of quartz vein material. Some rock roundish. Plenty of orange oxidation. No visible sulphides. Typical
1771711	437557	7084618	763	14-Oct-16	Pit 4	Larger quartz vein boulder from higher in holes (~5ft). Angular, milky white colour, similar to larger piece taken from Pit 3. Rusty orange pockets, MnO, graphitic margins. Some orange pockets showing crystals of siderite or ankerite, minor fizzing reaction
1771712	437615	7084522	738	14-Oct-16	Pit 5	8.5 ft pit to bedrock. Graphitic mica schist and fine quartzite with quartz veining. This sample wallrock with minor oxidation
1771713	437615	7084522	738	14-Oct-16	Pit 5	Quartz vein material (accounts for about 30% of rock in pit). ~2" quartz veining with oxidation, MnO. Tr py.
1771714	437615	7084522	738	14-Oct-16	Pit 5	Slightly rustier quartz veining, less common in pit. Sulfur smell, no visible sulphides, 1-2"
1771715	437605	7084429	717	15-Oct-16	Pit 6	Same material as soil sample 1207053. Orange micaceous mush from 6 to 9 ft.

Sample ID	Easting	Northing	Elevation (m)	Date Taken	Rock Source	Description
1771716	437605	7084429	717	15-Oct-16	Pit 6	Wallrock taken from 6 to 8ft. Quartzite-schist. Golden-orange, rare to find competant rock. Mostly micaceous mush. Finely laminated.
1771717	437605	7084429	717	15-Oct-16	Pit 6	Quartz vein material from 6 to 8ft. Golden micaceous soil. Rusty, chloritic green seams. 0.5-2" thick veining.
1771718	437605	7084429	717	15-Oct-16	Pit 6	Upper layer of hematitic rock from 5ft. Quartzite-schist wallrock with graphite and hematite.
1771719	437605	7084429	717	15-Oct-16	Pit 6	Same layer as 1771718. Quartz vein material up to 3" thick. Graphitic seams. Some hematite, less orange rust.
1771720	437547	7084355	700	15-Oct-16	Pit 7	Mash of semi-consolidated tan-orange micaceous schist from bottom of pit at 5.5 ft. Pit hit permafrost.
1771721	437547	7084355	700	15-Oct-16	Pit 7	Competant graphitic schist/quartzite with qtz veining (50%) from ~3ft. Folded. Less oxidized but some oxidized fractures.
1771722	437547	7084355	700	15-Oct-16	Pit 7	Orange quartz vein float from pit, uncertain from where. Atypical. Looks recrystallized or cherty. Some quartzite and schist margins.
1771723	437480	7084287	681	15-Oct-16	Pit 8	Pit 8. Very little sand. Graphitic layer at 2ft. Hit solid bedrock at 7ft. Large pieces of material. This sample is wallrock. Graphitic, rusty schist.
1771724	437480	7084287	681	15-Oct-16	Pit 8	Quartz vein material (dominant rock) with minor Fe-carbonate. 2-4" veins in graphitic mica schist. Abundant iron oxides with milky white quartz. Graphitic seams and oxidized fractures.
1771725	437480	7084287	681	15-Oct-16	Pit 8	Slightly different quartz vein material from Pit 8. Atypical. More translucent colour, specular hematite. Less rusty in fracture planes.
1771726	438132	7084301	644	16-Oct-16	Pit 10	Various pieces of quartz vein float from 3-5 ft. Semi-angular, rusty, oxidized milky white and translucent. Lots of rusty vugs.
1771727	438195	7084411	658	16-Oct-16	Pit 12	8 ft pit. Sandy, very little till. Lots of rock material, though. Local? Wallrock (this sample) is graphitic schist and quartzite. Not much oxidation. Minor hematite.
1771728	438195	7084411	658	16-Oct-16	Pit 12	Quartz vein material. Up to 5". Rusty, milky white. Chlorite and graphite seams. Specular hematite. Rusty vugs.
1771729	438195	7084411	658	16-Oct-16	Pit 12	Less common translucent quartz vein material. Black mineral, maybe MnO. Chlorite, rusty seams.
1771730	436248	7085046	688	12-Oct-16	outcrop	Outcrop at Rodin Creek. Schist and quartzite with 2-4" quartz veining parallel to bedding/foliation. Sample is 60% quartz vein material. Rusty, NVS.

Soil Samples

Sample ID	Easting	Northing	Elevation (m)	Date Taken	Source	Description
1207051	437426	7084757	787	14-Oct-16	Pit 3	Consolidated brown silty soil with fine rock chips. Taken from pit bottom at 9 ft.
1207052	437426	7084757	787	14-Oct-16	Pit 3	Clay layer at 4' 8" depth in Pit 3. Greasy, dark grey graphitic clay with some oxidation. Large glacial boulder found 1 ft above this (rare for this area).
1207053	437605	7084429	717	15-Oct-16	Pit 6	Orange, micaceous, greasy mash from 7 ft depth.
1207054	438132	7084301	644	16-Oct-16	Pit 10	Till soil sample from 5 ft depth. Abundant angular rock chips.
1207055	438176	7084333	642	16-Oct-16	Pit 11	Sand from 6ft depth. Old drainage area.
1207056	438195	7084411	658	16-Oct-16	Pit 12	Silty sandy material from 8 ft depth in Pit 12.
1207057	437390	7084241	670	16-Oct-16	Pit 9	Sand from various depths in pit. Very few rock chips. Taken to pan.

Appendix III: Assay Certificates

MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Submitted By:	Bruce Durham
Receiving Lab:	Canada-Whitehorse
Received:	October 24, 2016
Report Date:	February 07, 2017
Page:	1 of 2

CERTIFICATE OF ANALYSIS WHI16000399.1

CLIENT JOB INFORMATION

Project:	Goodman
Shipment ID:	MQ-Rx-2016
P.O. Number	
Number of Samples:	30

SAMPLE DISPOSAL

DISP-PLP	Dispose of Pulp After 90 days
DISP-RJT	Dispose of Reject After 90 days

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	30	Crush, split and pulverize 250 g rock to 200 mesh			WHI
FA330-Au	30	Fire assay fusion Au by ICP-ES	30	Completed	VAN
AQ200	30	1:1:1 Aqua Regia digestion ICP-MS analysis	0.5	Completed	VAN
SHP01	30	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

Invoice To: Nevada Zinc Corp.
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2
Canada

CC: Dan Ferraro

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Production Manager

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Project: Goodman
Report Date: February 07, 2017

CERTIFICATE OF ANALYSIS WHI16000399.1

Method		WGHT	FA330	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
Analyte		Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca
Unit		kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
MDL		0.01	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
1771701	Rock	2.80	<2	0.1	5.6	16.0	9	<0.1	5.8	3.3	852	0.89	1.2	1.1	10.5	674	<0.1	<0.1	<0.1	<2	11.42
1771702	Rock	4.71	<2	0.1	6.4	28.0	21	<0.1	5.5	2.9	560	1.08	1.2	<0.5	3.8	296	<0.1	<0.1	0.2	3	4.78
1771703	Rock	2.61	<2	0.2	30.1	4.1	63	<0.1	34.8	16.4	489	2.13	4.3	1.9	6.6	7	<0.1	0.1	<0.1	6	0.05
1771704	Rock	3.89	<2	0.2	18.6	25.1	33	<0.1	24.9	9.7	488	1.20	0.7	0.6	1.9	5	<0.1	<0.1	0.3	3	0.07
1771705	Rock	1.53	3	0.4	9.1	10.5	19	<0.1	9.6	4.0	438	1.03	2.6	<0.5	8.7	9	<0.1	0.3	<0.1	5	0.09
1771706	Rock	2.23	<2	0.1	21.1	11.5	40	<0.1	11.0	5.5	249	1.59	1.5	0.6	4.1	5	<0.1	<0.1	0.1	8	0.05
1771707	Rock	1.12	<2	0.2	16.5	4.9	19	<0.1	7.7	4.0	265	0.84	0.6	<0.5	1.1	12	<0.1	<0.1	<0.1	2	0.15
1771708	Rock	1.65	<2	0.2	5.8	2.5	17	<0.1	7.1	3.3	772	0.69	0.9	<0.5	0.5	10	<0.1	0.1	<0.1	3	0.11
1771709	Rock	1.86	21	0.2	2.9	12.7	7	<0.1	1.8	0.8	204	0.42	3.9	<0.5	2.3	424	0.1	0.3	<0.1	<2	11.72
1771710	Rock	0.94	10	0.8	14.2	24.6	61	0.2	12.4	5.1	706	1.93	4.9	<0.5	1.4	275	0.7	0.5	0.2	6	5.37
1771711	Rock	0.92	<2	0.2	3.5	25.2	13	0.2	1.4	0.8	588	1.05	<0.5	<0.5	0.2	112	0.2	<0.1	0.3	<2	1.73
1771712	Rock	1.29	4	0.2	4.5	8.3	92	0.4	34.1	20.1	711	3.76	13.9	4.2	10.2	16	<0.1	0.7	0.1	12	0.53
1771713	Rock	1.98	<2	3.3	23.4	11.3	32	0.3	10.3	6.9	1615	1.45	4.5	0.7	2.5	46	0.1	0.2	0.5	4	1.39
1771714	Rock	0.61	5	0.3	121.0	20.5	44	1.4	12.5	6.7	1594	2.43	9.2	2.8	4.1	27	0.3	0.3	0.6	6	1.71
1771715	Rock	1.27	24	0.3	39.9	398.4	953	4.1	27.1	16.9	121	8.83	461.3	23.5	9.1	25	0.7	1.2	0.8	19	0.12
1771716	Rock	0.63	3	0.2	27.2	100.7	119	1.4	7.0	3.6	81	3.59	46.8	1.8	7.8	9	0.3	0.4	0.2	11	0.06
1771717	Rock	2.31	4	0.1	18.7	78.5	109	1.0	13.4	8.4	425	1.76	34.7	1.6	3.9	7	0.6	0.3	0.2	5	0.04
1771718	Rock	1.87	<2	0.3	12.1	8.6	89	0.2	27.6	13.4	904	2.91	19.4	0.7	8.2	42	0.2	<0.1	0.1	11	0.74
1771719	Rock	2.18	3	0.1	16.1	19.3	65	0.4	21.1	14.6	2462	1.92	14.5	2.5	2.5	10	0.2	<0.1	0.3	7	0.27
1771720	Rock	0.98	4	0.5	25.2	28.1	120	0.5	31.9	14.1	715	3.23	16.2	1.8	7.3	11	0.6	0.3	0.2	16	0.11
1771721	Rock	1.04	<2	0.3	7.7	5.2	115	0.1	33.6	20.4	1156	2.37	7.0	0.5	2.8	5	0.5	<0.1	0.1	11	0.08
1771722	Rock	0.86	<2	0.4	12.3	25.2	59	0.5	3.1	1.7	191	0.61	2.2	<0.5	0.4	4	0.7	0.2	<0.1	<2	0.04
1771723	Rock	2.10	2	0.2	8.6	12.9	63	0.1	17.0	7.2	258	1.38	14.7	1.2	9.6	46	<0.1	<0.1	<0.1	5	1.45
1771724	Rock	3.14	<2	<0.1	4.9	12.5	18	<0.1	7.8	3.5	291	0.72	3.6	<0.5	4.9	153	<0.1	<0.1	<0.1	<2	4.40
1771725	Rock	0.93	16	0.2	15.4	6.5	22	<0.1	15.7	7.1	1366	1.12	0.7	0.7	2.0	51	0.6	<0.1	<0.1	<2	2.02
1771726	Rock	1.61	3	0.4	5.5	5.0	11	<0.1	4.8	2.2	298	0.57	2.0	<0.5	1.0	5	<0.1	0.1	<0.1	<2	0.07
1771727	Rock	1.71	4	0.4	10.5	22.8	87	0.2	31.4	18.3	1108	2.85	7.5	1.1	4.5	10	0.6	0.1	0.2	11	0.16
1771728	Rock	2.49	<2	<0.1	10.5	49.9	114	0.3	19.4	8.2	431	2.30	9.9	<0.5	2.5	6	2.4	0.3	<0.1	11	0.07
1771729	Rock	1.65	4	0.3	23.7	5.8	50	0.2	15.6	14.0	1395	1.01	0.8	1.3	1.0	5	0.1	0.3	<0.1	4	0.02
1771730	Rock	1.38	6	0.3	20.1	54.3	44	0.1	18.1	11.7	841	2.05	5.4	<0.5	7.5	74	0.1	<0.1	0.4	2	1.30

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Project: Goodman
Report Date: February 07, 2017

CERTIFICATE OF ANALYSIS WHI16000399.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1771701	Rock	0.016	19	3	0.07	76	0.002	<20	0.16	0.009	0.13	<0.1	<0.01	2.3	<0.1	<0.05	<1	<0.5	<0.2
1771702	Rock	0.012	6	4	0.05	36	0.001	<20	0.11	0.009	0.06	<0.1	<0.01	1.9	<0.1	<0.05	<1	<0.5	<0.2
1771703	Rock	0.013	15	9	0.39	32	0.001	<20	1.04	0.020	0.14	<0.1	<0.01	1.1	<0.1	<0.05	3	<0.5	<0.2
1771704	Rock	0.017	4	4	0.17	20	<0.001	<20	0.48	0.005	0.03	<0.1	<0.01	0.7	<0.1	<0.05	1	<0.5	<0.2
1771705	Rock	0.012	13	5	0.07	62	0.005	<20	0.31	0.005	0.06	<0.1	0.04	0.6	<0.1	<0.05	<1	<0.5	<0.2
1771706	Rock	0.017	7	10	0.30	23	0.002	<20	0.72	0.055	0.05	<0.1	<0.01	1.7	<0.1	<0.05	2	<0.5	<0.2
1771707	Rock	0.058	2	3	0.14	33	0.004	<20	0.30	0.002	0.04	<0.1	<0.01	0.4	<0.1	<0.05	<1	<0.5	<0.2
1771708	Rock	0.036	2	4	0.06	38	0.002	<20	0.15	0.003	0.01	<0.1	<0.01	0.6	<0.1	<0.05	<1	<0.5	<0.2
1771709	Rock	0.006	3	1	0.11	22	<0.001	<20	0.10	0.002	0.05	<0.1	<0.01	1.0	<0.1	<0.05	<1	<0.5	<0.2
1771710	Rock	0.163	3	4	0.51	42	0.003	<20	0.49	0.002	0.04	0.1	<0.01	2.4	<0.1	<0.05	1	<0.5	<0.2
1771711	Rock	0.005	<1	2	0.55	13	<0.001	<20	0.03	<0.001	0.02	<0.1	<0.01	0.8	<0.1	<0.05	<1	<0.5	<0.2
1771712	Rock	0.024	16	8	0.05	50	0.001	<20	0.46	0.009	0.17	<0.1	0.02	1.5	0.1	0.10	1	<0.5	<0.2
1771713	Rock	0.011	6	4	0.21	39	<0.001	<20	0.13	0.003	0.06	<0.1	0.02	1.5	<0.1	<0.05	<1	<0.5	<0.2
1771714	Rock	0.004	8	5	0.10	64	<0.001	<20	0.20	0.003	0.06	<0.1	<0.01	2.4	<0.1	<0.05	<1	<0.5	<0.2
1771715	Rock	0.032	17	12	0.06	54	<0.001	<20	0.53	0.006	0.19	<0.1	0.02	2.6	0.2	0.15	2	<0.5	<0.2
1771716	Rock	0.031	19	9	0.07	44	0.001	<20	0.35	0.005	0.14	<0.1	<0.01	0.8	0.2	<0.05	3	<0.5	<0.2
1771717	Rock	0.015	15	5	0.37	25	0.001	<20	0.65	0.003	0.07	<0.1	<0.01	1.1	<0.1	<0.05	3	<0.5	<0.2
1771718	Rock	0.034	18	17	0.54	55	0.002	<20	1.47	0.007	0.23	<0.1	<0.01	1.5	<0.1	<0.05	4	<0.5	<0.2
1771719	Rock	0.029	5	6	0.42	49	0.002	<20	0.75	0.003	0.07	<0.1	<0.01	1.1	<0.1	<0.05	2	<0.5	<0.2
1771720	Rock	0.026	17	18	0.54	94	0.009	<20	1.33	0.008	0.16	<0.1	<0.01	1.5	<0.1	<0.05	4	<0.5	<0.2
1771721	Rock	0.026	9	11	0.78	54	0.004	<20	1.27	0.004	0.09	0.2	<0.01	1.3	<0.1	<0.05	4	<0.5	<0.2
1771722	Rock	0.013	<1	3	0.04	16	0.001	<20	0.11	0.002	0.01	0.1	<0.01	0.2	<0.1	<0.05	<1	<0.5	<0.2
1771723	Rock	0.012	24	8	0.32	16	0.001	<20	0.57	0.032	0.09	<0.1	<0.01	1.4	<0.1	<0.05	2	<0.5	<0.2
1771724	Rock	0.013	11	4	0.11	8	<0.001	<20	0.15	0.016	0.04	<0.1	<0.01	1.8	<0.1	<0.05	<1	<0.5	<0.2
1771725	Rock	0.005	3	3	0.05	13	<0.001	<20	0.12	0.002	0.05	0.1	<0.01	0.7	<0.1	<0.05	<1	<0.5	<0.2
1771726	Rock	0.016	2	3	0.03	30	0.003	<20	0.10	0.003	0.02	0.1	<0.01	0.5	<0.1	<0.05	<1	<0.5	<0.2
1771727	Rock	0.029	11	14	0.66	85	0.004	<20	1.35	0.008	0.13	<0.1	<0.01	1.8	<0.1	<0.05	4	<0.5	<0.2
1771728	Rock	0.017	5	17	0.42	14	0.003	<20	0.95	0.034	0.01	<0.1	<0.01	2.6	<0.1	<0.05	4	<0.5	<0.2
1771729	Rock	0.007	2	4	0.38	39	0.002	<20	0.51	0.002	0.03	<0.1	<0.01	0.8	<0.1	<0.05	1	<0.5	<0.2
1771730	Rock	0.010	12	4	0.16	71	0.001	<20	0.26	0.025	0.20	<0.1	<0.01	1.4	<0.1	<0.05	<1	<0.5	<0.2

MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Project: Goodman
Report Date: February 07, 2017

QUALITY CONTROL REPORT WHI16000399.1

	Method	WGHT	FA330	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	0.01	2	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
Pulp Duplicates																					
1771705	Rock	1.53	3	0.4	9.1	10.5	19	<0.1	9.6	4.0	438	1.03	2.6	<0.5	8.7	9	<0.1	0.3	<0.1	5	0.09
REP 1771705	QC		<2																		
REP 1771723	QC		<2																		
1771729	Rock	1.65	4	0.3	23.7	5.8	50	0.2	15.6	14.0	1395	1.01	0.8	1.3	1.0	5	0.1	0.3	<0.1	4	0.02
REP 1771729	QC			0.2	23.1	5.2	46	0.2	14.6	12.4	1407	1.00	0.6	1.5	1.0	4	<0.1	0.3	<0.1	4	0.02
Core Reject Duplicates																					
1771723	Rock	2.10	2	0.2	8.6	12.9	63	0.1	17.0	7.2	258	1.38	14.7	1.2	9.6	46	<0.1	<0.1	<0.1	5	1.45
DUP 1771723	QC		2	0.2	7.4	12.4	58	<0.1	15.5	7.1	239	1.31	13.4	<0.5	9.5	43	<0.1	<0.1	<0.1	4	1.33
Reference Materials																					
STD DS10	Standard			13.4	159.0	153.7	372	2.0	77.7	13.4	877	2.72	47.3	209.6	7.6	66	2.5	8.3	12.4	43	1.06
STD OREAS45EA	Standard			1.8	709.1	16.0	33	0.3	392.6	54.3	416	21.45	11.6	55.2	11.4	4	<0.1	0.3	0.3	311	0.03
STD OXD108	Standard		428																		
STD OXD108	Standard		421																		
STD OXI121	Standard		1791																		
STD OXI121 Expected			1834																		
STD DS10 Expected				13.6	154.61	150.55	370	2.02	74.6	12.9	875	2.7188	46.2	91.9	7.5	67.1	2.62	9	11.65	43	1.0625
STD OREAS45EA Expected				1.6	709	14.3	31.4	0.26	381	52	400	23.51	10.3	53	10.7	3.5	0.03	0.32	0.26	303	0.036
STD OXD108 Expected			414																		
BLK	Blank		<2																		
BLK	Blank		<2																		
BLK	Blank			<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01
BLK	Blank		<2																		
Prep Wash																					
ROCK-WHI	Prep Blank		<2	0.7	4.3	1.6	30	<0.1	0.7	3.5	396	1.61	0.8	1.0	2.5	24	<0.1	<0.1	<0.1	21	0.54
ROCK-WHI	Prep Blank		<2	0.6	3.4	1.4	31	<0.1	0.6	3.6	413	1.65	1.1	<0.5	2.5	23	<0.1	<0.1	<0.1	22	0.50

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Project: Goodman
Report Date: February 07, 2017

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

QUALITY CONTROL REPORT WHI16000399.1

	Method	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200	AQ200
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																			
1771705	Rock	0.012	13	5	0.07	62	0.005	<20	0.31	0.005	0.06	<0.1	0.04	0.6	<0.1	<0.05	<1	<0.5	<0.2
REP 1771705	QC																		
REP 1771723	QC																		
1771729	Rock	0.007	2	4	0.38	39	0.002	<20	0.51	0.002	0.03	<0.1	<0.01	0.8	<0.1	<0.05	1	<0.5	<0.2
REP 1771729	QC	0.006	2	4	0.39	35	0.001	<20	0.52	0.002	0.03	<0.1	<0.01	0.7	<0.1	<0.05	1	<0.5	<0.2
Core Reject Duplicates																			
1771723	Rock	0.012	24	8	0.32	16	0.001	<20	0.57	0.032	0.09	<0.1	<0.01	1.4	<0.1	<0.05	2	<0.5	<0.2
DUP 1771723	QC	0.011	23	8	0.30	15	<0.001	<20	0.54	0.035	0.09	<0.1	<0.01	1.3	<0.1	<0.05	2	<0.5	<0.2
Reference Materials																			
STD DS10	Standard	0.075	18	54	0.76	411	0.086	<20	1.01	0.069	0.33	2.9	0.29	2.7	5.1	0.27	4	2.9	4.8
STD OREAS45EA	Standard	0.026	8	831	0.09	153	0.103	<20	3.22	0.025	0.06	<0.1	0.01	77.7	<0.1	<0.05	13	<0.5	<0.2
STD OXD108	Standard																		
STD OXD108	Standard																		
STD OXI121	Standard																		
STD OXI121 Expected																			
STD DS10 Expected		0.0765	17.5	54.6	0.775	412	0.0817		1.0259	0.067	0.338	3.32	0.3	2.8	5.1	0.29	4.3	2.3	5.01
STD OREAS45EA Expected		0.029	7.06	849	0.095	148	0.0984		3.13	0.02	0.053			78	0.072	0.036	12.4	0.78	0.07
STD OXD108 Expected																			
BLK	Blank																		
BLK	Blank																		
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank																		
Prep Wash																			
ROCK-WHI	Prep Blank	0.034	5	3	0.37	68	0.080	<20	0.84	0.093	0.09	0.2	<0.01	2.4	<0.1	<0.05	4	<0.5	<0.2
ROCK-WHI	Prep Blank	0.038	5	2	0.38	63	0.077	<20	0.83	0.094	0.09	0.1	<0.01	2.1	<0.1	<0.05	4	<0.5	<0.2

MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Submitted By:	Bruce Durham
Receiving Lab:	Canada-Whitehorse
Received:	October 24, 2016
Report Date:	December 13, 2016
Page:	1 of 2

CERTIFICATE OF ANALYSIS WHI16000398.1

CLIENT JOB INFORMATION

Project:	Goodman
Shipment ID:	MQ-SOILS-2016
P.O. Number	
Number of Samples:	7

SAMPLE DISPOSAL

DISP-PLP	Dispose of Pulp After 90 days
DISP-RJT-SOIL	Immediate Disposal of Soil Reject

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Dry at 60C	7	Dry at 60C			WHI
SS80	7	Dry at 60C sieve 100g to -80 mesh			WHI
AQ201	7	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
SHP01	7	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

Invoice To: Nevada Zinc Corp.
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2
Canada

CC: Dan Ferraro

Jeffrey Cannon.
JEFFREY CANNON
Geochemistry Department Supervisor

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Project: Goodman
Report Date: December 13, 2016

CERTIFICATE OF ANALYSIS WHI16000398.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
1207051	Soil	1.3	33.8	12.1	84	0.1	32.7	9.9	475	2.39	14.9	6.5	4.8	25	0.3	1.2	0.2	37	0.39	0.069	14
1207052	Soil	1.8	50.2	39.2	115	0.1	58.8	29.7	522	3.67	13.6	1.2	5.5	21	0.2	1.2	0.5	17	0.18	0.039	14
1207053	Soil	0.3	47.3	538.5	578	6.3	17.9	8.7	72	11.03	826.4	58.3	7.4	27	0.4	1.5	0.7	21	0.19	0.054	10
1207054	Soil	1.3	30.1	14.6	85	0.2	27.4	10.1	471	2.52	15.9	6.3	4.9	32	0.5	1.2	0.3	37	0.53	0.077	16
1207055	Soil	0.8	23.4	10.3	61	0.2	20.2	7.1	355	1.91	15.7	77.9	4.1	39	0.3	1.0	0.1	27	1.71	0.071	13
1207056	Soil	1.0	37.7	59.1	115	0.8	30.8	15.2	692	3.08	20.6	2.7	6.6	24	0.7	1.0	0.3	27	0.48	0.061	17
1207057	Soil	0.8	14.9	9.8	72	0.1	20.1	6.8	239	1.77	12.7	0.7	3.8	17	0.5	0.9	0.1	29	0.25	0.081	13

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Project: Goodman
Report Date: December 13, 2016

CERTIFICATE OF ANALYSIS WHI16000398.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
1207051	Soil	22	0.42	245	0.040	1	0.98	0.013	0.07	0.2	0.04	3.9	<0.1	<0.05	3	<0.5	<0.2
1207052	Soil	12	0.19	178	0.009	<1	0.90	0.010	0.06	0.1	0.02	1.9	<0.1	<0.05	2	0.7	<0.2
1207053	Soil	11	0.09	22	<0.001	1	0.32	0.003	0.07	<0.1	0.03	3.3	0.2	0.11	2	<0.5	<0.2
1207054	Soil	21	0.50	490	0.033	1	0.99	0.011	0.05	0.3	0.04	3.3	<0.1	<0.05	3	<0.5	<0.2
1207055	Soil	13	0.80	205	0.033	<1	0.54	0.005	0.03	1.2	0.02	1.9	<0.1	<0.05	2	<0.5	<0.2
1207056	Soil	18	0.50	187	0.021	<1	1.08	0.006	0.05	0.4	0.02	2.5	<0.1	<0.05	3	<0.5	<0.2
1207057	Soil	14	0.31	117	0.030	<1	0.58	0.005	0.03	0.6	<0.01	1.9	<0.1	<0.05	2	<0.5	<0.2

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Project: Goodman
Report Date: December 13, 2016

QUALITY CONTROL REPORT WHI16000398.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
1207057	Soil	0.8	14.9	9.8	72	0.1	20.1	6.8	239	1.77	12.7	0.7	3.8	17	0.5	0.9	0.1	29	0.25	0.081	13
REP 1207057	QC	0.8	14.3	9.7	71	0.1	20.2	6.8	238	1.73	12.8	0.6	3.7	16	0.5	0.9	0.1	27	0.26	0.078	12
Reference Materials																					
STD DS10	Standard	14.9	153.6	152.1	371	1.9	75.5	13.2	895	2.82	46.6	81.8	8.0	69	2.8	9.7	12.3	43	1.07	0.079	19
STD OXC129	Standard	1.3	26.7	6.5	42	<0.1	76.3	20.2	419	3.01	0.6	197.7	2.0	198	<0.1	<0.1	<0.1	52	0.73	0.105	12
STD DS10 Expected		15.1	154.61	150.55	370	2.02	74.6	12.9	875	2.7188	46.2	91.9	7.5	67.1	2.62	9	11.65	43	1.0625	0.0765	17.5
STD OXC129 Expected		1.3	28	6.3	42.9		79.5	20.3	421	3.065	0.6	195	1.9					51	0.665	0.102	13
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1

BUREAU VERITAS
MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

Client: **Nevada Zinc Corp.**
390 Bay St., Suite 612
Toronto Ontario M5H 2Y2 Canada

Project: Goodman
Report Date: December 13, 2016

QUALITY CONTROL REPORT   WHI16000398.1

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
1207057	Soil	14	0.31	117	0.030	<1	0.58	0.005	0.03	0.6	<0.01	1.9	<0.1	<0.05	2	<0.5	<0.2
REP 1207057	QC	14	0.33	113	0.029	<1	0.59	0.005	0.04	0.6	<0.01	2.0	<0.1	<0.05	2	<0.5	<0.2
Reference Materials																	
STD DS10	Standard	56	0.79	388	0.080	6	1.04	0.075	0.35	3.5	0.29	3.2	5.3	0.27	4	1.9	5.2
STD OXC129	Standard	53	1.50	53	0.402	1	1.57	0.607	0.37	<0.1	<0.01	0.9	0.1	<0.05	5	<0.5	<0.2
STD DS10 Expected		54.6	0.775	359	0.0817		1.0755	0.067	0.338	3.32	0.3	3	5.1	0.29	4.5	2.3	5.01
STD OXC129 Expected		52	1.545	50	0.4	1	1.58	0.6	0.37			1.1			5.6		
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

Appendix IV: Precision GeoSurveys Goodman Property Report

Precision GeoSurveys

AIRBORNE GEOPHYSICAL SURVEY REPORT

Goodman Creek Block

Mayo, Yukon

Nevada Zinc Corporation

Jenny Poon, B.Sc., P.Geo.
Precision GeoSurveys Inc.
www.precisiongeosurveys.com
Hangar 42 Langley Airport
21330 - 56th Ave., Langley, BC
Canada V2Y 0E5
604-484-9402

October 2016

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Plates (scale 1:35,000 – in pocket)

1.0 Introduction

This report outlines the geophysical survey operations and data processing procedures taken during the high resolution airborne magnetic and radiometric survey flown at the Goodman Creek survey block for Nevada Zinc Corporation. The Goodman Creek survey block area is centered 39.3 km north of Mayo, Yukon and covers a total of 50.2 km^2 (Figure 1). The geophysical survey was started and completed on September 19, 2016.

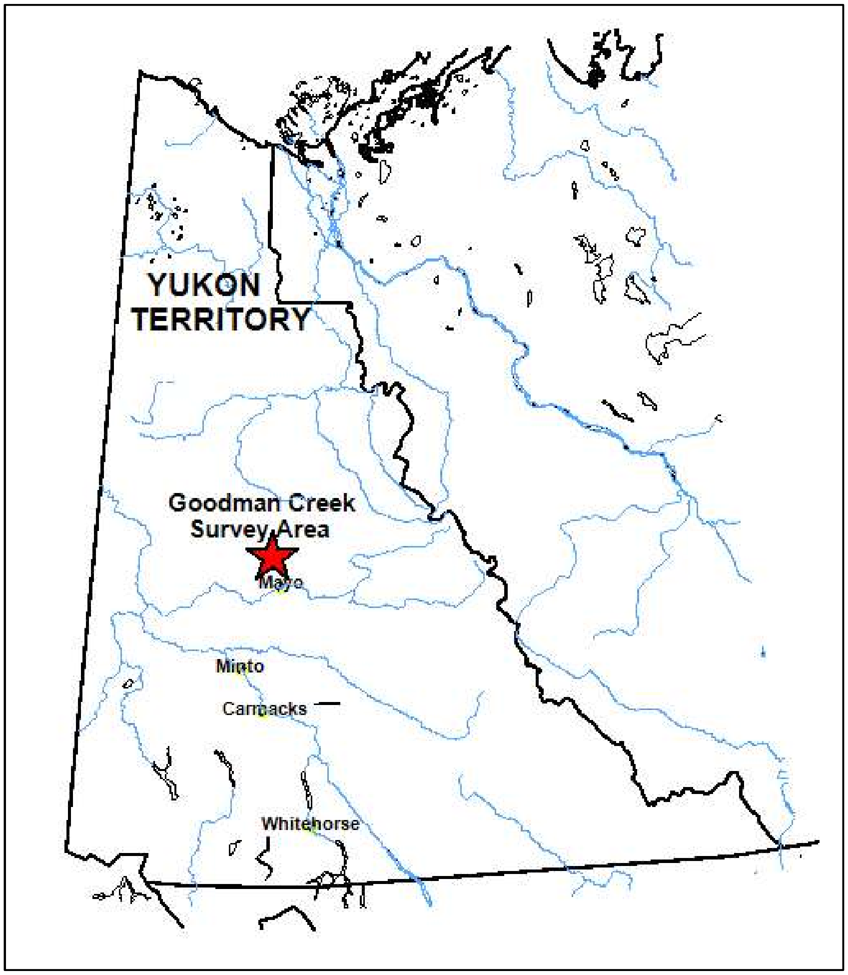


Figure 1: Goodman Creek survey block location map.

1.1 Survey Area

The Goodman Creek survey block is centered approximately 39.3 km north of Mayo, Yukon (Figure 2) on the north side of the South McQuesten River. The block covers an irregular area of 2.9 km by 18.9 km and includes 127 survey lines and 3 tie lines.

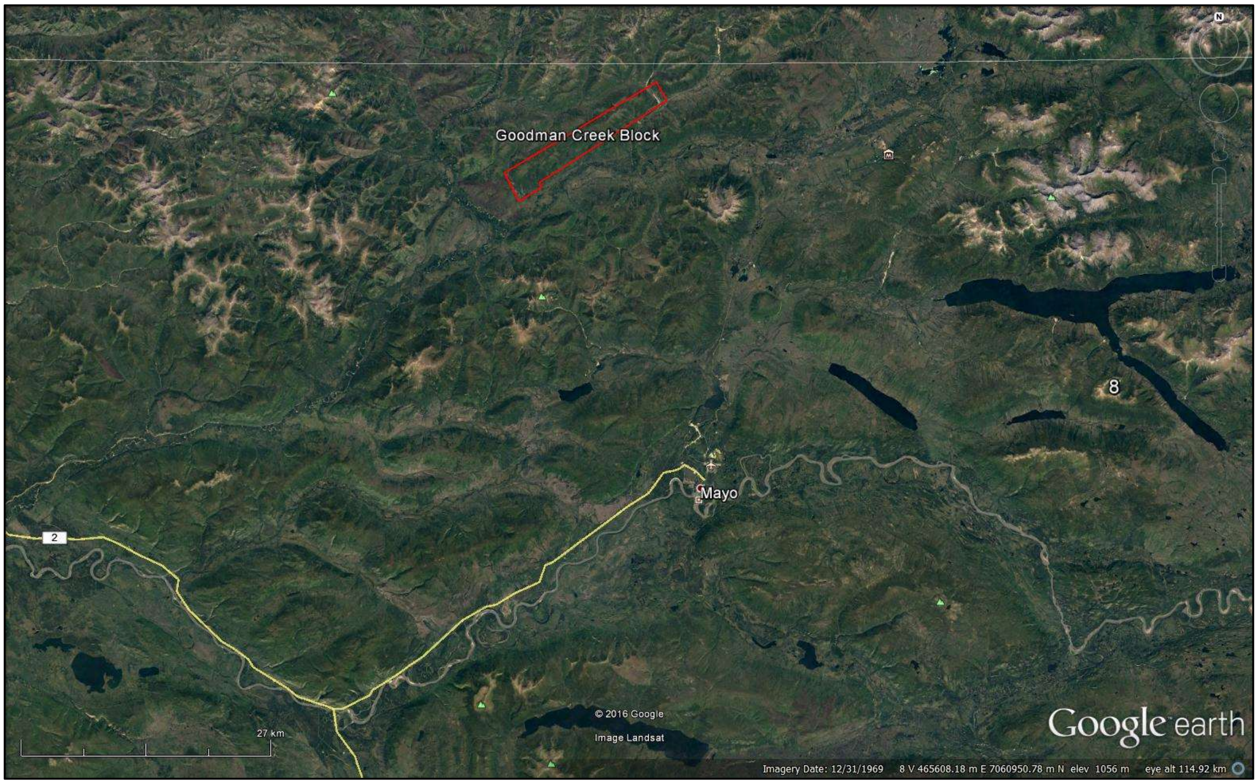


Figure 2: Goodman Creek survey block boundary in red north of Mayo, Yukon.

The Goodman Creek survey block was flown at 150 meter spacing at a 150°/330° heading; tie lines were flown at 1500 meter spacing at a heading of 060°/240° (Figures 3 and 4). A total of 377 line km of data was collected.

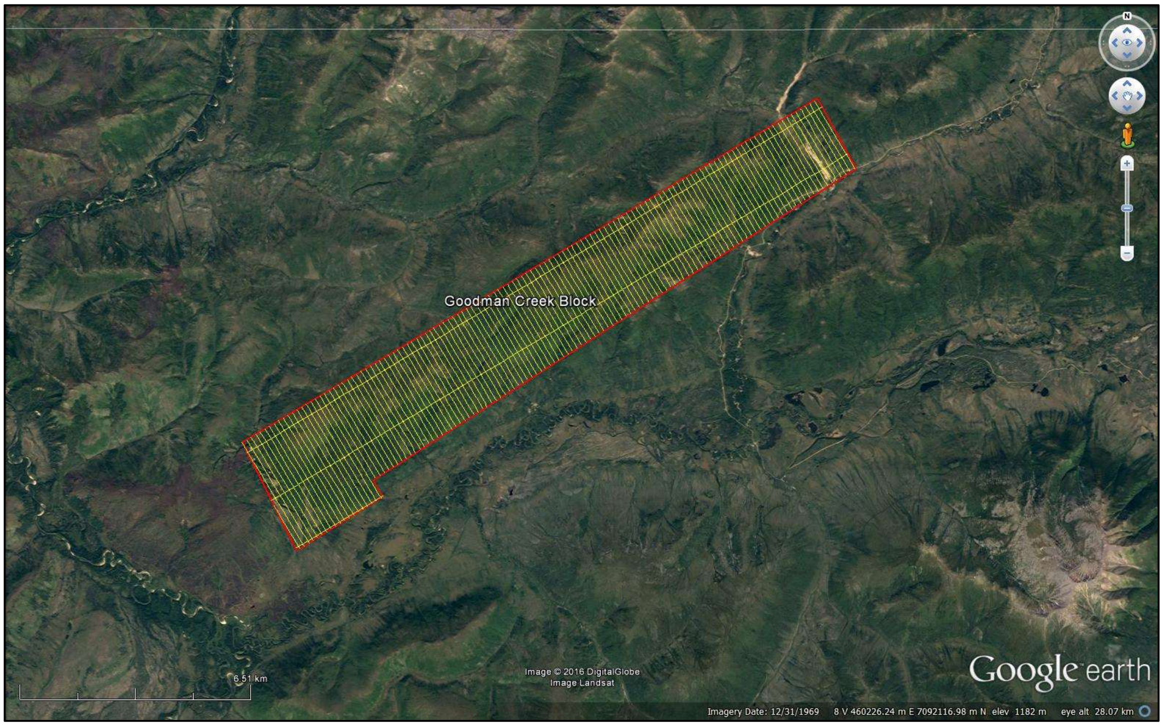


Figure 3: Plan View – Goodman Creek survey block with actual flight lines displayed in yellow and the block boundary in red.

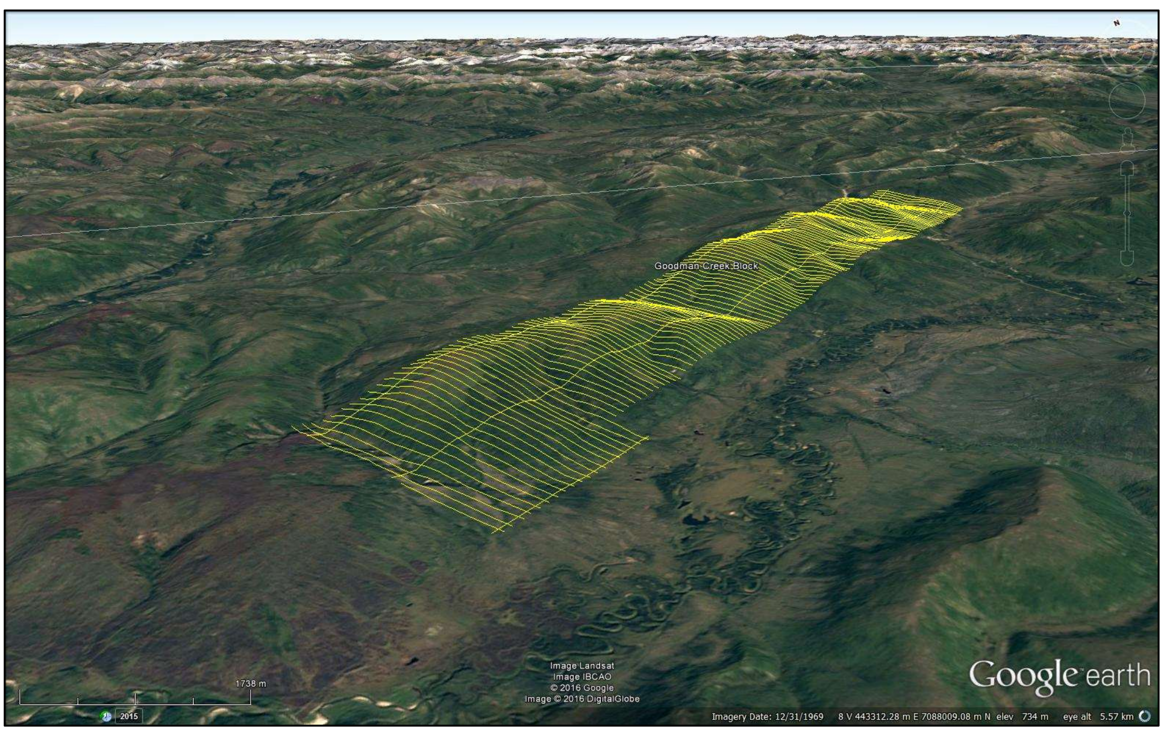


Figure 4: Terrain View – Goodman Creek survey block with actual flight lines displayed in yellow.

1.2 Survey Specifications

The geodetic system used for this survey is WGS 84 and the area is contained in zone 8N. A total of 377 line km was flown (Figure 5). The survey data acquisition specifications and coordinates for the survey are specified in Tables 1 and 2.

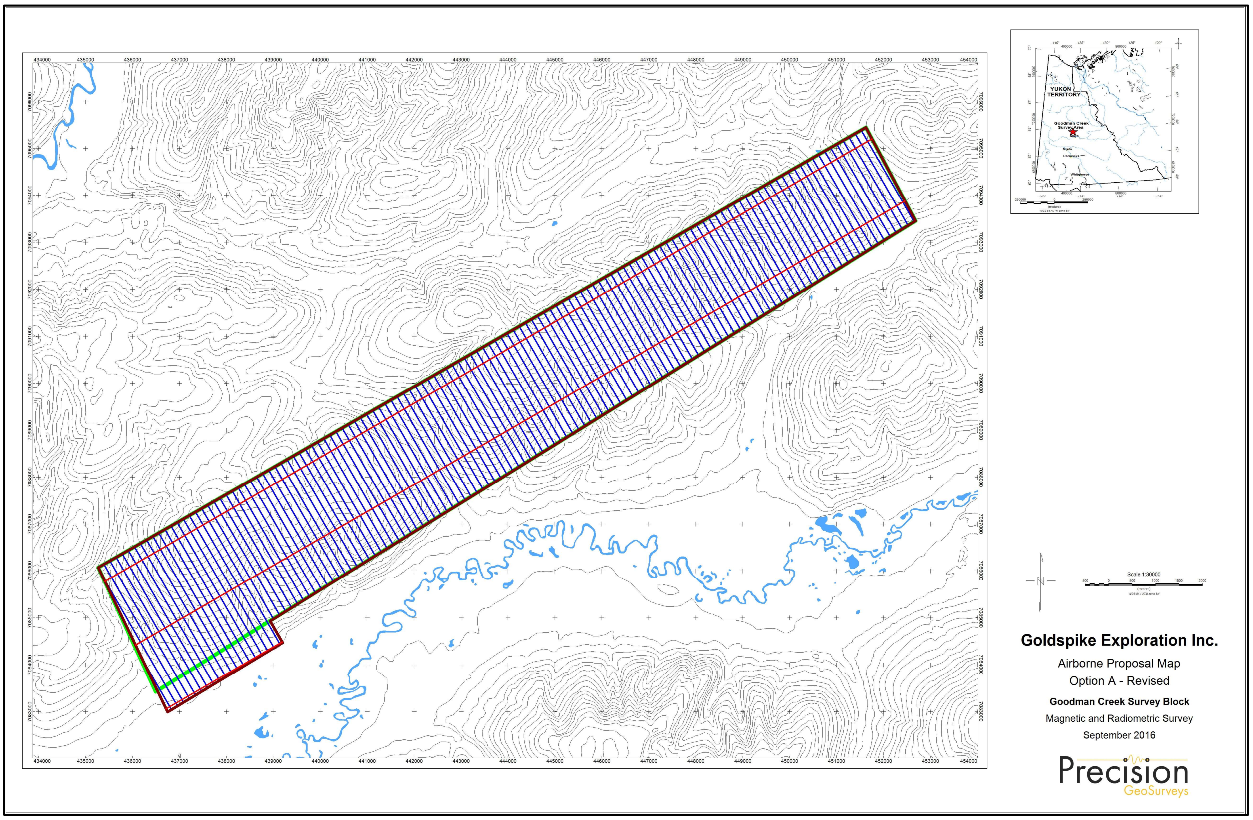


Figure 5: Survey map of Goodman Creek survey block area showing proposed survey and tie lines on digital terrain model.

Block Name	Area (km^2)	Line Type	Planned No. of Lines	Planned Line Spacing (m)	Line Orientation	Nominal Survey Height (m)	Actual Survey Height (m)	Total Planned Line km	Total Actual km Flown
Goodman Creek	50.2	Survey	127	150	150°/330°	35	35.6	336	336
		Tie	3	1500	060°/240°	35	35.5	41	41
		Total:	**129**					**377**	**377**

Table 1: Goodman Creek survey area flight line specifications.

Longitude	Latitude	Easting	Northing	N/S	E/W
136.31853498	63.89578368	435271	7086070	N	W
136.28725531	63.86846530	436745	7082995	N	W
136.23799372	63.88213399	439195	7084470	N	W
136.24350903	63.88621542	438933	7084930	N	W
135.96630445	63.96486905	452678	7093458	N	W
135.98849414	63.98258854	451622	7095449	N	W

Table 2: Goodman Creek survey block polygon coordinates using WGS 84 in zone 8N.

2.0 Geophysical Data

Geophysical data are collected in a variety of ways and are used to aid in determination of geology, mineral deposits, oil and gas deposits, geotechnical investigations, contaminated land sites and UXO detection.

For the purposes of this survey, airborne magnetic and radiometric data were collected to serve in the exploration for gold and copper deposits.

2.1 Magnetic Data

Magnetic surveying is the most common airborne survey type to be conducted for both mineral and hydrocarbon exploration. Aeromagnetic surveys measure and record the total intensity of the magnetic field at the magnetometer sensor, which is a combination of the desired magnetic field generated in the Earth as well as minute variations due to the temporal effects of the constantly varying solar wind and the magnetic field of the survey aircraft. By subtracting the solar, regional, and aircraft effects, the resulting aeromagnetic map shows the spatial distribution and relative abundance of magnetic minerals (most commonly the iron oxide mineral magnetite) in the upper levels of the Earth's crust, which in turn is related to lithology, structure, and alteration of bedrock. The type of survey specifications, instrumentation, and interpretation procedures depend on the objectives of the survey. Typically magnetic surveys are performed for:

1. Geological Mapping - to aid in mapping lithology, structure and alteration.
2. Depth to Basement Mapping - for exploration in sedimentary basins or mineralization associated with the basement surface.

2.2 Radiometric Data

Radiometric surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials come from the natural decay products of three primary radioelements: uranium (U), thorium (Th), and potassium (K). The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th, and K in surface rocks and soils which are then useful in mapping lithology, alteration, and structure.

Vegetation, standing water (lakes, marshes, swamps) and/or snow can effectively attenuate gamma rays originating from underlying rocks. Therefore, variations in isotope counts must be evaluated with respect to surficial conditions before they are attributed to changes in underlying geology. An increase in soil moisture can also significantly affect gamma radiation concentrations. For example, 10 % increase in soil moisture can decrease the measured gamma radiation by about the same amount. Radon, formed naturally from the decay of radioactive elements, such as uranium attaches to dust particles in the atmosphere. The radioactive precipitation of these dust particles by rain can lead to apparent increases of more than 2000% in uranium ground concentration (IAEA, 2003). Thus, gamma ray surveying should not be carried out during rainfall, or shortly after rainfall.

3.0 Survey Operations

Precision GeoSurveys flew the survey out of Mayo, Yukon. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne geophysical surveying. Field processing and quality control checks were done daily.

3.1 Operations Base and Crew

The base of operations for this survey was located at the Mayo airport (YMA), 37 km south-southeast of the Goodman Creek survey block (Figure 6).

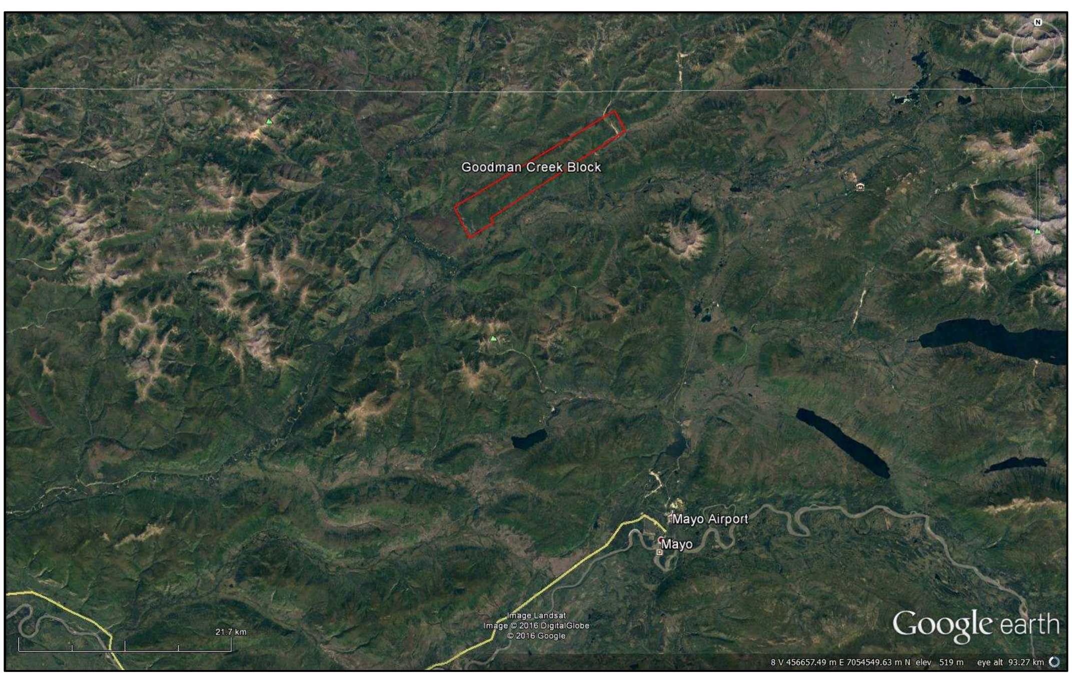


Figure 6: Map showing base of operation at Mayo airport.

The Precision geophysical crew consisted of three members:

Harmen Keyser	–	Helicopter Pilot
Melody Steele	–	Geophysical Technician
Jenny Poon (off-site)	–	Geophysicist and Data Processor

The survey was flown on September 19, 2016. The survey did not encounter any delays.

3.2 Base Station Specifications

Two GEM GSM-19T proton precession magnetometers were used to accurately record diurnal variations and geomagnetic storms in the survey area. The magnetic base stations were set up south of the Mayo airport, away from any sources of magnetic noise (Table 3; Figures 7 and 8).

Station name	Easting/Northing	Longitude/Latitude	Datum/ Projection
GEM 5 S/N 5081669	0456643E, 7054343N	135° 52' 27.91" W 63° 36' 51.84" N	WGS 84, Zone 8N
GEM 6 S/N 5087249	0456641E, 7054350N	135° 52' 28.02" W 63° 36' 52.06" N	WGS 84, Zone 8N

Table 3: Base station specifications.

Base station readings were reviewed at regular intervals to ensure that no data were collected during periods of high diurnal magnetic activity (greater than 5 nT per minute). The magnetic base station was installed in a magnetically noise-free area, away from metallic items such as ferromagnetic objects, vehicles, or power lines that could affect the base station or survey data.

The diurnal magnetic variations recorded by the stationary base station were removed from the magnetic data recorded in flight to ensure that the anomalies seen were real and not due to solar activity.

Figure 7: GEM 5 (left) and GEM 6 (right) magnetic base station located in the bushes, south of the Mayo airport.

Figure 8: GEM 5 and GEM 6 magnetic base stations located in the bushes, south of the Mayo airport.

3.3 Field Processing and Quality Control

On a flight-by-flight basis, the survey data were transferred from the helicopter's data acquisition system onto a USB flash drive and copied onto a field data processing laptop. The raw data files in PEI binary data format were converted into Geosoft GDB database format. Using Geosoft Oasis Montaj 9.0.2, the quality of the data was inspected to ensure that they met the contract specifications (Table 4). All flight lines (Figure 9) which did not meet survey specifications (left/right and up/down) were re-flown. Selected suspect magnetic anomalies, especially those found on a single flight line, were re-flown for confirmation. Where required, re-flight lines were a minimum of 2000 m long, so that survey line re-flights crossed at least two tie lines, and tie line re-flights crossed at least 5 survey lines.

Specification	Parameter	Details
Line Spacing	Position	Flight line deviation from flight path by more than 15 m left/right for 1 km or more.
Height		Nominal flight height of 35 m above ground. Flight height deviation by more than 15 m up/down for 1 km or more, provided line deviation from height is not due to tall trees, topography, cultural features, mitigation of livestock harassment, or other obstacles beyond the pilot's control.
GPS		Any flight lines where 3 or less GPS satellites received for distances of greater than 1 km, provided signal loss is not due to topography.
Diurnal Variations	Magnetics	Non-linear magnetic diurnal variations exceed 10 nT from a linear chord of length one (1) minute.
Normalized 4th Difference		Magnetic data exceeding 0.20 nT peak to peak for distances greater than 1 km or more (provided noise is not due to geological or cultural features).
Test Line Data	Radiometrics	If signal from the four spectrometer windows (K, Th, U, TC) over the test line vary by more than 12%, the flights shall be re-flown or suspended.

Table 4: Contract re-flight specifications.

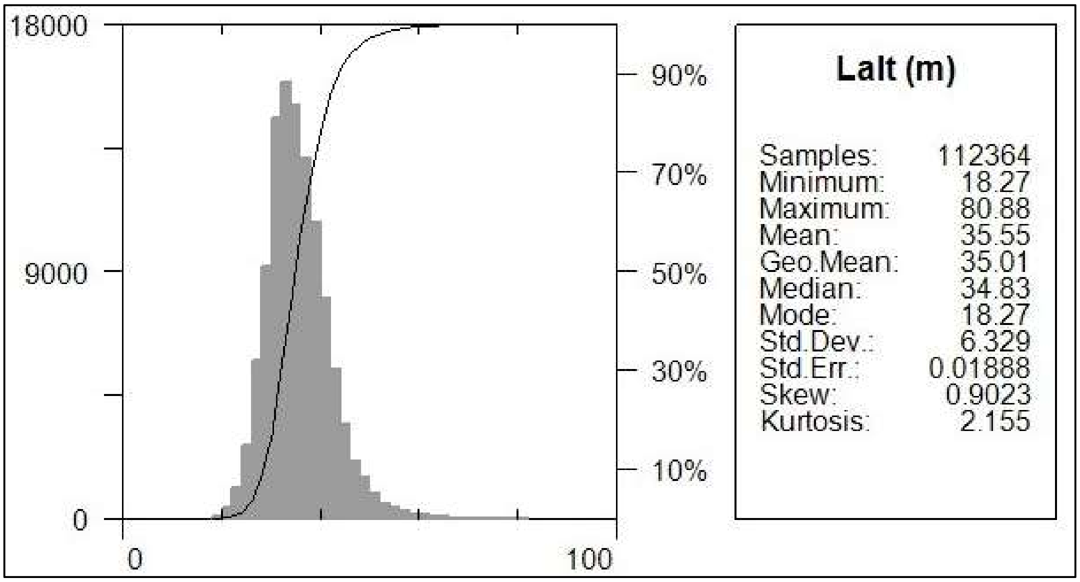


Figure 9: Histogram showing survey elevation vertically above ground.

4.0 Aircraft and Equipment

All geophysical and subsidiary equipment were carefully installed on Precision GeoSurveys aircraft. For this survey, the survey magnetometer was carried in an approved "stinger" configuration to enhance flight safety and improve data quality. The gamma spectrometer crystal packs consisted of three components: two downward-looking packs and one upward-looking pack. The four downward looking crystals (total of 16.8 liters) were installed in the rear cabin of the aircraft and the rear cargo box. The upward looking crystal (total of 4.2 liters) was installed in the right cargo cheek.

4.1 Aircraft

Precision GeoSurveys flew the Goodman Creek survey block using a Eurocopter AS350 helicopter, registration C-GSVY. The survey lines were flown at a nominal line spacing of one hundred and fifty (150) meters and the tie lines were flown at one thousand and five hundred (1500) meters for both the magnetometer and spectrometer.

4.2 Geophysical Equipment

The survey helicopter (Figure 10) was equipped with a magnetometer, spectrometer, data acquisition system, laser altimeter, magnetic compensation system, pilot guidance unit (PGU), and GPS navigation system. In addition, two magnetic base stations were used to record diurnal magnetic variations.

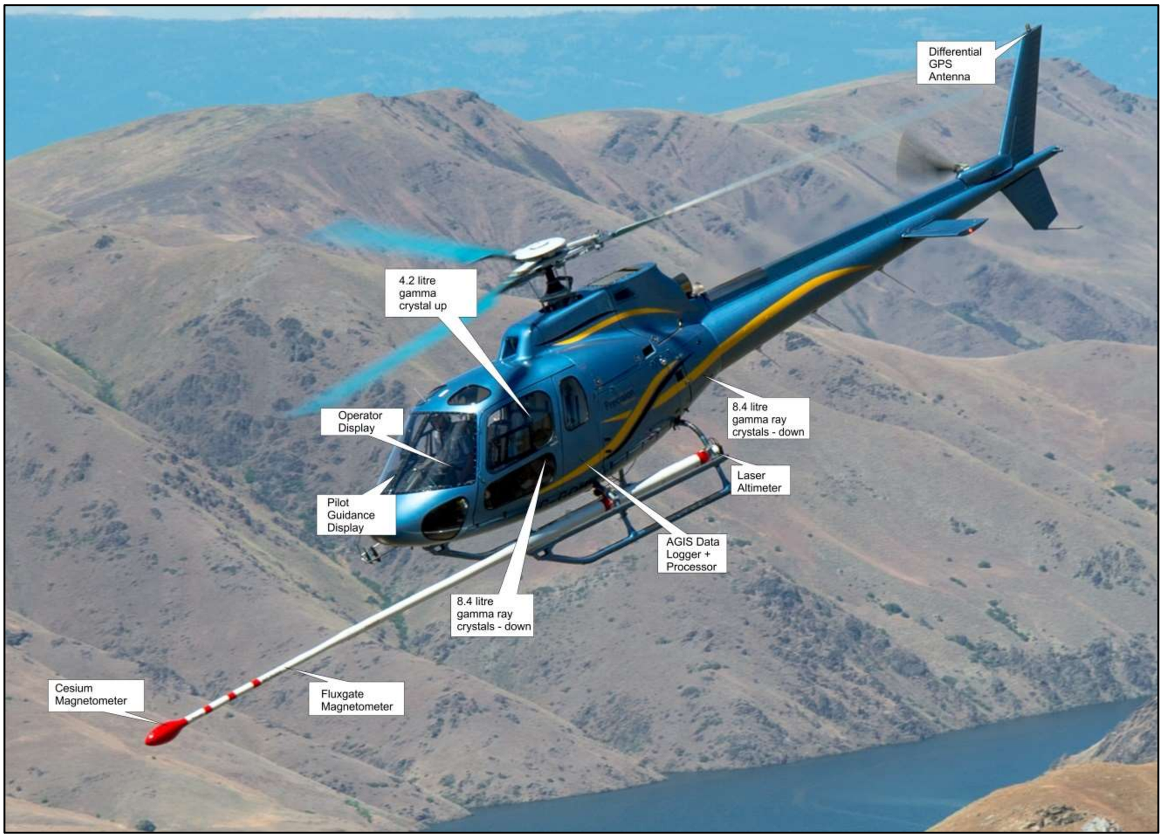


Figure 10: AS350 survey helicopter equipped with geophysical equipment.

4.2.1 AGIS

The Airborne Geophysical Information System, AGIS, (Figure 11), is the main computer used in data recording, data synchronizing, displaying real-time quality control data for the geophysical operator, and the generation of navigation information for the pilot and operator display systems. Information such as magnetic field components, total gamma count, counts of various radioelements (K, U, Th, etc.), temperature, cosmic radiation, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the on-board AGIS display for immediate quality control.

The AGIS was manufactured by Pico Envirotec and uses standardized Pico software. External sensors are connected to the system via RS-232 serial communication cables. The AGIS data format is converted into Geosoft or ASCII file formats by a conversion program called PEIView. Additional Pico software allows for post or real time magnetic compensation and survey quality control procedures.

Figure 11: AGIS operator display installed in the Eurocopter AS350, with screen displaying real time flight line recording and navigation parameters. Additional windows display real time geophysical data to operator.

4.2.2 Magnetometer

The airborne magnetic sensor was a Scintrex cesium vapor CS-3 magnetometer (S/N 1107379). The system was mounted on the front of the helicopter in an approved “stinger” configuration (Figure 12). The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range; the static noise rating for the unit is +/- 0.01 nT. Magnetic data were recorded at 10 Hz. A separate fluxgate magnetometer determined the helicopter’s attitude (pitches, rolls, and yaws) relative to the inclination and declination of the Earth’s magnetic field, which was necessary to remove magnetic noise created by the movement of the helicopter through a compensation process.

Figure 12: View of the mag stinger used on the Goodman Creek survey.

4.2.3 Spectrometer

The IRIS, or Integrated Radiometric Information System, is a fully integrated gamma radiation detection system containing 16.8 litres of NaI (T1) synthetic downward-looking crystals (Figure 13) and 4.2 litres of NaI (T1) synthetic upward looking crystals with 256 channel output at 1 Hz sampling rate. The downward-looking crystals are designed to measure gamma rays from below the aircraft and are equipped with upward-shielding high density RayShield® gamma-attenuating blankets to minimize cosmic and solar gamma noise. The upward looking crystal measures solar gamma radiation from above the survey helicopter with a 6 mm thick lead plate used for downward-shielding.

Figure 13: GRS-10 Thallium-activated Sodium Iodide gamma spectrometer crystal pack. The open unit on the right shows two individual 4.2 liter detectors.

4.2.4 Base Station

To monitor and record the Earth's diurnal magnetic field variation, Precision GeoSurveys operated two GEM GSM-19T magnetometer base stations. The base stations were operated near the Mayo airport. The base stations were located in an area with low magnetic gradient, away from electric power transmission lines and moving ferrous objects, such as motor vehicles, that could affect the survey data integrity.

The GEM GSM-19T magnetometer (Figure 14) with integrated GPS time synchronization uses proton precession technology with a 0.5 Hz sampling rate. The GSM-19T has an accuracy of +/- 0.2 nT at 1 Hz. Base station magnetic data were recorded on internal solid-state memory, and downloaded onto a field laptop computer using a serial cable and GEMLink 5.0 software. Profile plots of the base station readings were generated, updated, and reviewed at the end of each survey day.

Figure 14: GEM GSM-19T proton precession magnetometer.

4.2.5 Laser Altimeter

The pilot is provided with terrain guidance and clearance information from an Opti-Logic RS800 laser altimeter (Figure 15). This is attached to the aft end of the magnetometer boom. The RS800 laser is a time-of-flight sensor that measures distance by a rapidly-modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 700 m off of natural surfaces with an accuracy of +/- 1 meter on 1 x 1 m^2 diffuse target with 50% (+/- 20%) reflectivity. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and digital outputs, the ground clearance data are transmitted to an RS-232 compatible port and recorded and displayed by the AGIS and PGU at 10 Hz in meters.

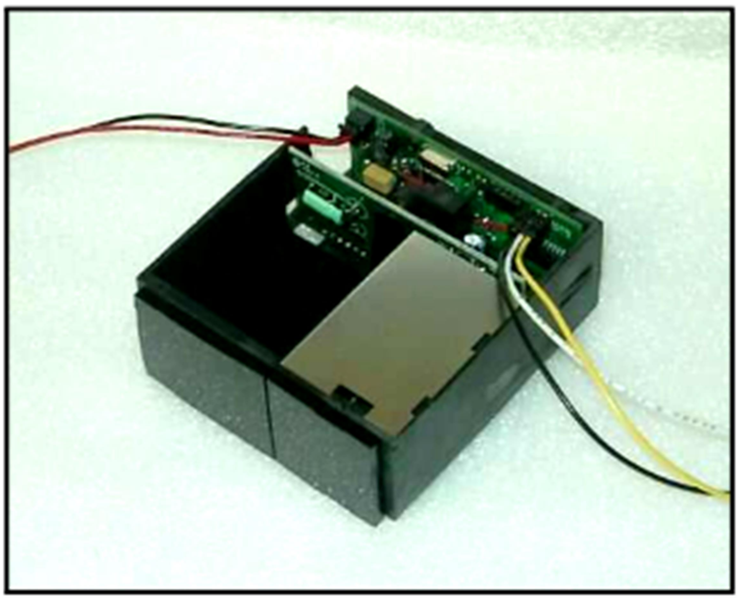


Figure 15: Opti-Logic RS800 laser altimeter.

4.2.6 Pilot Guidance Unit

The PGU (Pilot Guidance Unit) is a graphical display type unit that provides continuous steering and elevation information to the pilot (Figure 16). It is mounted remotely from the data system on top of the helicopter's instrument panel. The PGU assists the pilot in keeping the helicopter on the planned flight path and at the desired ground clearance.

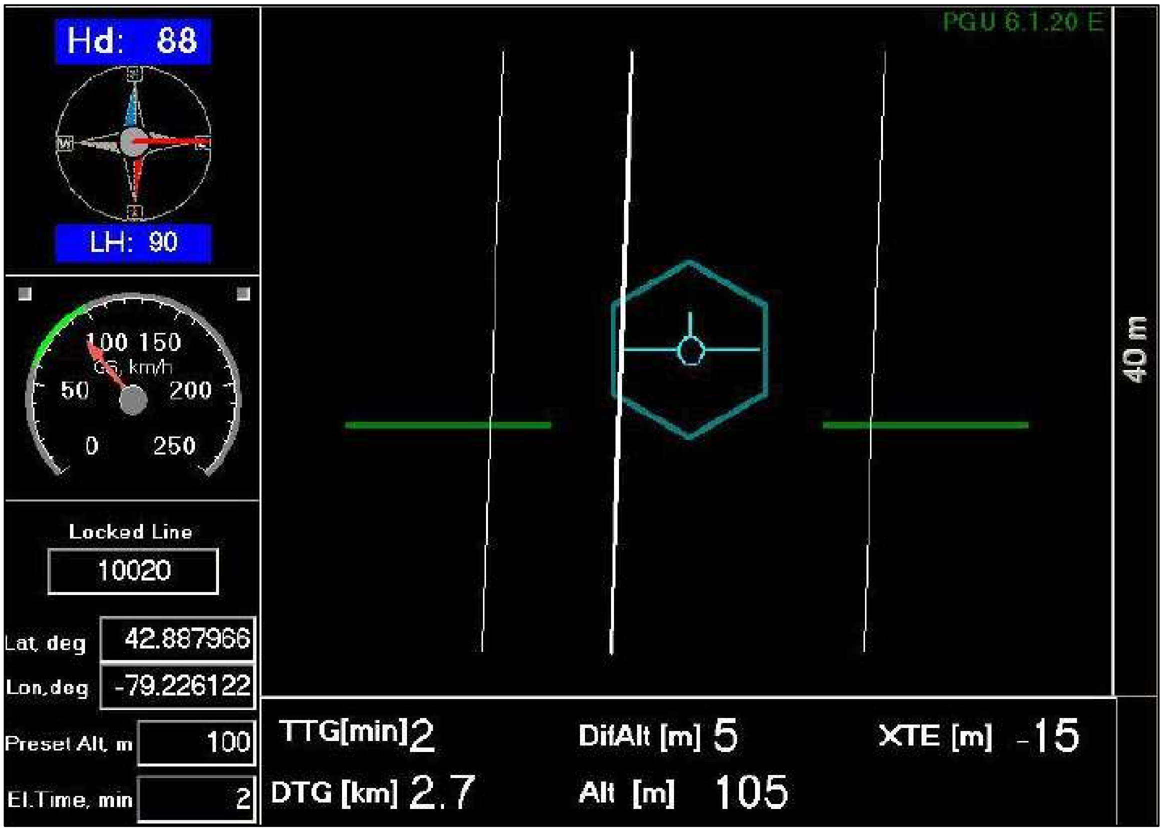


Figure 16: PGU screen displaying navigation information.

The LCD monitor measures 7 inches, with a full VGA 800 x 600 pixel display. The CPU for the PGU is contained in a PC-104 console and uses Microsoft Windows operating system control, with input from the GPS antenna, embedded drape surface profile or laser altimeter, and AGIS.

4.2.7 GPS Navigation System

A Hemisphere R120 GPS receiver (Figure 17) navigation system integrated with the pilot display (PGU) and AGIS provided navigational information and control. The R120 GPS receiver supports fast updates and outputs messages at a rate of up to 20 Hz (20 times per second); delivering sub-meter positioning. It employs COAST technology that allows continuous operation for at least 40 minutes during temporary differential signal outages.

Figure 17: Hemisphere R120 GPS Receiver.

It can track GPS, SBAS (Satellite-Based Augmentation System), and L-Band (OmniSTAR HP and XP) differential corrections to provide accurate positioning.

5.0 Data Acquisition Equipment Checks and Calibration

Airborne equipment tests and calibrations were conducted at the start of the survey. There were three tests conducted for the airborne magnetometer: compensation flight, lag test, and heading error test. Three other tests were conducted for the airborne gamma ray spectrometer: calibration pad test, cosmic flight test, and the altitude correction and sensitivity test.

5.1 Magnetometer Tests

Before acquiring magnetic data the magnetometer was tested and calibrated. A series of dedicated flights were completed to collect data specifically for removing undesired side-effects of aircraft movement, speed, and heading direction.

5.1.1 Compensation Flight Test

During aeromagnetic surveying a small but significant amount of noise is introduced to the magnetic data by the aircraft itself, as the magnetometer is within the helicopter's magnetic field. Movement of the aircraft (roll, pitch and yaw) combined with the permanent magnetization of certain aircraft parts (in particular the engine and other ferrous magnetic objects) contribute to this noise. The aircraft was degaussed prior to starting the survey and the remaining magnetic noise was removed by a process called magnetic compensation. A magnetic compensation flight was completed prior to beginning the survey (Table 5). The process consists of a series of prescribed maneuvers where the aircraft flies in the four orthogonal headings required for the survey (150°/330° and 060°/240° in the case of this survey) at a sufficient altitude (typically >

2,500 m AGL) in an area of low magnetic gradient where the Earth's magnetic field becomes nearly uniform at the scale of the compensation flight. In each heading direction, three specified roll, pitch, and yaw maneuvers (total 36) are performed by the pilot at constant elevation so that any magnetic variation recorded by the airborne magnetometer can be attributed to aircraft movement. These maneuvers provide the data that are required to calculate the necessary parameters for compensating the magnetic data and removing aircraft noise from survey data.

Pre-Compensation					Post-Compensation				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
060°	6.7074	2.7117	1.8360	11.2551	060°	0.2115	0.3163	0.2926	0.8204
148°	7.0072	5.5829	1.4021	13.9922	148°	0.4478	0.3320	0.2265	1.0063
238°	5.2366	6.0931	2.4269	13.7566	238°	0.2813	0.2773	0.1440	0.7026
330°	3.6764	2.6225	1.0631	7.3620	330°	0.1429	0.2030	0.1672	0.5131
Total	22.6276	17.0102	6.7281		**Total**	1.0835	1.1286	0.8303	
FOM = 46.3659 nT					**FOM = 3.0424 nT**				

Table 5: Figure of Merit maneuver test results for compensation flight flown on September 19, 2016, east of Mayo, Yukon.

5.1.2 Lag Test

A lag test was performed to determine the relationship between the time the digital reading was recorded by the magnetic sensor instrument and the position fix time that the fiducial of the reading was obtained by the GPS system. The test was flown in the four orthogonal headings over an identifiable magnetic anomaly (ie. Truck, Trailer, etc.) at survey speed and height. A lag of 7 fiducials (0.7 seconds) was determined from the lag test.

5.1.3 Heading Error Test

To determine the magnetic heading effect a cloverleaf pattern flight test was conducted. The cloverleaf test was flown in the same orthogonal headings as the survey and tie lines (150°/330° and 060°/240°) at >1000 m AGL in an area with low magnetic gradient. For all four directions the survey helicopter must pass over the same mid-point all four times at the same elevation (Table 6 and Figure 18).

Line Number	Fiducials	Heading	Mag (nT)	Correction (nT)
L060	326.6	NE – 060°	57128.87	-0.2825
L150	749.5	SE – 150°	57136.85	-8.2625
L240	380.0	SW - 240°	57127.30	1.2875
L330	783.9	NW - 330°	57121.33	7.2575
		Average	**57128.59**	
		Total		**0.0000**

Table 6: Heading error test data format flown on September 19, 2016, east of Mayo, Yukon.

```
/Geosoft Heading Correction Table

/
/=Direction:real:i
/=Correction:real
/
/Direction Correction
 060    -0.2825
 150    -8.2625
 240    +1.2875
 330    +7.2575
```

Figure 18: Heading data results in .tbl format in Geosoft table.

5.2 Gamma-ray Spectrometer Tests and Calibrations

Pre-survey calibrations and testing of the GRS-10 airborne gamma-ray spectrometry system were carried out prior to the start of the survey. The calibration of the spectrometer system involved three tests which enabled the conversion of airborne data to ground concentration of natural radioactive elements. These tests were the calibration pad test, cosmic flight test, and the altitude correction and sensitivity test. The measurements were made in accordance with IAEA technical report series No. 323, "Airborne Gamma Ray Spectrometer Surveying", and AGSO Record 1995/60, "A Guide to the Technical Specification for Airborne Gamma-Ray Surveys".

5.2.1 Calibration Pad Test

The calibration pad test was conducted by Pico Envirotec at the GSC (Geological Survey of Canada) testing facility in Ottawa, Ontario. The calibration pad is a slab of concrete containing known concentrations of the radioelements (K, Th, and U) and is used to simulate an ideal geological source of gamma radiation. The measurements collected from the calibration pad test were used to determine the Compton scattering and Grasty Backscatter (spectral overlap between element windows) coefficients.

5.2.2 Cosmic Flight Test

While the background source of gamma radiation from the aircraft itself is essentially constant, the amount of signal detected from ground sources varies with ground clearance. As the height of the aircraft increases, the distance between the ground and the spectrometer crystals increase, and the proportion of cosmic radiation in each spectral window increases exponentially. The cosmic flight test is conducted to determine the aircraft's background attenuation coefficients for the detector crystal packs and the cosmic coefficients. The pilot is required to fly over the same location repeatedly in opposite directions starting from 1,500 m to 3,000 m at 500 m intervals for approximately 2 minutes each to collect gamma data used to determine the amount of non-terrestrial gamma signal.

5.2.3 Altitude Correction and Sensitivity Test

The altitude and sensitivity test is similar to the cosmic flight test but is conducted at lower elevations (from ground level). The pilot is required to fly over the same location at the following elevations in meters above ground; 30, 50, 100, 150, 200, 250, and 300. As the distance of the aircraft increases away from the radioactive ground source, the source signature exponentially degrades. As a result, this test is used to determine the altitude attenuation coefficients and the radio-element sensitivity of the airborne spectrometer system.

6.0 Data Processing

After all the data were collected from a survey flight several procedures were undertaken to ensure that the data met a high standard of quality. All radiometric and magnetic data (Figure 19) were processed using Pico Envirotec software and Geosoft Oasis Montaj 9.0.2 geophysical processing software along with proprietary processing algorithms.

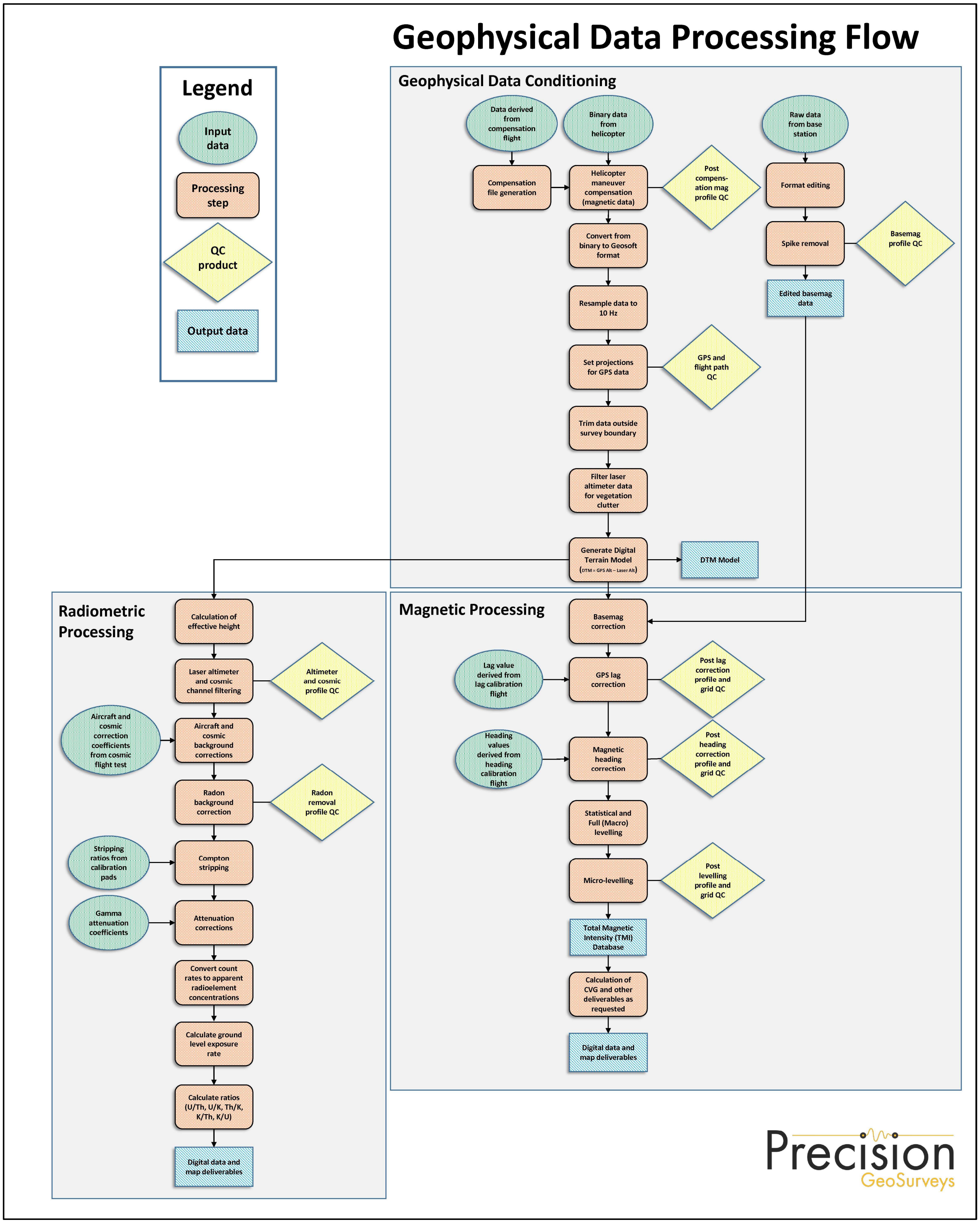


Figure 19: Magnetic and radiometric data processing flow.

6.1 Magnetic Processing

The data obtained from the compensation flight test were applied to the raw magnetic data before any further processing and editing. A computer program called PEIComp was used to create a model from the compensation flight test for each survey to remove the noise induced by aircraft movement; this model was applied to each survey flight so the data could be further processed.

The compensated raw magnetic data were then corrected for diurnal variations, lag, and heading. Any evidence of noise or spikes was removed. The initial corrected data from the survey and tie lines were then used to level the entire survey dataset. Lastly, the International Geomagnetic Reference Field (IGRF) was used to remove the background magnetic field of the earth.

6.1.1 Diurnal Correction

The first step in processing the compensated magnetic data was to correct for diurnal variations. The base station data that were used for the correction came from GEM 5 south of the Mayo airport. The diurnal data were edited, plotted and merged into a Geosoft database (.GDB) on a daily basis. The airborne magnetic data were corrected for diurnal variations by subtracting the observed magnetic base station deviations from the data collected on the helicopter, which effectively removed the effects of diurnal variation, diurnal drift, and geomagnetic storms.

6.1.2 Lag Correction

Following the diurnal correction, a lag correction of 0.7 seconds was applied to the total magnetic field data to compensate for the combination of lag in the recording system and the magnetometer sensor flying 5.4 m ahead of the GPS antenna.

6.1.3 Heading Correction

For each survey heading the magnetic instrument travels along a flight line, changes in instrument magnetic fields are detected and these systematic shifts are recorded. These values are used to construct a heading .TBL table file. An intersection table was created, containing all magnetic field values where tie lines intersected the survey lines and the overall average magnetic field value was calculated. For each of the four headings, the averages were calculated and then compared to the overall average to determine four values to be used for heading error correction.

6.1.4 Leveling and Micro-leveling

The initial Total Magnetic Intensity (TMI) data from survey and tie lines were used to level the entire survey dataset. Two forms of leveling were applied to the corrected data: conventional leveling and micro-leveling. There were two components to conventional leveling; Statistical Leveling to level tie lines and Full Leveling to level survey lines. The Statistical Leveling method corrected for mis-ties (SL/TL intersection errors) following a specific pattern or trend. Through the error channel, an algorithm calculated a least-squares trend line and derived a trend error curve, which was then added to the channel to be leveled. The second component was Full Leveling. This adjusted the magnetic value of the survey lines so that all lines matched the trended tie lines at each intersection point.

Lastly, micro-leveling was applied to the corrected conventional leveled data. This iterative grid-based process removed low amplitude components of flight line noise that still remained in the data after tie line and survey line leveling.

6.1.5 IGRF Removal

The International Geomagnetic Reference Field (IGRF) model is the empirical representation of the Earth's magnetic field (main core field without external sources) collected and disseminated from satellite data and from magnetic observatories around the world. The IGRF is generally revised and updated every five years by a group of modelers associated with the International Association of Geomagnetism and Aeronomy (IAGA). In this case, the IGRF values were calculated from the recently updated model (IGRF – 12) year 2015 and the actual survey dates were obtained from the "Date" channel.

By subtracting the calculated IGRF from TMI, Residual Magnetic Intensity (RMI) of the Goodman Creek survey area was calculated. This created a more valid model of individual near-surface anomalies so that the data were not referenced to a specific time. This will allow for other magnetic data (historic or future) to be more easily incorporated into the survey database.

6.1.6 Calculation of the First Vertical Derivative

The first vertical derivative (1VD) was computed from the leveled Residual Magnetic Intensity (RMI) data. Long wavelengths and vertical rate of change were suppressed in the magnetic field. Therefore, the edges of magnetic anomalies were highlighted and spatial resolution was increased.

6.2 Radiometric Processing

Radiometric surveys map the concentration of radioelements at or near the earth's surface; typically up to 1.5 meters below surface. Thus, the first step which is vital before processing of the airborne radiometric data was to calibrate the spectrometer system. Once calibration of the system was complete, the radiometric data were processed by windowing the full spectrum to create channels for U, K, Th and total count.

Steps taken to process acquired radiometric data are summarized below:

- Calculation of effective height
- Aircraft and Cosmic background corrections
- Radon background correction

- Stripping ratios
- Attenuation corrections
- Conversion to apparent radioelement concentrations

6.2.1 Calculation of Effective Height

Laser/Radar altimeter data were converted to effective height (h_{ef}) in meters using the acquired laser/radar altimeter, temperature and pressure data, according to the formula below:

$$h_{ef} = h * \frac{273.15}{T + 273.15} * \frac{P}{1013.25}$$

where: h is the observed laser/radar altitude in meters
T is the measured air temperature in degrees Celsius
P is the barometric pressure in millibars

6.2.2 Intermediate Filtering

Some of the measured parameters are filtered as part of the pre-processing.

- Laser/radar altimeter is lightly filtered, a 5-point Hanning filter to smooth out rapid changes that may occur in rugged terrain.
- The Cosmic channel was smoothed with a 5-point Hanning filter to reduce statistical noise.

6.2.3 Aircraft and Cosmic Background Corrections

Aircraft background and cosmic stripping corrections are applied to all three elements, and total count, using the following formula:

$$C_{ac} = a_c + b_c * \mathrm{Cos}_f$$

where: C_{ac} is the background and cosmic corrected channel
a_c is the aircraft background for this channel
b_c is the cosmic stripping coefficient for this channel
Cos_f is the filtered cosmic channel

6.2.4 Radon Background Correction

To strip the effects of atmospheric radon from the downward-looking detectors, calibration constants are determined through the use of an upward-looking detector. The upward-looking detector uses crystal pack that is partially shielded from radiation from below to give the system a directional sensitivity and the ability to discriminate between radiation from the atmosphere and from the ground. Procedures to determine these calibration constants in detail are outlined in the IAEA 1363 report - Guidelines for radioelement mapping using gamma ray spectrometry data.

6.2.5 Compton Stripping

Spectral overlap corrections are applied to potassium, uranium, and thorium as part of the Compton stripping process. This is done by using the stripping ratios that have been calculated for the spectrometer by prior calibration; this breaks the corrected elemental values down into the apparent radioelement concentrations.

Stripping ratios α, β, and γ are first modified according to altitude. Then an adjustment factor (derived from the cosmic flight test), the reversed stripping ratio, uranium into thorium, is calculated.

$$\alpha_h = \alpha + h_{ef} * 0.00049$$

$$\beta_h = \beta + h_{ef} * 0.00065$$

$$\gamma_h = \gamma + h_{ef} * 0.00069$$

where: α, β, γ are the Compton stripping coefficients
α_h,β_h,γ_h are the height corrected Compton stripping coefficients
h_{ef} is the effective height above ground in metres at STP

The stripping corrections are then carried out using the following formulas:

$$Th_c = Th_{bc}(1 - g\beta_h) + U_{bc}(b\gamma_h - a) + K_{bc}(ag - b) / A$$

$$U_c = Th_{bc}(g\beta_h - \alpha_h) + U_{bc}(1 - b\beta_h) + K_{bc}(b\alpha_h - g) / A$$

$$K_c = [Th_{bc}(\alpha_h\gamma_h - \beta_h) + U_{bc}(a\beta_h - \gamma_h) + K_{bc}(1 - a\alpha_h)] / A$$

where: U_c, Th_c and K_c stripping corrected uranium, thorium and potassium
α_h,β_h,γ_h height corrected Compton stripping coefficients
U_{bc}, Th_{bc} and K_{bc} background corrected uranium, thorium and potassium
a is the spectral ratio Th/U
b is the spectral ratio Th/K
g is the spectral ratio U/K

$A = 1 - g\gamma_h - a(\alpha_h - g\beta_h) - b(\beta_h - \alpha_h\gamma_h)$ is the backscatter correction

6.2.6 Attenuation Corrections

The total count, potassium, uranium and thorium data are then corrected to a nominal survey altitude (corrected to remove vegetation clutter from radar/laser altimeter data), in this case the survey height was 35 meters. This is done according to the equation:

$$C_a = C * e^{\mu(h_{ef} - ho)}$$

where: C_a is the output altitude corrected channel
C is the input channel
μ is the attenuation correction for that channel
h_{ef} is the effective altitude, usually in m
h_0 is the nominal survey altitude used as datum

6.2.7 Conversion to Apparent Radioelement Concentrations

With all corrections applied to the radiometric data, the final step is to convert the corrected potassium, uranium, and thorium to apparent radioelement concentrations using the following formula:

$$eE = C_{cor} / s$$

where: eE is the element concentration K(%) and equivalent element concentration of U(ppm) & Th(ppm)
s is the experimentally determined sensitivity
C_{cor} is the fully corrected channel

Finally, the natural air exposure rate is determined by using the following formula:

$$E = [(13.08 * K + 5.43 * eU + 2.69 * eTh) / 8.69]$$

where: E is the absorption dose rate in μR/h
K is the concentration of potassium (%)
eU is the equivalent concentration of uranium (ppm)
eTh is the equivalent concentration of thorium (ppm)

6.2.8 Radiometric Ratios

To calculate some of the common radiometric ratios (U/Th, Th/K, and U/K or their inverses) the guidelines of the IAEA are followed. Due to statistical uncertainties in the individual radioelement measurements, some care is taken in the calculation of the ratio in order to obtain statistically significant values. Following IAEA guidelines, the method of determining ratios of the eU/eTh, eU/K and eTh/K is as follows:

1. Any data points where the potassium concentration is less than 0.25% are neglected.
2. The element with the lowest corrected count rate is determined.
3. The element concentrations of adjacent points on either side of each data point are summed until they exceed a pre-determined threshold value. This threshold is set to be equivalent to 100 counts of the element with the lowest count rate. Additional minimum thresholds of 1.6% for potassium, 20 ppm for thorium, and 30 ppm for uranium are established to ensure meaningful ratios.
4. The ratios are calculated using the accumulated sums.

With this method, the errors associated with the calculated ratios are minimized and comparable for all data points.

7.0 Deliverables

All digital data are presented on a compact disc (CD) and USB memory stick with the logistic report. The survey data are presented as digital databases, maps, and a report.

7.1 Digital Data

The digital files will be provided in two formats, the first will be a .GDB file for use in Geosoft Oasis Montaj and the second format will be a .XYZ (text) file. Full descriptions of the digital data and contents are included in the report (Appendix B).

The digital data were represented as grids, as listed below:

- Digital terrain model (DTM)
- Total magnetic intensity (TMI)
- Residual magnetic intensity (RMI) – removal of IGRF from TMI
- Calculated vertical gradient (CVG) - first vertical derivative of RMI
- Potassium – Equivalent Concentration (%K)
- Thorium – Equivalent Concentration (eTh)
- Uranium – Equivalent Concentration (eU)
- Total Count – Equivalent Dose Rate (TCcor)
- Total Count – Exposure Rate (TCexp)
- Potassium over Thorium Ratio (%K/eTh)

- Potassium over Uranium Ratio (%K/eU)
- Uranium over Thorium Ratio (eU/eTh)
- Uranium over Potassium Ratio (eU/%K)
- Thorium over Potassium Ratio (eTh/%K)
- Ternary Map (TM)

7.1.1 Gridding

The digital data were gridded and displayed using the following Geosoft parameters:

- Grid cell size: 38 m
- % pass tolerance: 99
- Maximum iterations: 100

All grids were drawn with a histogram-equalized color shade; sun angle inclination at 45° and declination at 045°.

7.2 KMZ Grids

The digital data represented into grids were exported into kmz files which can be displayed using Google Earth. The grids can be draped onto topography and rendered to give a 3D view.

7.3 Maps

Digital maps were created for the Goodman Creek survey block. The following map products were prepared:

Survey Overview Maps (colour images with elevation contour lines):

- Actual flight lines
- Digital terrain model

Magnetic Maps (colour images with elevation contour lines):

- Total magnetic intensity
- Total magnetic intensity with plotted flight lines
- Residual magnetic intensity
- Calculated vertical gradient of the residual magnetic intensity

Radiometric Maps (colour images with elevation contour lines):

- Potassium – Equivalent Concentration in Percentage
- Thorium – Equivalent Concentration
- Uranium – Equivalent Concentration

- Total Count – Equivalent Dose Rate
- Total Count – Exposure Rate
- Potassium over Thorium Ratio
- Potassium over Uranium Ratio
- Uranium over Thorium Ratio
- Uranium over Potassium Ratio
- Thorium over Potassium Ratio
- Ternary Map

All maps were prepared in WGS 84 and UTM zone 8N.

7.4 Report

The logistics report provides information on the acquisition procedures, magnetic and radiometric processing, and presentation of the Goodman Creek survey block data. A pdf copy of the report is included along with the digital data and maps that are provided on the CD and USB stick.

8.0 Conclusions and Recommendations

The airborne magnetic and radiometric data were acquired to help explore and possibly discover new mineral deposits. As geophysical data are not a direct indication of mineral deposits, geophysical interpretation and careful integration with existing and new geological, geochemical, and other geophysical data are recommended to maximize value from the survey investment.

Appendix A

Equipment Specifications

- GEM GSM-19T Proton Precession Magnetometer (Base Station)
- Hemisphere R120 GPS Receiver
- Opti-Logic RS800 Laser Altimeter
- HC-S3 Temperature and Relative Humidity Probe
- Barometric Pressure Setra Model 276
- Scintrex CS-3 Survey Magnetometer
- Bartington Mag-03 three-axis fluxgate magnetic field sensor
- Pico Envirotec GRS-10 Gamma Spectrometer
- Pico Envirotec AGIS data recorder system (for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

GEM GSM-19T Proton Precession Magnetometer (Base Station) Specifications

Configuration Options	15
Cycle Time	999 sec to 0.5 sec
Environmental	-40°C to +60°C
Gradient Tolerance	7,000 nT/m
Magnetic Readings	299, 593
Operating Range	10, 000 to 120,000 nT
Power	12 V @ 0.62 A
Sensitivity	0.1 nT @ 1 sec
Weight (Console/ Sensor)	3.2 Kg
Integrated GPS	Yes

Hemisphere R120 GPS Receiver Specifications

GPS Sensor	Receiver Type	L1, C/A code, with carrier phase smoothing (Patented COAST technology during differential signal outage
	Channels	12-channel, parallel tracking (10-channel when tracking SBAS)
	Update Rate	Up to 20 Hz position
	Cold Start Time	<60 s
	SBAS Tracking	2-channel, parallel tracking
	Horizontal Accuracy	<0.02 m 95% confidence (RTK 1, 2) <0.28 m 95% confidence (L-Dif 1, 2) <0.6 m 95% confidence (DGPS 1,3) <2.5 m 95% confidence (autonomous, no SA1)
	Differential Options	SBAS, Autonomous, External RTCM, RTK, OmniSTAR (HP/XP)
Beacon Sensor Specifications	Channels	2-channel, parallel tracking
	Frequency Range	283.5 to 325 kHz
	MSK Bit Rates	50, 100, and 200 bps
L-Band Sensor	Channels	Single channel
	Frequency Range	1530 MHz to 1560 MHz
	Satellite Selection	Manual or Automatic (based on location)
	Startup and Satellite Reacquisition Time	15 seconds typical
Communications	Serial Ports	2 full duplex RS232C
	Baud Rates	4800 – 115200
	USB Ports	1 Communications
	Correction I/O Protocol	RTCM SC-104
	Data I/O Protocol	NMEA 0183
	Timing Output	1 PPS (HCMOS, active high, rising edge sync, 10 kΩ, 10 pF load)
	Raw Data	Proprietary binary (RINEX utility available)
Environmental	Operating Temperature	-30°C to +70°C
	Storage Temperature	-40°C to +85°C
	Humidity	95% non-condensing
Power GPS Sensor	Input Voltage Range	8 to 36 VDC
	Power Consumption	3 Watts
	Current Consumption	< 250 mA @ 12 VDC
	Antenna Voltage Output	5.0 VDC

[1]Depends on multipath environment, number of satellites in view, satellite geometry and ionospheric activity.
[2] Up to 5 km baseline length.
[3] Depends also on baseline length.

Opti-Logic RS800 Laser Altimeter Specifications

Accuracy	+/- 1 m on 1x1 m^2 diffuse target with 50% reflectivity
Resolution	0.2 m
Communication Protocol	RS232-8,N,1
Baud Rate	19200
Data Raw Counts	~200 Hz
Data Calibrated Range	~10 Hz
Calibrated Range Units	Feet, Meters, Yards
Laser	Class I (eye-safe) 905 nm +/- 10 nm
Power	7-9VDC conditioned required, current draw at full power (~ 1.8 W)
Laser Wavelength	RS100 905 nm +/- 10 nm
Laser Divergence	Vertical axis – 3.5 mrad half- angle divergence; Horizontal axis – 1 mrad half- angle divergence; (Approximate beam footprint at 100 m is 35 cm x 5 cm)
Data Rate	~200 Hz raw counts for un-calibrated operation; ~10 Hz for calibrated operation (averaging algorithm seeks 8 good readings)
Dimensions	32 x 78 x 84 mm (lens face cross section is 32 x 78 mm)
Weight	< 227 g (8 oz)
Casing	RS100/RS400/RS800 units are supplied as OEM modules consisting of an open chassis containing optics and circuit boards. Custom housings can be designed and built on request.

HC-S3 Temperature and Relative Humidity Probe Specifications

Operating Temperature	-40°C to +60°C
Temperature Output Signal Range	0 to 1.0 VDC
Temperature Resolution	0.1°C or better
Relative Humidity(RH) Measurement Range	0 to 100 % non-condensing
RH Output Signal Range	0 to 1.0 VDC
RH Accuracy At 23°C	± 1.5 % RH
RH Response Time	12 to 15 secs
RH Typical Long Term Stability	Better than 1% RH per year
Probe Length	168 mm (6.6 in.)
Probe Body Diameter	15.25 mm (0.6 in.)
Housing Material	Polycarbonate
Power Consumption	< 4 mA
Supply Voltage	3.5 to 50 VDC (typically 5 VDC)
Settling Time after power is switched on	3 secs

Barometric Pressure Setra Model 276 Specifications

Pressure Ranges	600 to 1100 hPa/mb 800 to 1100 hPa/mb 0 to 20 psia
Accuracy	±0.25% FS
Output	0.1 to 5.1 VDC 0.5 to 4.5 VDC
Excitation	12 VDC (9.0 to 14.5) 24 VDC (21.6 to 26.0) 5 VDC (4.9 to 7.1)
Size	2” dia. x 1” (5 cm x 2.5 cm)

Scintrex CS-3 Magnetometer Specifications

Operating Principal	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
Operating Range	15,000 to 105,000 nT
Gradient Tolerance	40,000 nT/metre
Operating Zones	10° to 85° and 95° to 170°
Hemisphere Switching	a) Automatic b) Electronic control actuated by the control voltage levels (TTL/CMOS) c) Manual
Sensitivity	0.0006 nT √Hz rms
Noise Envelope	Typically 0.002 nT P-P, 0.1 to 1 Hz bandwidth
Heading Error	+/- 0.25 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
Absolute Accuracy	<2.5 nT throughout range
Output	a) Continuous signal at the Larmor frequency which is proportional to the magnetic field (proportionality constant 3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) Square wave signal at the I/O connector, TTL/CMOS compatible
Information Bandwidth	Only limited by the magnetometer processor used
Sensor Head	Diameter: 63 mm (2.5”) Length: 160 mm (6.3”) Weight: 1.15 kg (2.6 lb)
Sensor Electronics	Diameter: 63 mm (2.5”) Length: 350 mm (13.8”) Weight: 1.5 kg (3.3 lb)
Cable, Sensor to Sensor Electronics	3 m (9’ 8”), lengths up to 5 m (16’ 4”) available
Operating Temperature	-40°C to +50°C
Humidity	Up to 100%, splash proof
Supply Power	24 to 35 Volts DC
Supply Current	Approx. 1.5 A at start up, decreasing to 0.5 A at 20°C
Power Up Time	Less than 15 minutes at -30°C

Bartington Mag-03 three-axis fluxgate magnetic field sensor Specifications

Number of Axes	3
Bandwidth	0 to 3 kHz at 50 µT peak
Internal Noise	Basic version: >10 to 20 pTrms/√Hz at 1 Hz Standard version: 6 to ≤10 pTrms/√Hz at 1 Hz Low Noise version: <6 pTrms/√Hz at 1 Hz
Scaling error (DC)	<±0.5%
Orthogonality error	<0.1°
Alignment error (Z axis to reference face)	<0.1°
Linearity error	<0.0015%
Frequency response	0 to 1 kHz maximally flat, ±5% maximum at 1 kHz
Input voltage	±12 V to ±17 V
Supply current	+30 mA, -10 mA (+1.4 mA per 100 µT for each axis)
Power supply rejection ratio	5 µV/V (-106 dB)
Analog output	±10 V (±12 V supply) swings to within 0.5 V of supply voltage
Output impedance	10 Ω
Operating temperature range	-40°C to +70°C
Environmental protection	IP51
Dimensions (W x H x L)	32 x 32 x 152mm
Weight	160 g
Enclosure material	Reinforced epoxy
Connector	ITT Cannon DEM-9P-NMB
Mating connector	ITT Cannon DEM-9S-NMB
Mounting	2 x M5 fixing holes

Pico Envirotec GRS-10 Gamma Spectrometer Specifications

Crystal volume	16.8 litres of NaI (Tl) synthetic downward looking crystals and 4.2 litres of NaI (Tl) synthetic upward looking crystals
Resolution	256/512 channels
Tuning	Automatic using peak determination algorithm
Detector	Digital Peak
Calibration	Fully automated detector
Real Time	Linearization and gain stabilization
Communication	RS232
Detectors	Expandable to 10 detectors and digital peak
Count Rate	Up to 60,000 cps per detector
Count Capacity per channel	65545
Energy detection range:	36 KeV to 3 MeV
Cosmic channel	Above 3 MeV
Upward Shielding	RayShield® non-radioactive shielding on downward looking crystals
Downward Shielding	6 mm thick lead plate is used for downward-shielding
Spectra	Collected spectra of 256/512 channels, internal spectrum resolution 1024
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes, and PC based test and calibration software suite
Sensor	Each box containing two (2) gamma detection NaI(Tl) crystals – each 4.2 liters. (256 cu in.) (approx. 100 x 100 x 650 mm) Total volume of approx 8.4 litres or 512 cu in with detector electronics
Spectra Stabilization	Real time automatic corrections on radio nuclei: Th, Ur, K. No implanted sources

Appendix B

Digital File Descriptions

- Magnetic database description
- Radiometric database description
- Grids
- Maps

Magnetic Database:

Abbreviations used in the GDB files listed below:

CHANNEL	UNITS	DESCRIPTION
X_WGS84	m	UTM Easting – WGS 84 Zone 8 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 8 North
Lon_deg	degree	Longitude
Lat_deg	degree	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight Line numbers
LineNo		Line numbers
STL		Number of satellite(s)
GPSfix		GPS fix
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GHead_deg	degree	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 8 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
basemag	nT	Base station diurnal data
IGRF		International Geomagnetic Reference Field 2015
Declin	Decimal degree	Calculated declination of magnetic field
Inclin	Decimal degree	Calculated inclination of magnetic field
TMI	nT	Total Magnetic Intensity
RMI	nT	Residual Magnetic Intensity

Radiometric Database:

Abbreviations used in the GDB files listed below:

CHANNEL	UNITS	DESCRIPTION
X_WGS84	m	UTM Easting – WGS 84 Zone 8 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 8 North
Lon_deg	degree	Longitude
Lat_deg	degree	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight numbers
LineNo		Line numbers
STL		Number of satellite(s)
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GPSFix		GPS fix
GHead_deg	degree	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 8 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
BaroSTP_kP	KiloPascal	Barometric Altitude (Press and Temp Corrected)
Temp_degC	Degrees C	Air Temperature
Press_kP	KiloPascal	Atmospheric Pressure
COSFILT	counts/sec	Spectrometer - Filtered Cosmic
UPUFILT	counts /sec	Spectrometer - Filtered Upward Uranium
Kcor	%	Equivalent Concentration - Potassium
Thcor	ppm	Equivalent Concentration - Thorium
Ucor	ppm	Equivalent Concentration - Uranium
TCcor	μR	Equivalent Dose Rate
TCexp	μR/hour	Exposure Rate - SUM(%k, eU, eTh) * determined factors
KThratio		Spectrometer –%K/eTh ratio
KUratio		Spectrometer –%K/eU ratio
ThKratio		Spectrometer – eTh/%K ratio
UKratio		Spectrometer – eU/%K ratio
UThratio		Spectrometer – eU/eTh ratio

Grids: Goodman Creek Survey Block, WGS 84 Datum, Zone 8N

FILE NAME	DESCRIPTION
GoodmanCreek_Block_DTM_38m.grd	Goodman Creek survey block digital terrain model gridded at 38 m cell size
GoodmanCreek_Block_RMI_38m.grd	Goodman Creek survey block residual magnetic intensity gridded at 38 m cell size
GoodmanCreek_Block_CVG_38m.grd	Goodman Creek survey block calculated vertical gradient of RMI gridded at 38 m cell size
GoodmanCreek_Block_Kcor_38m.grd	Goodman Creek survey block potassium (%K) - equivalent concentration in percentage gridded at 38 m cell size
GoodmanCreek_Block_Thcor_38m.grd	Goodman Creek survey block Thorium (eTh) – equivalent concentration gridded at 38 m cell size
GoodmanCreek_Block_Ucor_38m.grd	Goodman Creek survey block Uranium (eU) – equivalent concentration gridded at 38 m cell size
GoodmanCreek_Block_TCcor_38m.grd	Goodman Creek survey block Total Count (TCcor) – equivalent dose rate gridded at 38 m cell size
GoodmanCreek_Block_TCexp_38m.grd	Goodman Creek survey block Total Count (TCexp) – exposure rate gridded at 38 m cell size
GoodmanCreek_Block_KThratio_38m.grd	Goodman Creek survey block potassium over thorium ratio (%K/eTh) gridded at 38 m cell size
GoodmanCreek_Block_KUratio_38m.grd	Goodman Creek survey block potassium over uranium ratio (%K/eU) gridded at 38 m cell size
GoodmanCreek_Block_UThratio_38m.grd	Goodman Creek survey block uranium over thorium ratio (eU/eTh) gridded at 38 m cell size
GoodmanCreek_Block_UKratio_38m.grd	Goodman Creek survey block uranium over potassium ratio (eU/%K) gridded at 38 m cell size
GoodmanCreek_Block_ThKratio_38m.grd	Goodman Creek survey block thorium over potassium ratio (eTh/%K) gridded at 38 m cell size

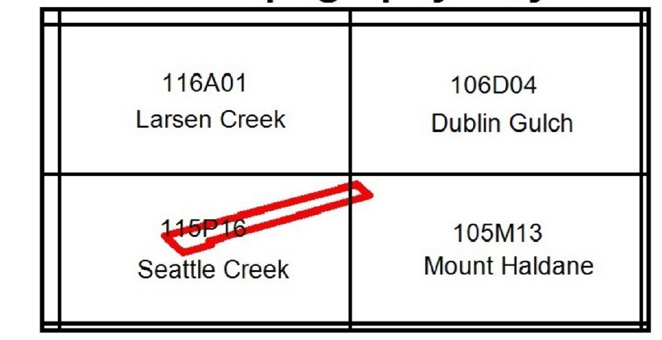
Maps: Goodman Creek Survey Block, WGS 84 Datum, Zone 8N (jpegs and pdfs)

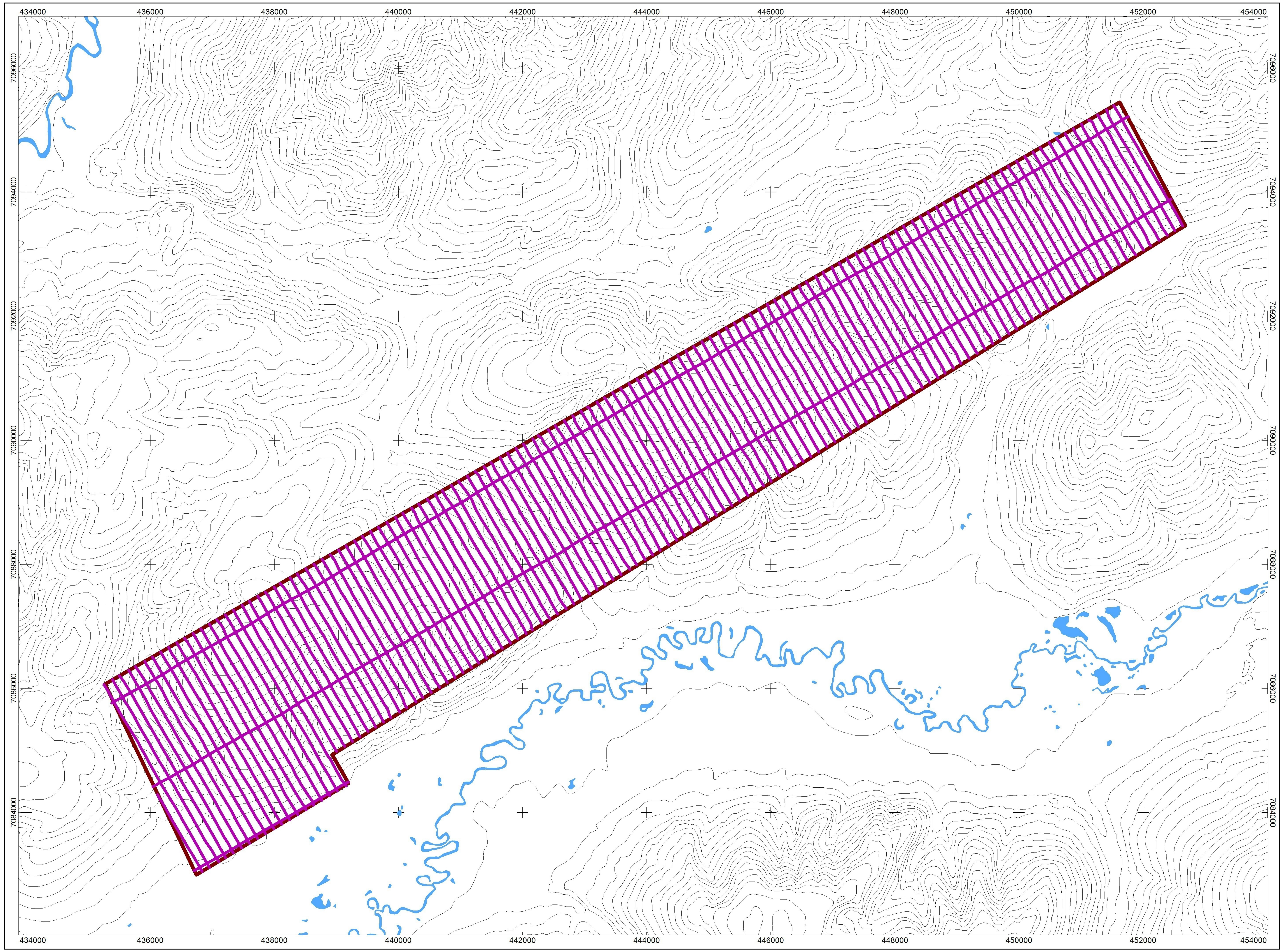
FILE NAME	DESCRIPTION
GoodmanCreek_Block_ActualFlightLines	Goodman Creek survey block plotted actual flown flight lines
GoodmanCreek_Block _DTM_38m	Goodman Creek survey block digital terrain model gridded at 38 m cell size
GoodmanCreek_Block _TMI_38m	Goodman Creek survey block total magnetic intensity gridded at 38 m cell size
GoodmanCreek_Block _TMI_with_FlightLines_38m	Goodman Creek survey block total magnetic intensity with plotted actual flight lines gridded at 38 m cell size
GoodmanCreek_Block _RMI_38m	Goodman Creek survey block residual magnetic intensity gridded at 38 m cell size
GoodmanCreek_Block _CVG_38m	Goodman Creek survey block calculated vertical gradient of RMI gridded at 38 m cell size
GoodmanCreek_Block _Kcor_38m	Goodman Creek survey block potassium (%K) - equivalent concentration in percentage gridded at 38 m cell size
GoodmanCreek_Block _Thcor_38m	Goodman Creek survey block Thorium (eTh) – equivalent concentration gridded at 38 m cell size
GoodmanCreek_Block _Ucor_38m	Goodman Creek survey block Uranium (eU) – equivalent concentration gridded at 38 m cell size
GoodmanCreek_Block _TCcor_38m	Goodman Creek survey block Total Count (TCcor) – equivalent dose rate gridded at 38 m cell size
GoodmanCreek_Block _TCexp_38m	Goodman Creek survey block Total Count (TCexp) – exposure rate gridded at 38 m cell size
GoodmanCreek_Block _KThratio_38m	Goodman Creek survey block potassium over thorium ratio (%K/eTh) gridded at 38 m cell size
GoodmanCreek_Block _KUratio_38m	Goodman Creek survey block potassium over uranium ratio (%K/eU) gridded at 38 m cell size
GoodmanCreek_UThratio_38m	Goodman Creek survey block uranium over thorium ratio (eU/eTh) gridded at 38 m cell size
GoodmanCreek_Block _UKratio_38m	Goodman Creek survey block uranium over potassium ratio (%K/eU) gridded at 38 m cell size
GoodmanCreek_Block _ThKratio_38m	Goodman Creek survey block thorium over potassium ratio (eTh/%K) gridded at 38 m cell size
GoodmanCreek_Block _TernaryMap_38m	Goodman Creek survey block displaying ratios of all three elements (%K, eTh, eU)

Plates

Goodman Creek Survey Block Maps

National Topographyic System

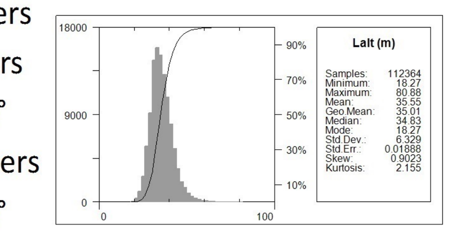




MAP PROJECTION:
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline....................

Goodman Creek Survey Block Actual Flight Lines....

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000
500 0 500 1000 1500 2000 2500
(meters)
WGS 84 / UTM zone 8N
NTS SHEETS 105M13, 115P16

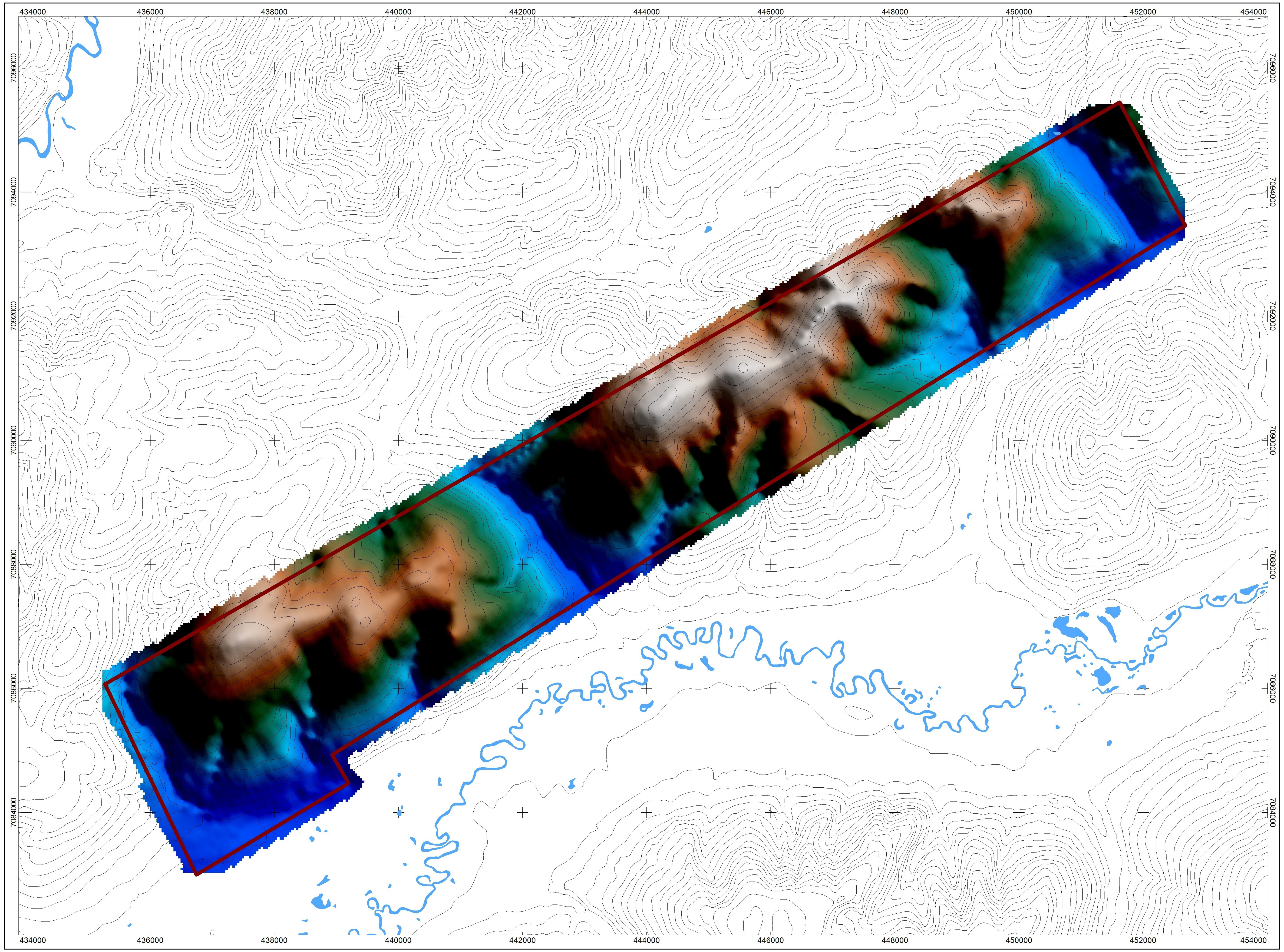
Nevada Zinc Corporation

Overview Map

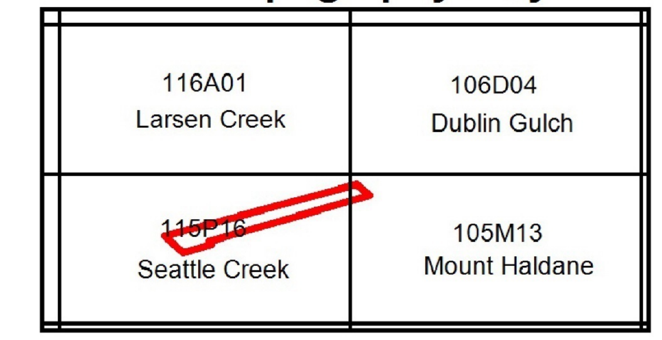
Goodman Creek Survey Block
Actual Flight Lines
October 3, 2016

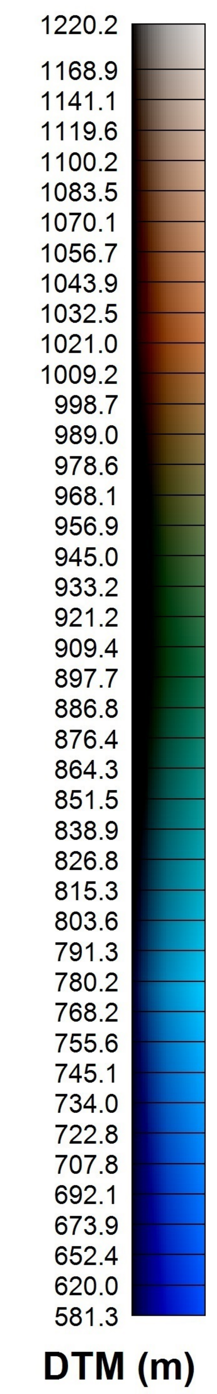
Precision GeoSurveys

Plate1
GC_FL



National Topographyic System

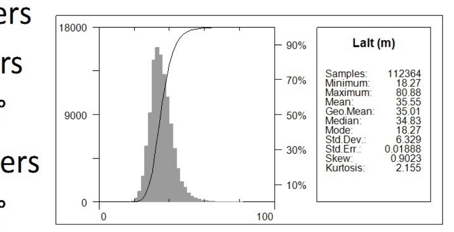




MAP PROJECTION:
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

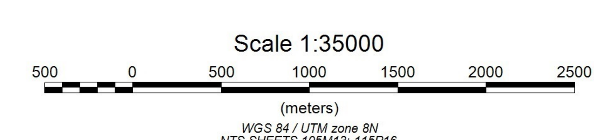
Goodman Creek Survey Block Outline...................

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Nevada Zinc Corporation

Overview Map

Goodman Creek Survey Block
Digital Terrain Model
October 3, 2016

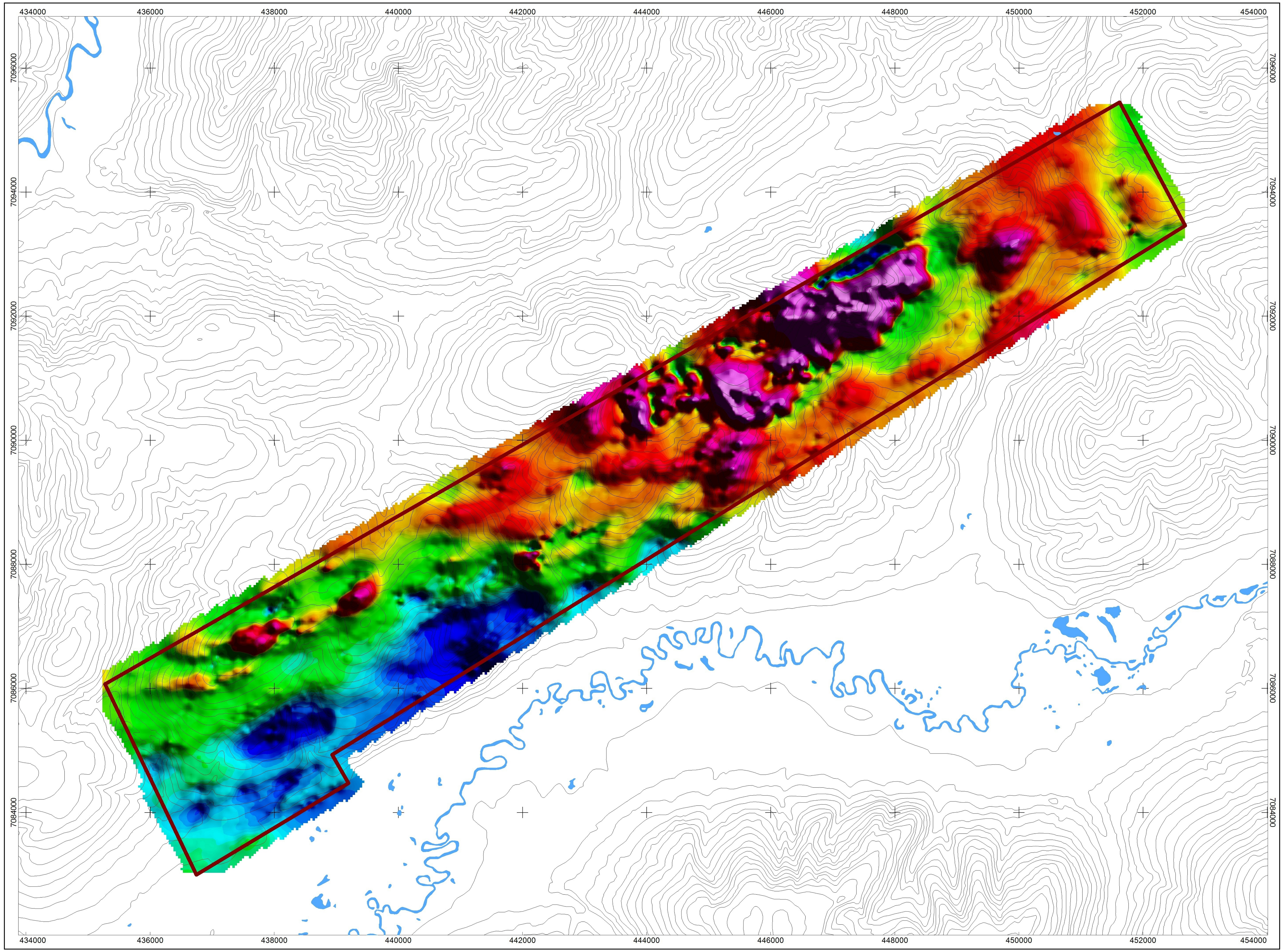


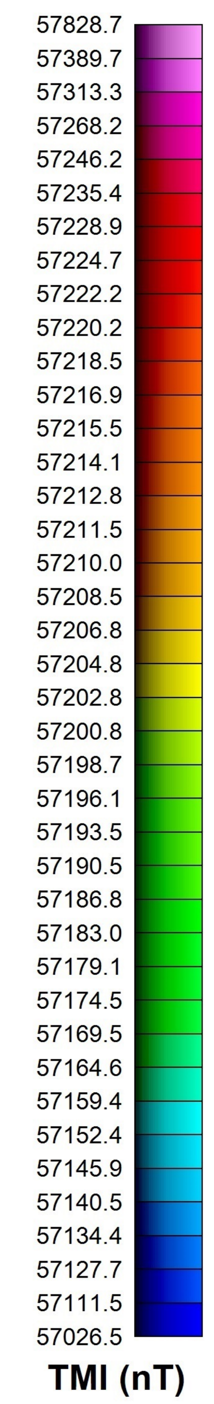
Precision GeoSurveys

Plate2
GC_DTM

National Topographyic System

116A01 Larsen Creek	106D04 Dublin Gulch
115P16 Seattle Creek	105M13 Mount Haldane

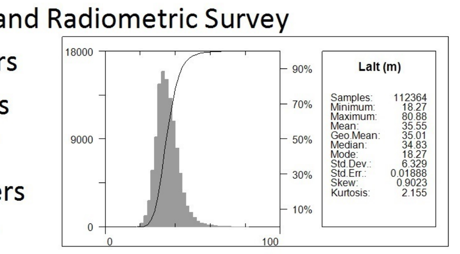




MAP PROJECTION:
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT vHz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

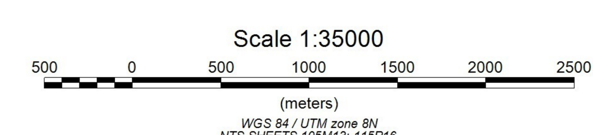
Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Magnetic data have been compensated and corrected for diurnal, lag, and heading, and then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. The TMI data range from 57024.7 nT to 57884.8 nT and have been drawn with a colour ramp of 57026.5 nT to 57828.7 nT.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Magnetic Map

Goodman Creek Survey Block

Total Magnetic Intensity

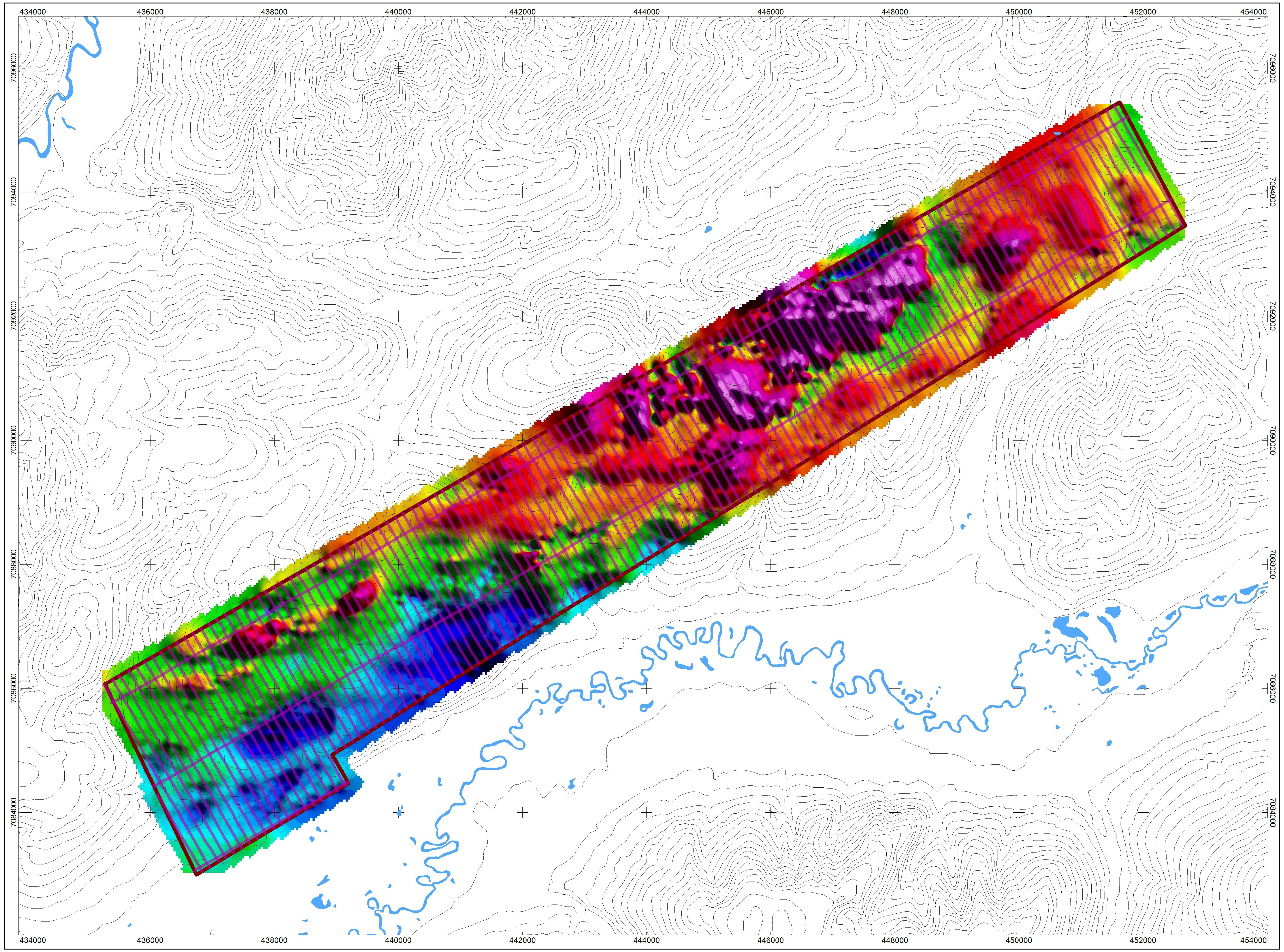
October 3, 2016

Precision GeoSurveys

Plate3
GC_TMI

National Topographyic System

116A01 Larsen Creek	106D04 Dublin Gulch
115P16 Seattle Creek	105M13 Mount Haldane



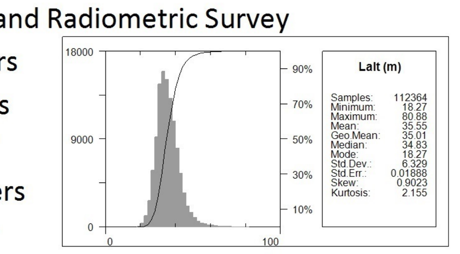
57828.7
57389.7
57313.3
57268.2
57246.2
57235.4
57228.9
57224.7
57222.2
57220.2
57218.5
57216.9
57215.5
57214.1
57212.8
57211.5
57210.0
57208.5
57206.8
57204.8
57202.8
57200.8
57198.7
57196.1
57193.5
57190.5
57186.8
57183.0
57179.1
57174.5
57169.5
57164.6
57159.4
57152.4
57145.9
57140.5
57134.4
57127.7
57111.5
57026.5

TMI (nT)

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline....................

Goodman Creek Survey Block Actual Flight Lines....

DATA REFERENCE:

Magnetic data have been compensated and corrected for diurnal, lag, and heading, and then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. The TMI data range from 57024.7 nT to 57884.8 nT and have been drawn with a colour ramp of 57026.5 nT to 57828.7 nT.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000
500 0 500 1000 1500 2000 2500
(meters)
WGS 84 / UTM zone 8N
NTS SHEETS 105M13, 115P16

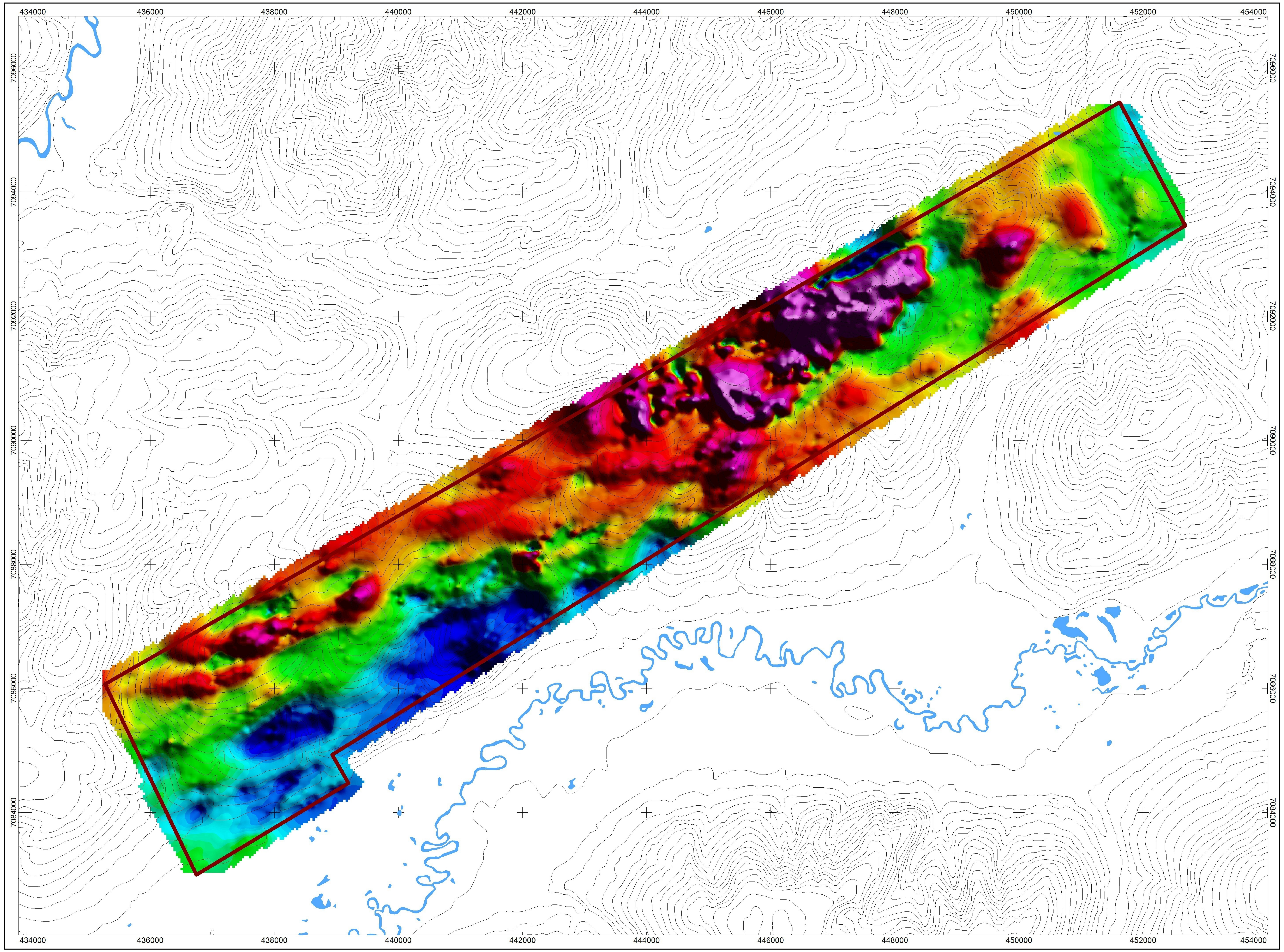
Nevada Zinc Corporation

Magnetic Map

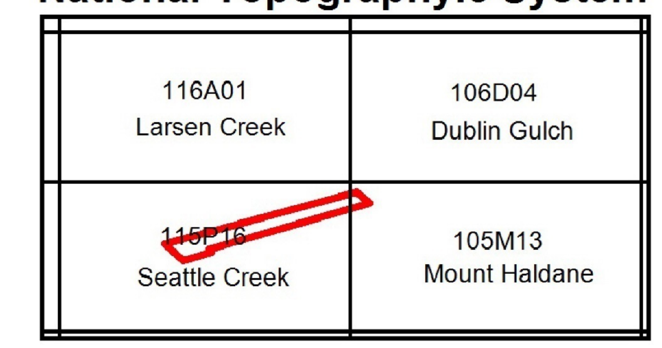
Goodman Creek Survey Block
Total Magnetic Intensity with Flight Lines
October 3, 2016

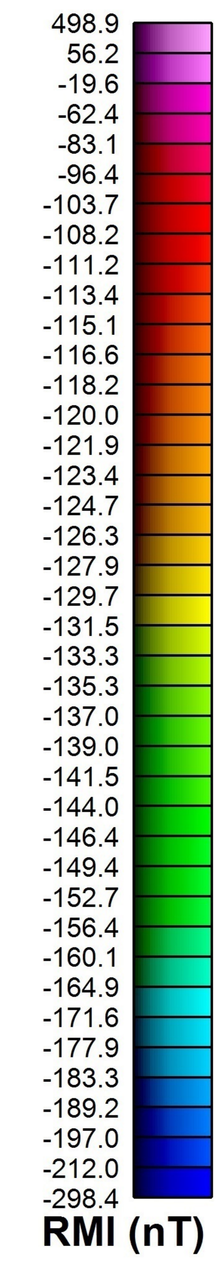
Precision GeoSurveys

Plate4
GC_TMI_wFL



National Topographyic System





MAP PROJECTION:

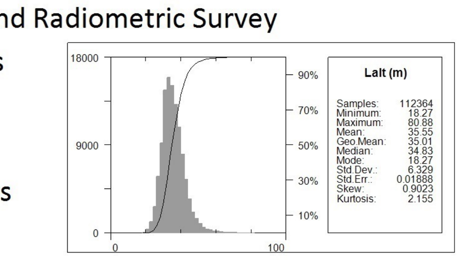
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

The RMI data range from -300.2 nT to 555.0 nT and have been drawn with a colour ramp of -298.4 nT to 498.9nT. To calculate the RMI a computed value of the IGRF was subtracted from the corrected total magnetic intensity data (TMI). Refer to report for details.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.

URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000

500 0 500 1000 1500 2000 2500

(meters)

WGS 84 / UTM zone 8N

NTS SHEETS 105M13, 115P16

Nevada Zinc Corporation

Magnetic Map

Goodman Creek Survey Block

Residual Magnetic Intensity

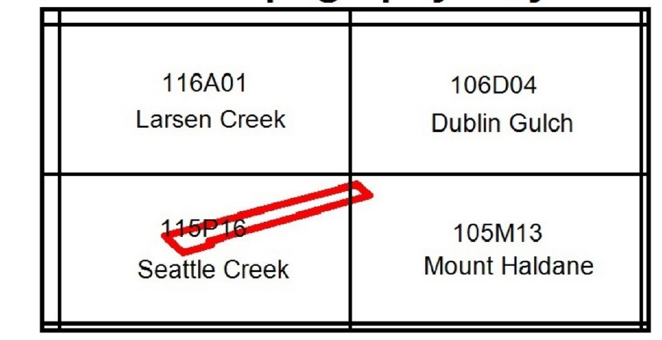
October 3, 2016

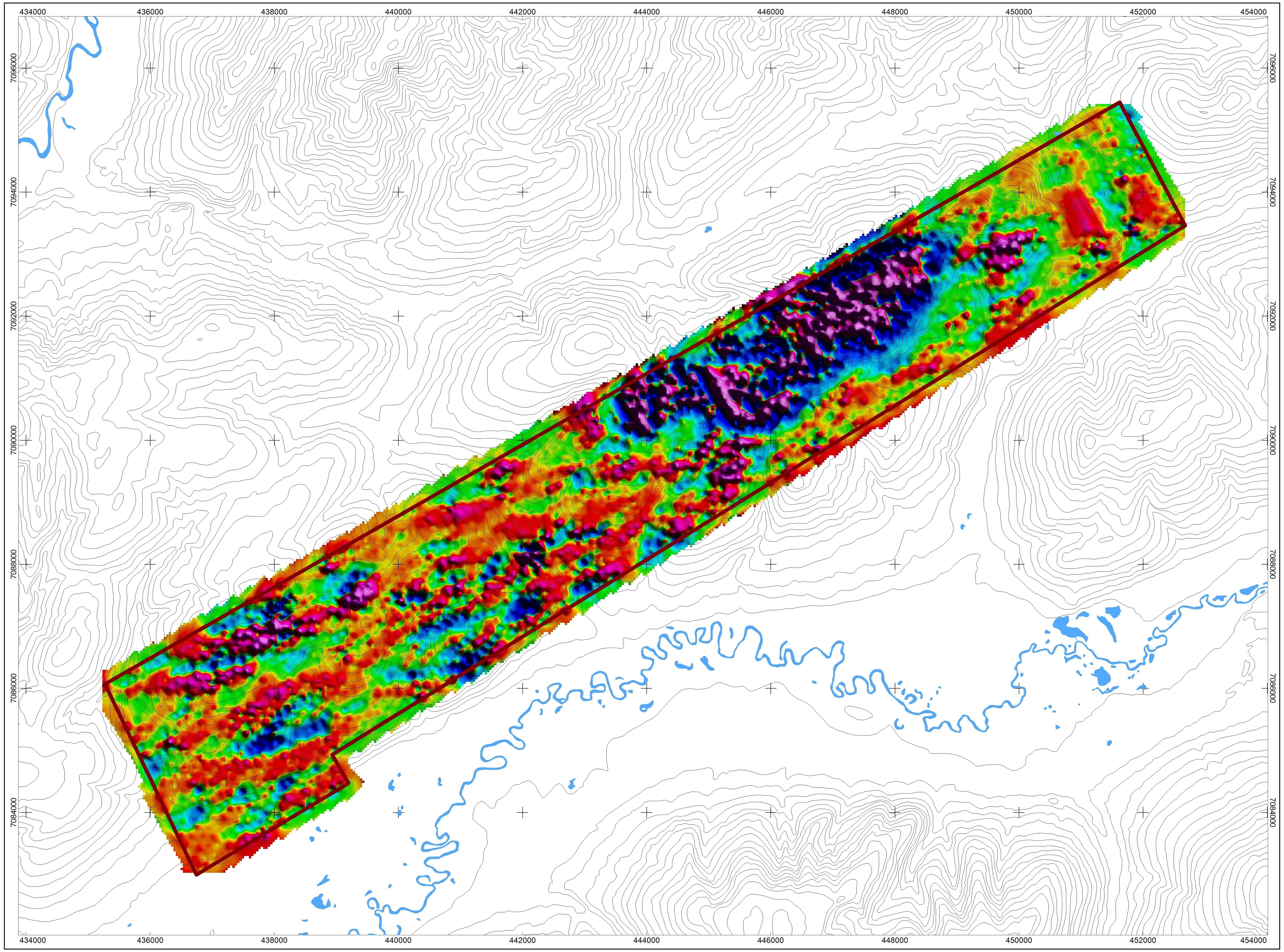
Precision GeoSurveys

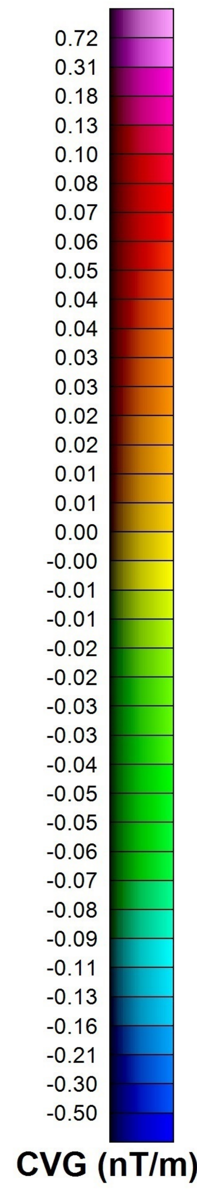
Plate5

GC_RMI

National Topographyic System







MAP PROJECTION:

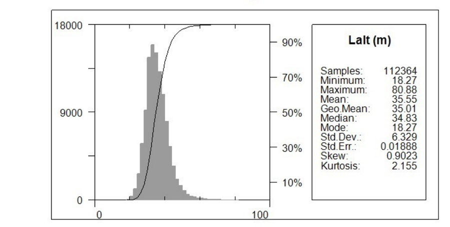
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

The Calculated Vertical Gradient (CVG) is the first vertical derivative of RMI. The CVG is represented as a grid and its image color ramp has been histogram equalized.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000

500 0 500 1000 1500 2000 2500

(meters)

WGS 84 / UTM zone 8N
NTS SHEETS 105M13, 115P16

Nevada Zinc Corporation

Magnetic Map

Goodman Creek Survey Block

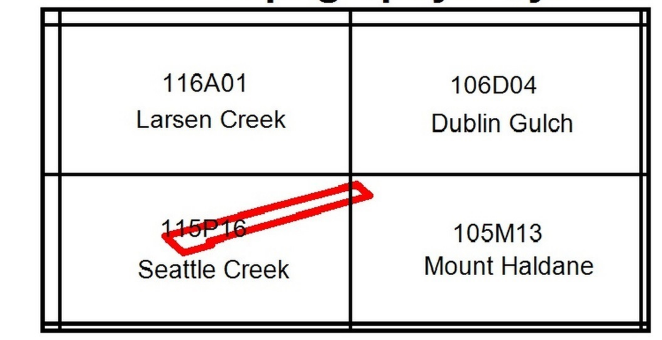
Calculated Vertical Gradient

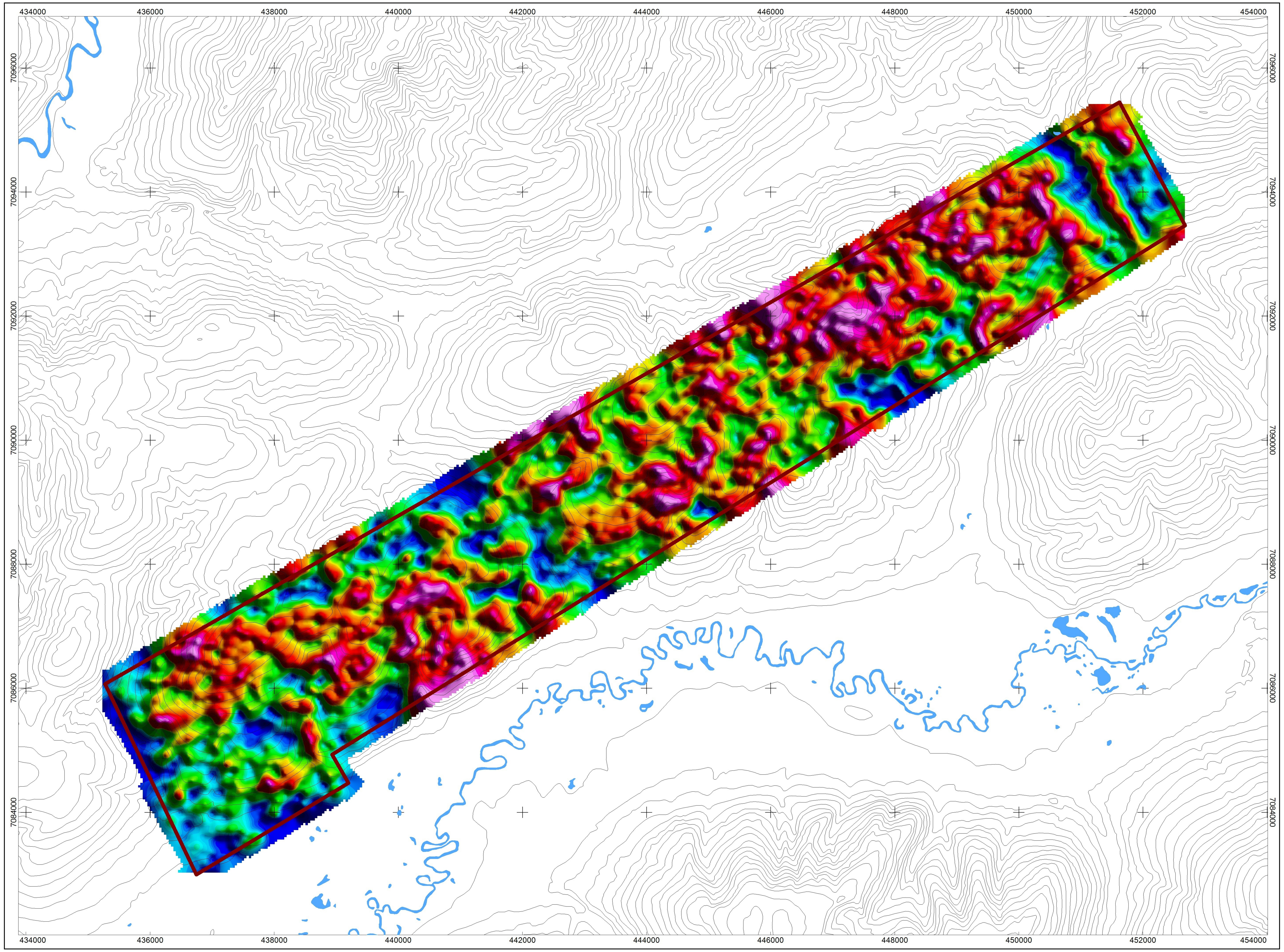
October 3, 2016

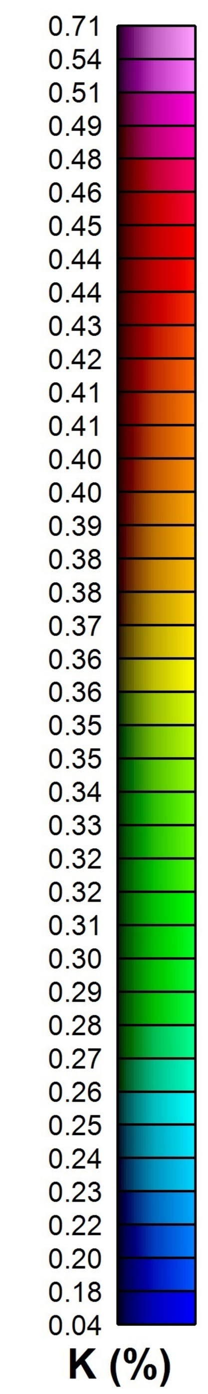
Precision GeoSurveys

Plate6
GC_CVG

National Topographyic System





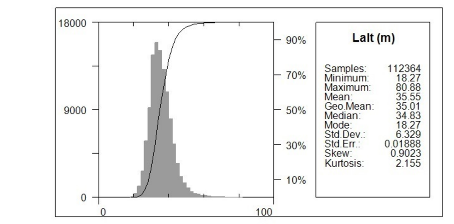


MAP PROJECTION:

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

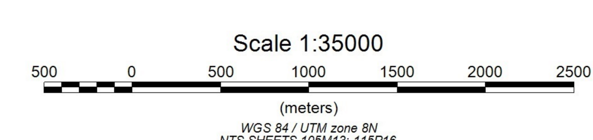
Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

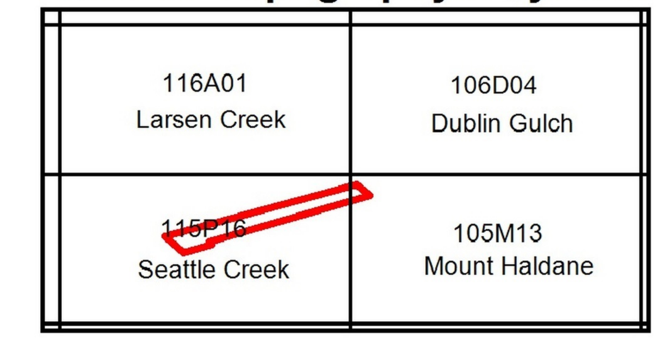
Radiometric Map

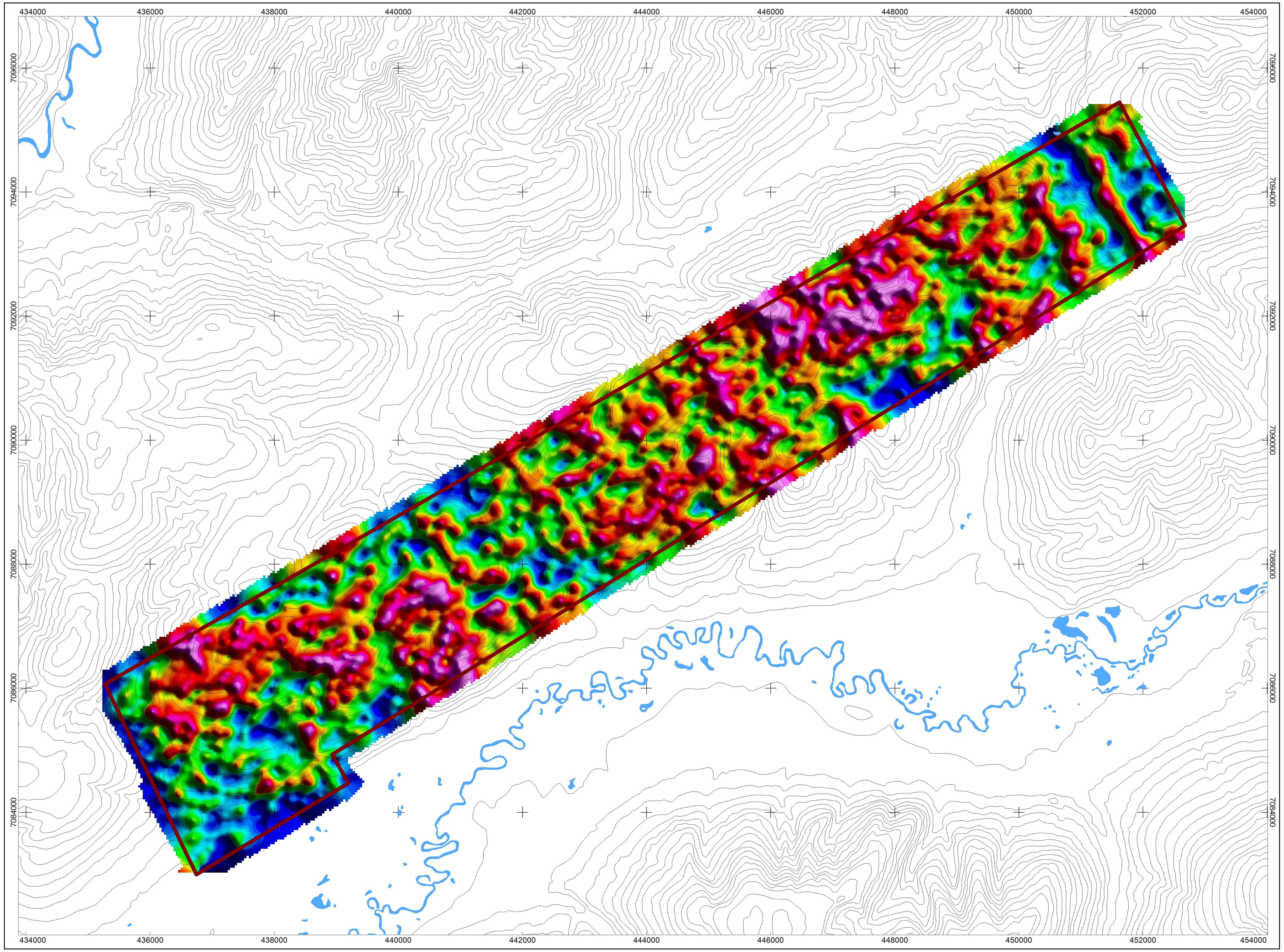
Goodman Creek Survey Block
Potassium - Equivalent Concentration in Percentage
October 7, 2016

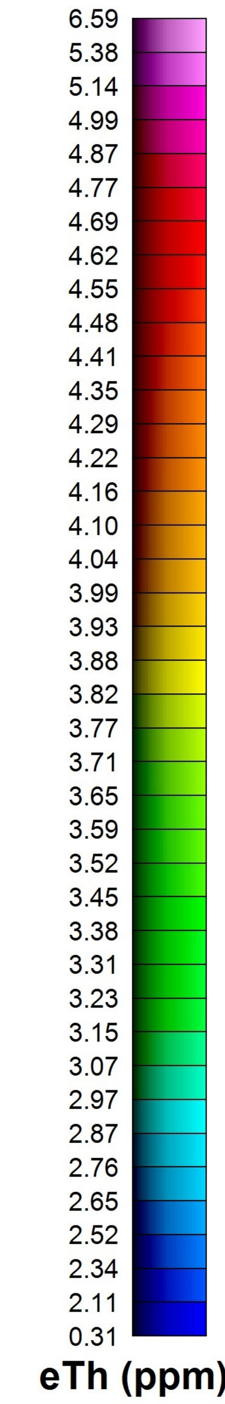
Precision GeoSurveys

Plate7
GC_K%

National Topographyic System





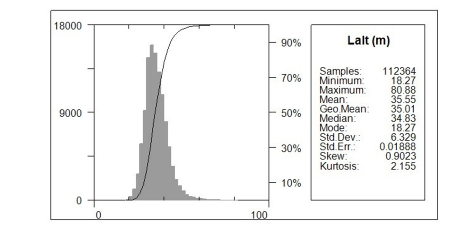


MAP PROJECTION:

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)...................................

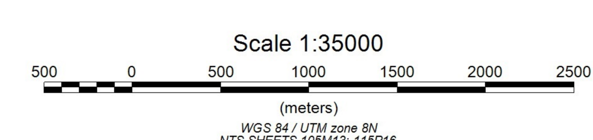
Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Radiometric Map

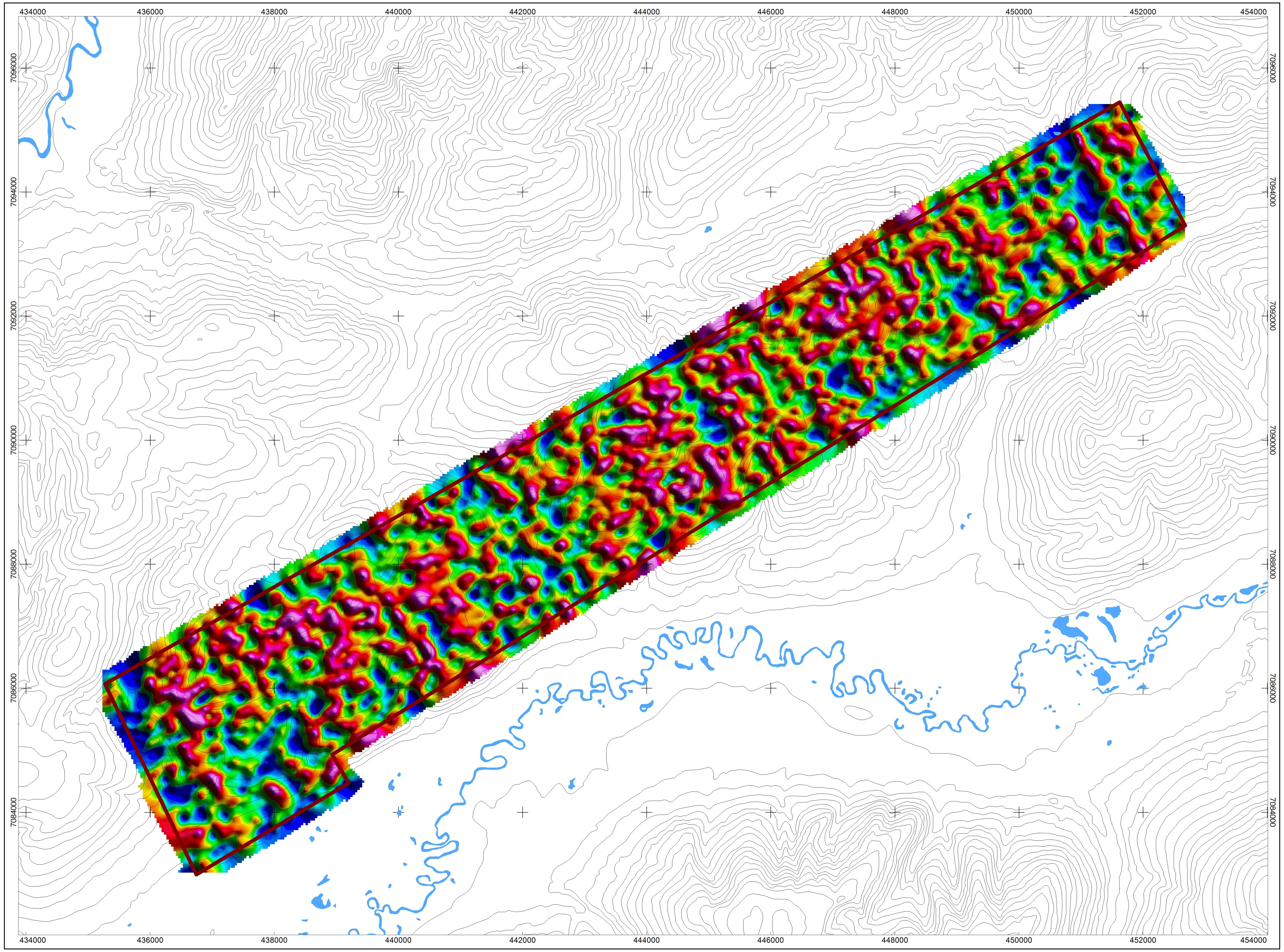
Goodman Creek Survey Block

Thorium - Equivalent Concentration

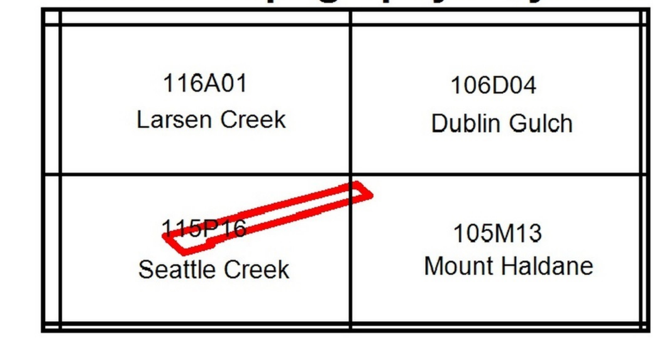
October 7, 2016

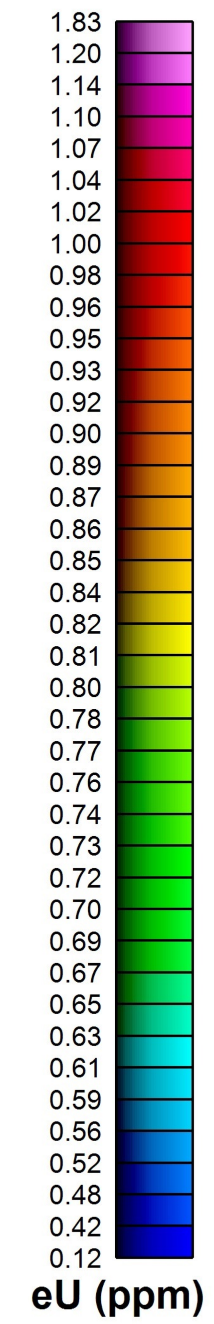
Precision GeoSurveys

Plate8
GC_eTh



National Topographyic System



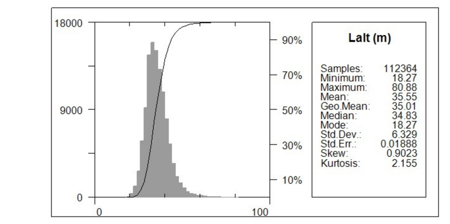


MAP PROJECTION:

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

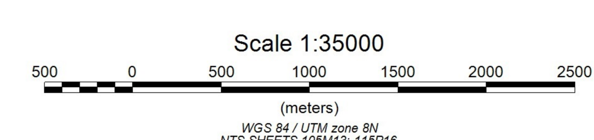
Nevada Zinc Corporation

Radiometric Map

Goodman Creek Survey Block

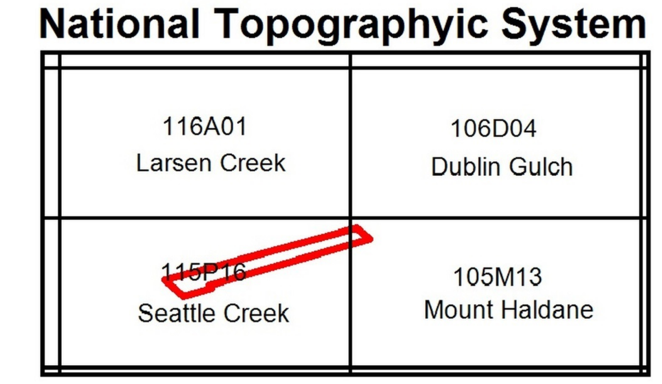
Uranium - Equivalent Concentration

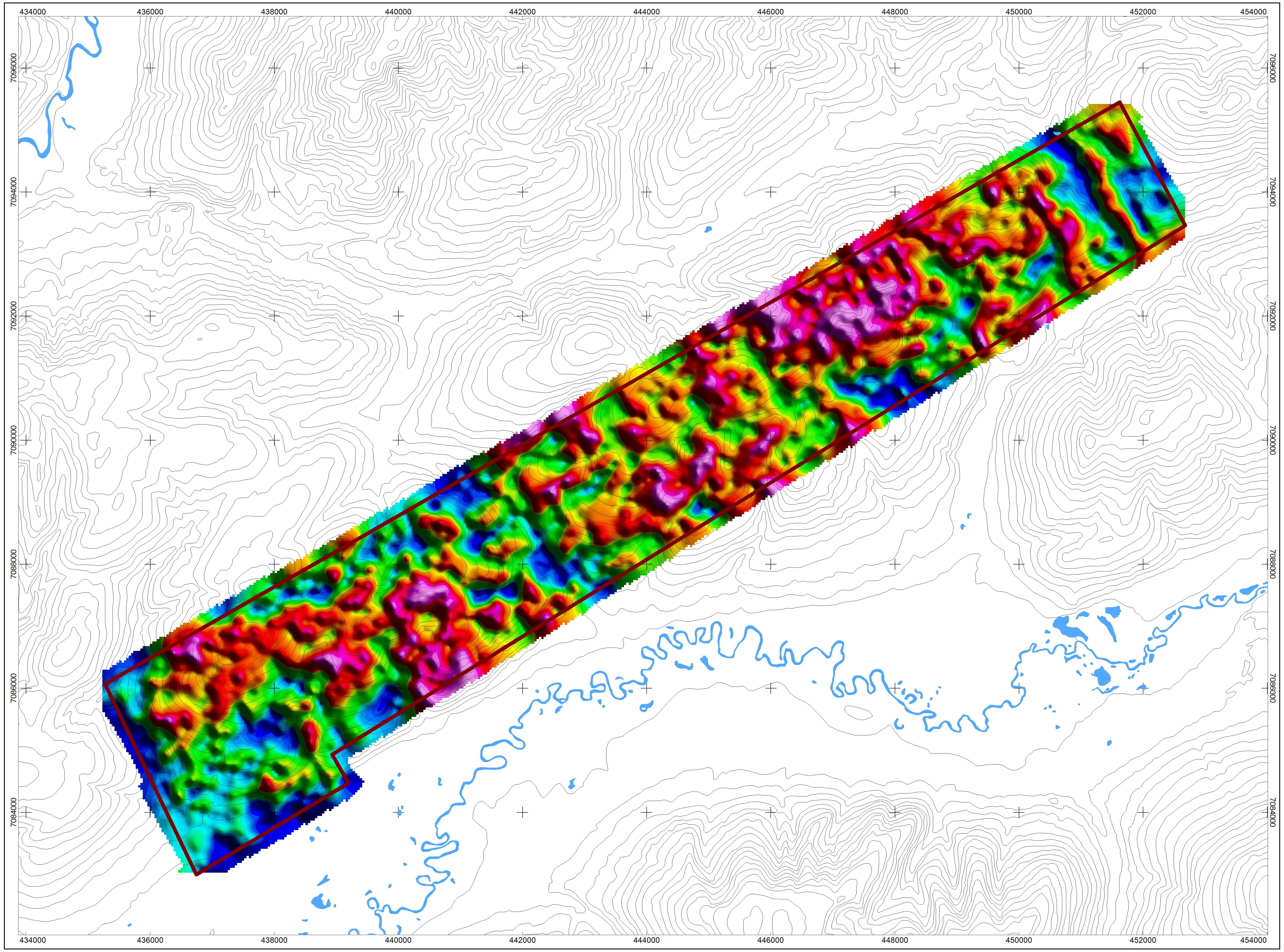
October 7, 2016

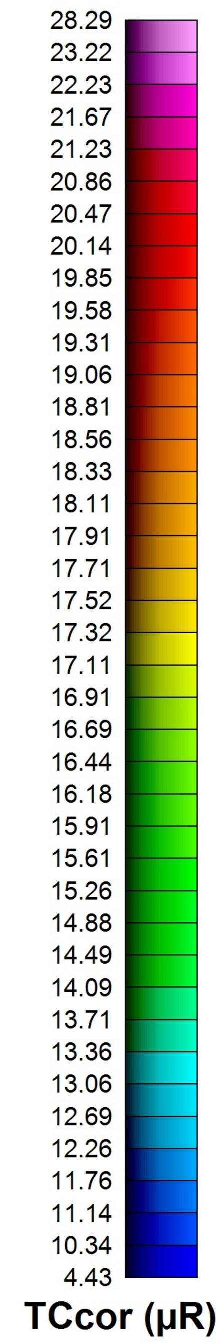


Precision GeoSurveys

Plate9
GC_eU





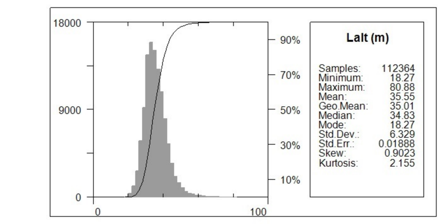


MAP PROJECTION:

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT vHz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000
500 0 500 1000 1500 2000 2500
(meters)

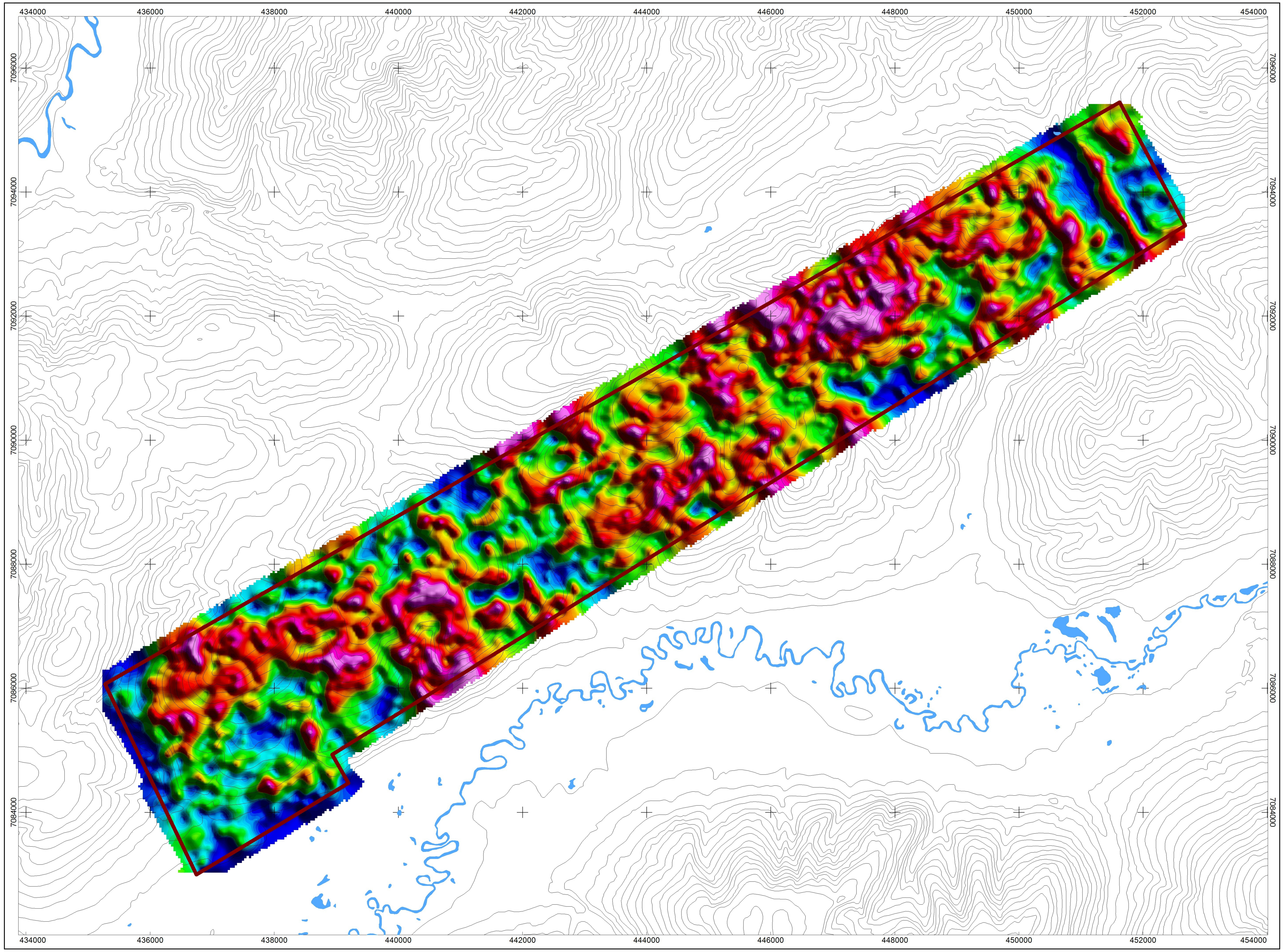
Nevada Zinc Corporation

Radiometric Map

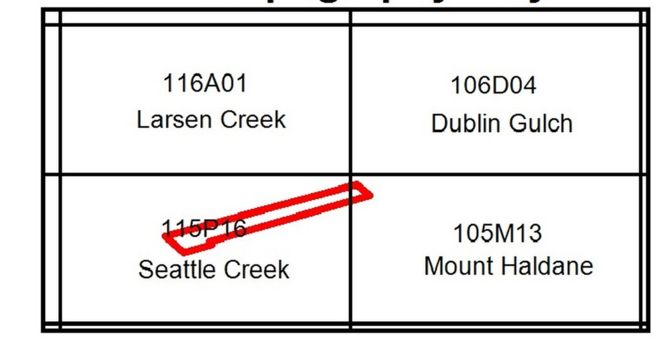
Goodman Creek Survey Block
Total Count - Equivalent Dose Rate
October 7, 2016

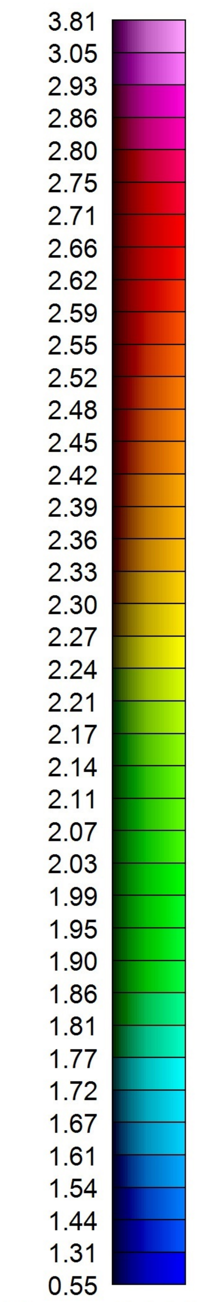
Precision GeoSurveys

Plate10
GC_TCcor



National Topographyic System





TCexp (μR/Hr)

MAP PROJECTION:

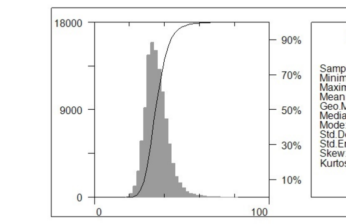
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT VHz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)...............................

Goodman Creek Survey Block Outline..................

DATA REFERENCE:

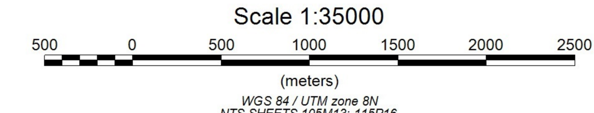
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.

URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000



Nevada Zinc Corporation

Radiometric Map

Goodman Creek Survey Block

Total Count - Exposure Rate

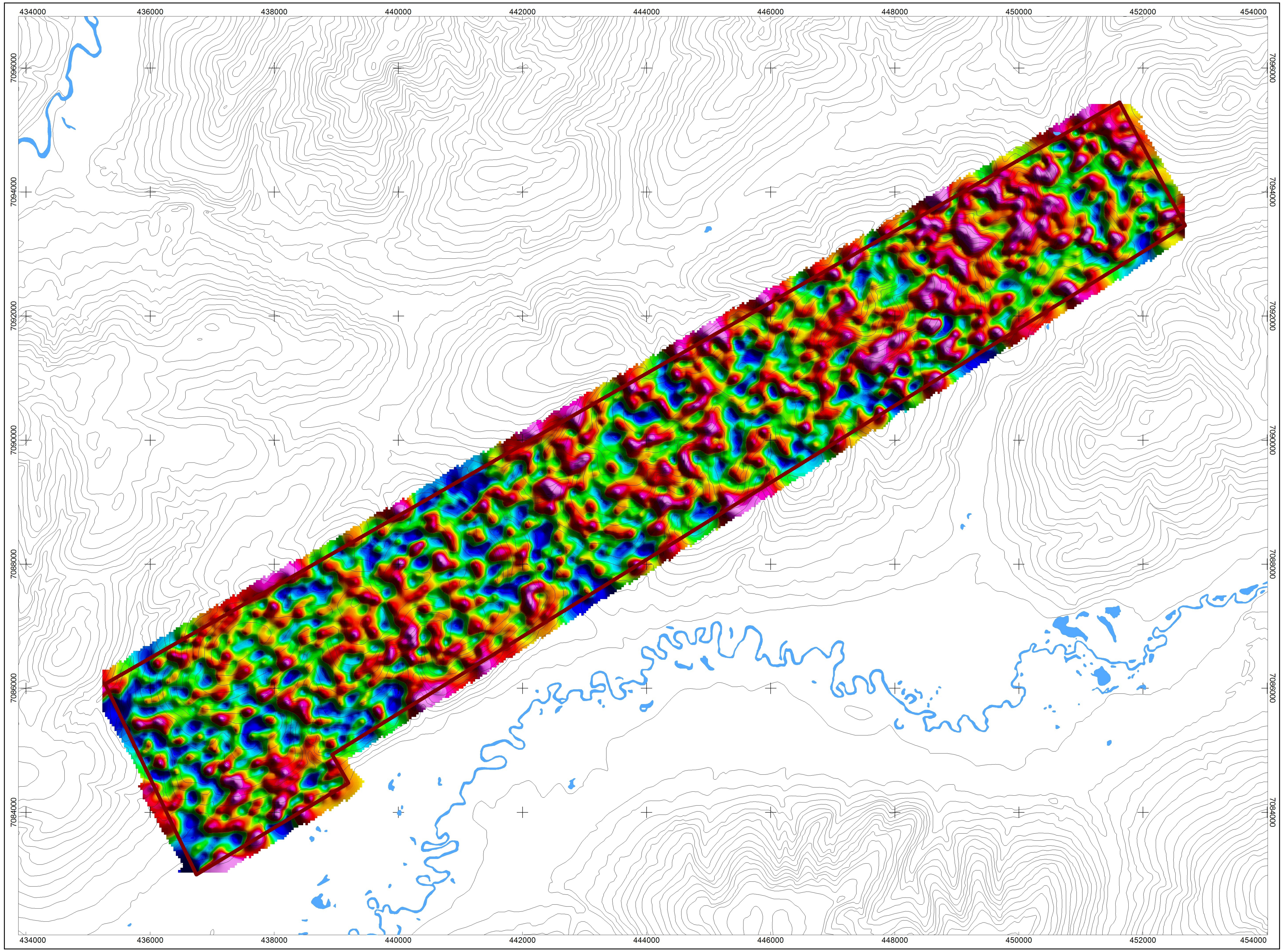
October 7, 2016

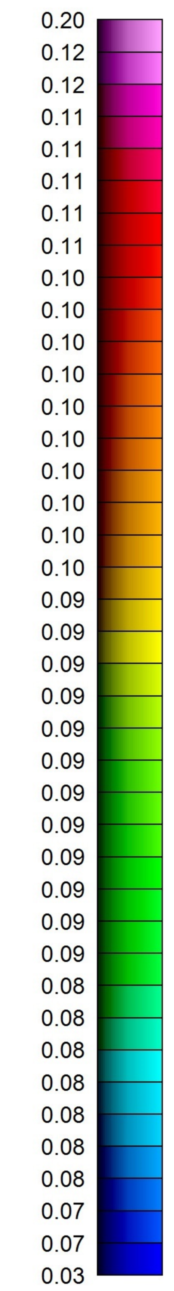
Precision GeoSurveys

Plate11
GC_TCexp

National Topographic System

116A01 Larsen Creek	106D04 Dublin Gulch
115P16 Seattle Creek	105M13 Mount Haldane



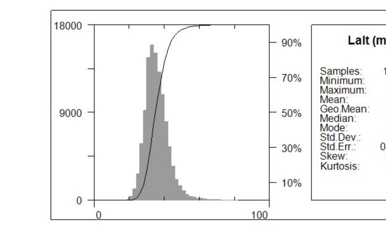


MAP PROJECTION:

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Nevada Zinc Corporation

Radiometric Map

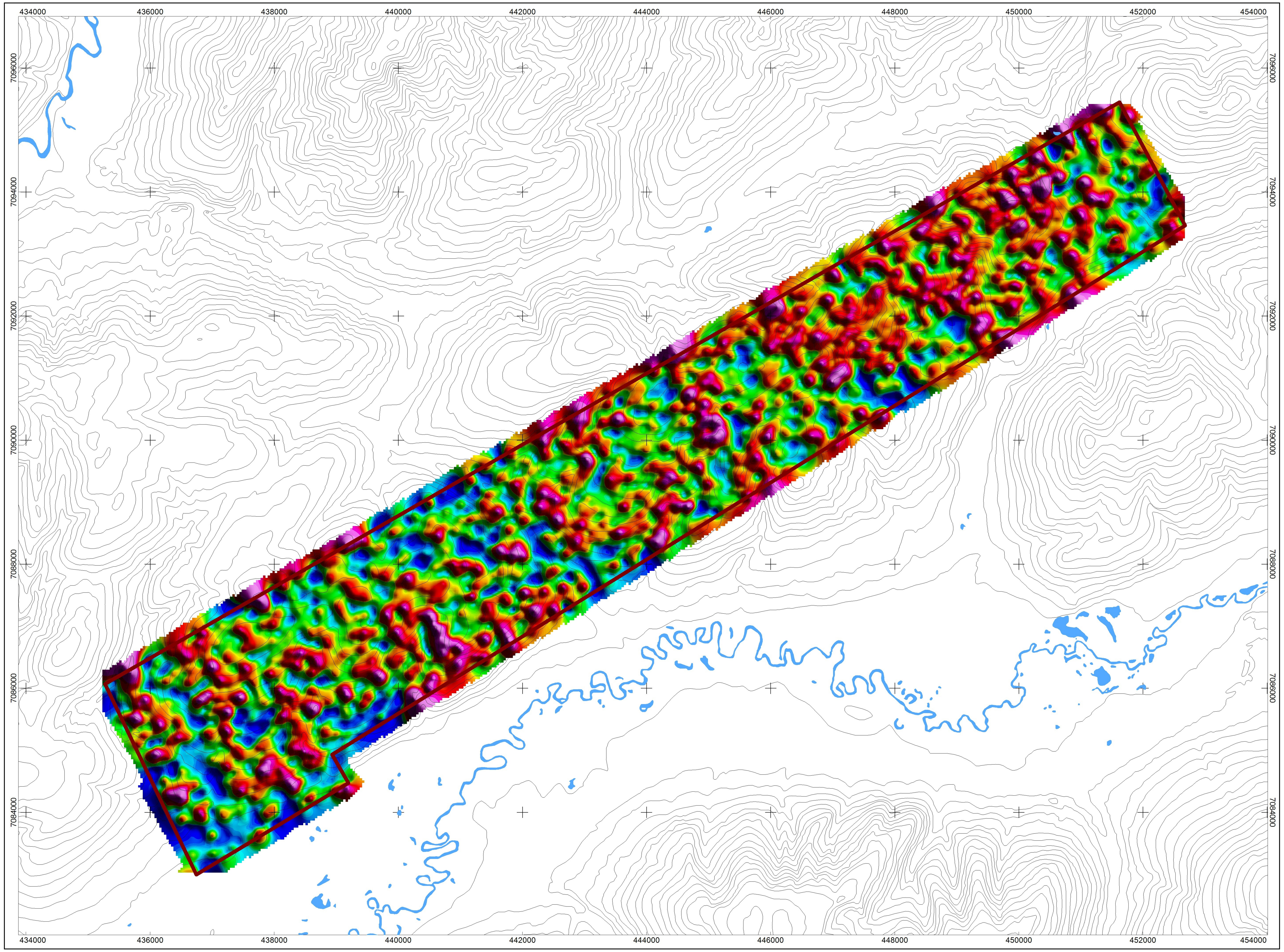
Goodman Creek Survey Block

Potassium over Thorium Ratio
October 7, 2016

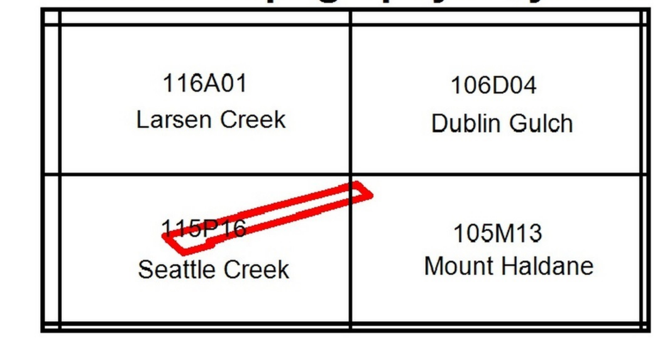
Scale 1:35000
500 0 500 1000 1500 2000 2500
(meters)
WGS 84 / UTM zone 8N
NTS SHEETS 105M13, 115P16

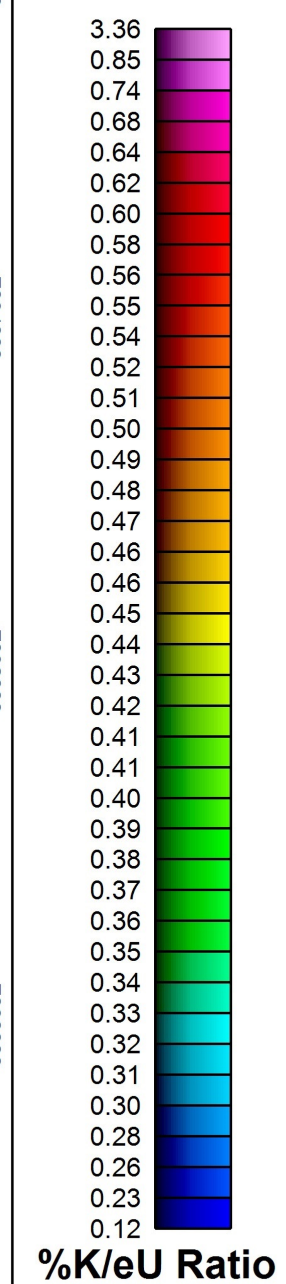
Precision GeoSurveys

Plate12
GC_%K/eTh



National Topographyic System





MAP PROJECTION:

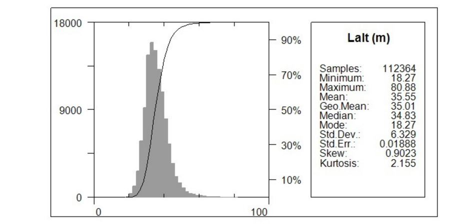
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Nevada Zinc Corporation

Radiometric Map

Goodman Creek Survey Block

Potassium over Uranium Ratio

October 7, 2016

Scale 1:35000

500 0 500 1000 1500 2000 2500

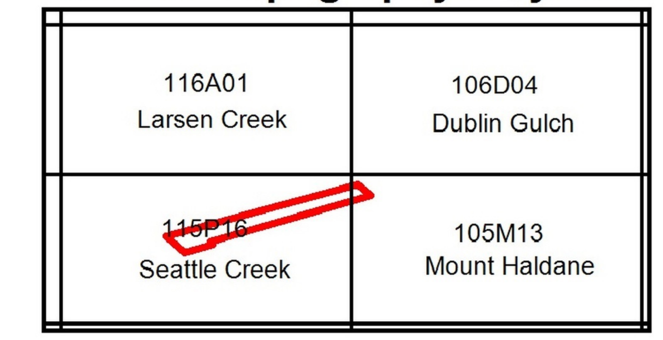
(meters)

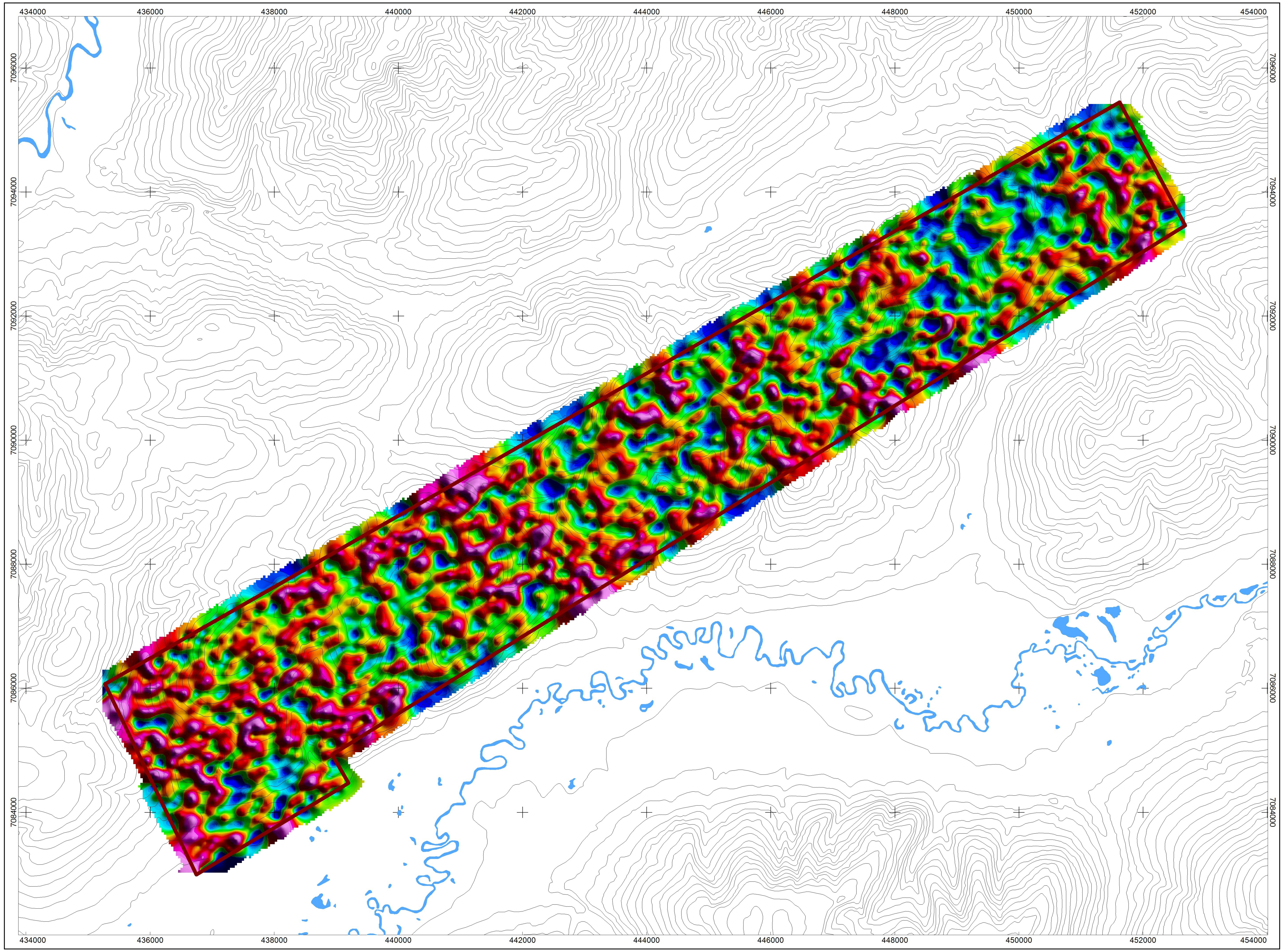
WGS 84 / UTM zone 8N
NTS SHEETS 105M13, 115P16

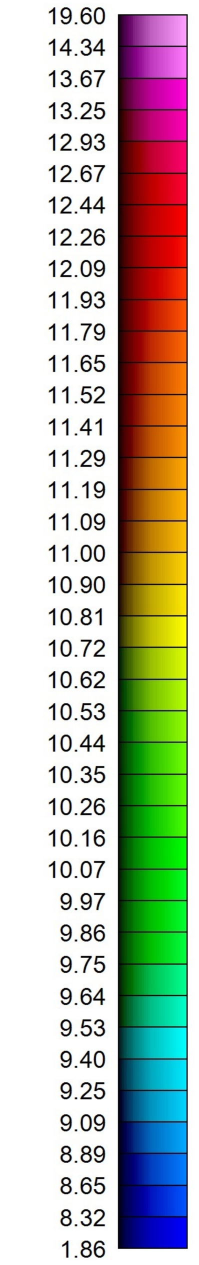
Precision GeoSurveys

Plate13
GC_%K/eU

National Topographyic System







eTh/%K Ratio

MAP PROJECTION:

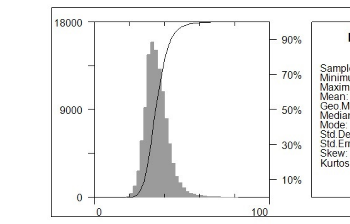
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Goodman Creek Survey Block Outline...................

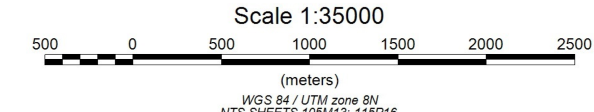
DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000



Nevada Zinc Corporation

Radiometric Map

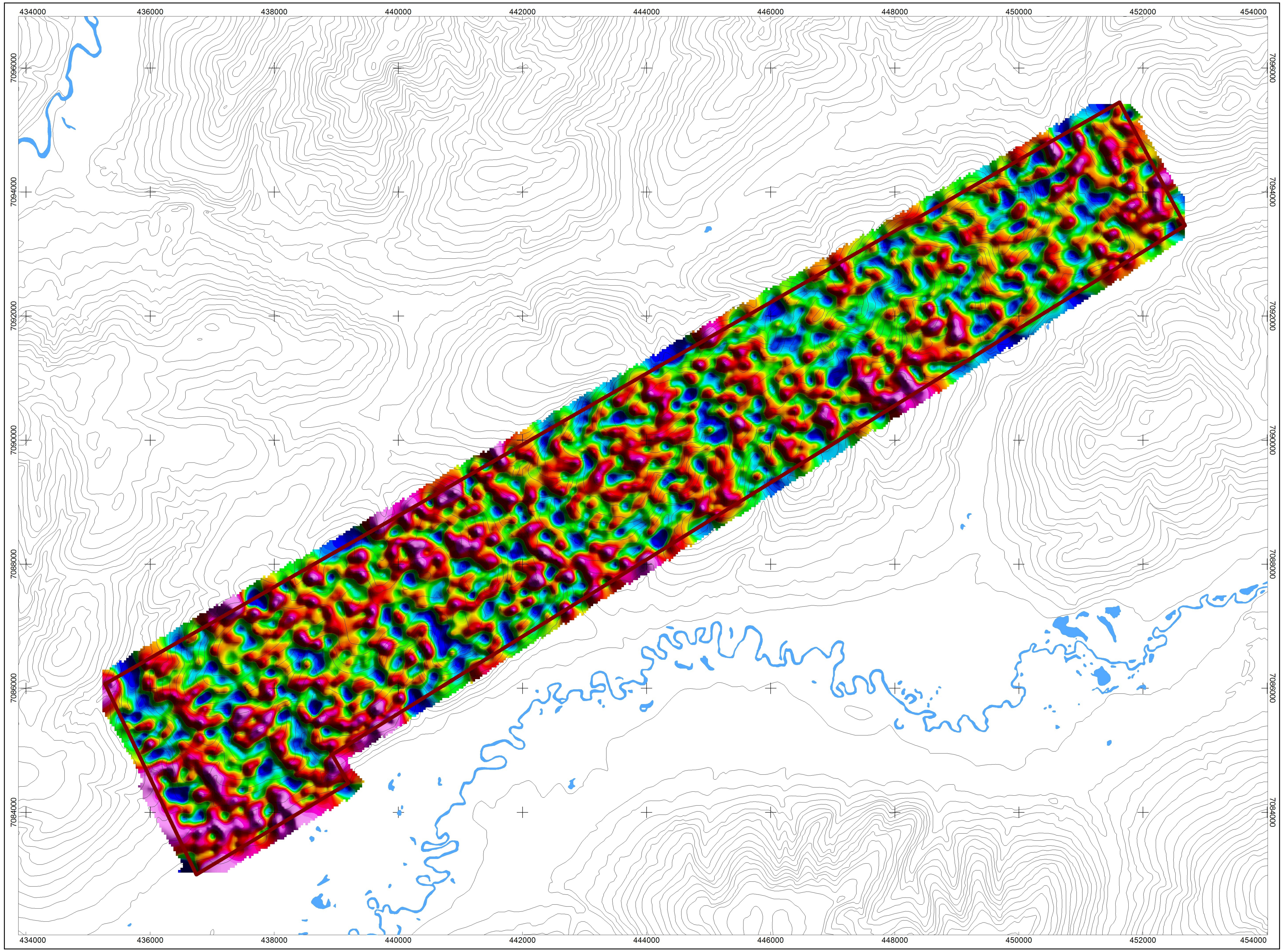
Goodman Creek Survey Block

Thorium over Potassium Ratio

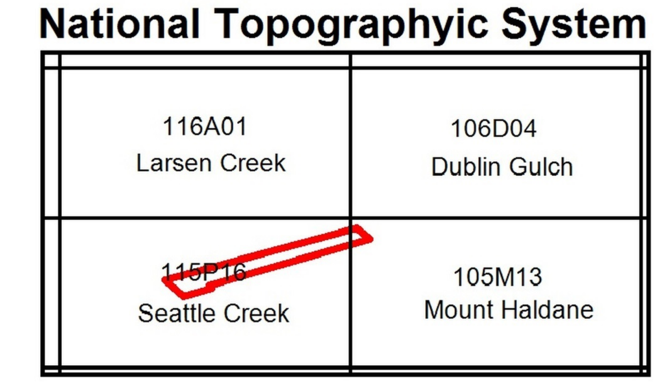
October 7, 2016

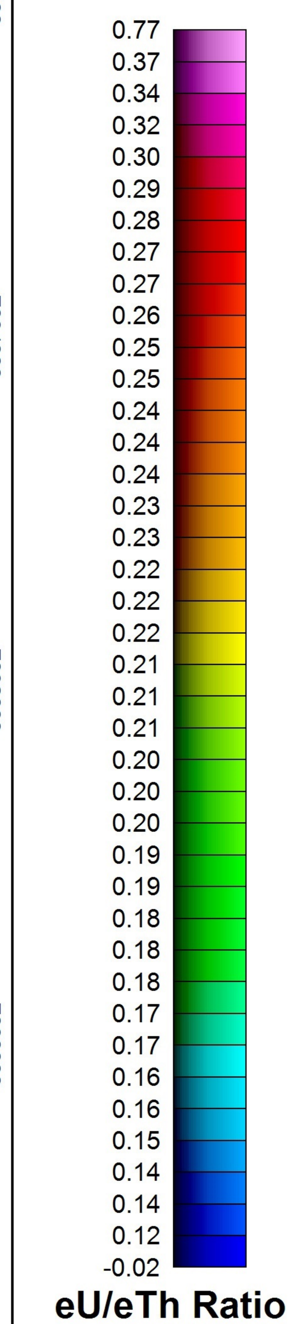
Precision GeoSurveys

Plate16
GC_eTh/%K



National Topographyic System





MAP PROJECTION:

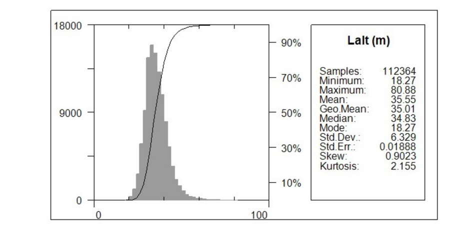
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline....................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000

500 0 500 1000 1500 2000 2500

(meters)

Nevada Zinc Corporation

Radiometric Map

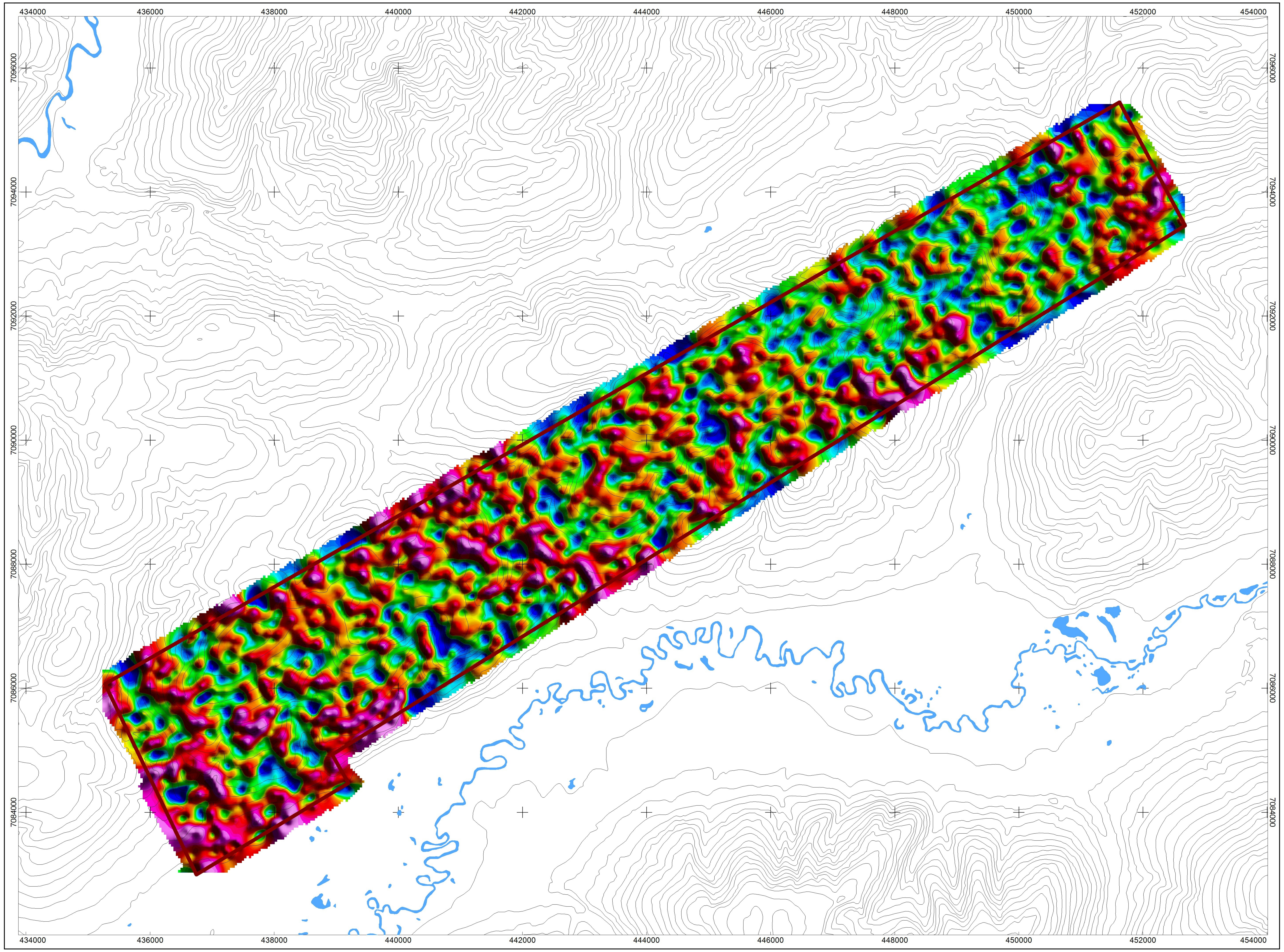
Goodman Creek Survey Block

Uranium over Thorium Ratio

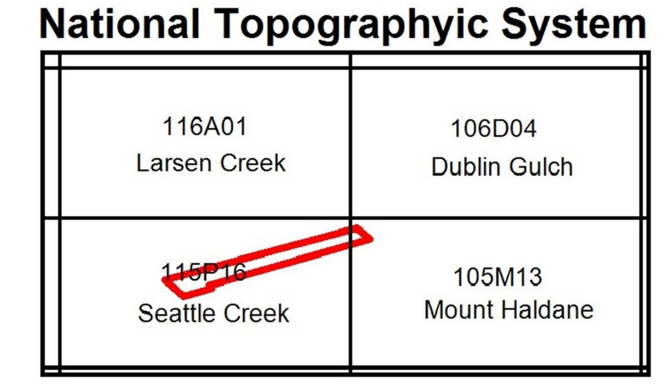
October 7, 2016

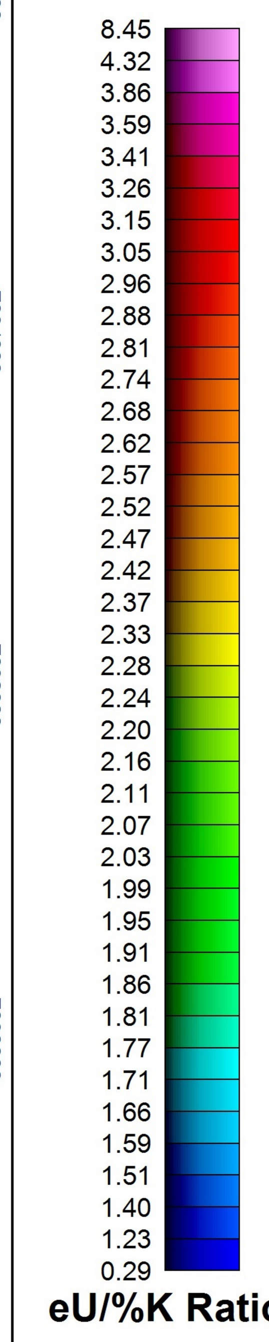
Precision GeoSurveys

Plate14
GC_eU/eTh



National Topographyic System





MAP PROJECTION:

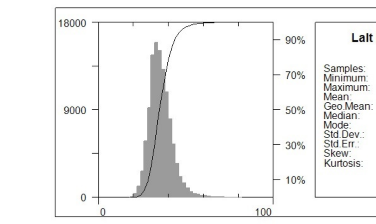
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

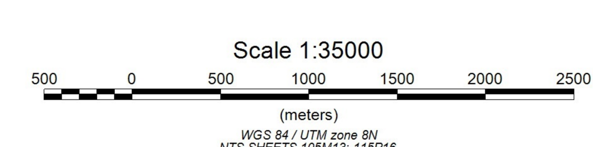
Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Radiometric Map

Goodman Creek Survey Block

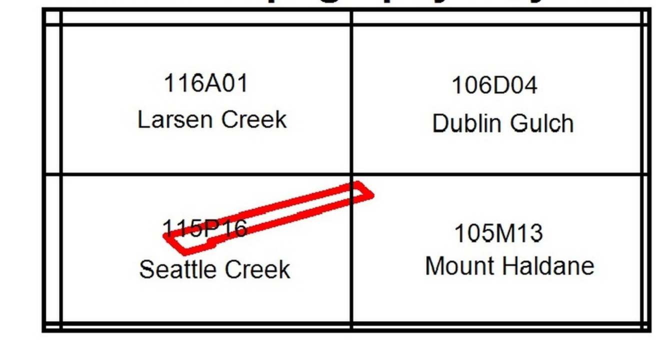
Uranium over Potassium Ratio

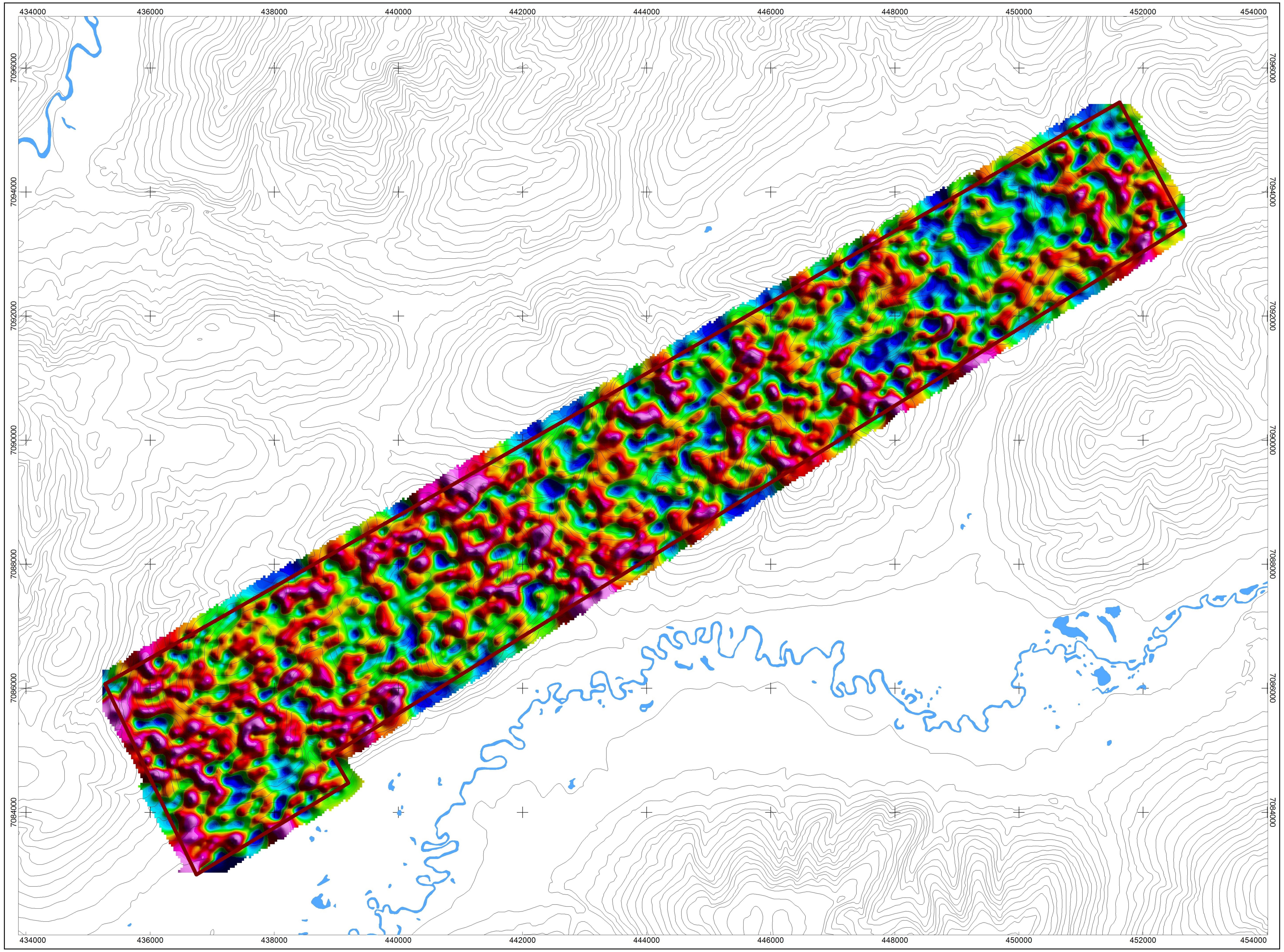
October 7, 2016

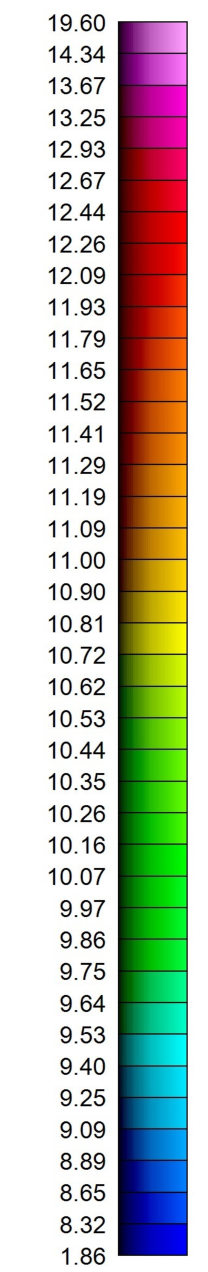
Precision GeoSurveys

Plate15
GC_eU/%K

National Topographyic System





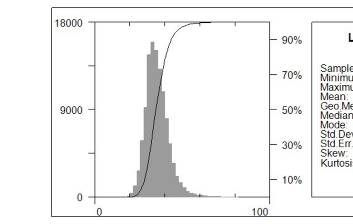


MAP PROJECTION:

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline...................

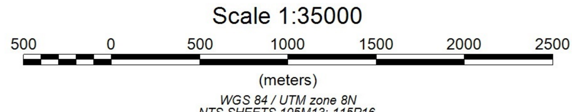
DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000



Nevada Zinc Corporation

Radiometric Map

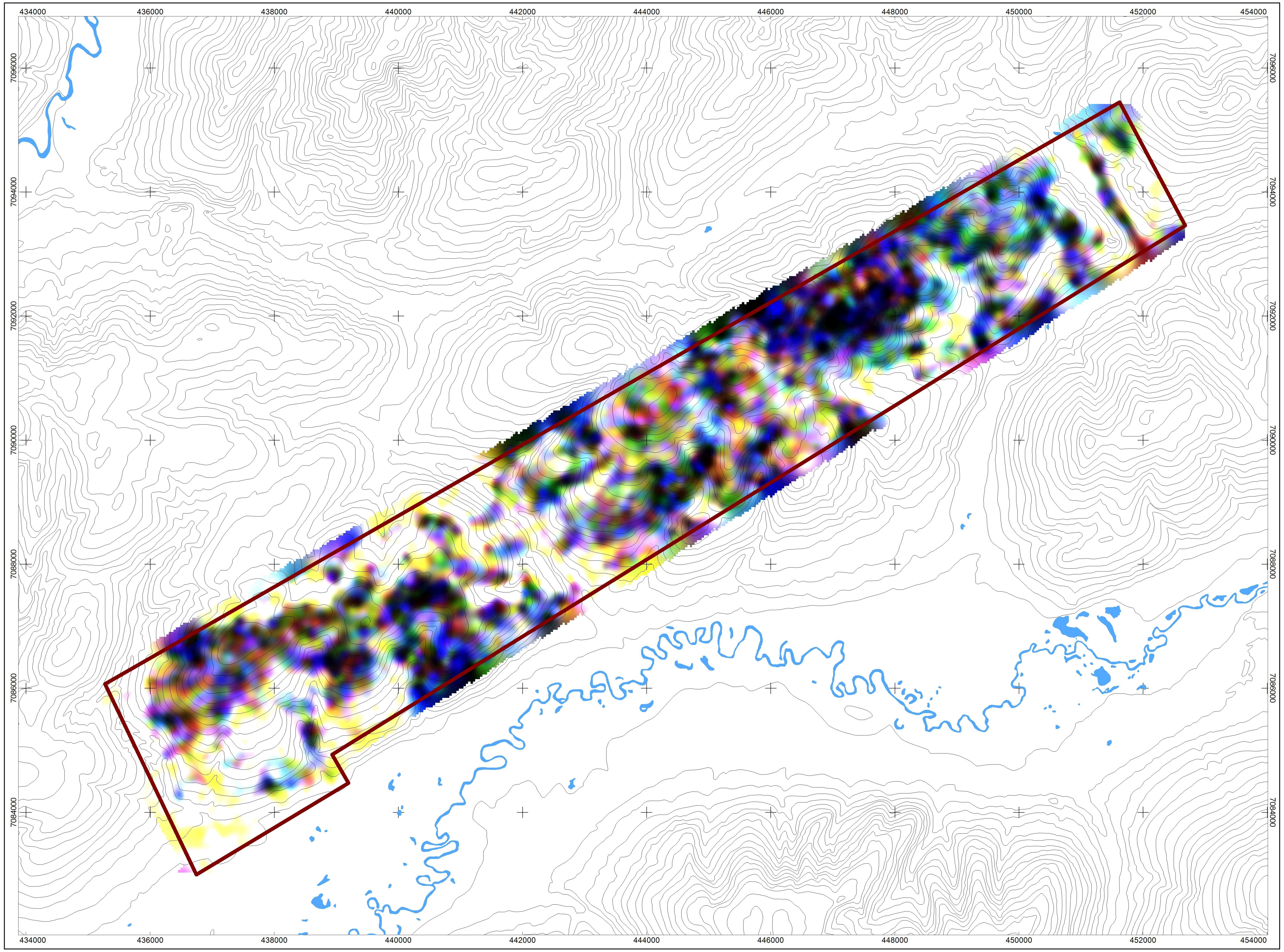
Goodman Creek Survey Block

Thorium over Potassium Ratio

October 7, 2016

Precision GeoSurveys

Plate16
GC_eTh/%K



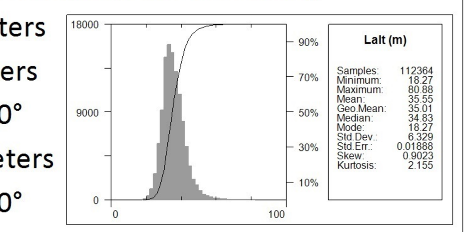
National Topographyic System

116A01 Larsen Creek	106D04 Dublin Gulch
115P16 Seattle Creek	105M13 Mount Haldane

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

GOODMAN CREEK BLOCK SURVEY SPECIFICATIONS:

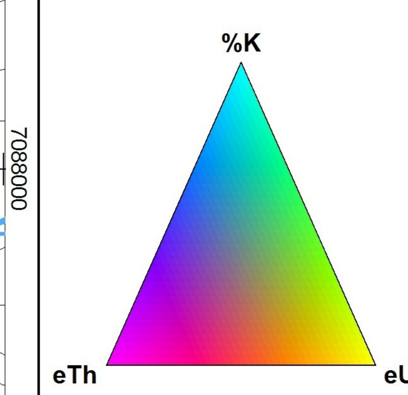
Survey Date:	September 19, 2016
Survey Base:	Mayo, Yukon
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	35.6 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	150°/330°
Tie Line Spacing:	1500 meters
Tie Line Direction:	060°/240°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend



Water Bodies (unclassified)..................................

Goodman Creek Survey Block Outline...................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:35000
500 0 500 1000 1500 2000 2500
(meters)
WGS 84 / UTM zone 8N
NTS SHEETS 105M13; 115P16

Nevada Zinc Corporation

Radiometric Map

Goodman Creek Survey Block
Ternary Map
October 7, 2016

Precision GeoSurveys

Plate17
GC_TM

Appendix V: Precision GeoSurveys Seattle Property Report

AIRBORNE GEOPHYSICAL SURVEY REPORT

Seattle Creek Block

Mayo, Yukon

Nevada Zinc Corporation

Shawn Walker, M.Sc., G.I.T
Jenny Poon, B.Sc., P.Geo.
Precision GeoSurveys Inc.
www.precisiongeosurveys.com
Hangar 42 Langley Airport
21330 - 56th Ave., Langley, BC
Canada V2Y 0E5
604-484-9402

October 2016

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Plates (scale 1:12500 – in pocket)

1.0 Introduction

This report outlines the geophysical survey operations and data processing procedures taken during the high resolution helicopter-borne magnetic and radiometric survey flown at the Seattle Creek survey block for Nevada Zinc Corporation. The Seattle Creek survey block area is centered 30.0 km north of Mayo, Yukon and covers a total of 19.5 km^2 (Figure 1). The geophysical survey was started and completed on September 20, 2016.

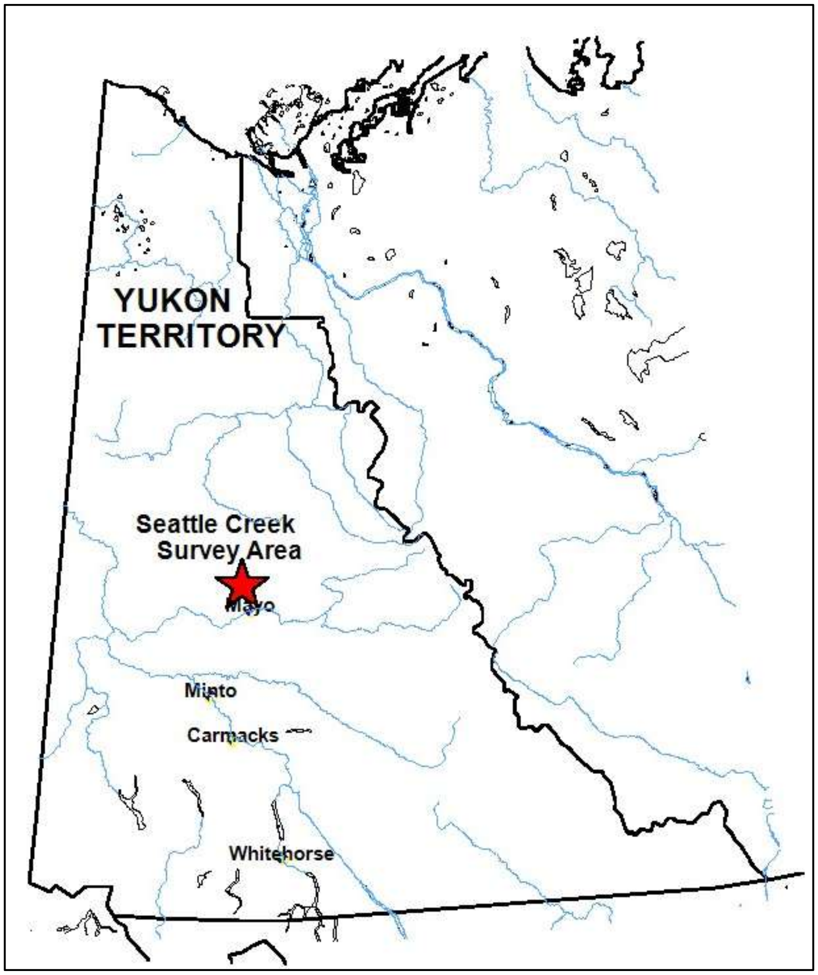


Figure 1: Seattle Creek survey block location map.

1.1 Survey Area

The Seattle Creek survey block is centered approximately 30 km north of Mayo, Yukon (Figure 2) on the south side of the South McQuesten River. The block covers a rectangular area of 6.5 km by 3.0 km and includes 20 survey lines and four tie lines.

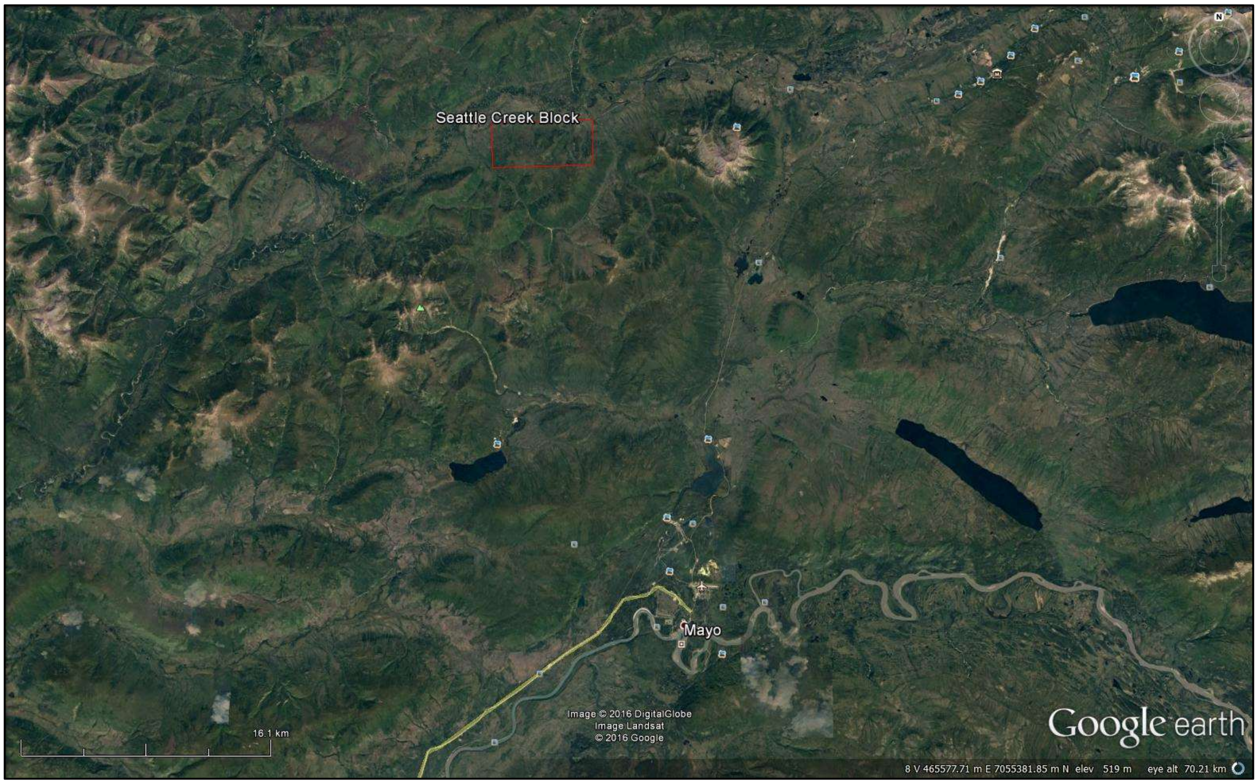


Figure 2: Seattle Creek survey block boundary in red north of Mayo, Yukon.

The Seattle Creek survey block was flown at 150 meter spacing at a 090°/270° heading; tie lines were flown at 1500 meter spacing at a heading of 000°/180° (Figures 3 and 4). A total of 142 line km of data was collected.

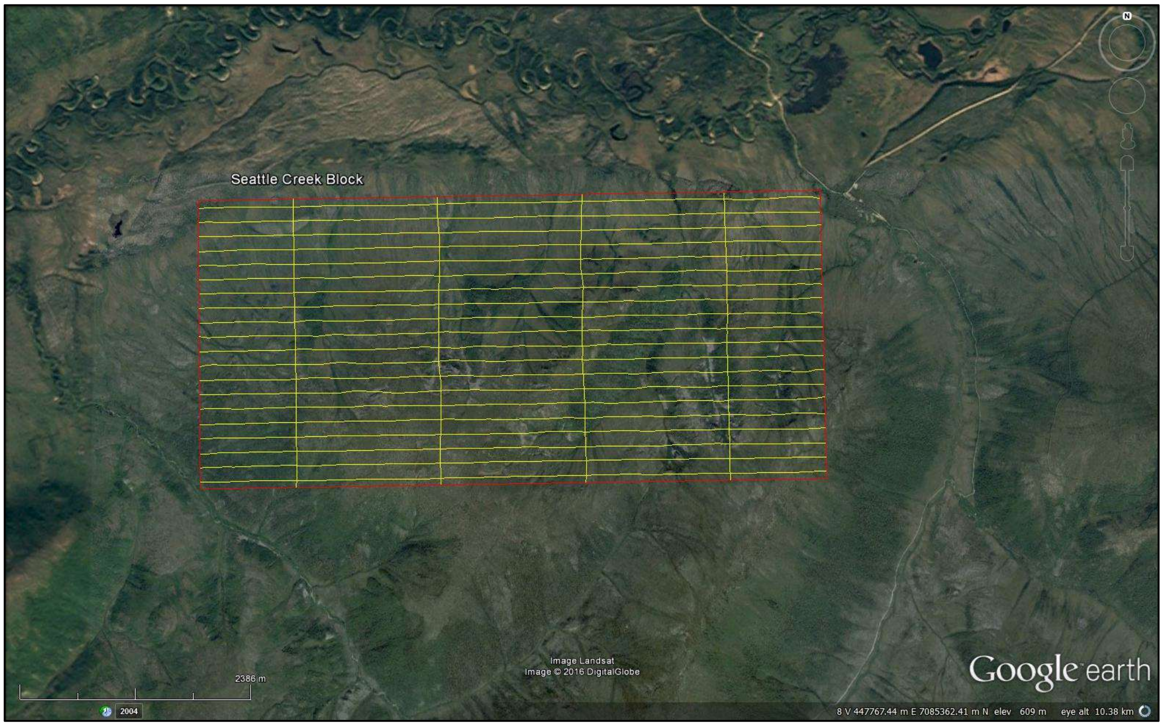


Figure 3: Plan View – Seattle Creek survey block with actual flight lines displayed in yellow and the block boundary in red.

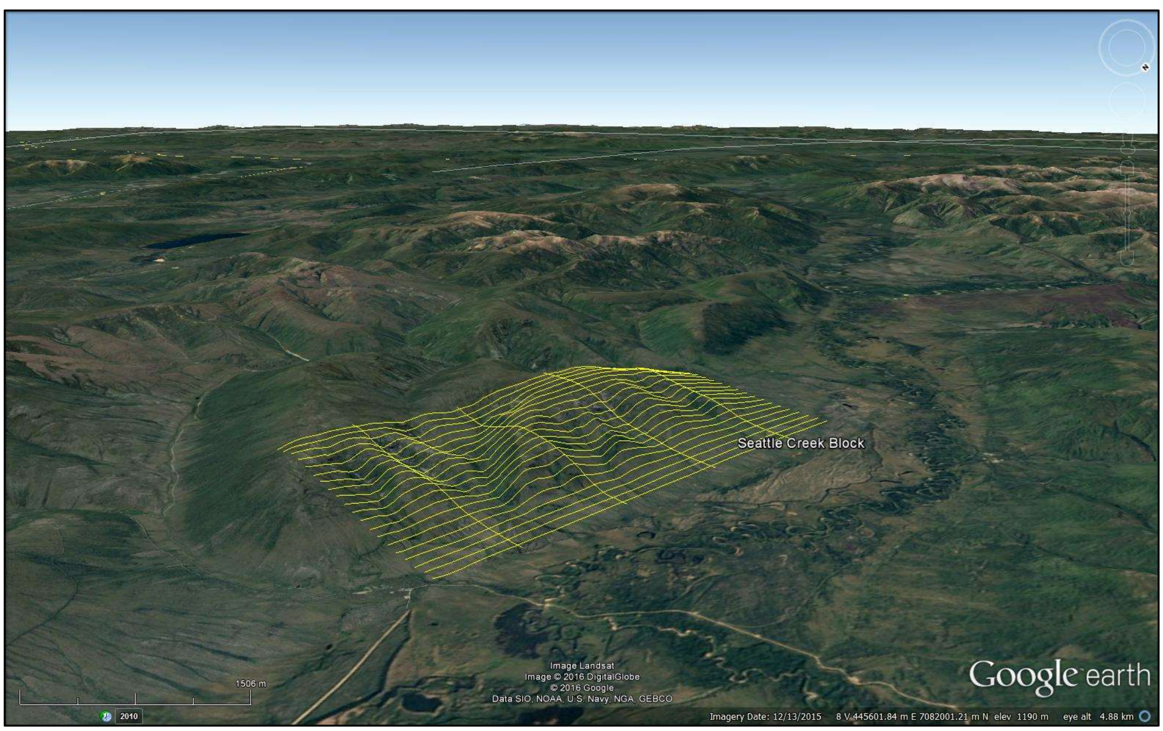


Figure 4: Terrain View – Seattle Creek survey block with actual flight lines displayed in yellow.

1.2 Survey Specifications

The geodetic system used for this survey is WGS 84 and the area is contained in zone 8N. A total of 142 line km was flown (Figure 5). The survey data acquisition specifications and coordinates for the survey are specified in Tables 1 and 2.

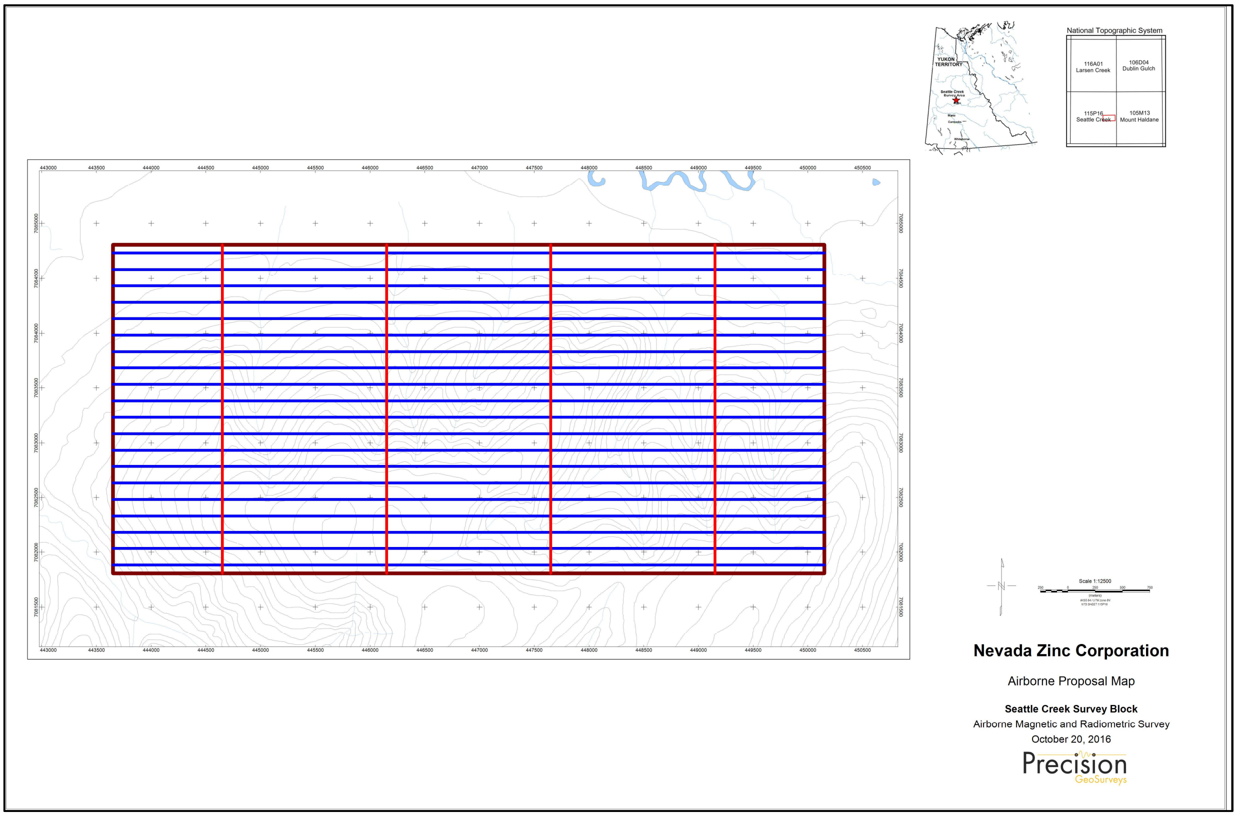


Figure 5: Survey map of Seattle Creek survey block area showing proposed survey and tie lines on digital terrain model.

Block Name	Area (km^2)	Line Type	Planned No. of Lines	Planned Line Spacing (m)	Line Orientation	Nominal Survey Height (m)	Actual Survey Height (m)	Total Planned Line km	Total Actual km Flown
Seattle Creek	19.5	Survey	20	150	090°/270°	35	36	130	130
		Tie	4	1500	000°/180°	35	35	12	12
		Total:	**24**					**142**	**142**

Table 1: Seattle Creek survey area flight line specifications.

Longitude	Latitude	Easting	Northing	N/S	E/W
136.14743613	63.88591383	443650	7084808	N	W
136.01510546	63.88690223	450150	7084808	N	W
136.01413474	63.85998391	450150	7081808	N	W
136.14633893	63.85899668	443650	7081808	N	W

Table 2: Seattle Creek survey block polygon coordinates using WGS 84 in zone 8N.

2.0 Geophysical Data

Geophysical data are collected in a variety of ways and are used to aid in determination of geology, mineral deposits, oil and gas deposits, geotechnical investigations, contaminated land sites and UXO detection.

For the purposes of this survey, airborne magnetic and radiometric data were collected to serve in the exploration for gold and copper deposits.

2.1 Magnetic Data

Magnetic surveying is the most common airborne survey type to be conducted for both mineral and hydrocarbon exploration. Aeromagnetic surveys measure and record the total intensity of the magnetic field at the magnetometer sensor, which is a combination of the desired magnetic field generated in the Earth as well as minute variations due to the temporal effects of the constantly varying solar wind and the magnetic field of the survey aircraft. By subtracting the solar, regional, and aircraft effects, the resulting aeromagnetic map shows the spatial distribution and relative abundance of magnetic minerals (most commonly the iron oxide mineral magnetite) in the upper levels of the Earth's crust, which in turn is related to lithology, structure, and alteration of bedrock. The type of survey specifications, instrumentation, and interpretation procedures depend on the objectives of the survey. Magnetic surveys are typically performed for:

1. Geological Mapping - to aid in mapping lithology, structure and alteration.
2. Depth to Basement Mapping - for exploration in sedimentary basins or mineralization associated with the basement surface.

2.2 Radiometric Data

Radiometric surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials come from the natural decay products of three primary radioelements: uranium (U), thorium (Th), and potassium (K). The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th, and K in surface rocks and soils which are then useful in mapping lithology, alteration, and structure.

Vegetation, standing water (lakes, marshes, swamps) and/or snow can effectively attenuate gamma rays originating from underlying rocks. Therefore, variations in isotope counts must be evaluated with respect to surficial conditions before they are attributed to changes in underlying geology. An increase in soil moisture can also significantly affect gamma radiation concentrations. For example, 10% increase in soil moisture can decrease the measured gamma radiation by about the same amount. Radon, formed naturally from the decay of radioactive elements such as uranium, attaches to dust particles in the atmosphere. The radioactive precipitation of these dust particles by rain can lead to apparent increases of more than 2000% in uranium ground concentration (IAEA, 2003). Thus, gamma ray surveying should not be carried out during rainfall, or shortly after rainfall.

3.0 Survey Operations

The Seattle Creek survey was flown on September 20, 2016, in dry weather and snow-free ground conditions. The survey did not encounter any weather or technical delays. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne geophysical surveying. Field processing and quality control checks were done daily.

3.1 Operations Base and Crew

The base of operations for this survey was located at the Mayo airport (CYMA), 30.4 km south-southeast of the Seattle Creek survey block (Figure 6).

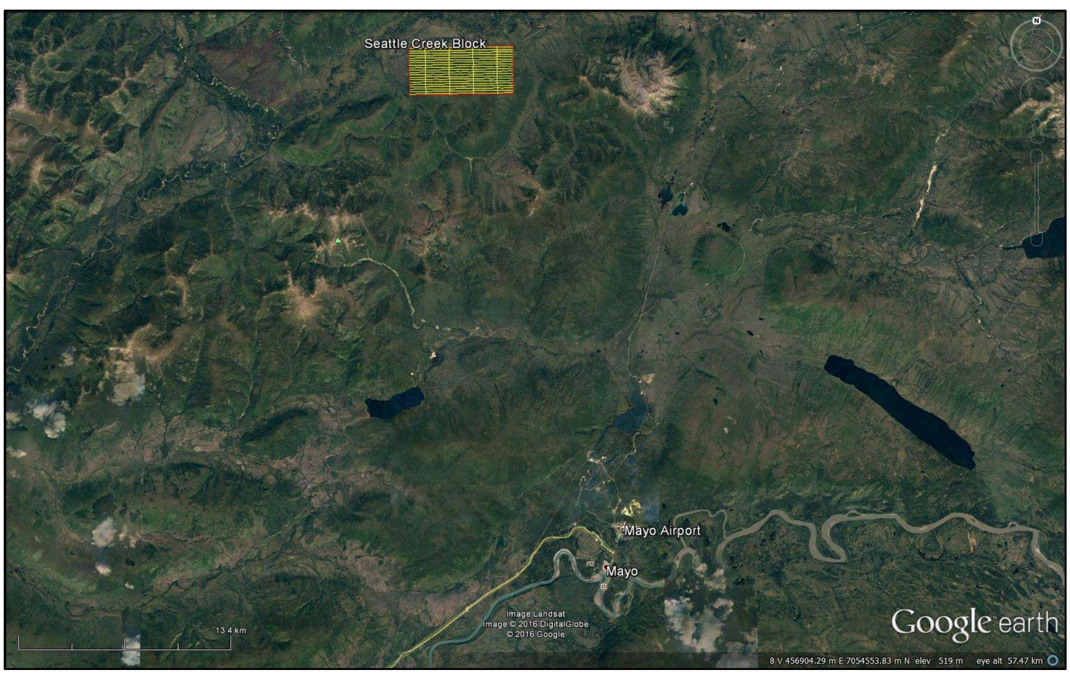


Figure 6: Map showing base of operation at Mayo airport.

The Precision geophysical crew consisted of four members:

Harmen Keyser	–	Helicopter Pilot
Melody Steele	–	Geophysical Operator
Shawn Walker (off-site)	–	Geophysicist and Data Processor
Jenny Poon (off-site)	–	Geophysicist and Data Processor

3.2 Base Station Specifications

Two GEM GSM-19T proton precession magnetometers were used to accurately record diurnal variations and geomagnetic storms in the survey area. The magnetic base stations were set up south of the Mayo airport, away from any sources of magnetic noise (Table 3; Figures 7 and 8).

Station name	Easting/Northing	Longitude/Latitude	Datum/ Projection
GEM 5 S/N 5081669	0456643E, 7054343N	135° 52' 27.91" W 63° 36' 51.84" N	WGS 84, Zone 8N
GEM 6 S/N 5087249	0456641E, 7054350N	135° 52' 28.02" W 63° 36' 52.06" N	WGS 84, Zone 8N

Table 3: Base station specifications.

Base station readings were reviewed at regular intervals to ensure that no data were collected during periods of high diurnal magnetic activity (greater than 10 nT per minute). The magnetic base stations were installed in a magnetically noise-free area, away from metallic items such as ferromagnetic objects, vehicles, or power lines that could affect the base station or survey data.

The diurnal magnetic variations recorded by the stationary base station were removed from the magnetic data recorded in flight to ensure that the anomalies seen were real and not due to solar activity.

Figure 7: GEM 5 (left) and GEM 6 (right) magnetic base stations located in the bushes, south of the Mayo airport.

Figure 8: GEM 5 and GEM 6 magnetic base stations located in the bushes, south of the Mayo airport.

3.3 Field Processing and Quality Control

On a flight-by-flight basis, the survey data were transferred from the helicopter's data acquisition system onto a USB flash drive and copied onto a field data processing laptop. The raw data files in PEI binary data format were converted into Geosoft GDB database format. Using Geosoft Oasis Montaj 9.0.2, the quality of the data was inspected to ensure that they met the contract specifications (Table 4). All flight lines (Figure 9) which did not meet survey specifications (left/right and up/down) were re-flown. Selected suspect magnetic anomalies, especially those found on a single flight line, were re-flown for confirmation. Where required, re-flight lines were a minimum of 2000 m long, so that survey line re-flights crossed at least two tie lines, and tie line re-flights crossed at least five survey lines.

Specification	Parameter	Details
Line Spacing	Position	Flight line deviation from flight path by more than 15 m left/right for 1 km or more.
Height		Nominal flight height of 35 m above ground. Flight height deviation by more than 15 m up/down for 1 km or more, provided line deviation from height is not due to tall trees, topography, cultural features, mitigation of livestock harassment, or other obstacles beyond the pilot's control.
GPS		Any flight lines where 3 or less GPS satellites received for distances of greater than 1 km, provided signal loss is not due to topography.
Diurnal Variations	Magnetics	Non-linear magnetic diurnal variations exceed 10 nT from a linear chord of length one (1) minute.
Normalized 4th Difference		Magnetic data exceeding 0.20 nT peak to peak for distances greater than 1 km or more (provided noise is not due to geological or cultural features).
Test Line Data	Radiometrics	If signal from the four spectrometer windows (K, Th, U, TC) over the test line vary by more than 12%, the flights shall be re-flown or suspended.

Table 4: Contract re-flight specifications.

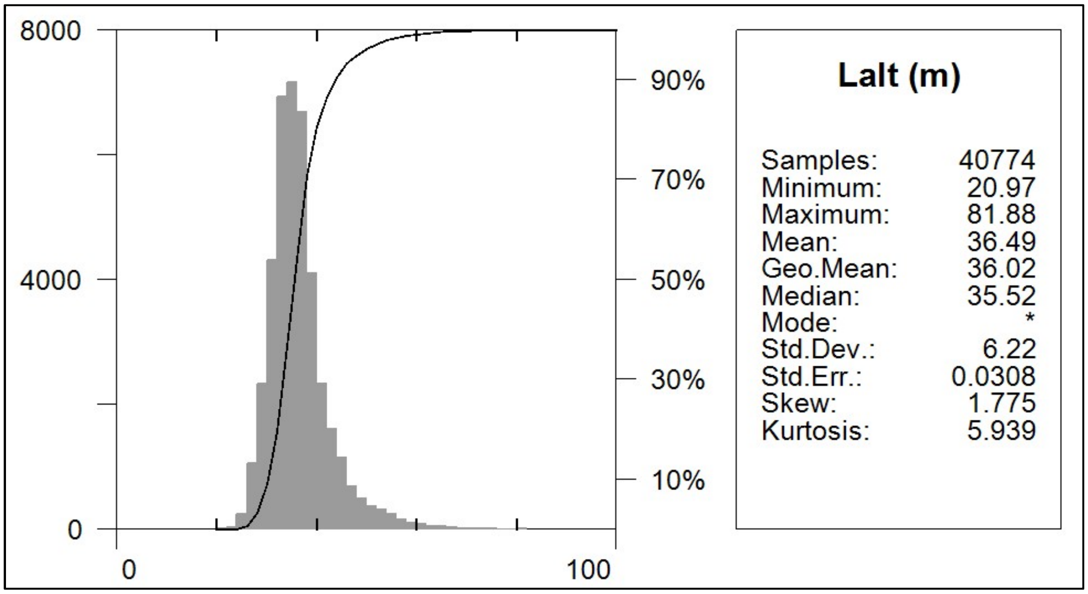


Figure 9: Histogram showing survey elevation vertically above ground.

4.0 Aircraft and Equipment

All geophysical and subsidiary equipment were carefully installed on Precision GeoSurveys aircraft. For this survey, the survey magnetometer was carried in an approved “stinger” configuration to enhance flight safety and improve data quality. The gamma spectrometer crystal packs consisted of three components: two downward-looking packs and one upward-looking pack. The four downward-looking crystals (total of 16.8 liters) were installed in the rear cabin of the aircraft and the rear cargo box. The upward-looking crystal (total of 4.2 liters) was installed in the right cargo cheek.

4.1 Aircraft

Precision GeoSurveys flew the Seattle Creek survey block using a Eurocopter AS350 helicopter, registration C-GSVY. The survey lines were flown at a nominal line spacing of one hundred and fifty (150) meters and the tie lines were flown at one thousand and five hundred (1500) meters for both the magnetometer and spectrometer.

4.2 Geophysical Equipment

The survey helicopter (Figure 10) was equipped with a magnetometer, spectrometer, data acquisition system, laser altimeter, magnetic compensation system, pilot guidance unit (PGU), and GPS navigation system. In addition, two magnetic base stations were used to record diurnal magnetic variations.

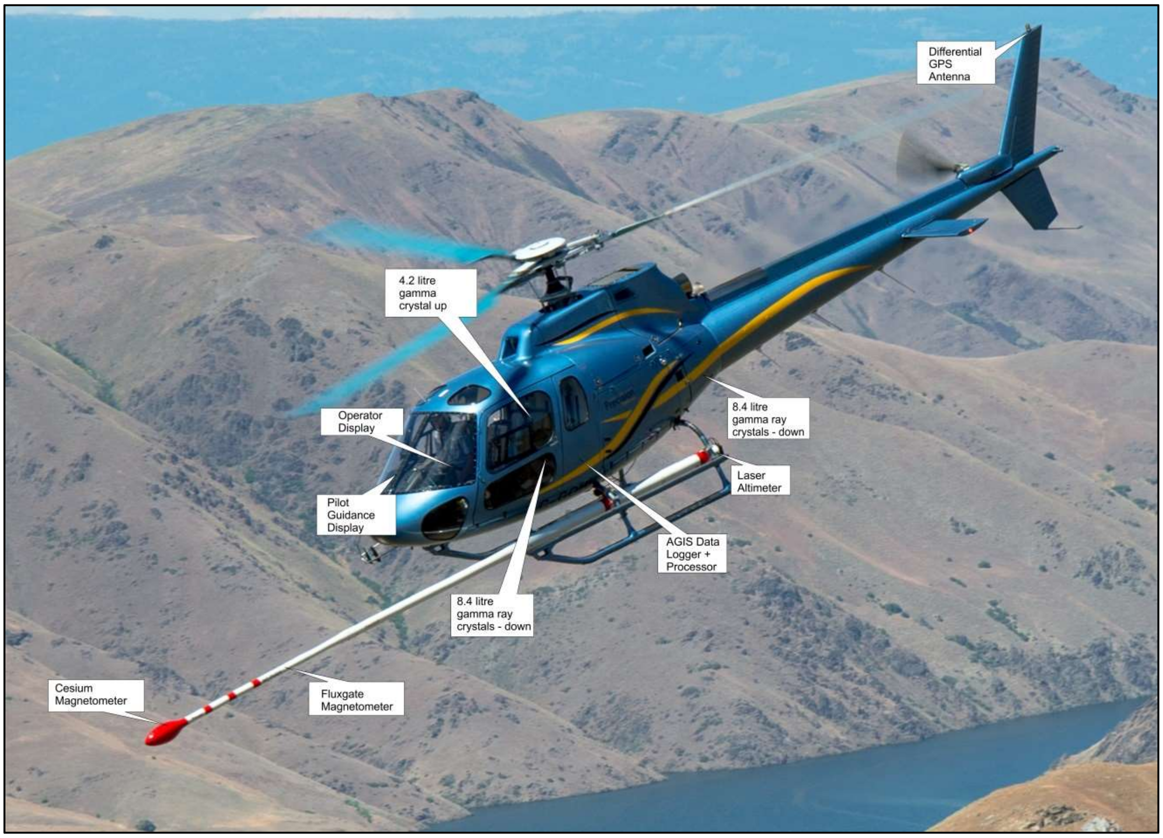


Figure 10: AS350 survey helicopter equipped with geophysical equipment.

4.2.1 AGIS

The Airborne Geophysical Information System, AGIS, (Figure 11), is the main computer used in data recording, data synchronizing, displaying real-time quality control data for the geophysical operator, and the generation of navigation information for the pilot and operator display systems. Information such as magnetic field components, total gamma count, counts of various radioelements (K, U, Th, etc.), temperature, cosmic radiation, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the on-board AGIS display for immediate quality control.

The AGIS was manufactured by Pico Envirotec and uses standardized Pico software. External sensors are connected to the system via RS-232 serial communication cables. The AGIS data format is converted into Geosoft or ASCII file formats by a conversion program called PEIView. Additional Pico software allows for post or real time magnetic compensation and survey quality control procedures.

Figure 11: AGIS operator display installed in the Eurocopter AS350, with screen displaying real time flight line recording and navigation parameters. Additional windows display real time geophysical data to operator.

4.2.2 Magnetometer

The airborne magnetic sensor was a Scintrex cesium vapor CS-3 magnetometer (S/N 1107379). The system was mounted on the front of the helicopter in an approved "stinger" configuration (Figure 12) to reduce influence from the aircraft's magnetic field. The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range; the static noise rating for the unit is +/- 0.01 nT. Magnetic data were recorded at 10 Hz. A separate fluxgate magnetometer determined the helicopter's attitude (pitches, rolls, and yaws) relative to the inclination and declination of the Earth's magnetic field, which was necessary to remove magnetic noise created by the movement of the helicopter through a compensation process.

Figure 12: View of the mag stinger used on the Seattle Creek survey.

4.2.3 Spectrometer

The IRIS, or Integrated Radiometric Information System, is a fully integrated gamma radiation detection system containing 16.8 litres of NaI (T1) synthetic downward-looking crystals (Figure 13) and 4.2 litres of NaI (T1) synthetic upward-looking crystals with 256 channel output at 1 Hz sampling rate. The downward-looking crystals are designed to measure gamma rays from below the aircraft and are equipped with upward-shielding high density RayShield® gamma-attenuating blankets to minimize cosmic and solar gamma noise. The upward-looking crystal measures solar gamma radiation from above the survey helicopter with a 6 mm thick lead plate used for downward-shielding.

Figure 13: GRS-10 Thallium-activated Sodium Iodide gamma spectrometer crystal pack. The open unit on the right shows two individual 4.2 liter detectors.

4.2.4 Base Station

To monitor and record the Earth's diurnal magnetic field variation, Precision GeoSurveys operates two GEM GSM-19T magnetometer base stations. The base stations were operated near the Mayo airport. The base stations were located in an area with low magnetic gradient, away from electric power transmission lines and moving ferrous objects, such as motor vehicles, that could affect the survey data integrity.

The GEM GSM-19T magnetometer (Figure 14) with integrated GPS time synchronization uses proton precession technology with a 0.5 Hz sampling rate. The GSM-19T has an accuracy of +/- 0.2 nT at 1 Hz. Base station magnetic data were recorded on internal solid-state memory, and downloaded onto a field laptop computer using a serial cable and GEMLink 5.0 software. Profile plots of the base station readings were generated, updated, and reviewed at the end of each survey day.

Figure 14: GEM GSM-19T proton precession magnetometer.

4.2.5 Laser Altimeter

The pilot is provided with terrain guidance and clearance information from an Opti-Logic RS800 laser altimeter (Figure 15). This is attached to the aft end of the magnetometer boom. The RS800 laser is a time-of-flight sensor that measures distance by a rapidly-modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 700 m off of natural surfaces with an accuracy of +/- 1 meter on 1 x 1 m^2 diffuse target with 50% (+/- 20%) reflectivity. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and digital outputs, the ground clearance data are transmitted to an RS-232 compatible port and recorded and displayed by the AGIS and PGU at 10 Hz in meters.

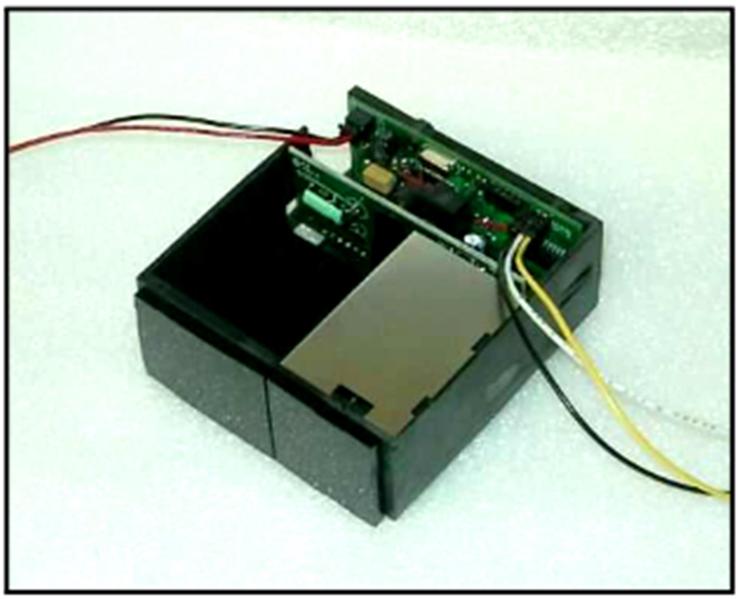


Figure 15: Opti-Logic RS800 laser altimeter.

4.2.6 Pilot Guidance Unit

The PGU (Pilot Guidance Unit) is a graphical display type unit that provides continuous steering and elevation information to the pilot (Figure 16). It is mounted remotely from the data system on top of the helicopter's instrument panel. The PGU assists the pilot in keeping the helicopter on the planned flight path and at the desired ground clearance.

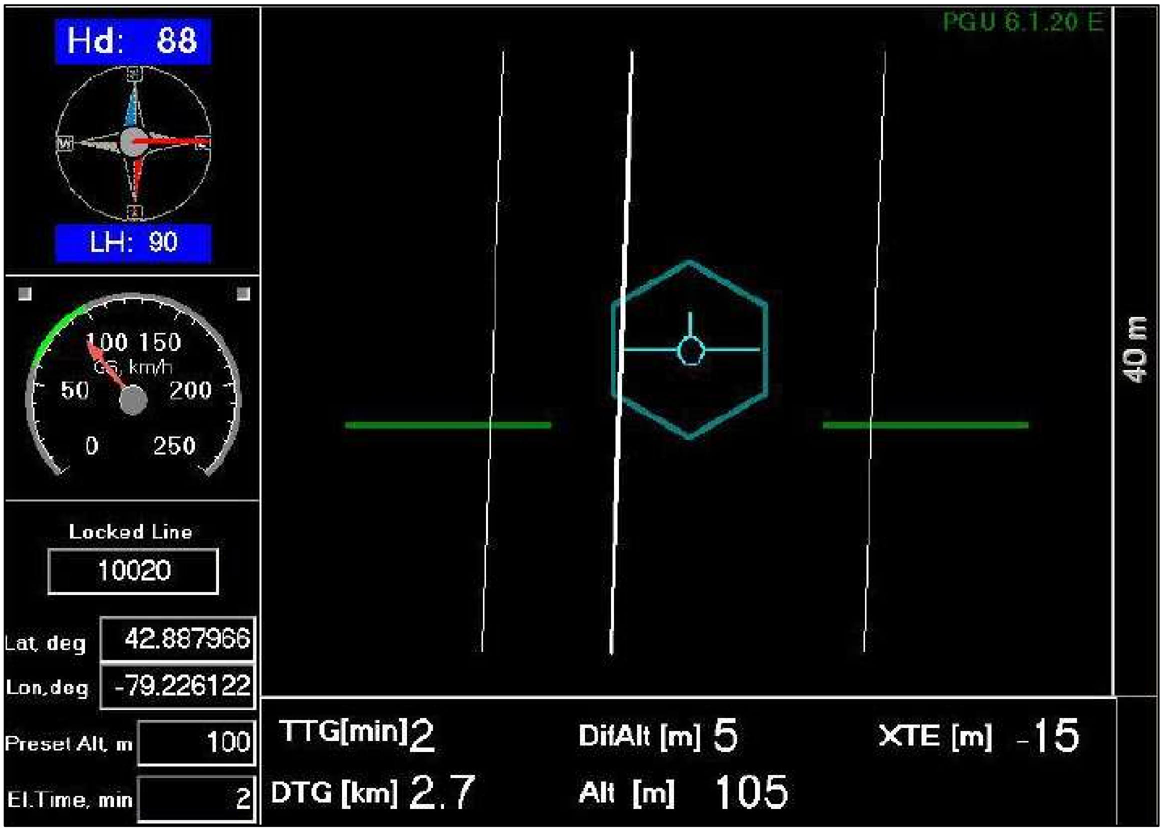


Figure 16: PGU screen displaying navigation information.

The LCD monitor measures 7 inches, with a full VGA 800 x 600 pixel display. The CPU for the PGU is contained in a PC-104 console and uses Microsoft Windows operating system control, with input from the GPS antenna, embedded drape surface profile or laser altimeter, and AGIS.

4.2.7 GPS Navigation System

A Hemisphere R120 GPS receiver (Figure 17) navigation system integrated with the pilot display (PGU) and AGIS provided navigational information and control. The R120 GPS receiver supports fast updates and outputs messages at a rate of up to 20 Hz (20 times per second); delivering sub-meter positioning. It employs COAST technology that allows continuous operation for at least 40 minutes during temporary differential signal outages.

Figure 17: Hemisphere R120 GPS Receiver.

It can track GPS, SBAS (Satellite-Based Augmentation System), and L-Band (OmniSTAR HP and XP) differential corrections to provide accurate positioning.

5.0 Data Acquisition Equipment Checks and Calibration

Airborne equipment tests and calibrations were conducted at the start of the survey. There were three tests conducted for the airborne magnetometer: compensation flight, lag test, and heading error test. Three other tests were conducted for the airborne gamma ray spectrometer: calibration pad test, cosmic flight test, and the altitude correction and sensitivity test.

5.1 Magnetometer Tests

Before acquiring magnetic data the magnetometer was tested and calibrated. A series of dedicated flights were completed to collect data specifically for removing undesired side-effects of aircraft movement, speed, and heading direction.

5.1.1 Compensation Flight Test

During aeromagnetic surveying a small but significant amount of noise is introduced to the magnetic data by the aircraft itself, as the magnetometer is within the helicopter's magnetic field. Movement of the aircraft (roll, pitch and yaw) combined with the permanent magnetization of certain aircraft parts (in particular the engine and other ferrous magnetic objects) contribute to this noise. The aircraft was degaussed prior to starting the survey and the remaining magnetic noise was removed by a process called magnetic compensation. A magnetic compensation flight was completed prior to beginning the survey (Table 5). The process consists of a series of prescribed maneuvers where the aircraft flies in the four orthogonal headings required for the survey (090°/270° and 000°/180° in the case of this survey) at a sufficient altitude (typically >

2,500 m AGL) in an area of low magnetic gradient where the Earth's magnetic field becomes nearly uniform at the scale of the compensation flight. In each heading direction, three specified roll, pitch, and yaw maneuvers (total 36) are performed by the pilot at constant elevation so that any magnetic variation recorded by the airborne magnetometer can be attributed to aircraft movement. These maneuvers provide the data that are required to calculate the necessary parameters for compensating the magnetic data and removing aircraft noise from survey data.

Pre-Compensation					Post-Compensation				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
082°	7.2623	3.7082	1.6093	12.5798	082°	0.2087	0.2445	0.2027	0.6559
176°	7.4620	6.5955	1.8751	15.9326	176°	0.2546	0.2470	0.1945	0.6961
262°	5.5400	5.2855	1.9954	12.8209	262°	0.1936	0.2321	0.2977	0.7234
356°	5.8602	3.6937	1.6583	11.2122	356°	0.1760	0.2373	0.1811	0.5944
Total	26.1245	19.2829	7.1381		**Total**	0.8329	0.9609	0.8760	
FOM = 52.5455 nT					**FOM = 2.6698 nT**				

Table 5: Figure of Merit maneuver test results for compensation flight flown on September 20, 2016, east of Mayo, Yukon.

5.1.2 Lag Test

A lag test was performed to determine the relationship between the time the digital reading was recorded by the magnetic sensor instrument and the position fix time that the fiducial of the reading was obtained by the GPS system. The test was flown in the four orthogonal survey headings over an identifiable magnetic anomaly (ie. Truck, Trailer, etc.) at survey speed and height. A lag of 7 fiducials (0.7 seconds) was determined from the lag test.

5.1.3 Heading Error Test

To determine the magnetic heading effect a cloverleaf pattern flight test was conducted. The cloverleaf test was flown in the same orthogonal headings as the survey and tie lines (090°/270° and 000°/180°) at >1000 m AGL in an area with low magnetic gradient. For all four directions the survey helicopter must pass over the same mid-point all four times at the same elevation (Table 6 and Figure 18).

Line Number	Fiducials	Heading	Mag (nT)	Correction (nT)
L000	1566.9	N – 000°	57074.9759	6.5277
L090	1189.1	E – 090°	57087.1012	-5.5976
L180	1667.3	S - 180°	57086.0095	-4.5059
L270	1405.3	W - 270°	57077.9279	3.5758
		Average	**57081.5**	
		Total		**0.0000**

Table 6: Heading error test data format flown on September 20, 2016, east of Mayo, Yukon.

```
/Geosoft Heading Correction Table

/
/=Direction:real:i
/=Correction:real
/
/Direction Correction
 000    +6.5277
 090    -5.5976
 180    -4.5059
 270    +3.5758
 360    +6.5277
```

Figure 18: Heading data results in .tbl format in Geosoft table.

5.2 Gamma-ray Spectrometer Tests and Calibrations

Pre-survey calibrations and testing of the GRS-10 airborne gamma-ray spectrometry system were carried out prior to the start of the survey. The calibration of the spectrometer system involved three tests which enabled the conversion of airborne data to ground concentration of natural radioactive elements. These tests were the calibration pad test, cosmic flight test, and the altitude correction and sensitivity test. The measurements were made in accordance with IAEA technical report series No. 323, *Airborne Gamma Ray Spectrometer Surveying*, and AGSO Record 1995/60, *A Guide to the Technical Specifications for Airborne Gamma-Ray Surveys*.

5.2.1 Calibration Pad Test

The calibration pad test was conducted by Pico Envirotec using GSC (Geological Survey of Canada) portable calibration pads. The pads are slabs of concrete containing known concentrations of the radioelements (K, Th, and U) and are used to simulate ideal geological sources of gamma radiation. The measurements collected from the calibration pad test were used to determine the Compton scattering and Grasty backscatter (spectral overlap between element windows) coefficients.

5.2.2 Cosmic Flight Test

While the background source of gamma radiation from the aircraft itself is essentially constant, the amount of signal detected from ground sources varies with ground clearance. As the height of the aircraft increases, the distance between the ground and the spectrometer crystals increase, and the proportion of cosmic radiation in each spectral window increases exponentially. The cosmic flight test is conducted to determine the aircraft's background attenuation coefficients for the detector crystal packs and the cosmic coefficients. The pilot is required to fly over the same location repeatedly in opposite directions starting from 1,500 m to 3,000 m at 500 m intervals for approximately 2 minutes each to collect gamma data used to determine the amount of non-terrestrial gamma signal.

5.2.3 Altitude Correction and Sensitivity Test

The altitude and sensitivity test is similar to the cosmic flight test but is conducted at lower elevations (from ground level). The pilot is required to fly over the same location at the following elevations in meters above ground; 30, 50, 100, 150, 200, 250, and 300. As the distance of the aircraft increases away from the radioactive ground source, the source signature exponentially degrades. As a result, this test is used to determine the altitude attenuation coefficients and the radio-element sensitivity of the airborne spectrometer system.

6.0 Data Processing

After all the data were collected from a survey flight several procedures were undertaken to ensure that the data met a high standard of quality. All radiometric and magnetic data (Figure 19) were processed using Pico Envirotec software and Geosoft Oasis Montaj 9.0.2 geophysical processing software along with proprietary processing algorithms.

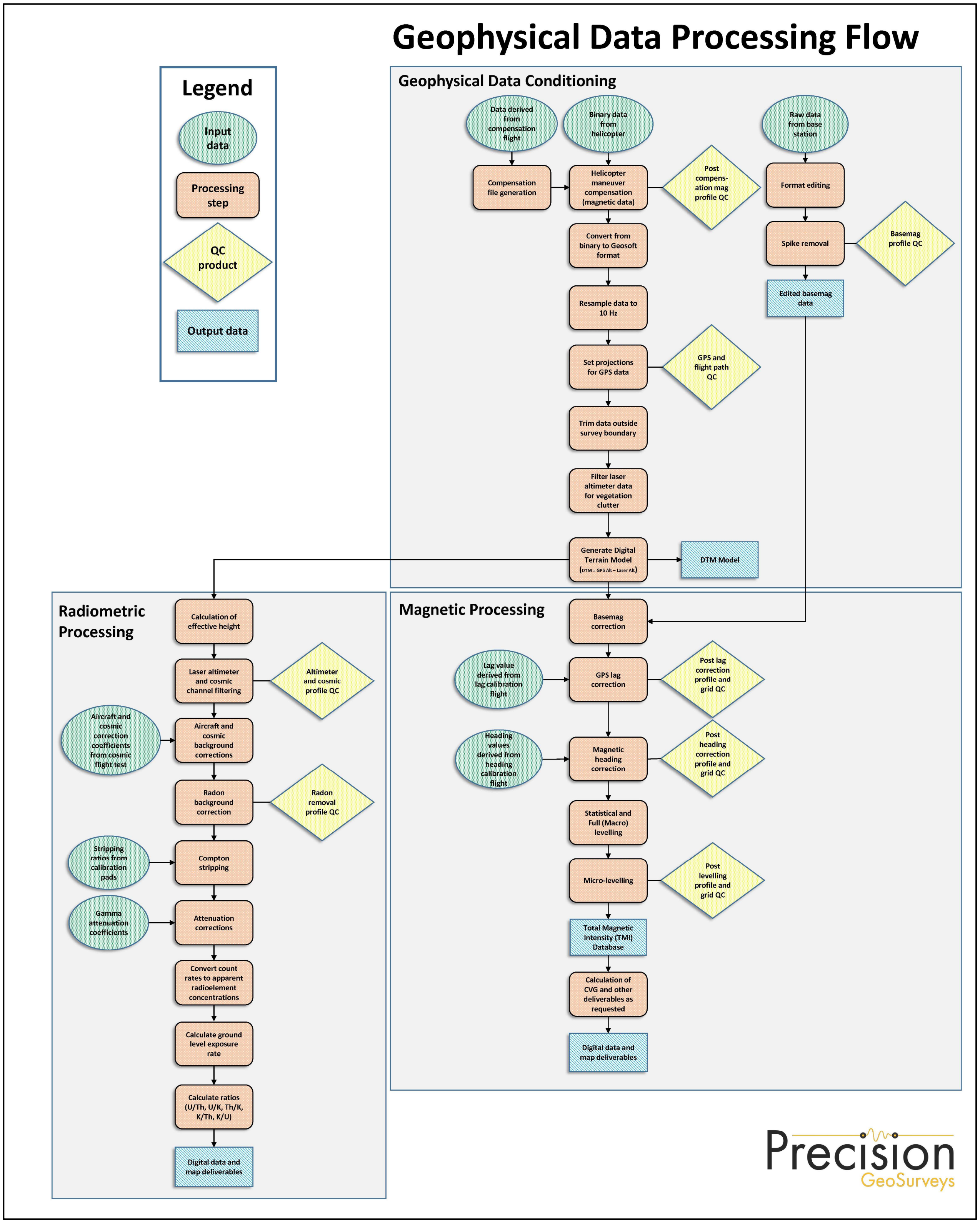


Figure 19: Magnetic and radiometric data processing flow.

6.1 Magnetic Processing

The data obtained from the compensation flight test were applied to the raw magnetic data before any further processing and editing. A computer program called PEIComp was used to create a model from the compensation flight test for each survey to remove the noise induced by aircraft movement; this model was applied to each survey flight so the data could be further processed.

The compensated raw magnetic data were then corrected for diurnal variations, lag, and heading. Any evidence of noise or spikes was removed. The initial corrected data from the survey and tie lines were then used to level the entire survey dataset. Lastly, the International Geomagnetic Reference Field (IGRF) was used to remove the background magnetic field of the earth.

6.1.1 Diurnal Correction

The first step in processing the compensated magnetic data was to correct for diurnal variations. The base station data that were used for the correction came from GEM 5 south of the Mayo airport. The diurnal data were edited, plotted and merged into a Geosoft database (.GDB) on a daily basis. The airborne magnetic data were corrected for diurnal variations by subtracting the observed magnetic base station deviations from the data collected on the helicopter, which effectively removed the effects of diurnal variation, diurnal drift, and geomagnetic storms.

6.1.2 Lag Correction

Following the diurnal correction, a lag correction of 0.7 seconds was applied to the total magnetic field data to compensate for the combination of lag in the recording system and the magnetometer sensor flying 5.4 m ahead of the GPS antenna.

6.1.3 Heading Correction

For each survey heading the magnetic instrument travels along a flight line, changes in instrument magnetic fields are detected and these systematic shifts are recorded. These values are used to construct a heading .TBL table file. An intersection table was created, containing all magnetic field values where tie lines intersected the survey lines and the overall average magnetic field value was calculated. For each of the four headings, the averages were calculated and then compared to the overall average to determine four values to be used for heading error correction.

6.1.4 Leveling and Micro-leveling

The initial Total Magnetic Intensity (TMI) data from survey and tie lines were used to level the entire survey dataset. Two forms of leveling were applied to the corrected data: conventional leveling and micro-leveling. There were two components to conventional leveling; Statistical Leveling to level tie lines and Full Leveling to level survey lines. The Statistical Leveling method corrected for mis-ties (SL/TL intersection errors) following a specific pattern or trend.

Through the error channel, an algorithm calculated a least-squares trend line and derived a trend error curve, which was then added to the channel to be leveled. The second component was Full Leveling. This adjusted the magnetic value of the survey lines so that all lines matched the trended tie lines at each intersection point.

Lastly, micro-leveling was applied to the corrected conventional leveled data. This iterative grid-based process removed low amplitude components of flight line noise that still remained in the data after tie line and survey line leveling.

6.1.5 IGRF Removal

The International Geomagnetic Reference Field (IGRF) model is the empirical representation of the Earth's magnetic field (main core field without external sources) collected and disseminated from satellite data and from magnetic observatories around the world. The IGRF is generally revised and updated every five years by a group of modelers associated with the International Association of Geomagnetism and Aeronomy (IAGA). In this case, the IGRF values were calculated from the recently updated model (IGRF – 12) year 2015 and the actual survey dates were obtained from the "Date" channel.

By subtracting the calculated IGRF from TMI, Residual Magnetic Intensity (RMI) of the Seattle Creek survey area was calculated. This created a more valid model of individual near-surface anomalies so that the data were not referenced to a specific time. This will allow for other magnetic data (historic or future) to be more easily incorporated into the survey database.

6.1.6 Calculation of the First Vertical Derivative

The first vertical derivative (1VD) was computed from the leveled Residual Magnetic Intensity (RMI) data. Long wavelengths and vertical rate of change were suppressed in the magnetic field. Therefore, the edges of magnetic anomalies were highlighted and spatial resolution was increased.

6.2 Radiometric Processing

Radiometric surveys map the concentration of radioelements at or near the earth's surface; typically up to 1.5 meters below surface. Thus, the first step which is vital before processing of the airborne radiometric data was to calibrate the spectrometer system. Once calibration of the system was complete, the radiometric data were processed by windowing the full spectrum to create channels for U, K, Th and total count.

Steps taken to process acquired radiometric data are summarized below:

- Calculation of effective height
- Aircraft and Cosmic background corrections
- Radon background correction
- Stripping ratios

- Attenuation corrections
- Conversion to apparent radioelement concentrations

6.2.1 Calculation of Effective Height

Laser/Radar altimeter data were converted to effective height (h_{ef}) in meters using the acquired laser/radar altimeter, temperature and pressure data, according to the formula below:

$$h_{ef} = h * \frac{273.15}{T + 273.15} * \frac{P}{1013.25}$$

where: h is the observed laser/radar altitude in meters
T is the measured air temperature in degrees Celsius
P is the barometric pressure in millibars

6.2.2 Intermediate Filtering

Some of the measured parameters are filtered as part of the pre-processing.

- Laser/radar altimeter is lightly filtered, a 5-point Hanning filter to smooth out rapid changes that may occur in rugged terrain.
- The Cosmic channel was smoothed with a 5-point Hanning filter to reduce statistical noise.

6.2.3 Aircraft and Cosmic Background Corrections

Aircraft background and cosmic stripping corrections are applied to all three elements, and total count, using the following formula:

$$C_{ac} = a_c + b_c * \mathrm{Cos}_f$$

where: C_{ac} is the background and cosmic corrected channel
a_c is the aircraft background for this channel
b_c is the cosmic stripping coefficient for this channel
Cos_f is the filtered cosmic channel

6.2.4 Radon Background Correction

To strip the effects of atmospheric radon from the downward-looking detectors, calibration constants are determined through the use of an upward-looking detector. The upward-looking detector uses a crystal pack that is partially shielded from radiation from below to give the system a directional sensitivity and therefore the ability to discriminate between radiation from the atmosphere and from the ground. Procedures to determine these calibration constants in detail are outlined in the IAEA 1363 report, *Guidelines for Radioelement Mapping using Gamma Ray Spectrometry Data*.

6.2.5 Compton Stripping

Spectral overlap corrections are applied to potassium, uranium, and thorium as part of the Compton stripping process. This is done by using the stripping ratios that have been calculated for the spectrometer by prior calibration; this breaks the corrected elemental values down into the apparent radioelement concentrations.

Stripping ratios α, β, and γ are first modified according to altitude. Then an adjustment factor (derived from the cosmic flight test), the reversed stripping ratio, uranium into thorium, is calculated.

$$\alpha_h = \alpha + h_{ef} * 0.00049$$

$$\beta_h = \beta + h_{ef} * 0.00065$$

$$\gamma_h = \gamma + h_{ef} * 0.00069$$

where: α, β, γ are the Compton stripping coefficients
$\alpha_h,\beta_h,\gamma_h$ are the height corrected Compton stripping coefficients
h_{ef} is the effective height above ground in metres at STP

The stripping corrections are then carried out using the following formulas:

$$Th_c = Th_{bc}(1 - g\beta_h) + U_{bc}(b\gamma_h - a) + K_{bc}(ag - b) / A$$

$$U_c = Th_{bc}(g\beta_h - \alpha_h) + U_{bc}(1 - b\beta_h) + K_{bc}(b\alpha_h - g) / A$$

$$K_c = [Th_{bc}(\alpha_h\gamma_h - \beta_h) + U_{bc}(a\beta_h - \gamma_h) + K_{bc}(1 - a\alpha_h)] / A$$

where: U_c, Th_c and K_c stripping corrected uranium, thorium and potassium
$\alpha_h,\beta_h,\gamma_h$ height corrected Compton stripping coefficients
U_{bc}, Th_{bc} and K_{bc} background corrected uranium, thorium and potassium
a is the spectral ratio Th/U
b is the spectral ratio Th/K
g is the spectral ratio U/K
$A = 1 - g\gamma_h - a(\alpha_h - g\beta_h) - b(\beta_h - \alpha_h\gamma_h)$ is the backscatter correction

6.2.6 Attenuation Corrections

The total count, potassium, uranium and thorium data are then corrected to a nominal survey altitude (corrected to remove vegetation clutter from radar/laser altimeter data), in this case the survey height was 35 meters. This is done according to the equation:

$$C_a = C * e^{\mu(h_{ef} - ho)}$$

where: C_a is the output altitude corrected channel
C is the input channel
μ is the attenuation correction for that channel
h_{ef} is the effective altitude, usually in m
h_0 is the nominal survey altitude used as datum

6.2.7 Conversion to Apparent Radioelement Concentrations

With all corrections applied to the radiometric data, the final step is to convert the corrected potassium, uranium, and thorium to apparent radioelement concentrations using the following formula:

$$eE = C_{cor} / s$$

where: *eE* is the element concentration K(%) and equivalent element concentration of U(ppm) & Th(ppm)
s is the experimentally determined sensitivity
C_{cor} is the fully corrected channel

Finally, the natural air exposure rate is determined by using the following formula:

$$E = [(13.08 * K + 5.43 * eU + 2.69 * eTh) / 8.69]$$

where: *E* is the absorption dose rate in μR/h
K is the concentration of potassium (%)
eU is the equivalent concentration of uranium (ppm)
eTh is the equivalent concentration of thorium (ppm)

6.2.8 Radiometric Ratios

To calculate some of the common radiometric ratios (U/Th, Th/K, and U/K or their inverses) the guidelines of the IAEA are followed. Due to statistical uncertainties in the individual radioelement measurements, some care is taken in the calculation of the ratio in order to obtain statistically significant values. Following IAEA guidelines, the method of determining ratios of eU/eTh, eU/K and eTh/K is as follows:

1. Any data points where the potassium concentration is less than 0.25% are neglected.
2. The element with the lowest corrected count rate is determined.
3. The element concentrations of adjacent points on either side of each data point are summed until they exceed a pre-determined threshold value. This threshold is set to be equivalent to 100 counts of the element with the lowest count rate. Additional minimum thresholds of 1.6% for potassium, 20 ppm for thorium, and 30 ppm for uranium are established to ensure meaningful ratios.
4. The ratios are calculated using the accumulated sums.

With this method, the errors associated with the calculated ratios are minimized and comparable for all data points.

7.0 Deliverables

All digital data are presented on a USB memory stick with the logistic report. The survey data are presented as digital databases, maps, and a report.

7.1 Digital Data

The digital files will be provided in two formats, the first will be a .GDB file for use in Geosoft Oasis Montaj and the second format will be a .XYZ (text) file. Full descriptions of the digital data and contents are included in the report (Appendix B).

The digital data were represented as grids, as listed below:

- Digital terrain model (DTM)
- Total magnetic intensity (TMI)
- Residual magnetic intensity (RMI) – removal of IGRF from TMI
- Calculated vertical gradient (CVG) - first vertical derivative of RMI
- Potassium – Equivalent Concentration (%K)
- Thorium – Equivalent Concentration (eTh)
- Uranium – Equivalent Concentration (eU)
- Total Count – Equivalent Dose Rate (TCcor)
- Total Count – Exposure Rate (TCexp)
- Potassium over Thorium Ratio (%K/eTh)
- Potassium over Uranium Ratio (%K/eU)
- Uranium over Thorium Ratio (eU/eTh)
- Uranium over Potassium Ratio (eU/%K)
- Thorium over Potassium Ratio (eTh/%K)
- Ternary Map (TM)

7.1.1 Gridding

The digital data were gridded and displayed using the following Geosoft parameters:

- Grid cell size: 38 m
- Low-pass desampling factor: 3
- Tolerance: 0.001
- % pass tolerance: 99.99
- Maximum iterations: 100

All grids were drawn with a histogram-equalized color shade; sun angle inclination at 45° and declination at 045°.

7.2 KMZ Grids

The digital data represented into grids were exported into kmz files which can be displayed using Google Earth. The grids can be draped onto topography and rendered to give a 3D view.

7.3 Maps

Digital maps were created for the Seattle Creek survey block. The following map products were prepared:

Survey Overview Maps (colour images with elevation contour lines):

- Actual flight lines
- Digital terrain model

Magnetic Maps (colour images with elevation contour lines):

- Total magnetic intensity
- Total magnetic intensity with plotted flight lines
- Residual magnetic intensity
- Calculated vertical gradient of the residual magnetic intensity

Radiometric Maps (colour images with elevation contour lines):

- Potassium – Equivalent Concentration in Percentage
- Thorium – Equivalent Concentration
- Uranium – Equivalent Concentration
- Total Count – Equivalent Dose Rate
- Total Count – Exposure Rate
- Potassium over Thorium Ratio
- Potassium over Uranium Ratio

- Uranium over Thorium Ratio
- Uranium over Potassium Ratio
- Thorium over Potassium Ratio
- Ternary Map

All maps were prepared in WGS 84 and UTM zone 8N.

7.4 Report

The logistics report provides information on the acquisition procedures, magnetic and radiometric processing, and presentation of the Seattle Creek survey block data. A pdf copy of the report is included along with the digital data and maps that are provided on USB stick.

8.0 Conclusions and Recommendations

The airborne magnetic and radiometric data were acquired to help explore and possibly discover new mineral deposits. As geophysical data are not a direct indication of mineral deposits, geophysical interpretation and careful integration with existing and new geological, geochemical, and other geophysical data are recommended to maximize value from the survey investment.

Appendix A

Equipment Specifications

- GEM GSM-19T Proton Precession Magnetometer (Base Station)
- Hemisphere R120 GPS Receiver
- Opti-Logic RS800 Laser Altimeter
- HC-S3 Temperature and Relative Humidity Probe
- Barometric Pressure Setra Model 276
- Scintrex CS-3 Survey Magnetometer
- Bartington Mag-03 three-axis fluxgate magnetic field sensor
- Pico Envirotec GRS-10 Gamma Spectrometer
- Pico Envirotec AGIS data recorder system (for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

GEM GSM-19T Proton Precession Magnetometer (Base Station) Specifications

Configuration Options	15
Cycle Time	999 sec to 0.5 sec
Environmental	-40°C to +60°C
Gradient Tolerance	7,000 nT/m
Magnetic Readings	299, 593
Operating Range	10, 000 to 120,000 nT
Power	12 V @ 0.62 A
Sensitivity	0.1 nT @ 1 sec
Weight (Console/ Sensor)	3.2 Kg
Integrated GPS	Yes

Hemisphere R120 GPS Receiver Specifications

GPS Sensor	Receiver Type	L1, C/A code, with carrier phase smoothing (Patented COAST technology during differential signal outage
	Channels	12-channel, parallel tracking (10-channel when tracking SBAS)
	Update Rate	Up to 20 Hz position
	Cold Start Time	<60 s
	SBAS Tracking	2-channel, parallel tracking
	Horizontal Accuracy	<0.02 m 95% confidence (RTK 1, 2) <0.28 m 95% confidence (L-Dif 1, 2) <0.6 m 95% confidence (DGPS 1,3) <2.5 m 95% confidence (autonomous, no SA1)
	Differential Options	SBAS, Autonomous, External RTCM, RTK, OmniSTAR (HP/XP)
Beacon Sensor Specifications	Channels	2-channel, parallel tracking
	Frequency Range	283.5 to 325 kHz
	MSK Bit Rates	50, 100, and 200 bps
L-Band Sensor	Channels	Single channel
	Frequency Range	1530 MHz to 1560 MHz
	Satellite Selection	Manual or Automatic (based on location)
	Startup and Satellite Reacquisition Time	15 seconds typical
Communications	Serial Ports	2 full duplex RS232C
	Baud Rates	4800 – 115200
	USB Ports	1 Communications
	Correction I/O Protocol	RTCM SC-104
	Data I/O Protocol	NMEA 0183
	Timing Output	1 PPS (HCMOS, active high, rising edge sync, 10 kΩ, 10 pF load)
	Raw Data	Proprietary binary (RINEX utility available)
Environmental	Operating Temperature	-30°C to +70°C
	Storage Temperature	-40°C to +85°C
	Humidity	95% non-condensing
Power GPS Sensor	Input Voltage Range	8 to 36 VDC
	Power Consumption	3 Watts
	Current Consumption	< 250 mA @ 12 VDC
	Antenna Voltage Output	5.0 VDC

[1]Depends on multipath environment, number of satellites in view, satellite geometry and ionospheric activity.
[2] Up to 5 km baseline length.
[3] Depends also on baseline length.

Opti-Logic RS800 Laser Altimeter Specifications

Accuracy	+/- 1 m on 1x1 m^2 diffuse target with 50% reflectivity
Resolution	0.2 m
Communication Protocol	RS232-8,N,1
Baud Rate	19200
Data Raw Counts	~200 Hz
Data Calibrated Range	~10 Hz
Calibrated Range Units	Feet, Meters, Yards
Laser	Class I (eye-safe) 905 nm +/- 10 nm
Power	7-9VDC conditioned required, current draw at full power (~ 1.8 W)
Laser Wavelength	RS100 905 nm +/- 10 nm
Laser Divergence	Vertical axis – 3.5 mrad half- angle divergence; Horizontal axis – 1 mrad half- angle divergence; (Approximate beam footprint at 100 m is 35 cm x 5 cm)
Data Rate	~200 Hz raw counts for un-calibrated operation; ~10 Hz for calibrated operation (averaging algorithm seeks 8 good readings)
Dimensions	32 x 78 x 84 mm (lens face cross section is 32 x 78 mm)
Weight	< 227 g (8 oz)
Casing	RS100/RS400/RS800 units are supplied as OEM modules consisting of an open chassis containing optics and circuit boards. Custom housings can be designed and built on request.

HC-S3 Temperature and Relative Humidity Probe Specifications

Operating Temperature	-40°C to +60°C
Temperature Output Signal Range	0 to 1.0 VDC
Temperature Resolution	0.1°C or better
Relative Humidity(RH) Measurement Range	0 to 100 % non-condensing
RH Output Signal Range	0 to 1.0 VDC
RH Accuracy At 23°C	± 1.5 % RH
RH Response Time	12 to 15 secs
RH Typical Long Term Stability	Better than 1% RH per year
Probe Length	168 mm (6.6 in.)
Probe Body Diameter	15.25 mm (0.6 in.)
Housing Material	Polycarbonate
Power Consumption	< 4 mA
Supply Voltage	3.5 to 50 VDC (typically 5 VDC)
Settling Time after power is switched on	3 secs

Barometric Pressure Setra Model 276 Specifications

Pressure Ranges	600 to 1100 hPa/mb 800 to 1100 hPa/mb 0 to 20 psia
Accuracy	±0.25% FS
Output	0.1 to 5.1 VDC 0.5 to 4.5 VDC
Excitation	12 VDC (9.0 to 14.5) 24 VDC (21.6 to 26.0) 5 VDC (4.9 to 7.1)
Size	2” dia. x 1” (5 cm x 2.5 cm)

Scintrex CS-3 Magnetometer Specifications

Operating Principal	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
Operating Range	15,000 to 105,000 nT
Gradient Tolerance	40,000 nT/metre
Operating Zones	10° to 85° and 95° to 170°
Hemisphere Switching	a) Automatic b) Electronic control actuated by the control voltage levels (TTL/CMOS) c) Manual
Sensitivity	0.0006 nT √Hz rms
Noise Envelope	Typically 0.002 nT P-P, 0.1 to 1 Hz bandwidth
Heading Error	+/- 0.25 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
Absolute Accuracy	<2.5 nT throughout range
Output	a) Continuous signal at the Larmor frequency which is proportional to the magnetic field (proportionality constant 3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) Square wave signal at the I/O connector, TTL/CMOS compatible
Information Bandwidth	Only limited by the magnetometer processor used
Sensor Head	Diameter: 63 mm (2.5”) Length: 160 mm (6.3”) Weight: 1.15 kg (2.6 lb)
Sensor Electronics	Diameter: 63 mm (2.5”) Length: 350 mm (13.8”) Weight: 1.5 kg (3.3 lb)
Cable, Sensor to Sensor Electronics	3 m (9’ 8”), lengths up to 5 m (16’ 4”) available
Operating Temperature	-40°C to +50°C
Humidity	Up to 100%, splash proof
Supply Power	24 to 35 Volts DC
Supply Current	Approx. 1.5 A at start up, decreasing to 0.5 A at 20°C
Power Up Time	Less than 15 minutes at -30°C

Bartington Mag-03 three-axis fluxgate magnetic field sensor Specifications

Number of Axes	3
Bandwidth	0 to 3 kHz at 50 µT peak
Internal Noise	Basic version: >10 to 20 pTrms/√Hz at 1 Hz Standard version: 6 to ≤10 pTrms/√Hz at 1 Hz Low Noise version: <6 pTrms/√Hz at 1 Hz
Scaling error (DC)	<±0.5%
Orthogonality error	<0.1°
Alignment error (Z axis to reference face)	<0.1°
Linearity error	<0.0015%
Frequency response	0 to 1 kHz maximally flat, ±5% maximum at 1 kHz
Input voltage	±12 V to ±17 V
Supply current	+30 mA, -10 mA (+1.4 mA per 100 µT for each axis)
Power supply rejection ratio	5 µV/V (-106 dB)
Analog output	±10 V (±12 V supply) swings to within 0.5 V of supply voltage
Output impedance	10 Ω
Operating temperature range	-40°C to +70°C
Environmental protection	IP51
Dimensions (W x H x L)	32 x 32 x 152mm
Weight	160 g
Enclosure material	Reinforced epoxy
Connector	ITT Cannon DEM-9P-NMB
Mating connector	ITT Cannon DEM-9S-NMB
Mounting	2 x M5 fixing holes

Pico Envirotec GRS-10 Gamma Spectrometer Specifications

Crystal volume	16.8 litres of NaI (TI) synthetic downward looking crystals and 4.2 litres of NaI (TI) synthetic upward looking crystals
Resolution	256/512 channels
Tuning	Automatic using peak determination algorithm
Detector	Digital Peak
Calibration	Fully automated detector
Real Time	Linearization and gain stabilization
Communication	RS232
Detectors	Expandable to 10 detectors and digital peak
Count Rate	Up to 60,000 cps per detector
Count Capacity per channel	65545
Energy detection range:	36 KeV to 3 MeV
Cosmic channel	Above 3 MeV
Upward Shielding	RayShield® non-radioactive shielding on downward looking crystals
Downward Shielding	6 mm thick lead plate is used for downward-shielding
Spectra	Collected spectra of 256/512 channels, internal spectrum resolution 1024
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes, and PC based test and calibration software suite
Sensor	Each box containing two (2) gamma detection NaI(TI) crystals – each 4.2 liters. (256 cu in.) (approx. 100 x 100 x 650 mm) Total volume of approx 8.4 litres or 512 cu in with detector electronics
Spectra Stabilization	Real time automatic corrections on radio nuclei: Th, Ur, K. No implanted sources

Pico Envirotec AGIS data recorder system Specifications

(for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

Functions	Airborne Geophysical Information System (AGIS) with integrated Global Positioning System Receiver (GPS) and all necessary navigation guidance software. Inputs for geophysical sensors - portable gamma ray spectrometer GRS-10, MMS4 Magnetometer, Totem 2A EM, A/D converter, temperature probe, humidity probe, barometric pressure probe, and laser altimeter. Output for the multi-parameter PGU (Pilot Guidance Unit)
Display	Touch screen with display of 800 x 600 pixels; customized keypad and operator keyboard. Multi-screen options for real-time viewing of all data inputs, fiducial points, flight line tracking, and GPS channels by operator.
GPS Navigation	Garmin 12-channel, WAAS-enabled
Data Sampling	Sensor dependent
Data Synchronization	Synchronized to GPS position
Data File	PEI Binary data format
Storage	80 GB
Supplied Software	PEIView: Allows fast data Quality Control (QC) Data Format: Geosoft GBN and ASCII output PEIConv: For survey preparation and survey plot after data acquisition
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes and PC based test and calibration software suite
Power Requirements	24 to 32 VDC
Temperature	Operating: -10°C to +55°C; storage: -20°C to +70°C

Appendix B

Digital File Descriptions

- Magnetic database description
- Radiometric database description
- Grids
- Maps

Magnetic Database:

Abbreviations used in the GDB files listed below:

CHANNEL	UNITS	DESCRIPTION
X_WGS84	m	UTM Easting – WGS 84 Zone 8 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 8 North
Lon_deg	degree	Longitude
Lat_deg	degree	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight Line numbers
LineNo		Line numbers
STL		Number of satellite(s)
GPSfix		GPS fix
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GHead_deg	degree	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 8 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
basemag	nT	Base station diurnal data
IGRF		International Geomagnetic Reference Field 2015
Declin	Decimal degree	Calculated declination of magnetic field
Inclin	Decimal degree	Calculated inclination of magnetic field
TMI	nT	Total Magnetic Intensity
RMI	nT	Residual Magnetic Intensity

Precision GeoSurveys

Radiometric Database:

Abbreviations used in the GDB files listed below:

CHANNEL	UNITS	DESCRIPTION
X_WGS84	m	UTM Easting – WGS 84 Zone 8 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 8 North
Lon_deg	degree	Longitude
Lat_deg	degree	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight numbers
LineNo		Line numbers
STL		Number of satellite(s)
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GPSFix		GPS fix
GHead_deg	degree	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 8 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
BaroSTP_kP	KiloPascal	Barometric Altitude (Press and Temp Corrected)
Temp_degC	Degrees C	Air Temperature
Press_kP	KiloPascal	Atmospheric Pressure
COSFILT	counts/sec	Spectrometer - Filtered Cosmic
UPUFILT	counts /sec	Spectrometer - Filtered Upward Uranium
Kcor	%	Equivalent Concentration - Potassium
Thcor	ppm	Equivalent Concentration - Thorium
Ucor	ppm	Equivalent Concentration - Uranium
TCcor	μR	Equivalent Dose Rate
TCexp	μR/hour	Exposure Rate - SUM(%k, eU, eTh) * determined factors
KThratio		Spectrometer –%K/eTh ratio
KUratio		Spectrometer –%K/eU ratio
ThKratio		Spectrometer – eTh/%K ratio
UKratio		Spectrometer – eU/%K ratio
UThratio		Spectrometer – eU/eTh ratio

Grids: Seattle Creek Survey Block, WGS 84 Datum, Zone 8N

FILE NAME	DESCRIPTION
SeattleCreek_Block_DTM_38m.grd	Seattle Creek survey block digital terrain model gridded at 38 m cell size
SeattleCreek_Block_RMI_38m.grd	Seattle Creek survey block residual magnetic intensity gridded at 38 m cell size
SeattleCreek_Block_CVG_38m.grd	Seattle Creek survey block calculated vertical gradient of RMI gridded at 38 m cell size
SeattleCreek_Block_Kcor_38m.grd	Seattle Creek survey block potassium (%K) - equivalent concentration in percentage gridded at 38 m cell size
SeattleCreek_Block_Thcor_38m.grd	Seattle Creek survey block Thorium (eTh) – equivalent concentration gridded at 38 m cell size
SeattleCreek_Block_Ucor_38m.grd	Seattle Creek survey block Uranium (eU) – equivalent concentration gridded at 38 m cell size
SeattleCreek_Block_TCcor_38m.grd	Seattle Creek survey block Total Count (TCcor) – equivalent dose rate gridded at 38 m cell size
SeattleCreek_Block_TCexp_38m.grd	Seattle Creek survey block Total Count (TCexp) – exposure rate gridded at 38 m cell size
SeattleCreek_Block_KThratio_38m.grd	Seattle Creek survey block potassium over thorium ratio (%K/eTh) gridded at 38 m cell size
SeattleCreek_Block_KUratio_38m.grd	Seattle Creek survey block potassium over uranium ratio (%K/eU) gridded at 38 m cell size
SeattleCreek_Block_UThratio_38m.grd	Seattle Creek survey block uranium over thorium ratio (eU/eTh) gridded at 38 m cell size
SeattleCreek_Block_UKratio_38m.grd	Seattle Creek survey block uranium over potassium ratio (eU/%K) gridded at 38 m cell size
SeattleCreek_Block_ThKratio_38m.grd	Seattle Creek survey block thorium over potassium ratio (eTh/%K) gridded at 38 m cell size

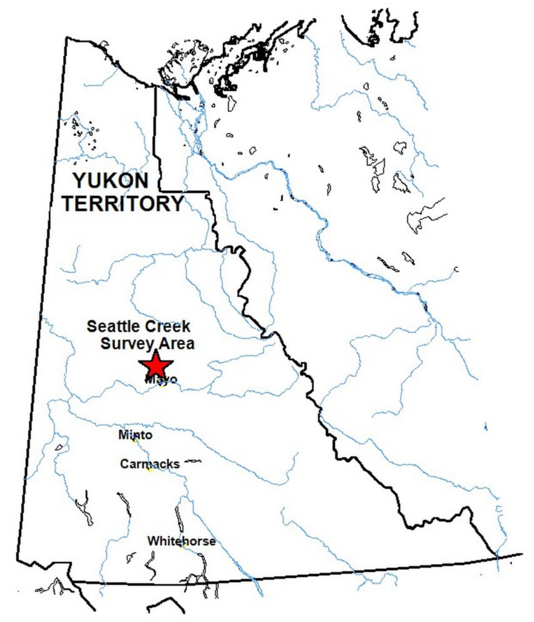
Maps: Seattle Creek Survey Block, WGS 84 Datum, Zone 8N (jpegs and pdfs)

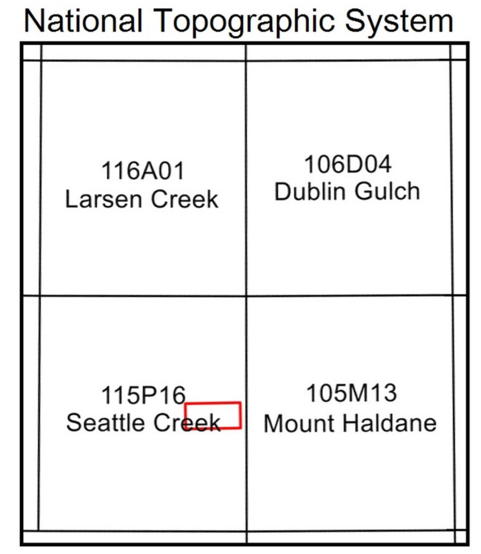
FILE NAME	DESCRIPTION
SeattleCreek_Block_ActualFlightLines	Seattle Creek survey block plotted actual flown flight lines
SeattleCreek_Block _DTM_38m	Seattle Creek survey block digital terrain model gridded at 38 m cell size
SeattleCreek_Block _TMI_38m	Seattle Creek survey block total magnetic intensity gridded at 38 m cell size
SeattleCreek_Block _TMI_with_FlightLines_38m	Seattle Creek survey block total magnetic intensity with plotted actual flight lines gridded at 38 m cell size
SeattleCreek_Block _RMI_38m	Seattle Creek survey block residual magnetic intensity gridded at 38 m cell size
SeattleCreek_Block _CVG_38m	Seattle Creek survey block calculated vertical gradient of RMI gridded at 38 m cell size
SeattleCreek_Block _Kcor_38m	Seattle Creek survey block potassium (%K) - equivalent concentration in percentage gridded at 38 m cell size
SeattleCreek_Block _Thcor_38m	Seattle Creek survey block Thorium (eTh) – equivalent concentration gridded at 38 m cell size
SeattleCreek_Block _Ucor_38m	Seattle Creek survey block Uranium (eU) – equivalent concentration gridded at 38 m cell size
SeattleCreek_Block _TCcor_38m	Seattle Creek survey block Total Count (TCcor) – equivalent dose rate gridded at 38 m cell size
SeattleCreek_Block _TCexp_38m	Seattle Creek survey block Total Count (TCexp) – exposure rate gridded at 38 m cell size
SeattleCreek_Block _KThratio_38m	Seattle Creek survey block potassium over thorium ratio (%K/eTh) gridded at 38 m cell size
SeattleCreek_Block _KUratio_38m	Seattle Creek survey block potassium over uranium ratio (%K/eU) gridded at 38 m cell size
SeattleCreek_UThratio_38m	Seattle Creek survey block uranium over thorium ratio (eU/eTh) gridded at 38 m cell size
SeattleCreek_Block _UKratio_38m	Seattle Creek survey block uranium over potassium ratio (%K/eU) gridded at 38 m cell size
SeattleCreek_Block _ThKratio_38m	Seattle Creek survey block thorium over potassium ratio (eTh/%K) gridded at 38 m cell size
SeattleCreek_Block _TernaryMap_38m	Seattle Creek survey block displaying ratios of all three elements (%K, eTh, eU)

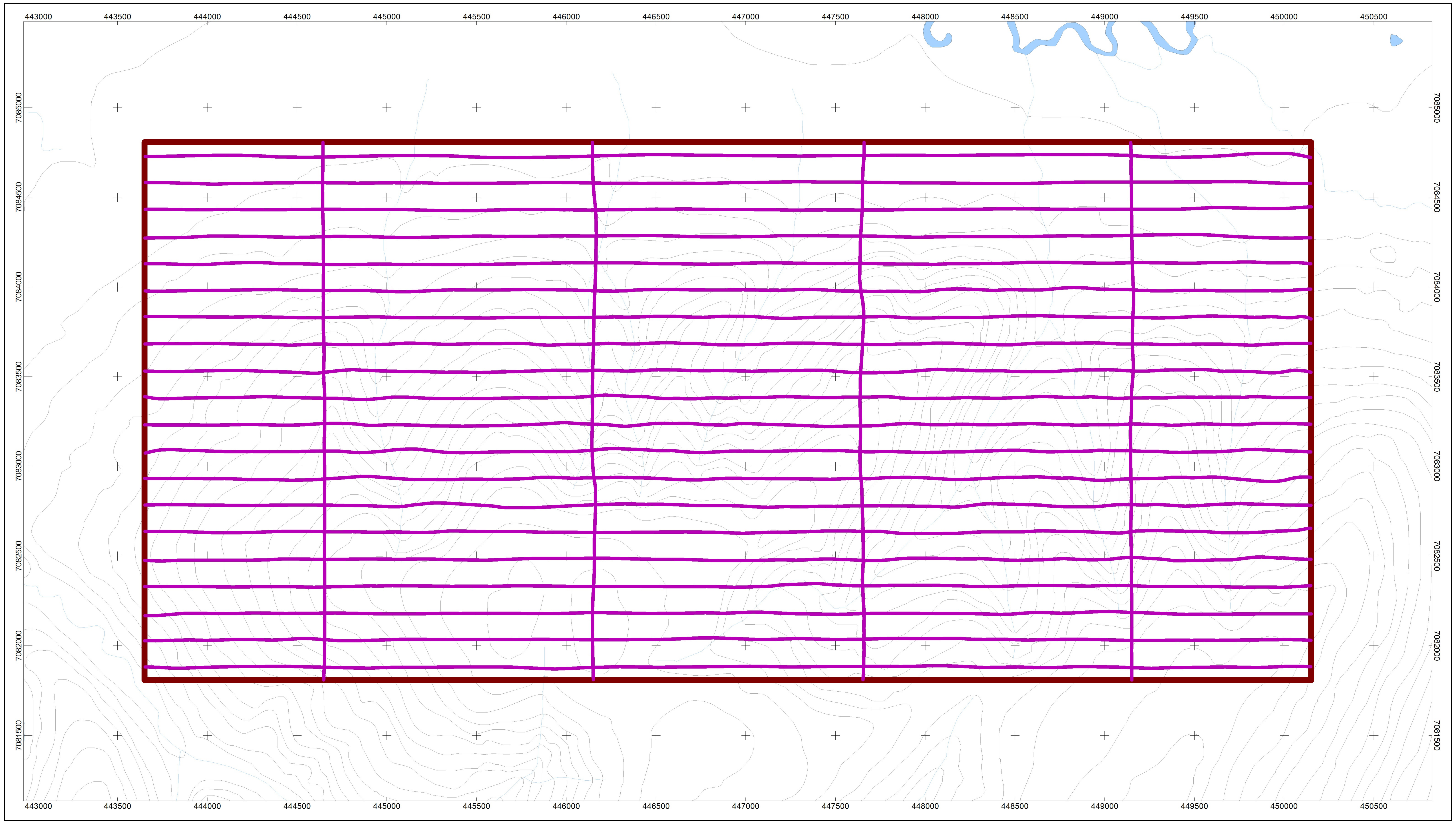
Plates

Seattle Creek Survey Block Maps

- Plate 1: Seattle Creek - Actual Flight Lines (FL)
- Plate 2: Seattle Creek - Digital Elevation Model (DTM)
- Plate 3: Seattle Creek - Total Magnetic Intensity (TMI)
- Plate 4: Seattle Creek - Total Magnetic Intensity with Flight Lines (TMI_wFL)
- Plate 5: Seattle Creek - Residual Magnetic Intensity (RMI)
- Plate 6: Seattle Creek - Calculated Vertical Gradient (CVG)
- Plate 7: Seattle Creek - Potassium – Equivalent Concentration (%K)
- Plate 8: Seattle Creek - Thorium – Equivalent Concentration (eTh)
- Plate 9: Seattle Creek - Uranium – Equivalent Concentration (eU)
- Plate 10: Seattle Creek - Total Count – Equivalent Dose Rate (TCcor)
- Plate 11: Seattle Creek - Total Count – Exposure Rate (TCexp)
- Plate 12: Seattle Creek - Potassium over Thorium Ratio (%K/eTh)
- Plate 13: Seattle Creek - Potassium over Uranium Ratio (%K/eU)
- Plate 14: Seattle Creek - Uranium over Thorium Ratio (eU/eTh)
- Plate 15: Seattle Creek - Uranium over Potassium Ratio (eU/%K)
- Plate 16: Seattle Creek - Thorium over Potassium Ratio (eTh/%K)
- Plate 17: Seattle Creek - Ternary Map (TM)







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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline.....................

Seattle Creek Survey Block Actual Flight Lines.....

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500
250 0 250 500 750
(meters)
WGS 84 / UTM zone 8N
NTS SHEET 115P16

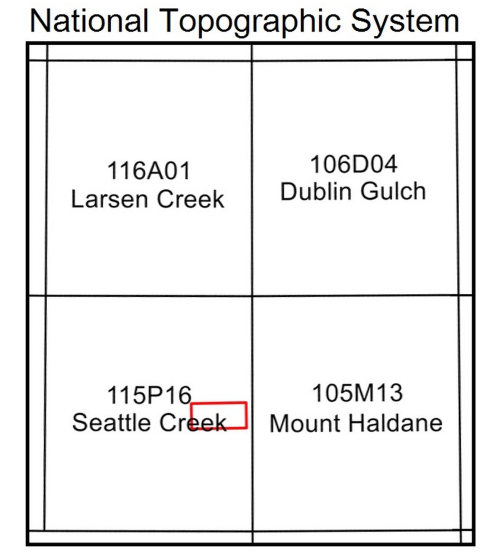
Nevada Zinc Corporation

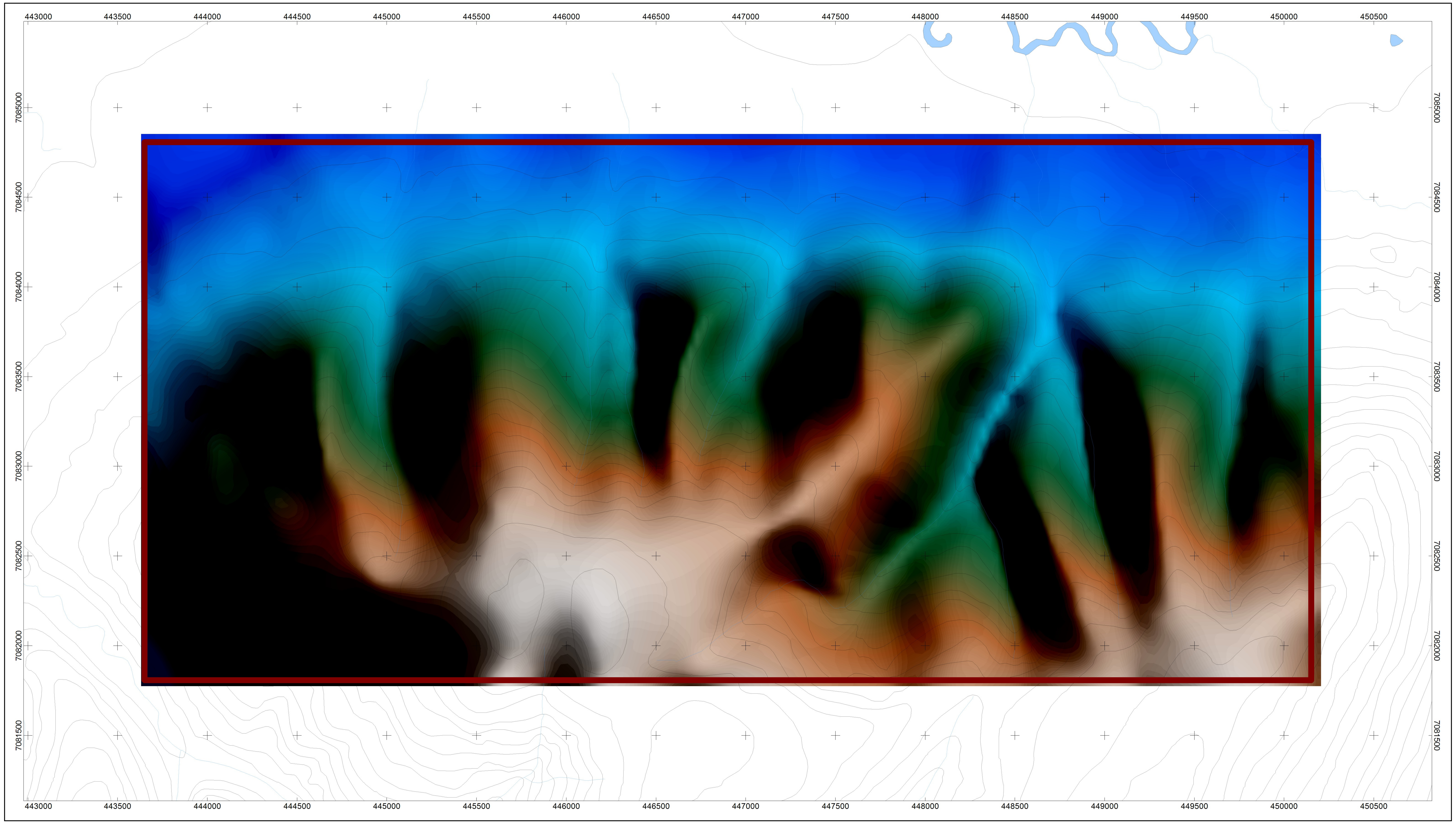
Overview Map

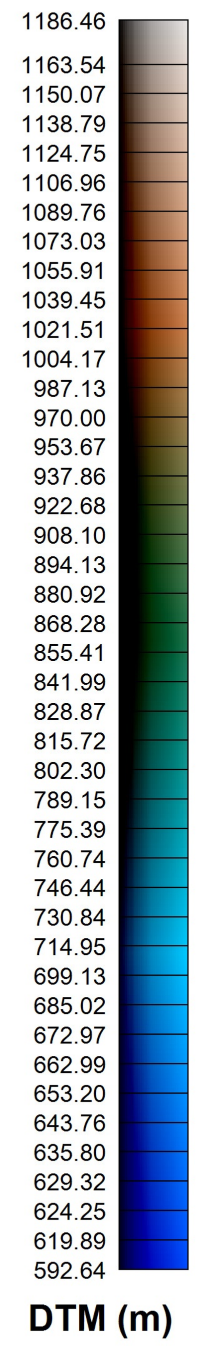
Seattle Creek Survey Block
Actual Flight Lines
October 25, 2016

Precision GeoSurveys

Plate1
SC_FL



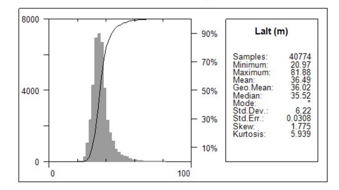




MAP PROJECTION:
Projection: Universal Transverse Mercator Zone 8N
Datum: WGS 84
Local Datum Transform: World

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°



AIRBORNE SURVEY SYSTEM:

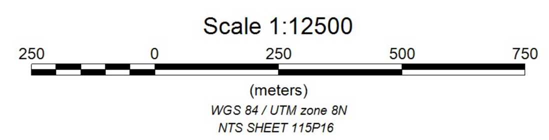
Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)...............................

Seattle Creek Survey Block Outline....................

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



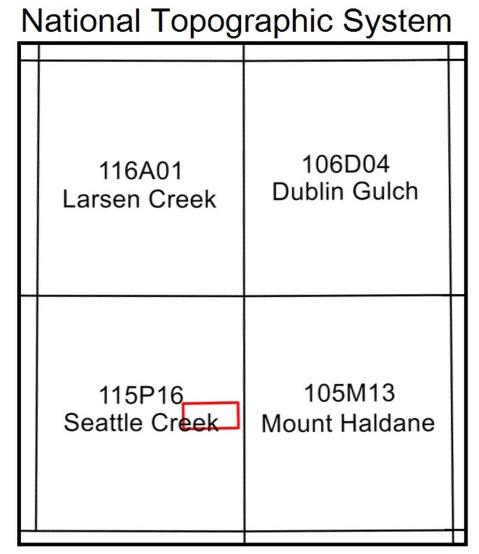
Nevada Zinc Corporation

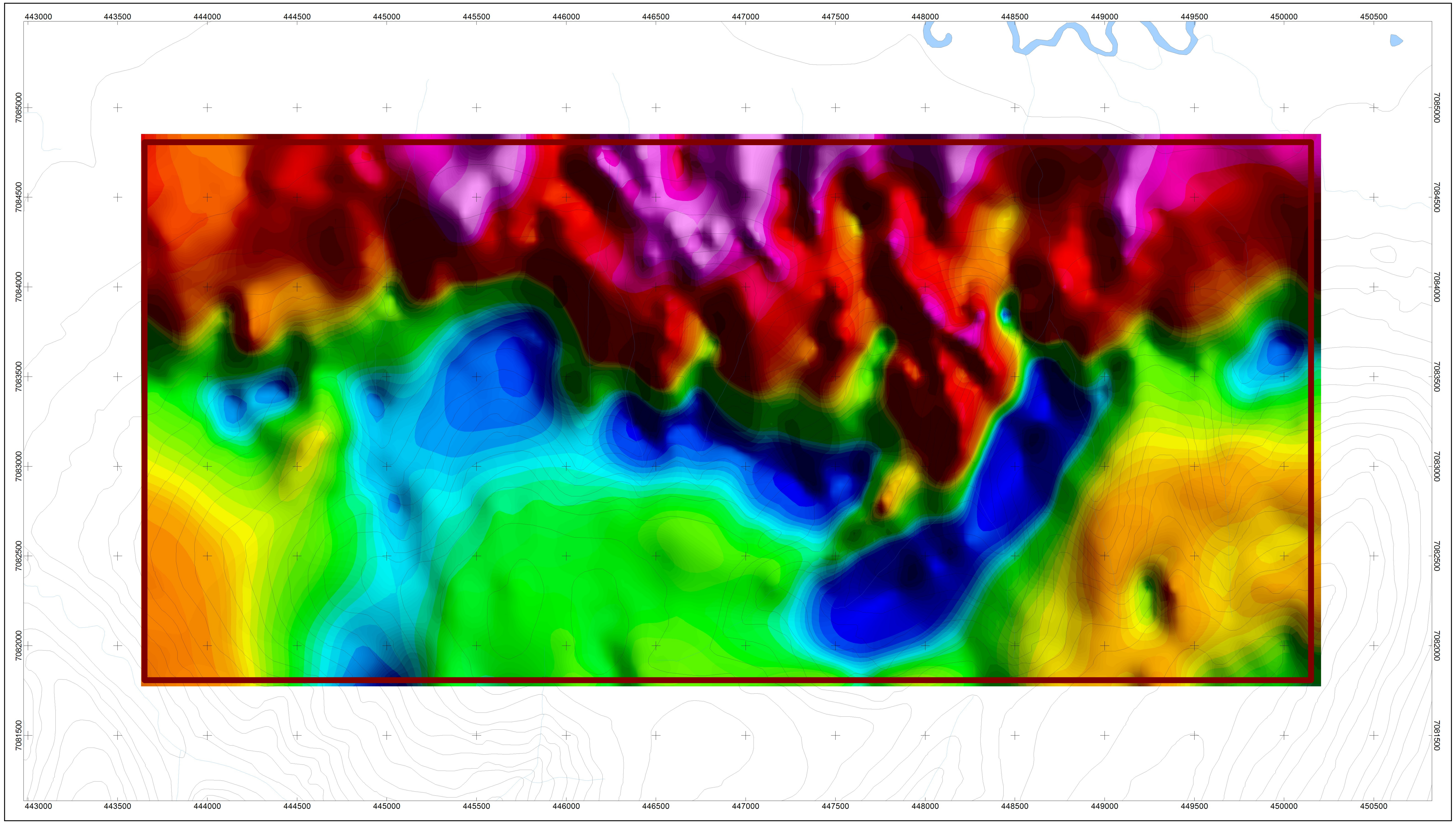
Overview Map

Seattle Creek Survey Block
Digital Terrain Model
October 25, 2016

Precision GeoSurveys

Plate2
SC_DTM



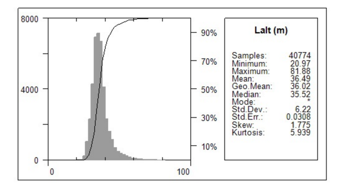


TMI (nT)
57245.91
57201.98
57190.17
57180.10
57172.77
57165.10
57156.15
57147.45
57139.25
57129.44
57120.09
57111.09
57100.17
57090.59
57082.10
57076.04
57072.98
57070.58
57067.39
57063.36
57058.22
57053.14
57048.15
57042.83
57038.37
57034.55
57031.72
57029.61
57027.60
57025.22
57022.18
57017.70
57013.11
57008.46
57004.06
56999.58
56992.47
56983.51
56965.06
56908.79

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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................
Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Magnetic data have been compensated and corrected for diurnal, lag, and heading, and then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. The TMI data range from 56896.4 nT to 57286.3 nT and have been drawn with a colour ramp of 56908.8 nT to 57245.9 nT.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500
250 0 250 500 750
(meters)
WGS 84 / UTM zone 8N
NTS SHEET 115P16

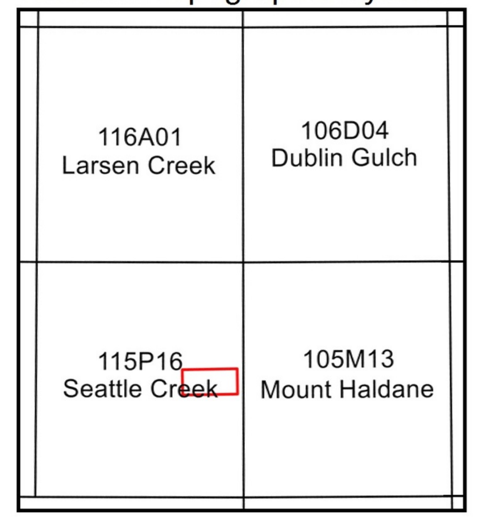
Nevada Zinc Corporation

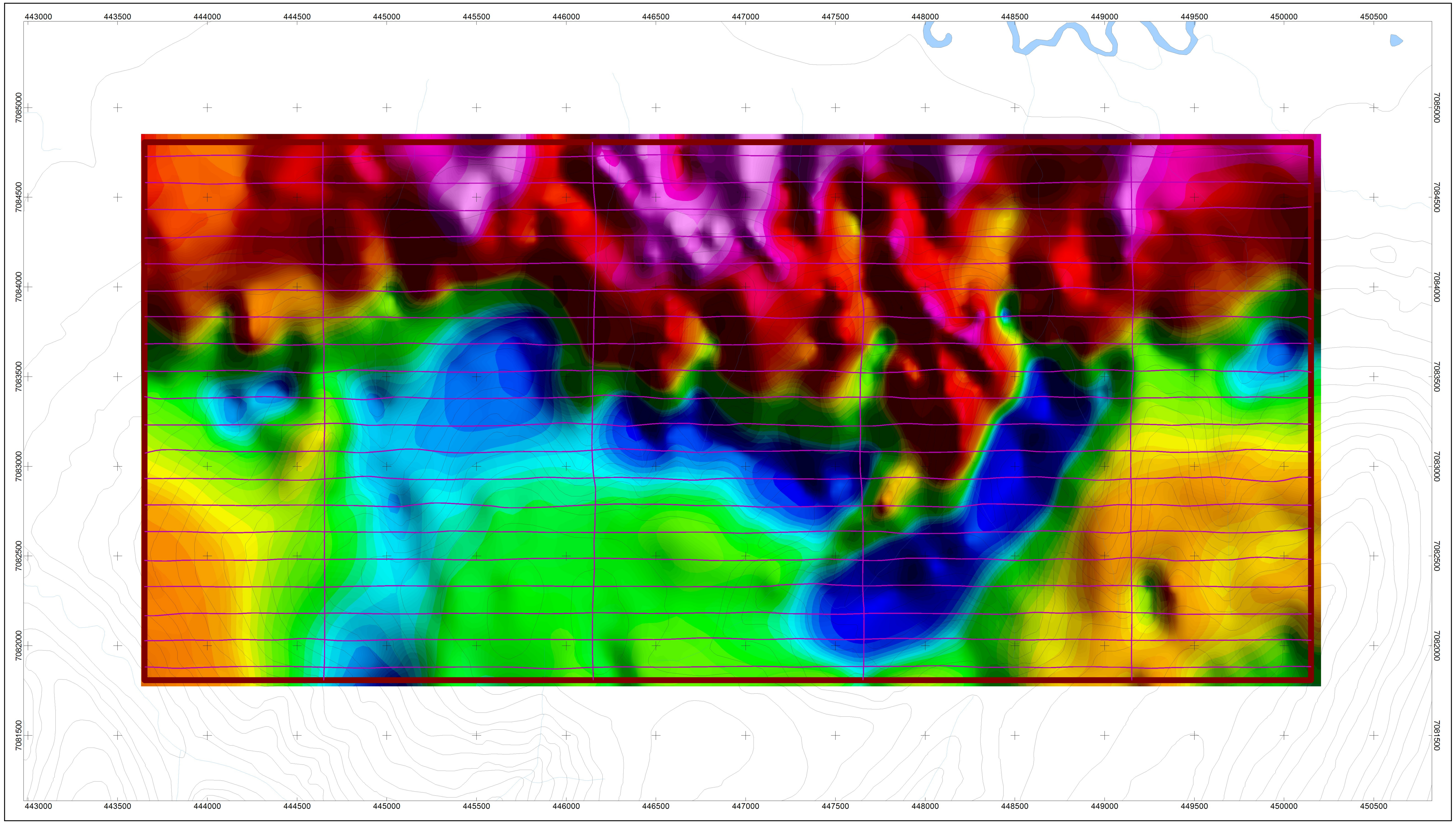
Magnetic Map

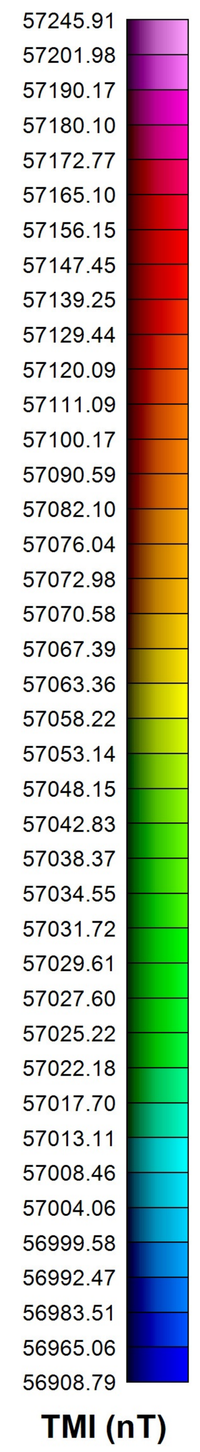
Seattle Creek Survey Block
Total Magnetic Intensity
October 25, 2016

Precision GeoSurveys

Plate3
SC_TMI







MAP PROJECTION:

Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)..............................

Seattle Creek Survey Block Outline....................

Seattle Creek Survey Block Actual Flight Lines.....

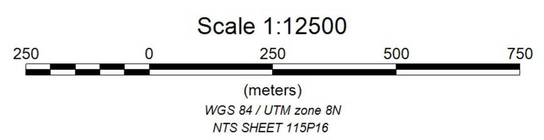
DATA REFERENCE:

Magnetic data have been compensated and corrected for diurnal, lag, and heading, and then leveled to generate the Total Magnetic Intensity (TMI) grid. Refer to report for details. The TMI data range from 56896.4 nT to 57286.3 nT and have been drawn with a colour ramp of 56908.8 nT to 57245.9 nT.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.

URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Magnetic Map

Seattle Creek Survey Block

Total Magnetic Intensity with Flight Lines

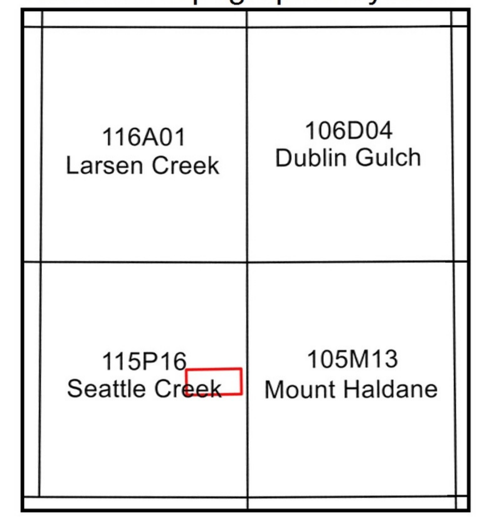
October 25, 2016

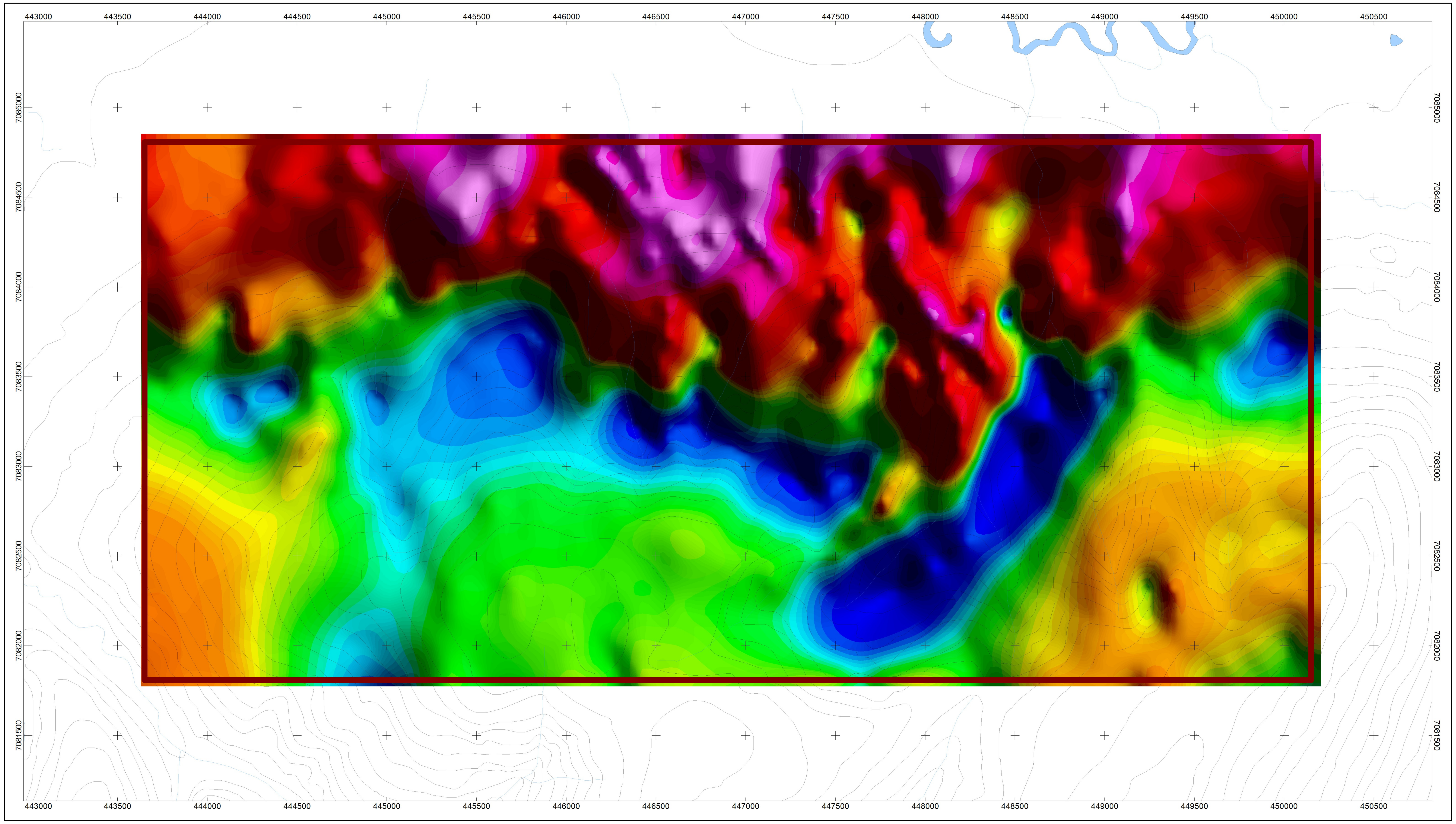
Precision GeoSurveys

Plate4

SC_TMI_wFL

National Topographic System





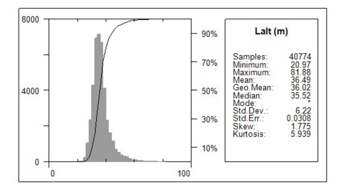
RMI (nT)
-91.48
-132.99
-145.61
-155.67
-163.05
-169.59
-178.14
-186.64
-194.23
-203.02
-211.88
-220.77
-229.78
-238.21
-246.24
-250.13
-252.82
-255.87
-258.92
-263.32
-268.00
-272.92
-277.86
-282.20
-285.04
-287.27
-288.93
-290.87
-293.36
-296.48
-300.62
-305.24
-309.77
-315.06
-320.24
-325.27
-333.17
-342.47
-361.10
-421.45

MAP PROJECTION:

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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)...............................
Seattle Creek Survey Block Outline....................

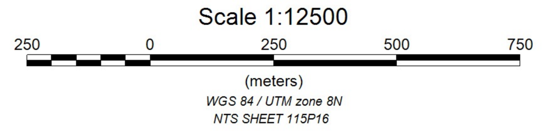
DATA REFERENCE:

The RMI data range from -435.4 nT to -46.5 nT and have been drawn with a colour ramp of -421.5 nT to -91.5 nT. To calculate the RMI a computed value of the IGRF was subtracted from the corrected total magnetic intensity data (TMI). Refer to report for details.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500



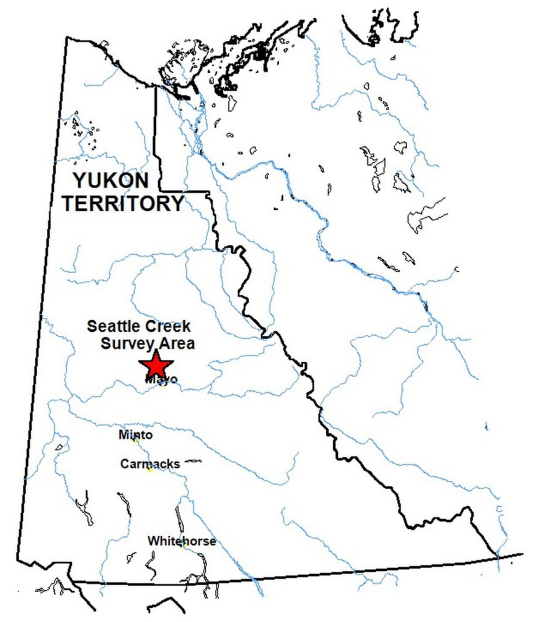
Nevada Zinc Corporation

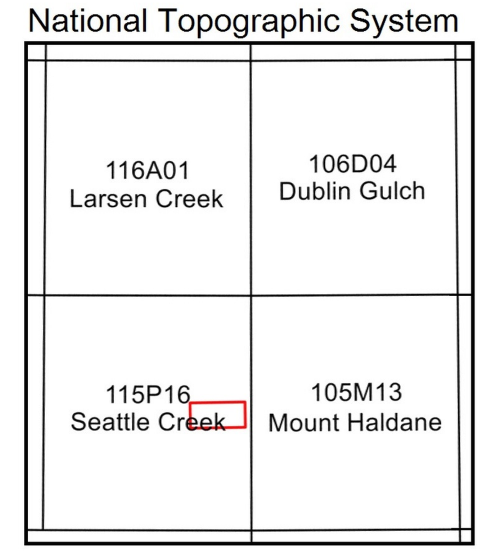
Magnetic Map

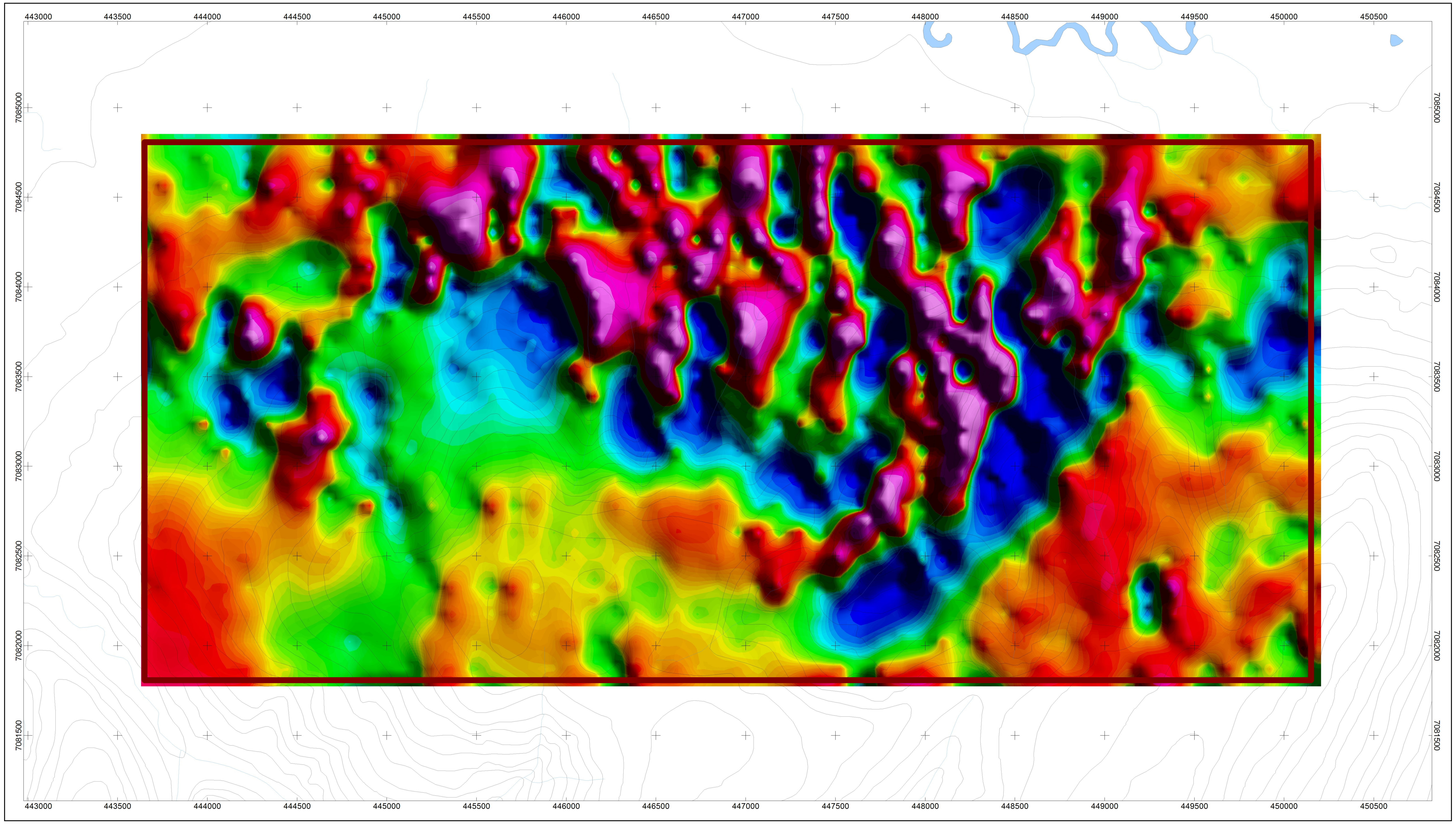
Seattle Creek Survey Block
Residual Magnetic Intensity
October 25, 2016

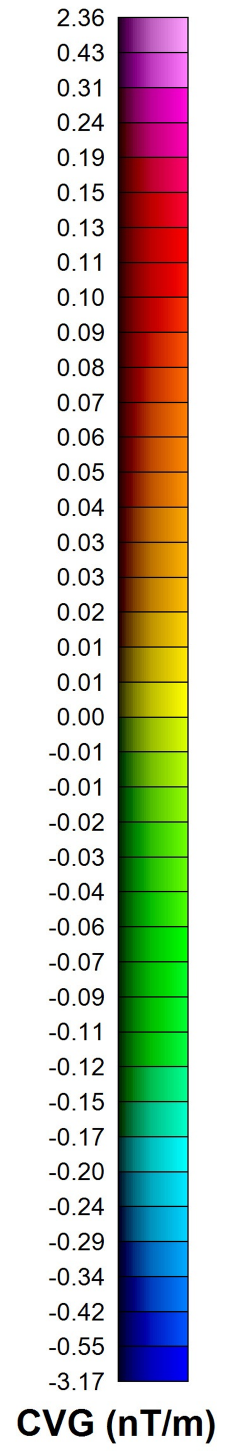
Precision GeoSurveys

Plate5
SC_RMI









MAP PROJECTION:

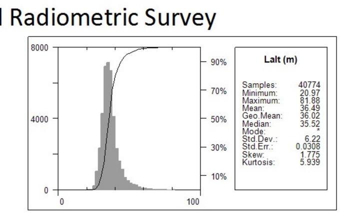
Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°



AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

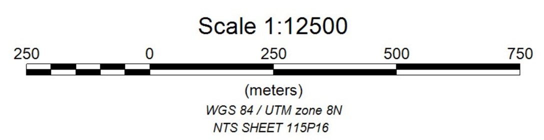
Seattle Creek Survey Block Outline.....................

DATA REFERENCE:

The Calculated Vertical Gradient (CVG) is the first vertical derivative of RMI. The CVG is represented as a grid and its image color ramp has been histogram equalized.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Magnetic Map

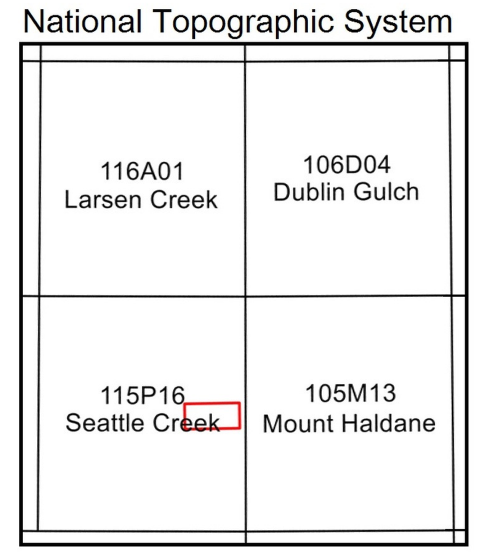
Seattle Creek Survey Block

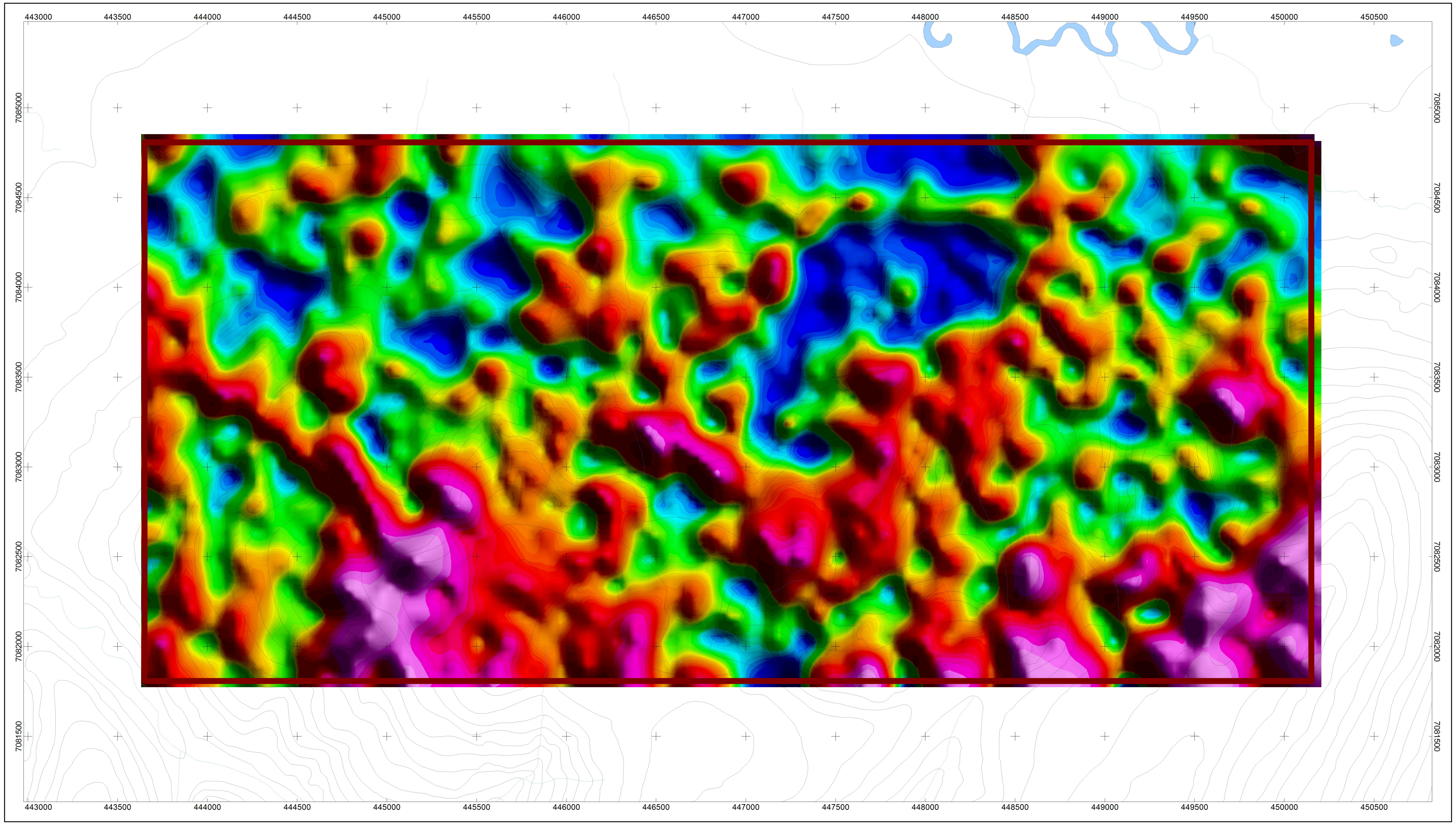
Calculated Vertical Gradient

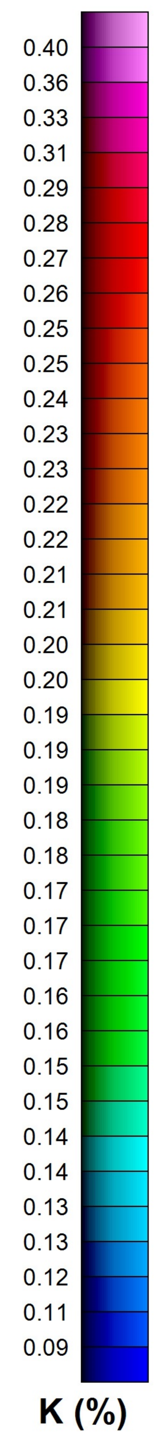
October 25, 2016

Precision GeoSurveys

Plate6
SC_CVG







MAP PROJECTION:

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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT vHz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................
Seattle Creek Survey Block Outline....................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500

250 0 250 500 750
(meters)
WGS 84 / UTM zone 8N
NTS SHEET 115P16

Nevada Zinc Corporation

Radiometric Map

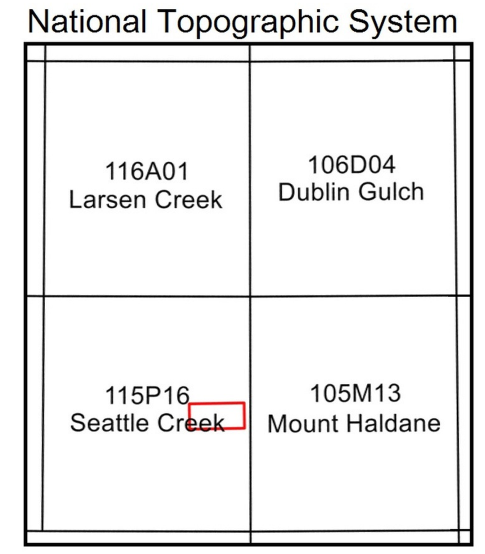
Seattle Creek Survey Block

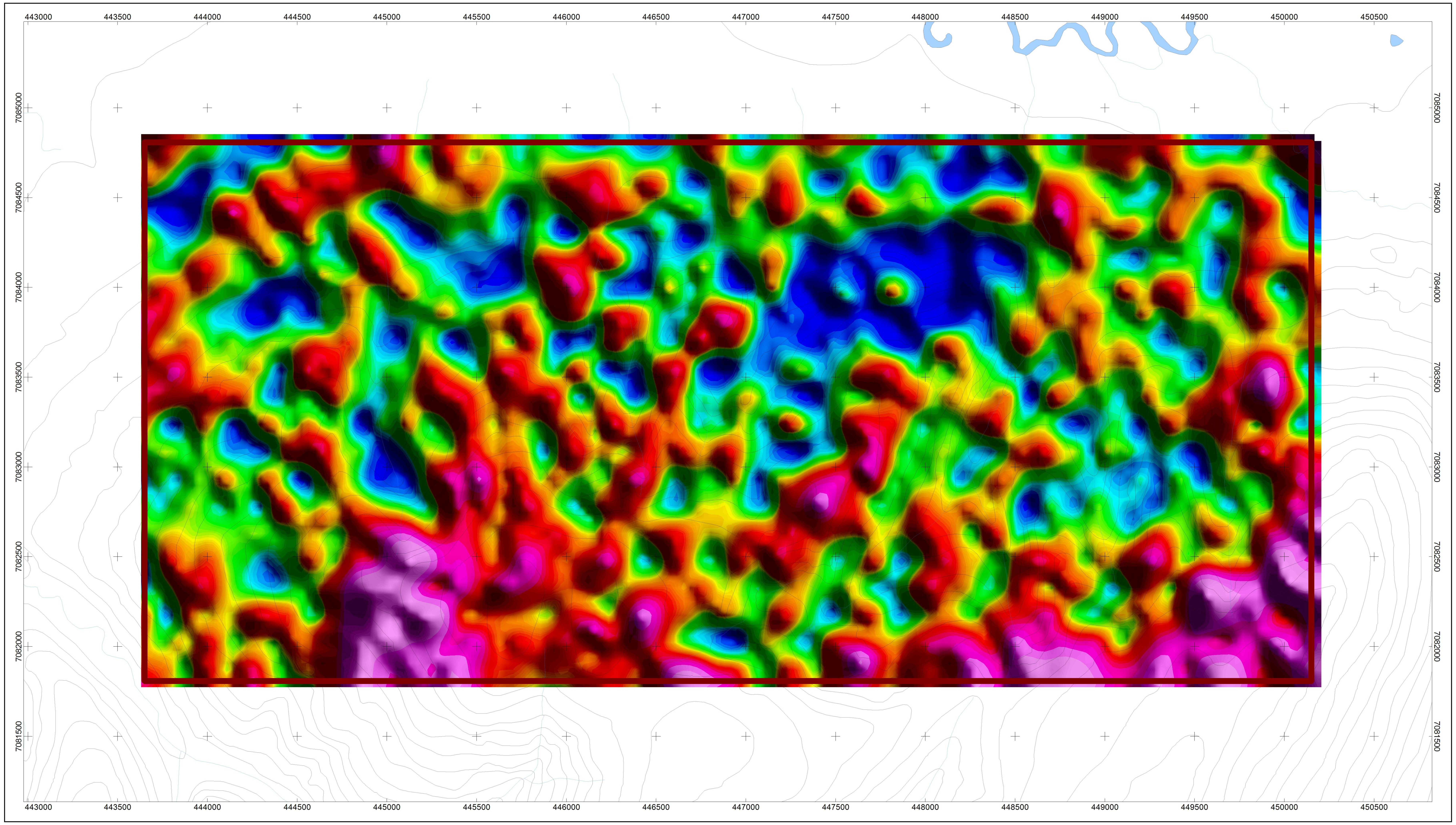
Potassium - Equivalent Concentration in Percentage

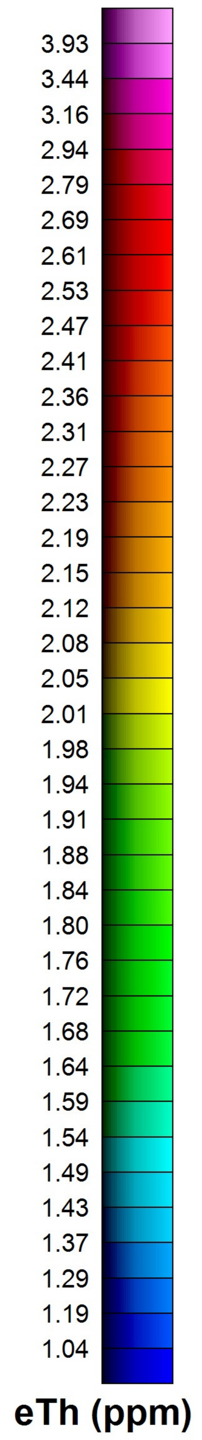
October 14, 2016

Precision GeoSurveys

Plate7
SC_K%







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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

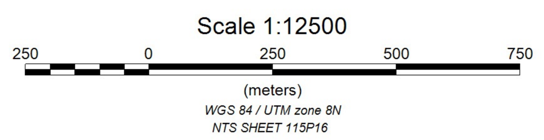
Legend

Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



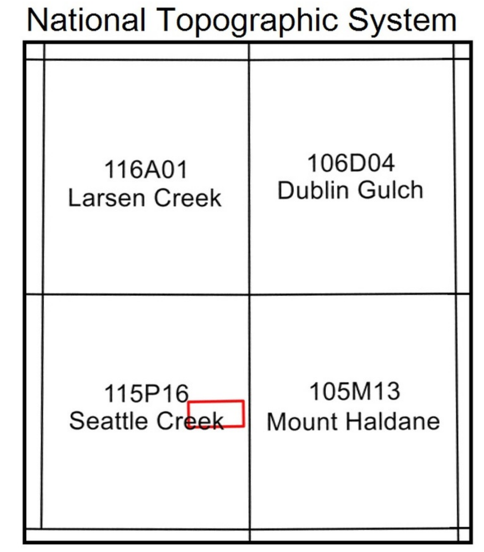
Nevada Zinc Corporation

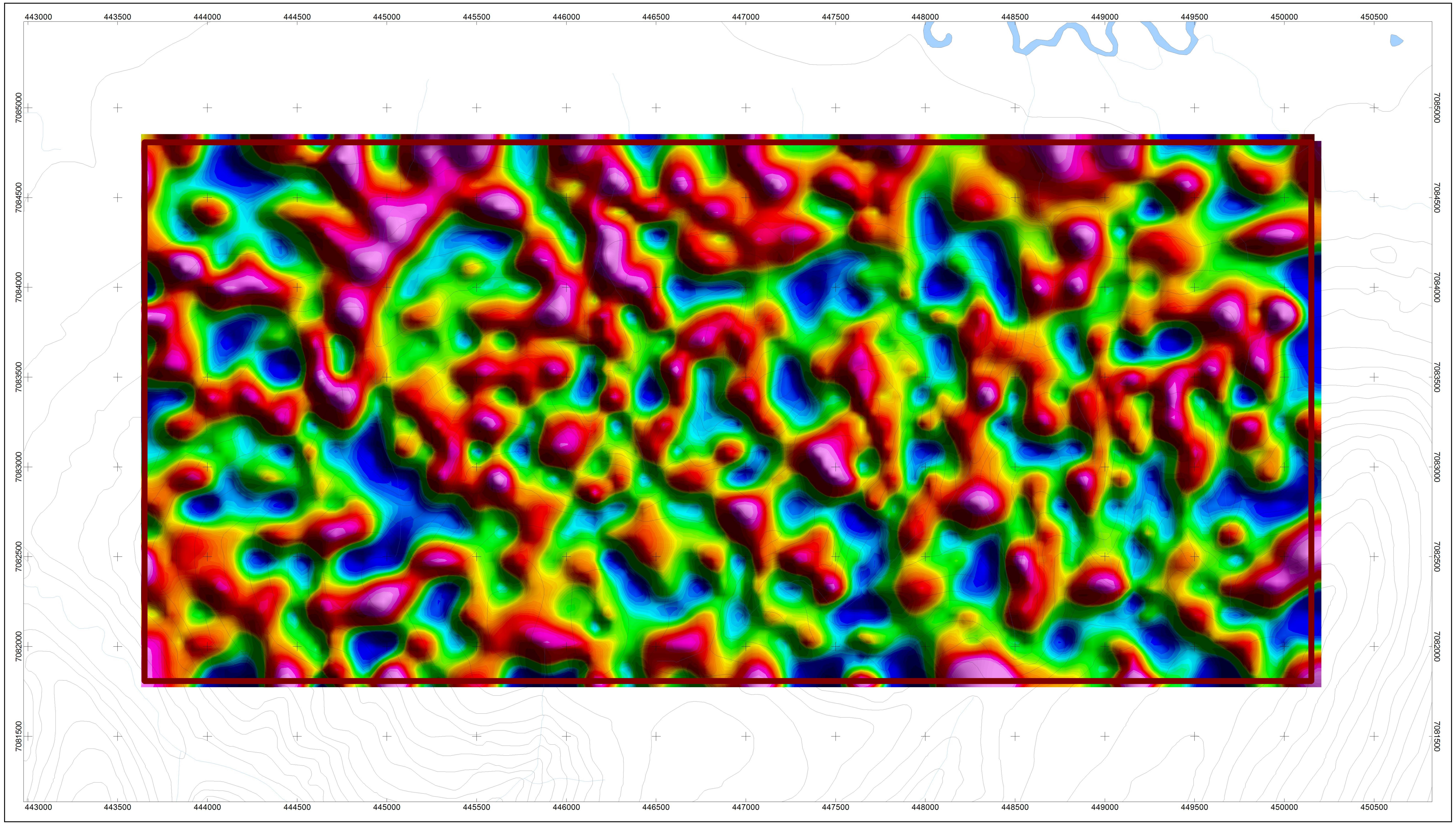
Radiometric Map

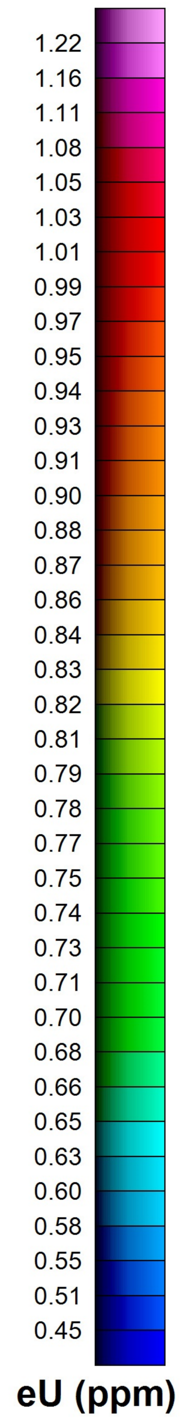
Seattle Creek Survey Block
Thorium - Equivalent Concentration
October 14, 2016

Precision GeoSurveys

Plate8
SC_eTh







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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................
Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500
250 0 250 500 750
(meters)
WGS 84 / UTM zone 8N
NTS SHEET 115P16

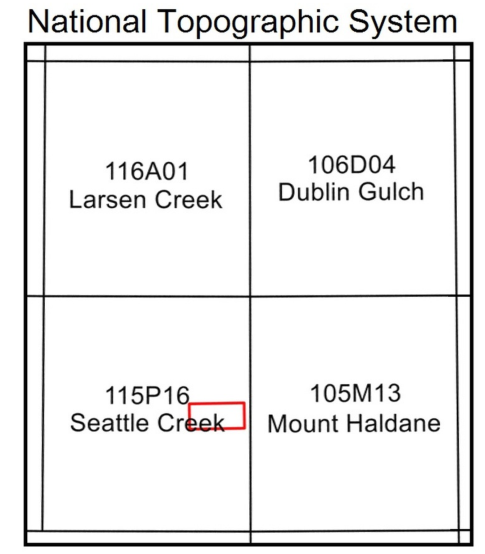
Nevada Zinc Corporation

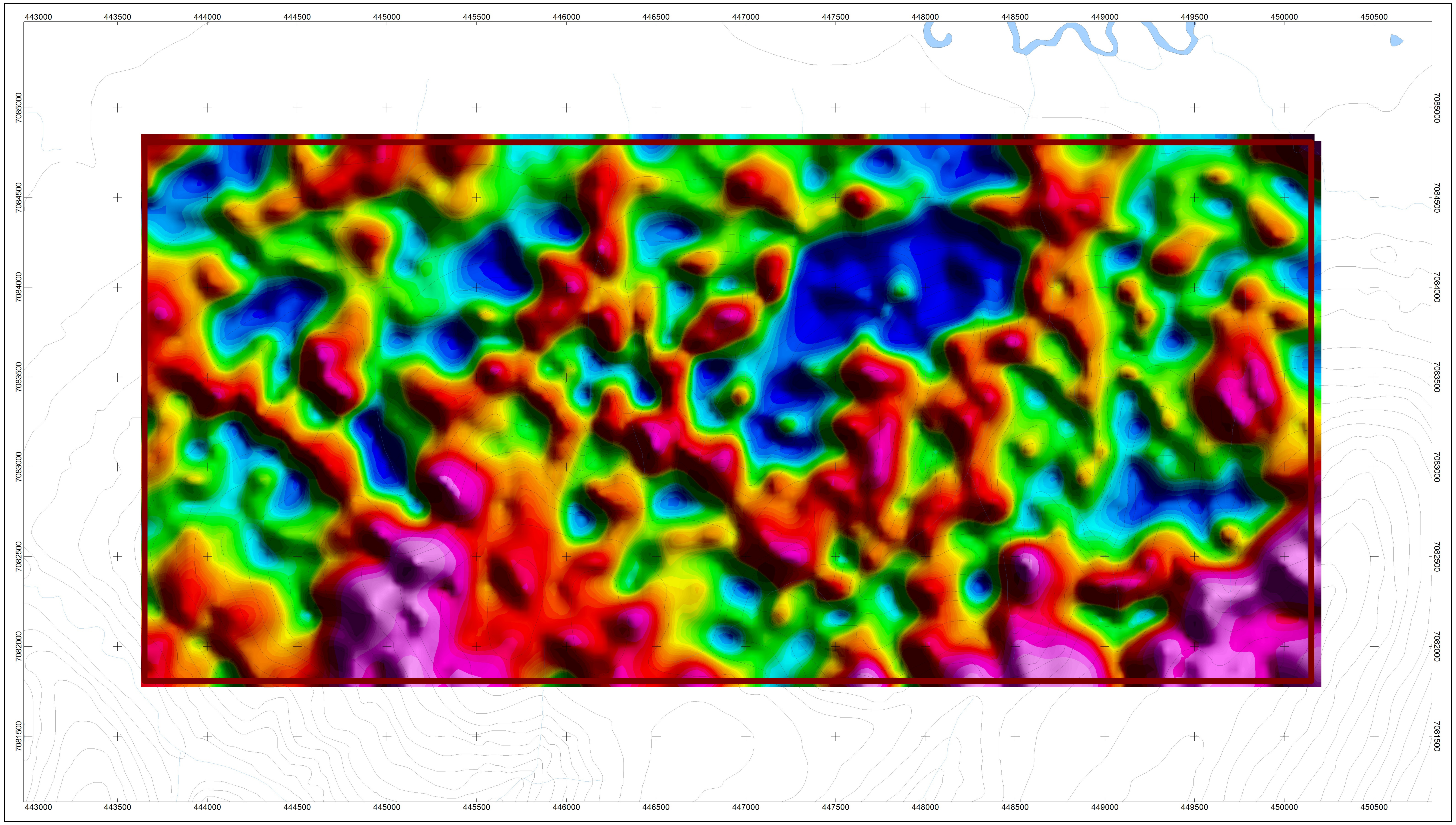
Radiometric Map

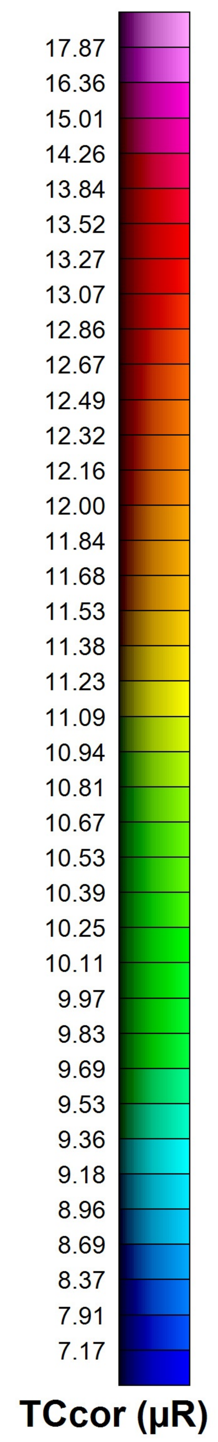
Seattle Creek Survey Block
Uranium - Equivalent Concentration
October 14, 2016

Precision GeoSurveys

Plate9
SC_eU







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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

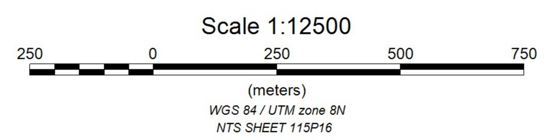
Legend

Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Radiometric Map

Seattle Creek Survey Block

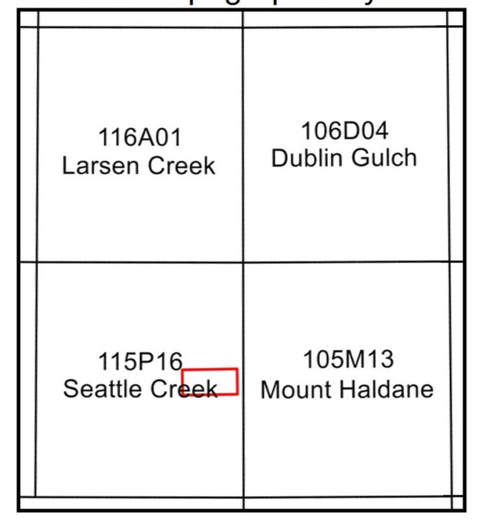
Total Count - Equivalent Dose Rate

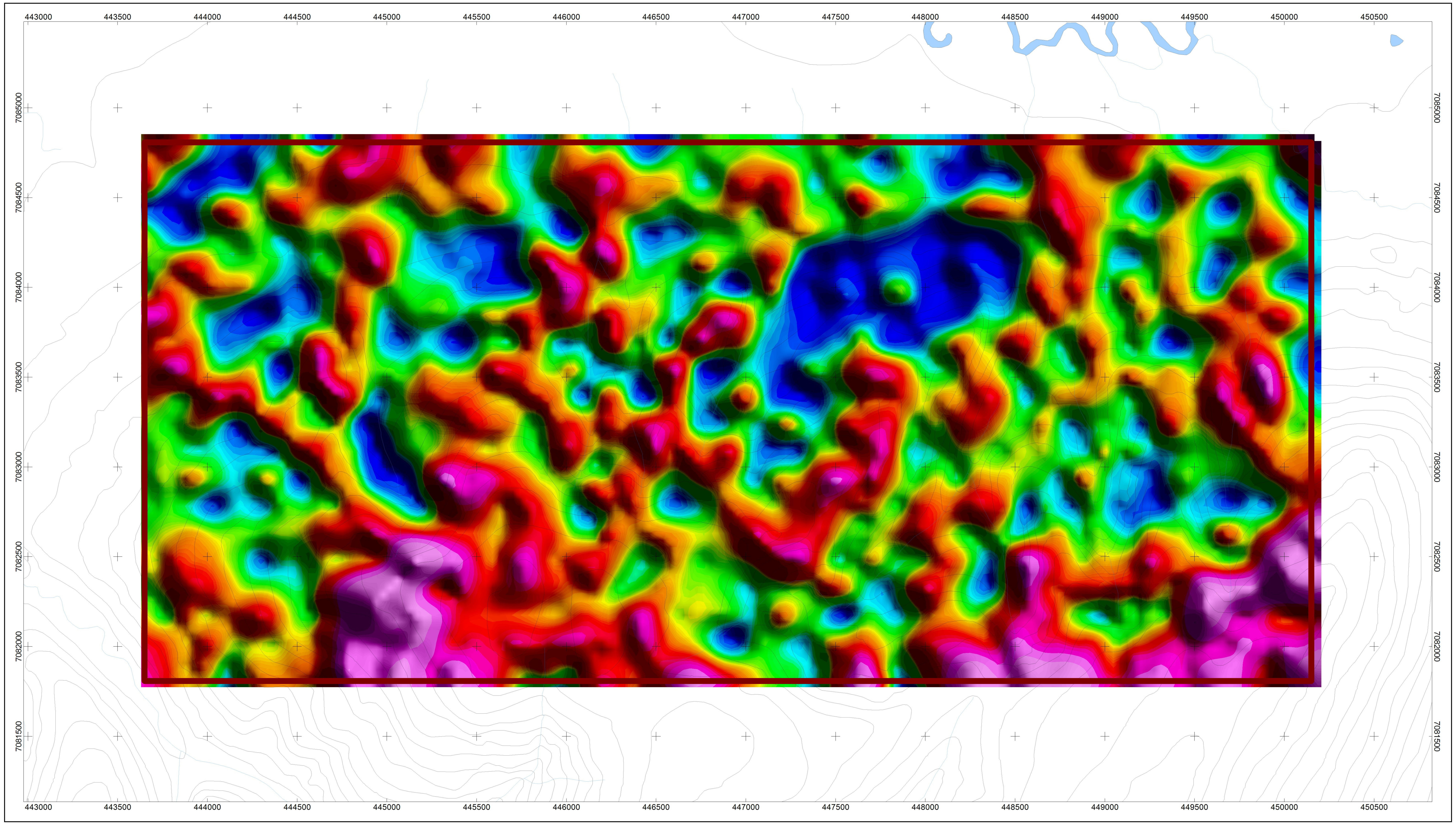
October 14, 2016

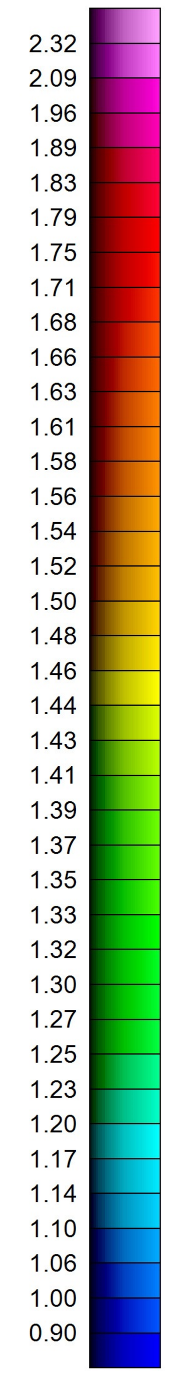
Precision GeoSurveys

Plate10
SC_TCcor

National Topographic System







TCexp (µR/Hr)

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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500

250 0 250 500 750

(meters)

WGS 84 / UTM zone 8N

NTS SHEET 115P16

Nevada Zinc Corporation

Radiometric Map

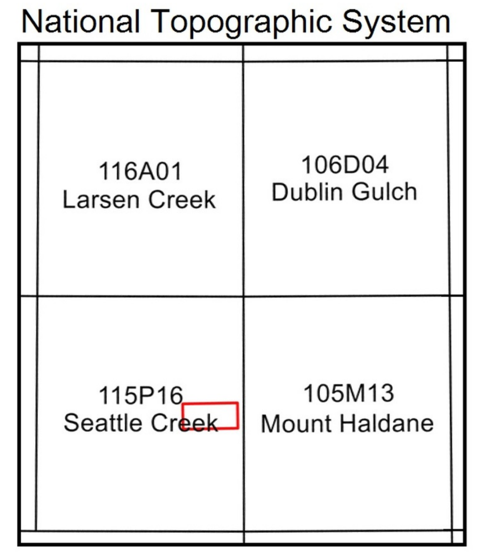
Seattle Creek Survey Block

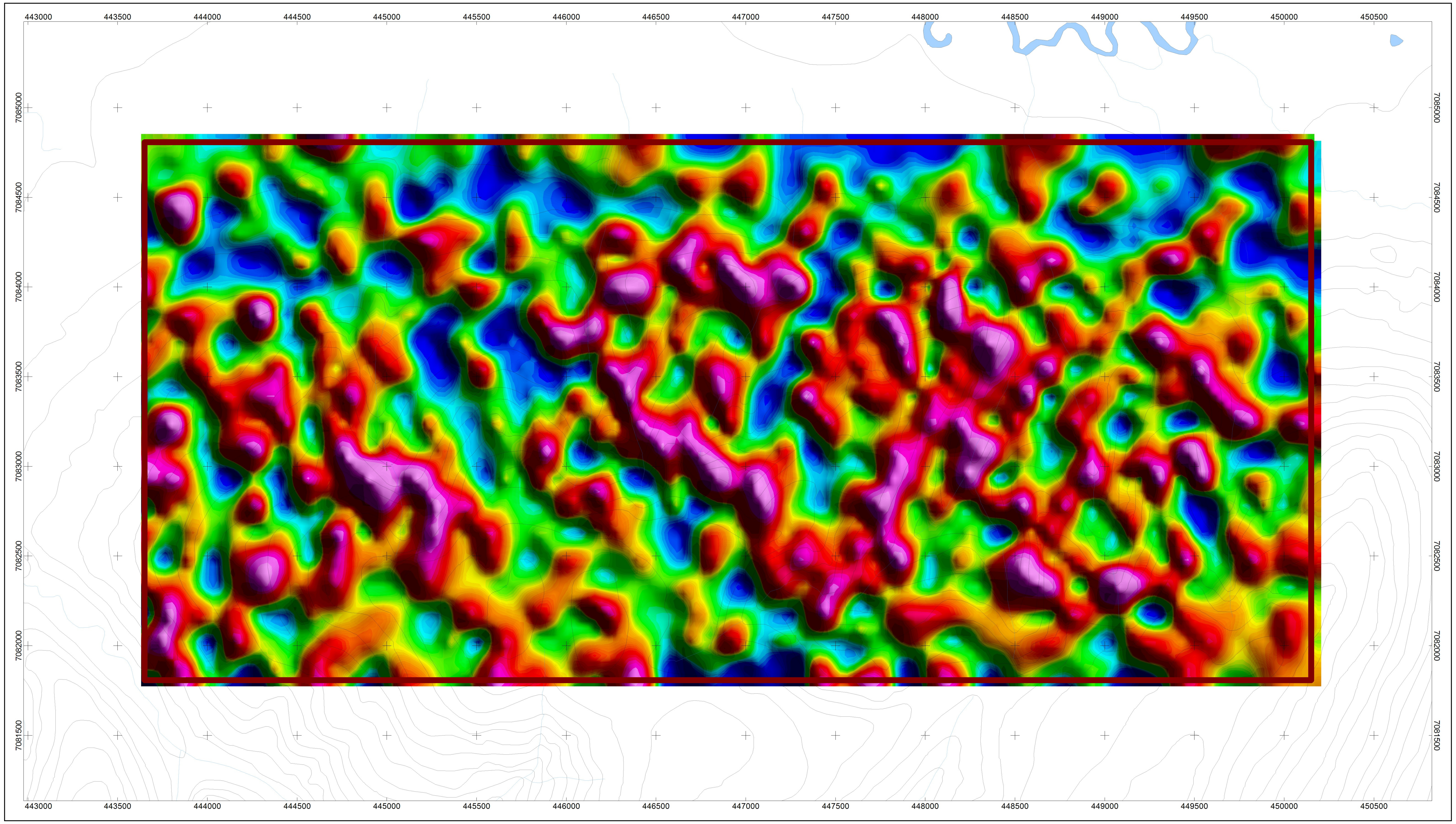
Total Count - Exposure Rate

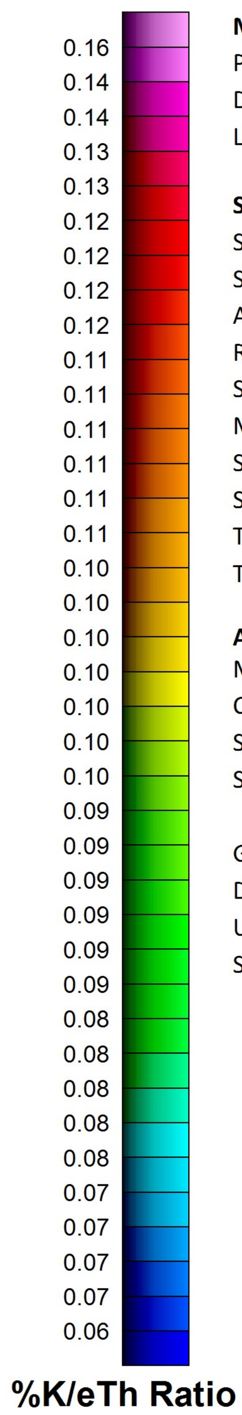
October 14, 2016

Precision GeoSurveys

Plate11
SC_TCexp







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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

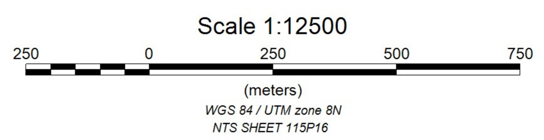
Legend

Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



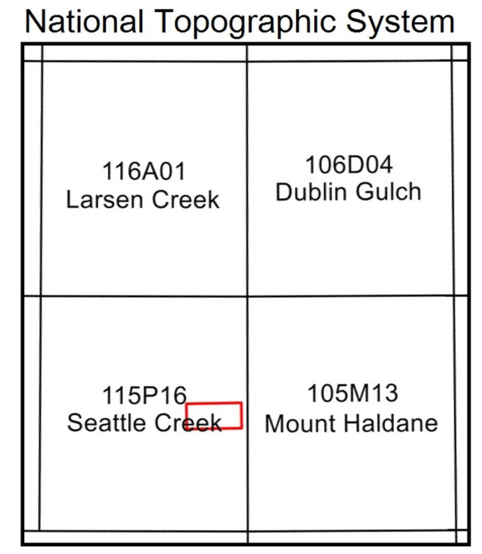
Nevada Zinc Corporation

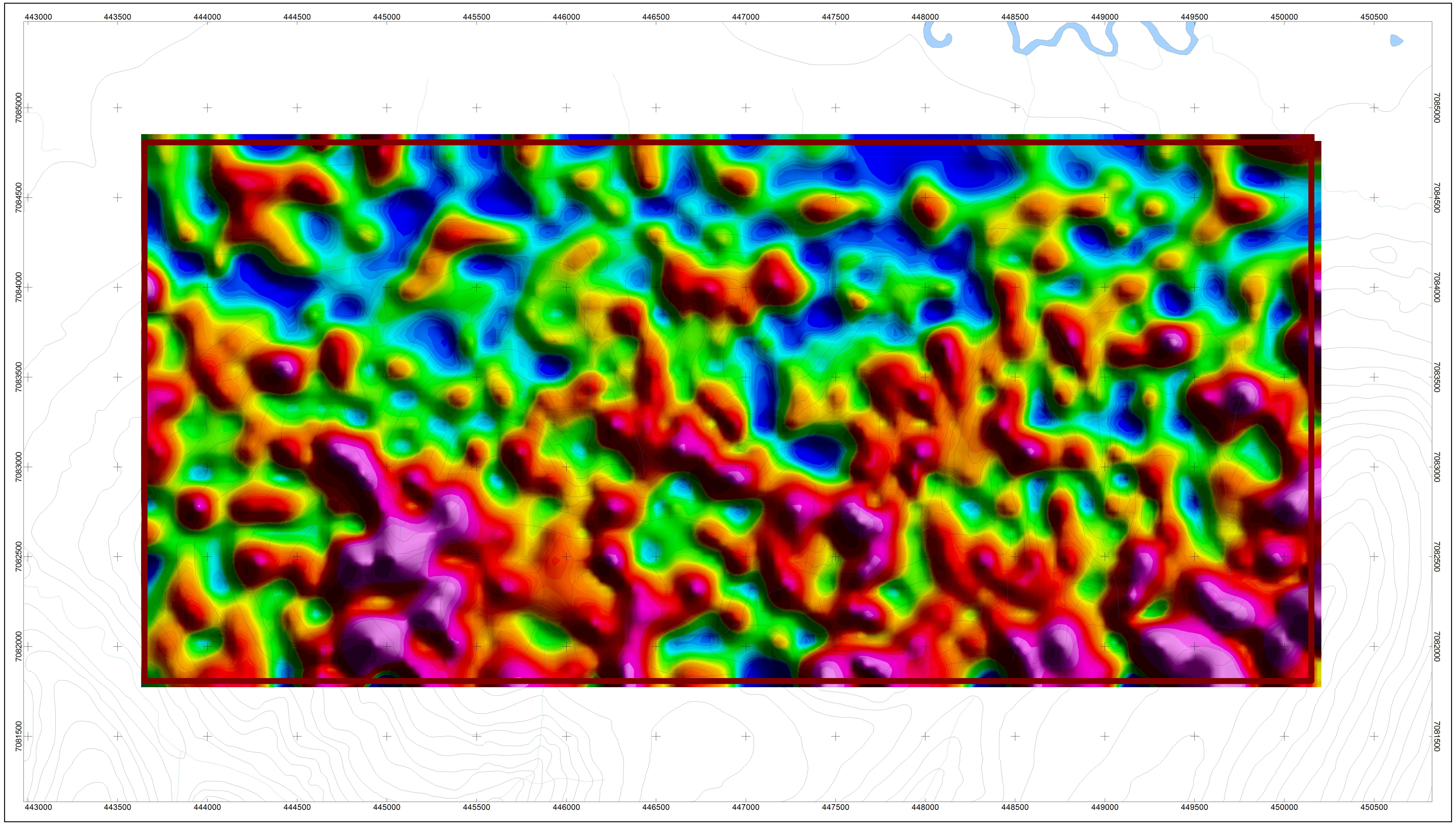
Radiometric Map

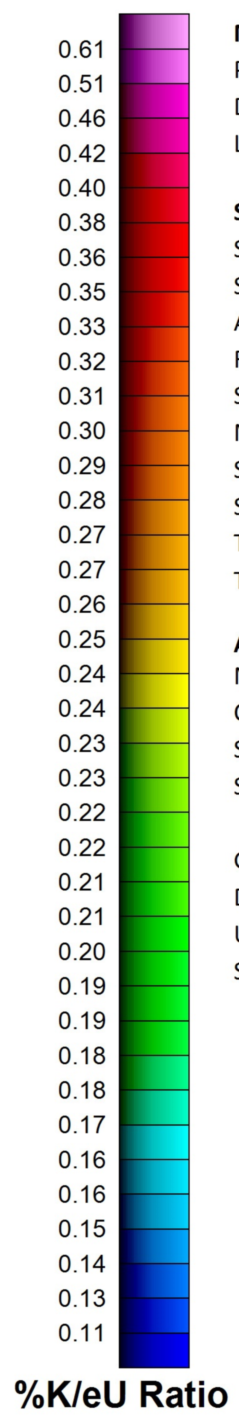
Seattle Creek Survey Block
Potassium over Thorium Ratio
October 14, 2016

Precision GeoSurveys

Plate12
SC_%K/eTh







MAP PROJECTION:

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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

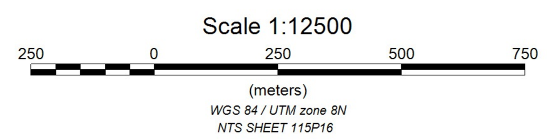
Water Bodies (unclassified)................................
Seattle Creek Survey Block Outline.....................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Radiometric Map

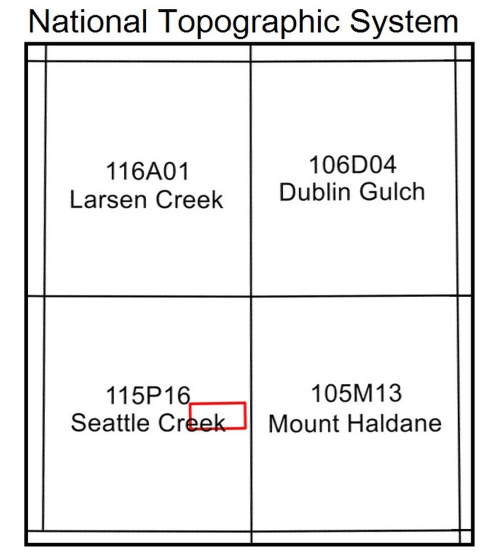
Seattle Creek Survey Block

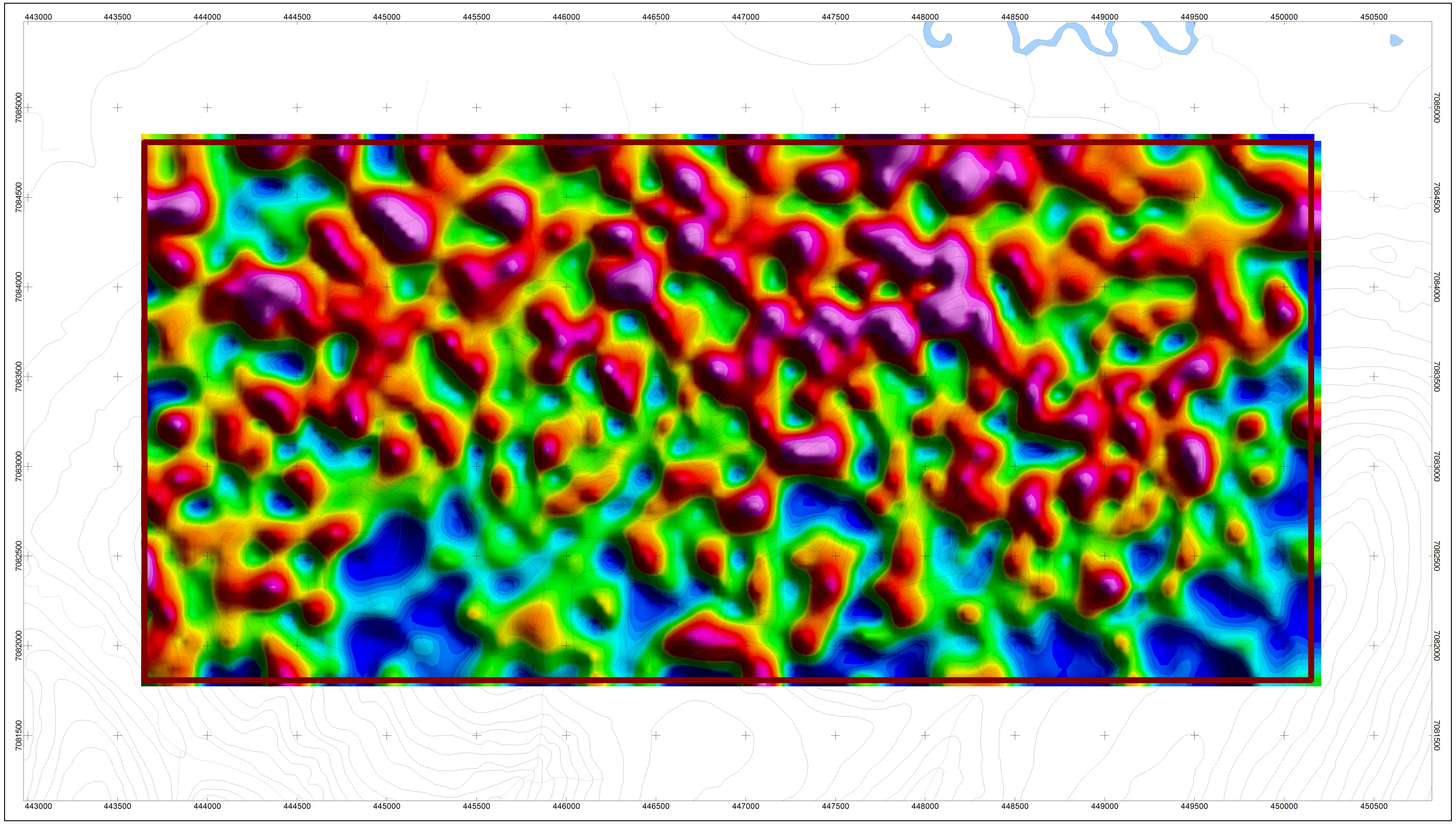
Potassium over Uranium Ratio

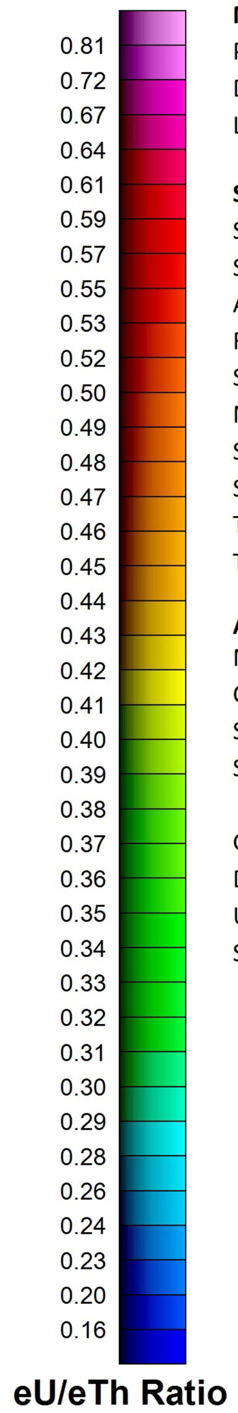
October 14, 2016

Precision GeoSurveys

Plate13
SC_%K/eU







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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

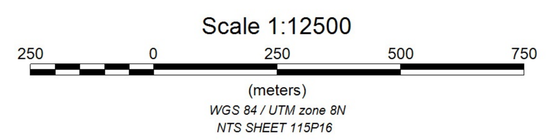
Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline....................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



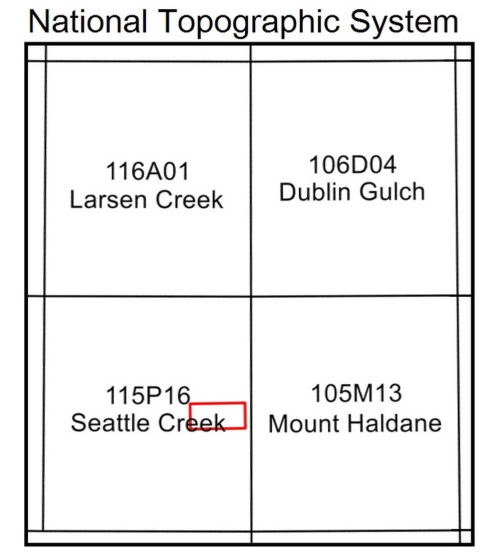
Nevada Zinc Corporation

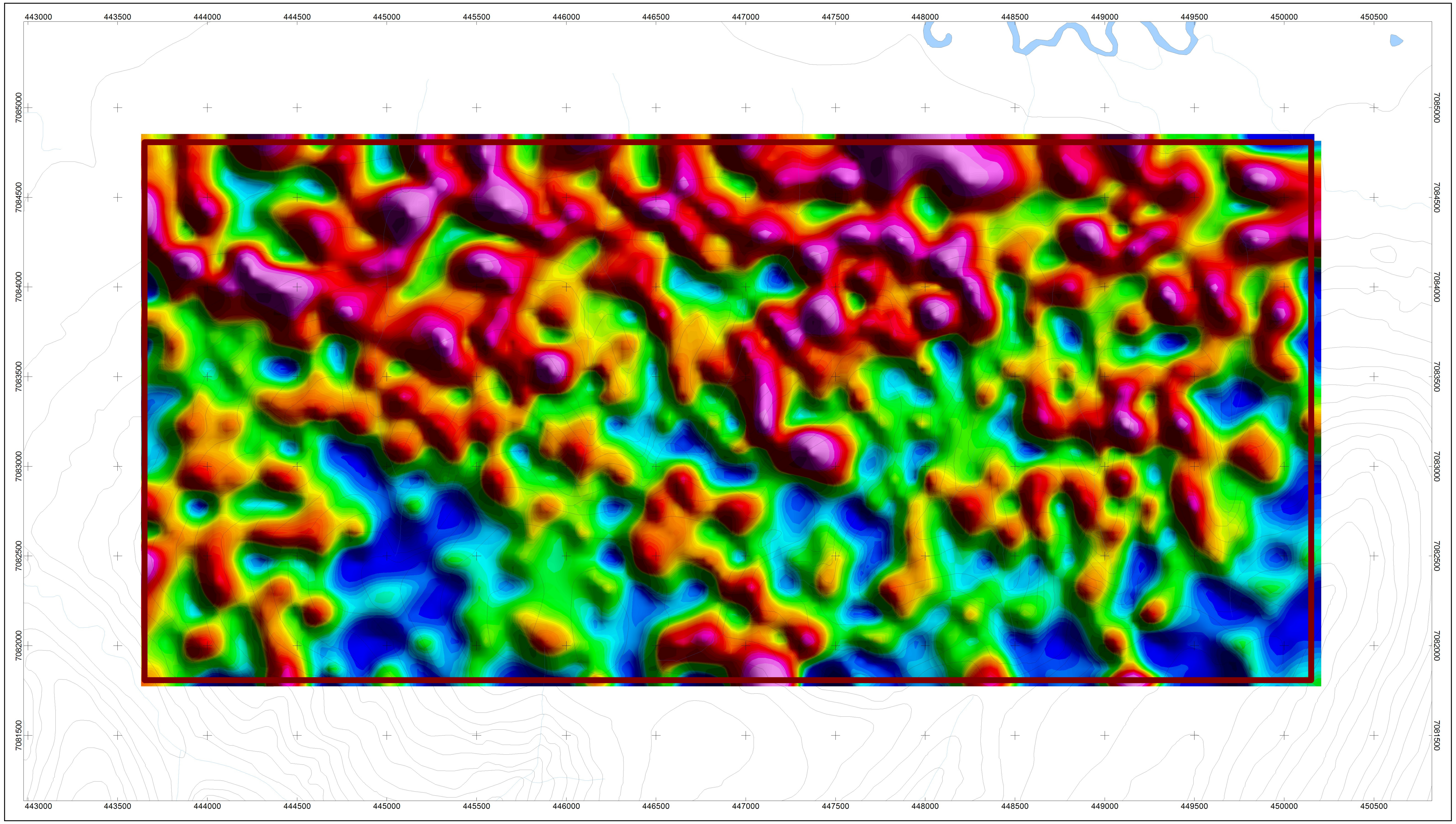
Radiometric Map

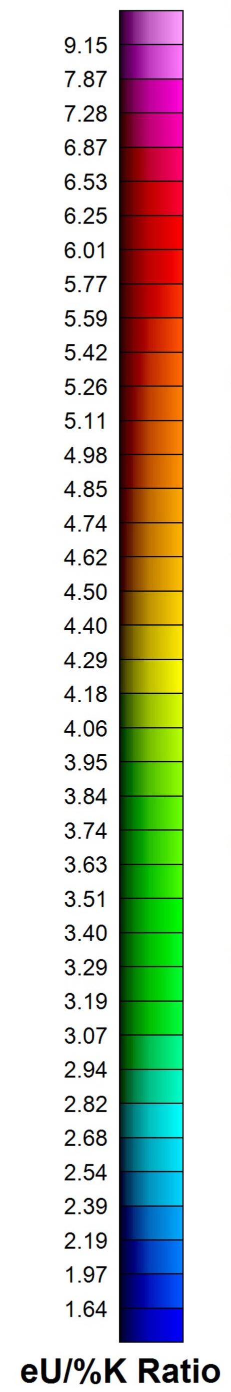
Seattle Creek Survey Block
Uranium over Thorium Ratio
October 14, 2016

Precision GeoSurveys

Plate14
SC_eU/eTh







MAP PROJECTION:

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

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

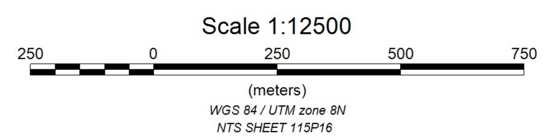
Seattle Creek Survey Block Outline....................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]



Nevada Zinc Corporation

Radiometric Map

Seattle Creek Survey Block

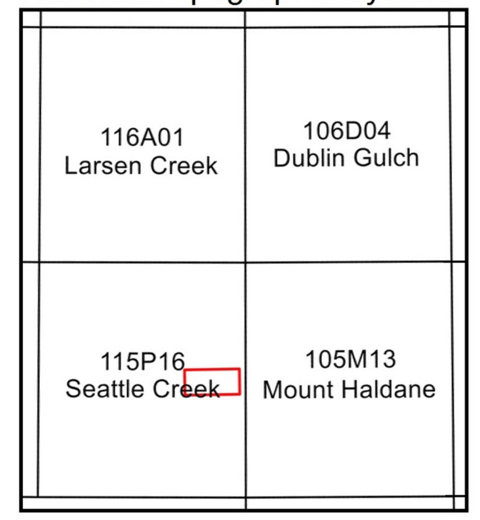
Uranium over Potassium Ratio

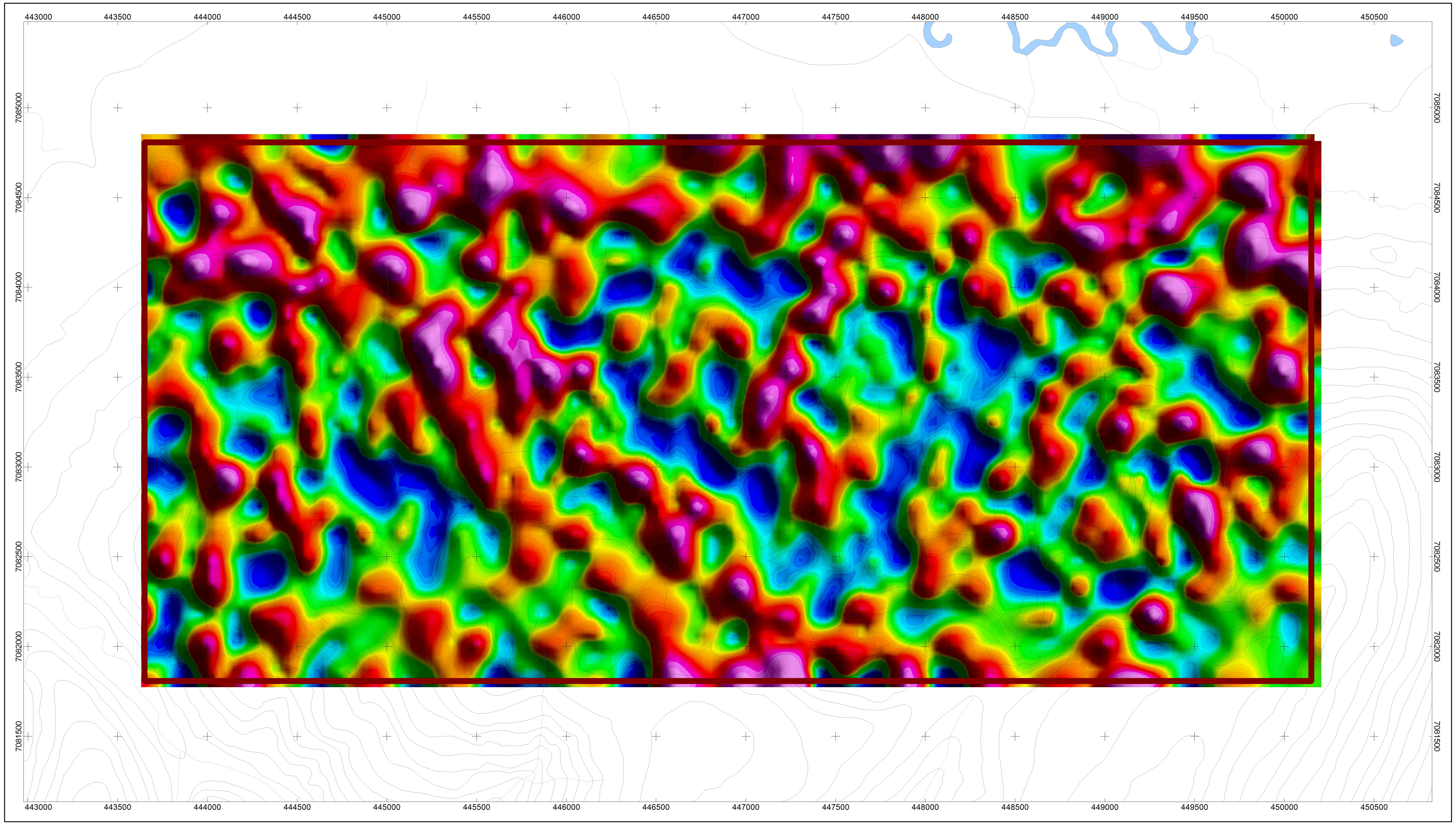
October 14, 2016

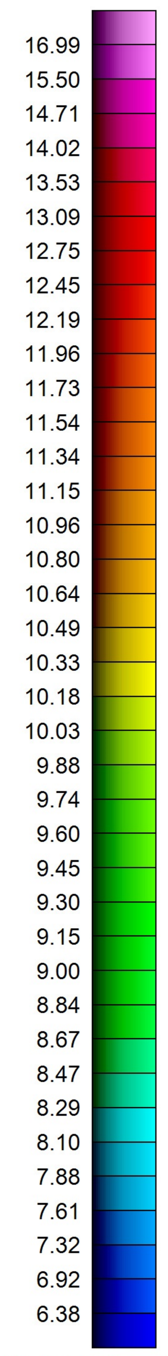
Precision GeoSurveys

Plate15
SC_eU/%K

National Topographic System







eTh/%K Ratio

MAP PROJECTION:

Projection: Universal Transverse Mercator Zone 8N

Datum: WGS 84

Local Datum Transform: World

SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend

Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline.....................

DATA REFERENCE:

Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:

National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500

250 0 250 500 750

(meters)

WGS 84 / UTM zone 8N

NTS SHEET 115P16

Nevada Zinc Corporation

Radiometric Map

Seattle Creek Survey Block

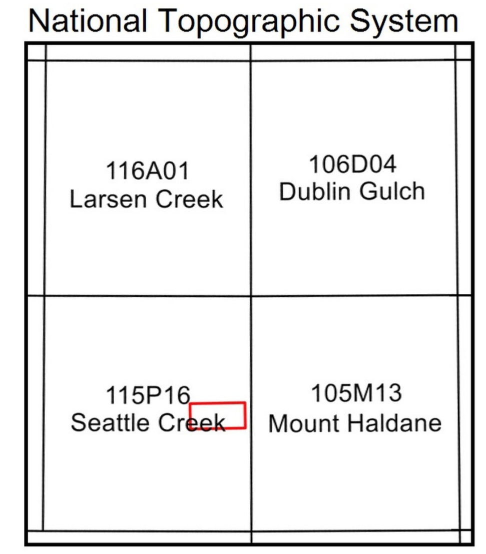
Thorium over Potassium Ratio

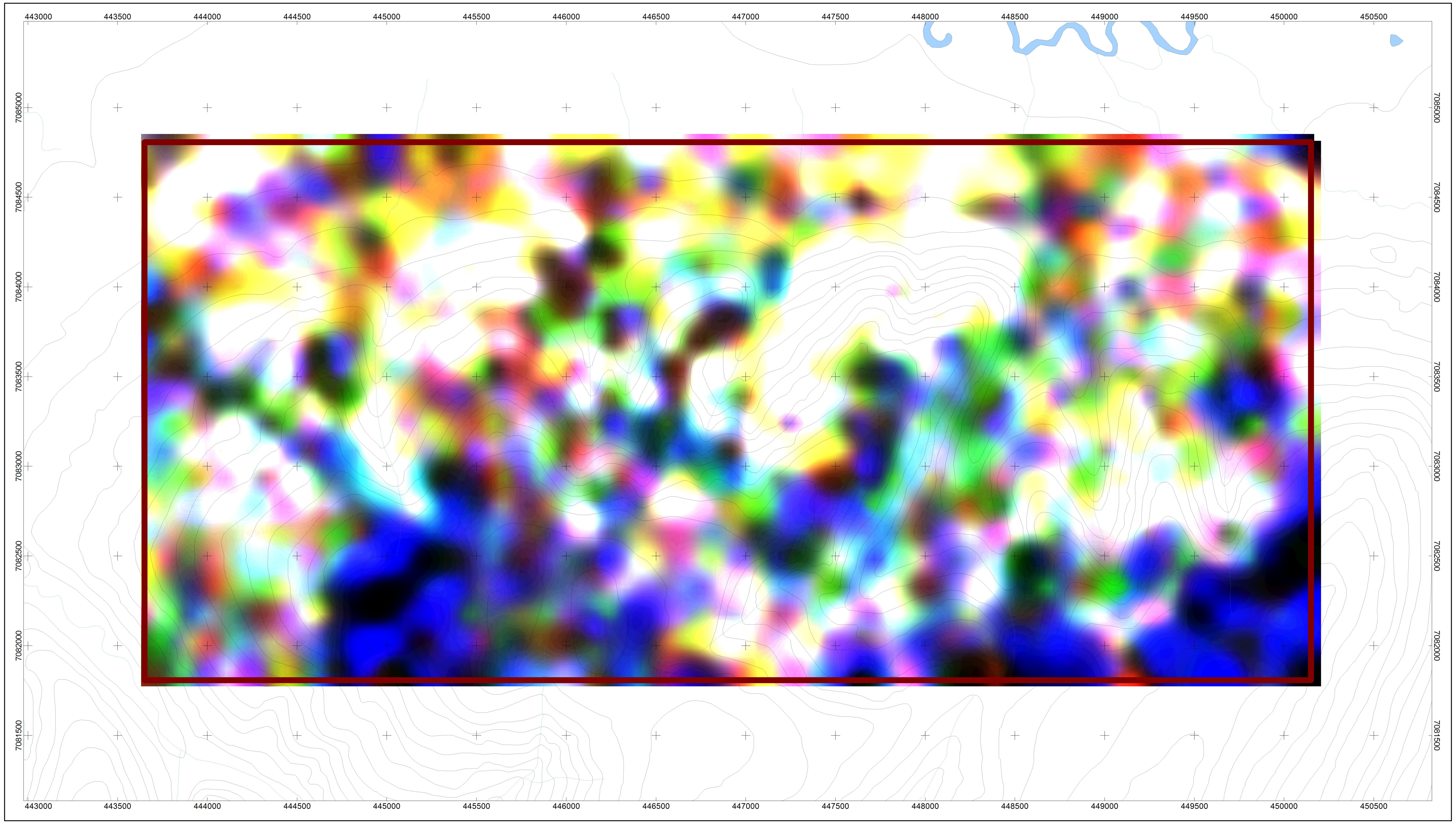
October 14, 2016

Precision GeoSurveys

Plate16

SC_eTh/%K





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

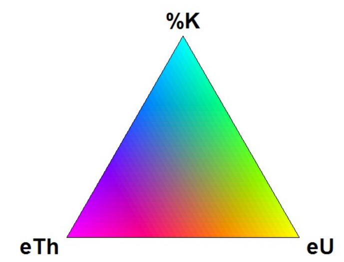
SEATTLE CREEK BLOCK SURVEY SPECIFICATIONS:

Survey Date:	September 20, 2016
Survey Base:	Mayo, YT
Aircraft Type:	Eurocopter AS350
Registration:	C-GSVY
Survey Technology:	Magnetic and Radiometric Survey
Mean Flight Height:	36.5 meters
Survey Line Spacing:	150 meters
Survey Line Direction:	090°/270°
Tie Line Spacing:	1500 meters
Tie Line Direction:	000°/180°

AIRBORNE SURVEY SYSTEM:

Magnetometer Sensor:	Scintrex CS-3 Cesium
Configuration:	Stinger with 3 axis compensation
Sample Rate:	10 Hz
Sensitivity:	0.0006 nT √Hz rms
Gamma Ray Spectrometer:	Pico Envirotec GRS-10 Gamma Spectrometer
Downward-Looking Crystals:	16.8 litres of NaI(Tl) crystals
Upward-Looking Crystals:	4.2 litres of NaI(Tl) crystals
Sample Rate:	1 Hz

Legend



Water Bodies (unclassified)................................

Seattle Creek Survey Block Outline....................

DATA REFERENCE:
Radiometric data have been corrected for effective height, aircraft, cosmic, radon, stripping ratios, and attenuations, and then converted to apparent radioelement concentrations.

TOPOGRAPHIC REFERENCE:
National Topographic Data Base (NTDB), Canada. Ottawa, ON: Government of Canada, Natural Resources Canada, Center for Topographic Information. Contour interval at 100 ft.
URL <http://ftp.geogratis.gc.ca/pub/nrcan_rncan/vector/ntdb_bndt/>[2007]

Scale 1:12500
(meters)
WGS 84 / UTM zone 8N
NTS SHEET 115P16

Nevada Zinc Corporation

Radiometric Map

Seattle Creek Survey Block
Ternary Map
October 14, 2016

Precision GeoSurveys

Plate17
SC_TM

Appendix VI: YMEP Final Submission Form

YMEP FINAL SUBMISSION FORM

	Date submitted: Feb 10, 2016

submit by January 31st to:

(winter placer projects may submit at pre-approved date)

YMIP- EMR/ YTG
Street address: 102-300 Main Street
Mailing address: Box 2703, K-102
Whitehorse, Yt, Y1A 2C6

YMEP@gov.yk .ca
phone: 867-456-3828
fax: 867-667-3198

CONTACT INFO		***PROJECT INFO***	
Name:	Nevada Zinc Corp.	YMEP no:	16-038
Address:	141 Adelaide St. West Suite 1660	Project name:	Goodman
	Toronto, ON M5H 3L5	Project type:	hardrock
email	danferraro@hotmail.com	Project module:	target evaluation
Phone:	416-504-8821 or personal 807-708-7445		

Is the final report enclosed? ☐ yes ☑ no

☐ hard copy
☐ pdf copy
☐ digital spreadsheet of station location data

Comment:

PROJECT SUMMARY

Total project expenditures: 87049.31

Number of new claims since March 31st: none

Has an option resulted since March 31? ☐ yes ☑ no ☐ in negotiation

Number of calendar field days: 7

Number of person-days of employment: 23 paid ____ days of unpaid work

Total no. of samples: 30 rocks ____ silts 7 soils ____ other

Total length/volume of trenching/ shafting: Combined pit depths of 91 ft

Total number of line-km of geophysics 519

Total meters drilled ____ diamond drill ____ RC drill ____ auger/percussion drill

Other products (provide details):

FINANCIAL SUMMARY

This is not an expense claim form.To request reimbursement of expenses, please submit a separate detailed expense claim form.

Total daily field allowance	2800	Total contractor costs	76258
Total field air transportation costs (helicopter/plane)		Total excavating/ heavy equipment costs	
Total truck/ mileage costs	422.19	Total assay/analyses costs	1359.12
Total wages paid		Total reclamation costs	
Total light equipment rental costs		Total report writing cost	5000
Other (please specify)	Hotel $1210	Total staking costs	
Other (please specify)			

(see reverse)

Your feedback on any aspect of the program:

Airborne mag very successful in identifying a buried intrusion on trend with the intrusion which hosts the Eagle Gold Deposit. Intrusion is similar in shape and dimensions. Confirms geochem in this area.

Trenching was focused on the west side of the property on numerous geochemical targets. Overburden was very thick. Maxed out the Kubota at 9ft many times. Trenching ended up being more like pit digging. However, access was good. Results of trenching were subpar. Which such a large geochem target and such a small window to bedrock, hitting a discrete vein is unlikely.

Also wanted to hit the Cofer/Murphy Creek zone where there intrusion was, but we did not have the correct machinery for this job. Planning on hiring a larger backhoe from the placer operators at Seattle Creek next season.

The Department of Energy, Mines and Resources may verify all statements related to and made on this form, in any previously submitted reports, interim claims and in the Summary or Technical Report which accompanies it.

I certify that;

1. I am the person, or the representative of the company or partnership, named in the Application for Funding and in the Contribution Agreement under the Yukon Mining Incentives Program.

2. I am a person who is nineteen years of age or older, and I have complied with all the requirements of the said program.

3. I hereby apply for the final payment of a contribution under the Yukon Mineral Exploration Program (YMEP) and declare the information contained within the Summary or Technical Report and this form to be true and accurate.

Date Feb 10, 2016

Signature of Applicant ______________________

Name (print) Dan Ferraro

(see reverse)