# 2019 Surficial Geochemical and Ground Geophysical Assessment Report

Soil Sampling, VLF+Mag and UAV Drone

on the
Raven Property
Mayo, Yukon

| Grant Number | Claim Name |
|---|---|
| YD137538-542 | RAV38-42 |
| YD137559-570 | RAV59-70 |
| YD137583- 596 | RAV83-96 |
| YD137618 | RAV118 |
| YD137620 | RAV120 |
| YD137622 | RAV122 |
| YD137624 | RAV124 |
| YF74001-085 | RAV131-215 |

**NTS: 1:50,000 Map sheet 106C/05**

**UTM: 565225 E 7140372 N**

**NAD83 Zone 8N**

**Mayo Mining District**

Work Performed on:
Soil Sampling: 29/08/2019
VLF+MAG: 29/08/2019
UAV Drone: 28/08/2019

Prepared for Shawn Ryan
By GroundTruth Exploration

Written By: Kaitlyn Crawford, Amir Radjaee
Compilation Date: March 31, 2020

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## Summary

During the summer of 2019, Shawn Ryan commissioned GroundTruth Exploration Inc. to conduct a small-scale exploration program on the Raven property. Work included soil geochemistry, a walking VLF+Mag survey and a UAV Drone survey covering three select areas. A total of 4-man days were spent collecting 154 soil samples on the western portion of the property and a 1-man day walking VLF+Mag survey collected 3.3 line-km of data. The UAV Drone survey was accomplished over 2-man days and covered 10 km$^2$ of the Raven claim block.

The property is located 140 km northeast of the town of Mayo, in the Mayo mining district, where staging for helicopter transport took place. The claim block is located on NTS map sheet 106C/05.

The Raven property lies within the Sewlyn Basin and hosts carbonaceous to siliciclastic marine sediments. Several mineral occurrences have been found in the area including the heavily mineralized, Mississippi Valley Type Vera and Val zones. These occurrences are located within a 12 km radius south of the Raven property.

Strong correlations between Pb, Ag, Au, As, Cu and Bi exist. Similar mineral assemblages are seen in the nearby Val and Vera occurrences. Further soil sampling and prospecting are needed to identify mineralization in outcrop in the area and clearly define the properties potential. The VLF+Mag survey, done on the property outlined the potential for two underlying structures on the northeast portion of the property.

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# Introduction

Shawn Ryan commissioned GroundTruth Exploration Inc. to conduct a small-scale soil sampling survey, a Very Low Frequency Electromagnetic (VLF) and magnetic survey covering three select areas and a drone survey covering the central portion of the Raven property. The property is located 140 km northeast of the town of Mayo, where staging for a helicopter took place.

On August 28, 2019 a 2-man drone crew was set out to survey a 10 km$^2$ area on the Raven property. On August 29, 2019, a 4-man soil crew and 1 VLF+Mag technician was set out by helicopter from Mayo. The soil sampling was conducted over 4-man days with 154 samples collected and sent for assay. One-man day of walking VLF+MAG was conducted over 3.3 line-km on the property. The data collected was then processed by the GroundTruth Exploration Inc. geophysicist, Amir Radjaee.

## Location and Access

The Raven property is located 140 km northeast of the village of Mayo which hosts a seasonal helicopter base and is the nearest permanent supply center. Keno City, situated 50 km northeast of Mayo by road is the nearest town. A small gravel airstrip is located 25 km southeast of the Raven property and could be used as a staging area for continued work on the property. Access to the property is currently by helicopter from Mayo. The Raven property is located on the National Topographic System (NTS) map sheet 106C/05 (Figure 1).

The property lies in the Selwyn and Wernecke Mountains of the Rackla Mountain Range. Local topography is alpine to sub-alpine. Tree cover in the area consists of dwarf birch, willows and sub-alpine fir. Above the treeline, vegetation consists of thin moss and grass cover. The terrain is generally rocky. The elevation in the soil sampling area varied from 1253 m to 1572 m.

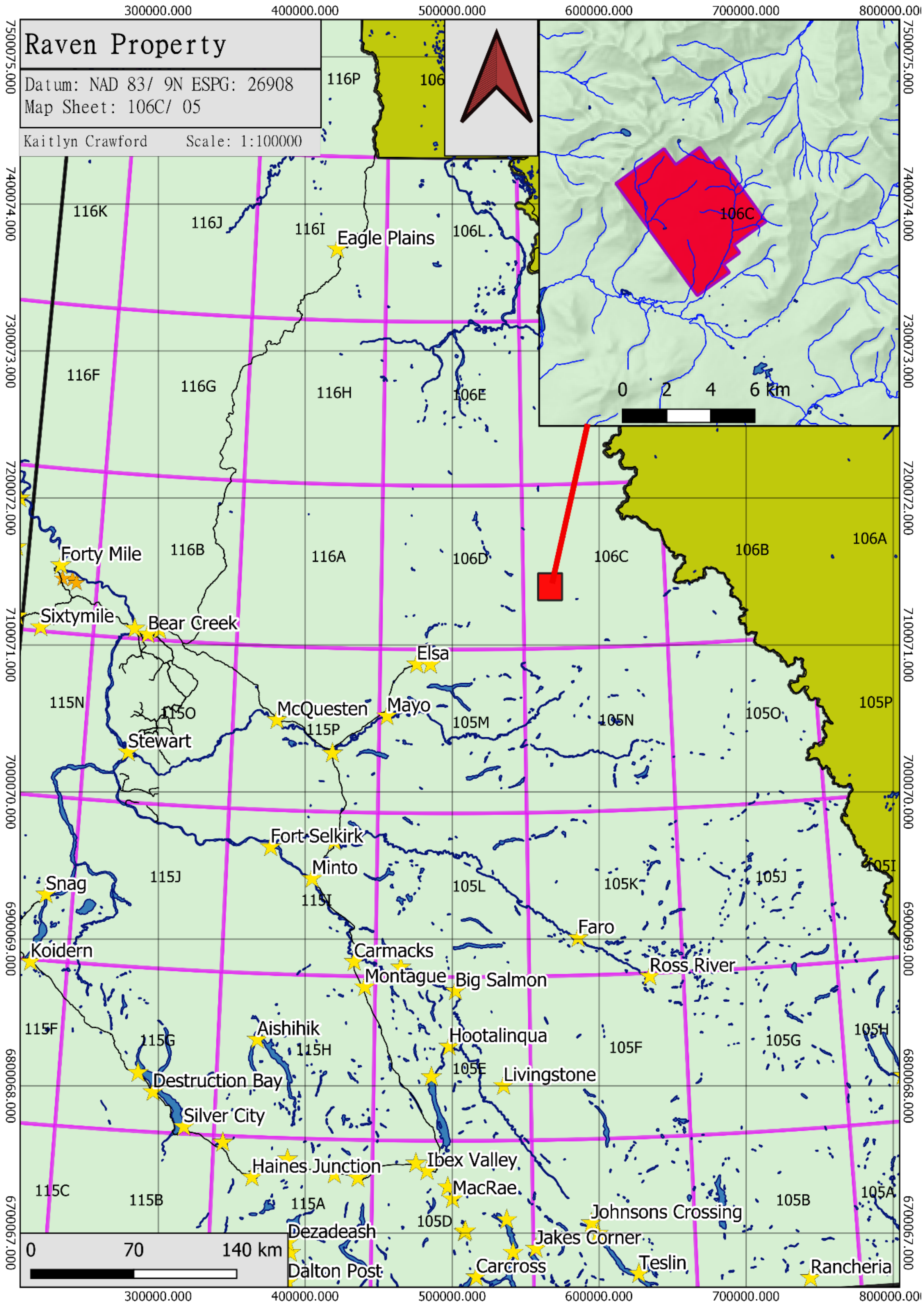


*Figure 1: Location of Raven property with NTS map sheets*

## Claims

The Raven property comprises 121 claims, 100% owned by Shawn Ryan. A full summary can be seen in the table below (Table 1) as well as a map of the claim locations (Figure 2). Most of the soil work was performed on claim numbers RAV 39 to 42, 70 and 162 and the majority of the VLF+Mag survey was completed on RAV 39, 41, 70, 171, 186 and 188. The drone survey covered 10 km$^2$ of the property.

| GRANT_NUM | CLAIM_NUM | STATUS | OWNER | STAKE_DATE | EXPIRY_DAT | DISTRICT |
|---|---|---|---|---|---|---|
| YD137538-542 | RAV38-42 | Active | Shawn Ryan-100% | 1/9/2011 | 1/14/2022 | Mayo |
| YD137559-570 | RAV59-70 | Active | Shawn Ryan-100% | 1/9/2011 | 1/14/2022 | Mayo |
| YD137583- 596 | RAV83-96 | Active | Shawn Ryan-100% | 1/10/2011 | 1/14/2022 | Mayo |
| YD137618 | RAV118 | Active | Shawn Ryan-100% | 1/10/2011 | 1/14/2022 | Mayo |
| YD137620 | RAV120 | Active | Shawn Ryan-100% | 1/10/2011 | 1/14/2022 | Mayo |
| YD137622 | RAV122 | Active | Shawn Ryan-100% | 1/10/2011 | 1/14/2022 | Mayo |
| YD137624 | RAV124 | Active | Shawn Ryan-100% | 1/10/2011 | 1/14/2022 | Mayo |
| YF74001-085 | RAV131-215 | Pending | Shawn Ryan-100% | 5/7/2019 | 6/4/2021 | Mayo |

*Table1: Summary of Raven property claims*

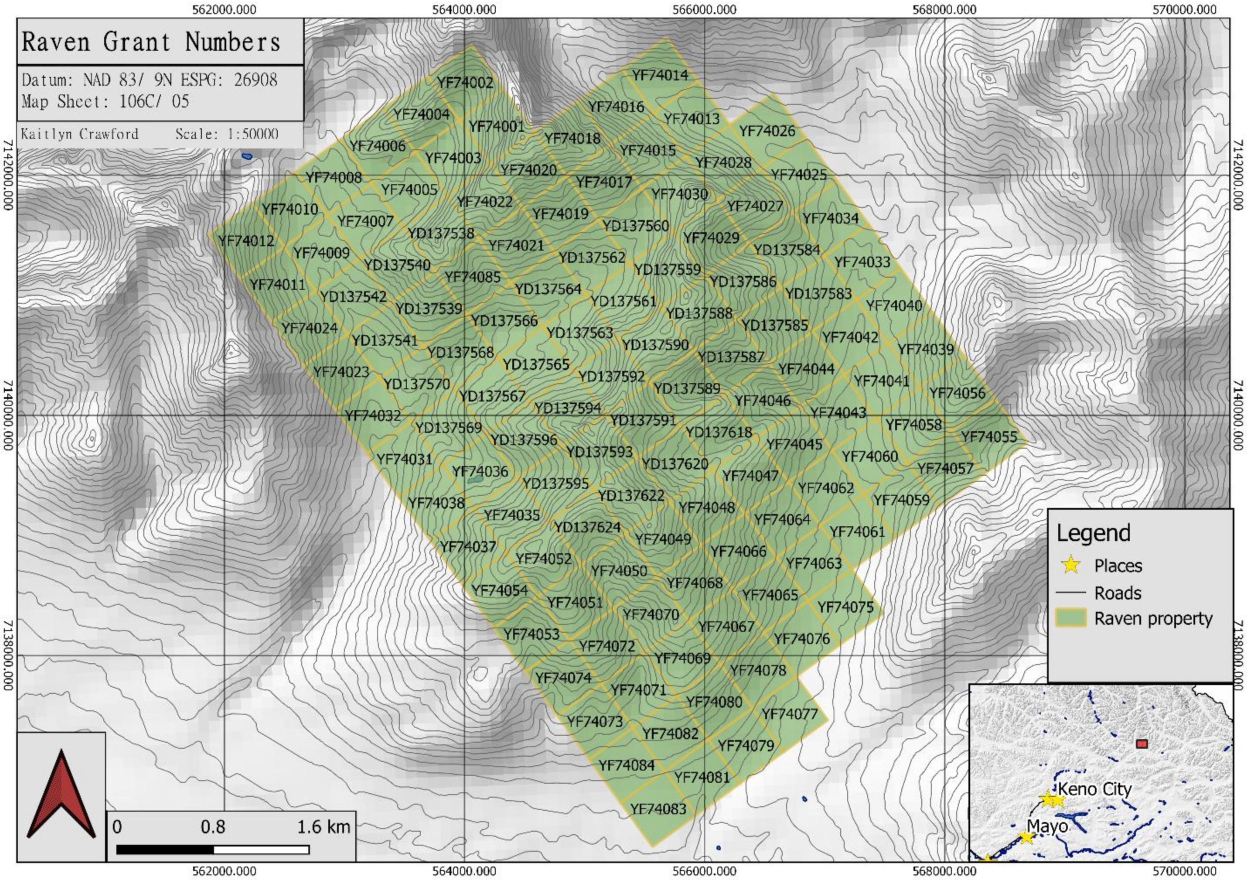


*Figure 2: Raven Claims with grant numbers*

## History and Previous Work

The claim block around the Kohse occurrence was originally staked as the Hope claims by A. Fayolle in September of 1953. It was later re-staked as the Lota 1 - 20 claims (Grant number YB43400-YB43420) by J.H. Hajek, in August of 1992.

The Geological Survey of Canada and the Yukon Geological Survey contracted Furgo Airborne Survey to carry out an aeromagnetic survey over the Wernecke Mountains and the work was carried out between April 2006 to August 2007. Between November 2016 and March 2017, Aurora Geoscience Ltd. reprocessed the magnetic data for the Yukon. The Aeromagnetic data was compiled and the following magnetic derivatives were produced:  Residual Total Magnetic Field, Reduced-to-Pole Magnetic Field (RTP), First Vertical Derivative of the Reduced-to-Pole Magnetic Field (RTP_VD) and Tilt Derivative of the Reduced-to-Pole Magnetic Field (RTP_TDR).

In 1974, Blusson of the Geological Survey of Canada originally mapped the area at a 1: 250 000 scale. In the summer of 2019, T. Ambroise of the Yukon Geological Survey completed more detailed mapping over NTS map sheets 106C/01, 04, 05, and 08. Further detailed mapping was justified due to multiple significantly mineralized areas, including the Val and Vera occurrences. The Kohse occurrence is the closest to the RAV property (Figure 3).

Shawn A. Ryan staked a portion of the claim group in 2011, and completed both prospecting and soil geochemical surveys on the claims.

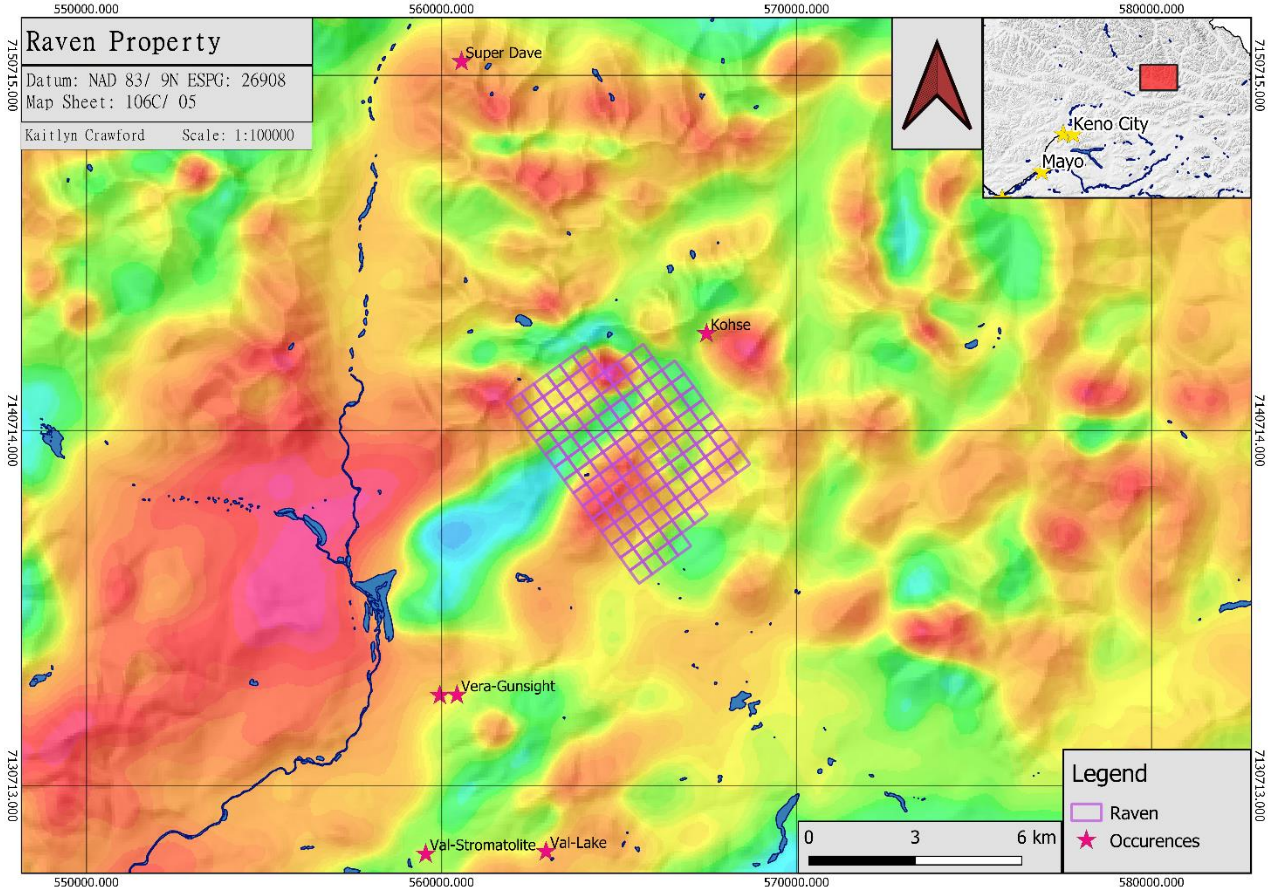


*Figure 3: Geological Survey of Canada RTP_VD (Aurora Geosciences Ltd., 2017) historic geophysics and location of occurrences in the area*

# Geology

## Regional Geology

The Wernecke Mountains have undergone several periods of metamorphism, deformation and mineralization. This has led to a diverse variety of rocks such as meta-sedimentary rocks, meta-volcanic rocks, igneous intrusive rocks and breccias. The earliest sequence of rocks is the Wernecke Supergroup that unconformably overlies an Archean basement (Brookes et al., 2002). Sedimentation of the Wernecke Supergroup occurred during the Early Proterozoic and represents the initial basin sequence. Siltstone, shale, sandstone and dolostone were deposited during this time and ended with subsidence and marine transgression.

Dioritic to syenitic dykes and stocks intruded at approximately 1.37 Ga forming the Bonnet Plume River Intrusions. Within the same time frame, the Racklan Orogeny occurred due to southeast directed compression (Thorkelson, 2000). The orogeny caused extensive brecciation in the area. An unconformity in the middle Proterozoic marks the start of the Pinguicula Group rocks. The carbonate to siliciclastic Pinguicula sediments were deposited within the basin and intruded by the Hart River gabbro dykes and sills at approximately 1.38 Ga.

Another unconformity is noted that lasts approximately 300 million years before sedimentation proceeds in the Neoproterozoic. Hematite Creek Group sediments are next in the sequence consisting of shallow-water carbonates and clastics derived largely from rocks affected by the Grenvillian Orogeny (Brookes et al. 2002). The Corn Orogeny caused the area to be folded and thrust faulted and can be seen in all groups thus far. Finally, the Windermere Supergroup, and Paleozoic Bouvette Formation were deposited.

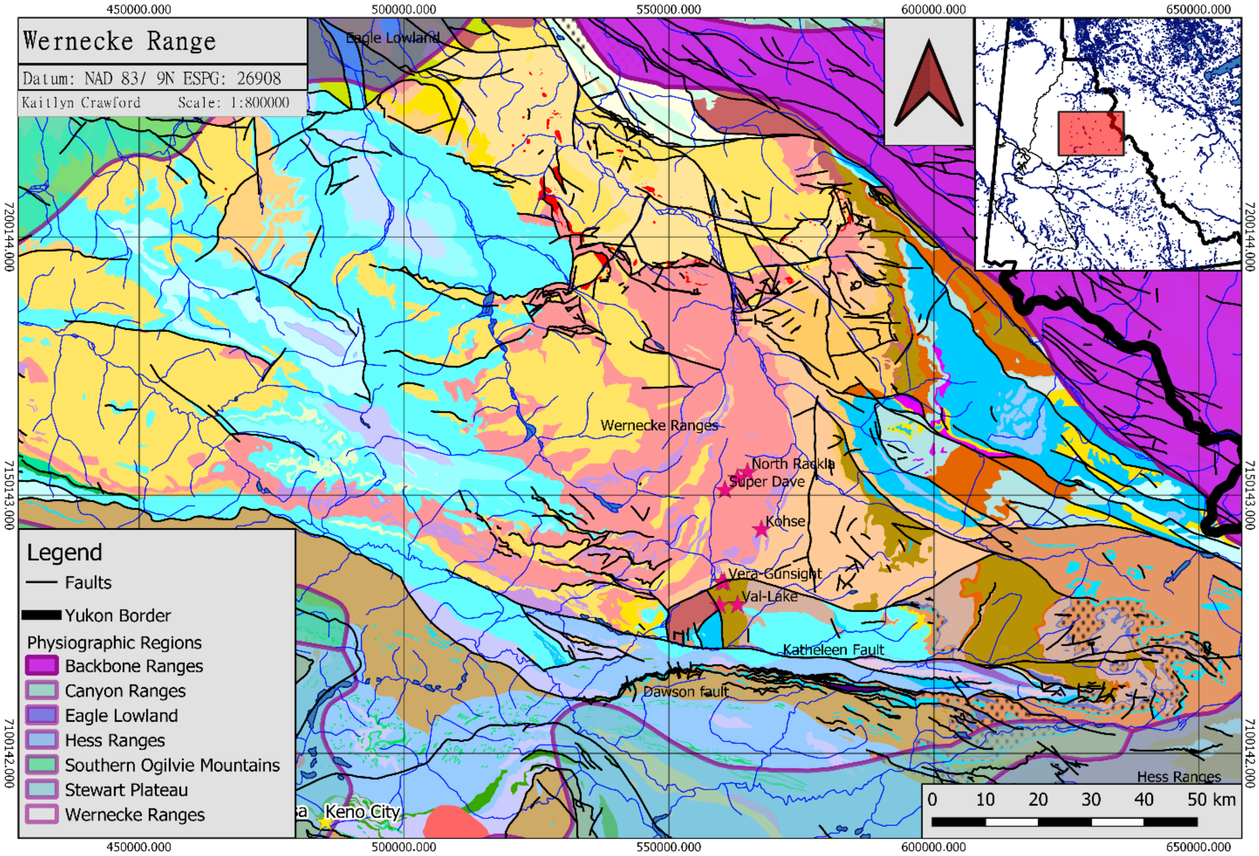
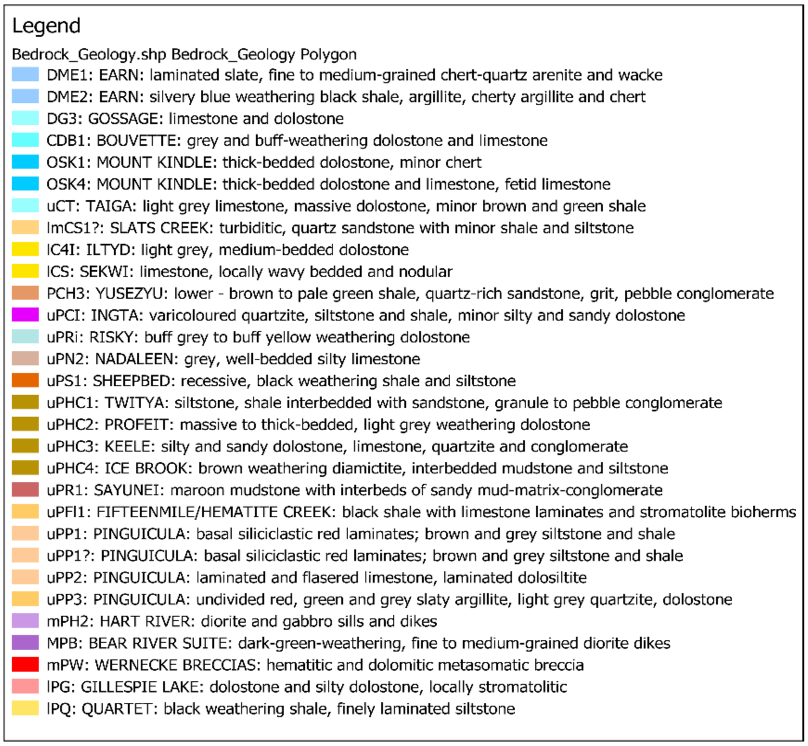


*Figure 4: Regional Geology of the Wernecke Range*



Legend

Bedrock_Geology.shp Bedrock_Geology Polygon

🟦 DME1: EARN: laminated slate, fine to medium-grained chert-quartz arenite and wacke
🟦 DME2: EARN: silvery blue weathering black shale, argillite, cherty argillite and chert
🟦 DG3: GOSSAGE: limestone and dolostone
🟦 CDB1: BOUVETTE: grey and buff-weathering dolostone and limestone
🟦 OSK1: MOUNT KINDLE: thick-bedded dolostone, minor chert
🟦 OSK4: MOUNT KINDLE: thick-bedded dolostone and limestone, fetid limestone
🟦 uCT: TAIGA: light grey limestone, massive dolostone, minor brown and green shale
🟧 lmCS1?: SLATS CREEK: turbiditic, quartz sandstone with minor shale and siltstone
🟨 lC4l: ILTYD: light grey, medium-bedded dolostone
🟨 lCS: SEKWI: limestone, locally wavy bedded and nodular
🟧 PCH3: YUSEZYU: lower - brown to pale green shale, quartz-rich sandstone, grit, pebble conglomerate
🟪 uPCI: INGTA: varicoloured quartzite, siltstone and shale, minor silty and sandy dolostone
🟦 uPRi: RISKY: buff grey to buff yellow weathering dolostone
🟫 uPN2: NADALEEN: grey, well-bedded silty limestone
🟧 uPS1: SHEEPBED: recessive, black weathering shale and siltstone
🟫 uPHC1: TWITYA: siltstone, shale interbedded with sandstone, granule to pebble conglomerate
🟫 uPHC2: PROFEIT: massive to thick-bedded, light grey weathering dolostone
🟫 uPHC3: KEELE: silty and sandy dolostone, limestone, quartzite and conglomerate
🟫 uPHC4: ICE BROOK: brown weathering diamictite, interbedded mudstone and siltstone
🟥 uPR1: SAYUNEI: maroon mudstone with interbeds of sandy mud-matrix-conglomerate
🟨 uPFI1: FIFTEENMILE/HEMATITE CREEK: black shale with limestone laminates and stromatolite bioherms
🟧 uPP1: PINGUICULA: basal siliciclastic red laminates; brown and grey siltstone and shale
🟧 uPP1?: PINGUICULA: basal siliciclastic red laminates; brown and grey siltstone and shale
🟧 uPP2: PINGUICULA: laminated and flasered limestone, laminated dolosiltite
🟨 uPP3: PINGUICULA: undivided red, green and grey slaty argillite, light grey quartzite, dolostone
🟪 mPH2: HART RIVER: diorite and gabbro sills and dikes
🟪 MPB: BEAR RIVER SUITE: dark-green-weathering, fine to medium-grained diorite dikes
🟥 mPW: WERNECKE BRECCIAS: hematitic and dolomitic metasomatic breccia
🟥 lPG: GILLESPIE LAKE: dolostone and silty dolostone, locally stromatolitic
🟨 lPQ: QUARTET: black weathering shale, finely laminated siltstone

*Figure 5: Legend for the Wernecke Range regional geology map as described by Blusson (1974) and Thorkelson &Wallace (1998)*

## Property Geology

There are three main rock units covered by the Raven claims (Figure 4). The main unit in the north western portion of the property is the Gillespie Lake Sediments which consists of orange and grey weathering limestone and dolostone. This unit is often well bedded and commonly cross-laminated. Minor amounts of shale, dolomitic and calcareous siltstone, and silty dolostone are found within this unit.

At the eastern edge of the property, there is a minor amount of the Pinguicula Group sediments. Dark to light grey laminated dolostone is typical of this unit. Within this unit an en echelon texture can be seen that is typically associated with replacement near brecciated areas. Orange chert, limestone, siltstone and shale are also found within this group.

The last and youngest rock unit found on the Raven property is the Hart River Dykes. The other two units are cut by greenish-grey, fine to medium grained gabbro dykes and sills. The Kohse occurrence occurs within this unit as veins with copper +/- silver.

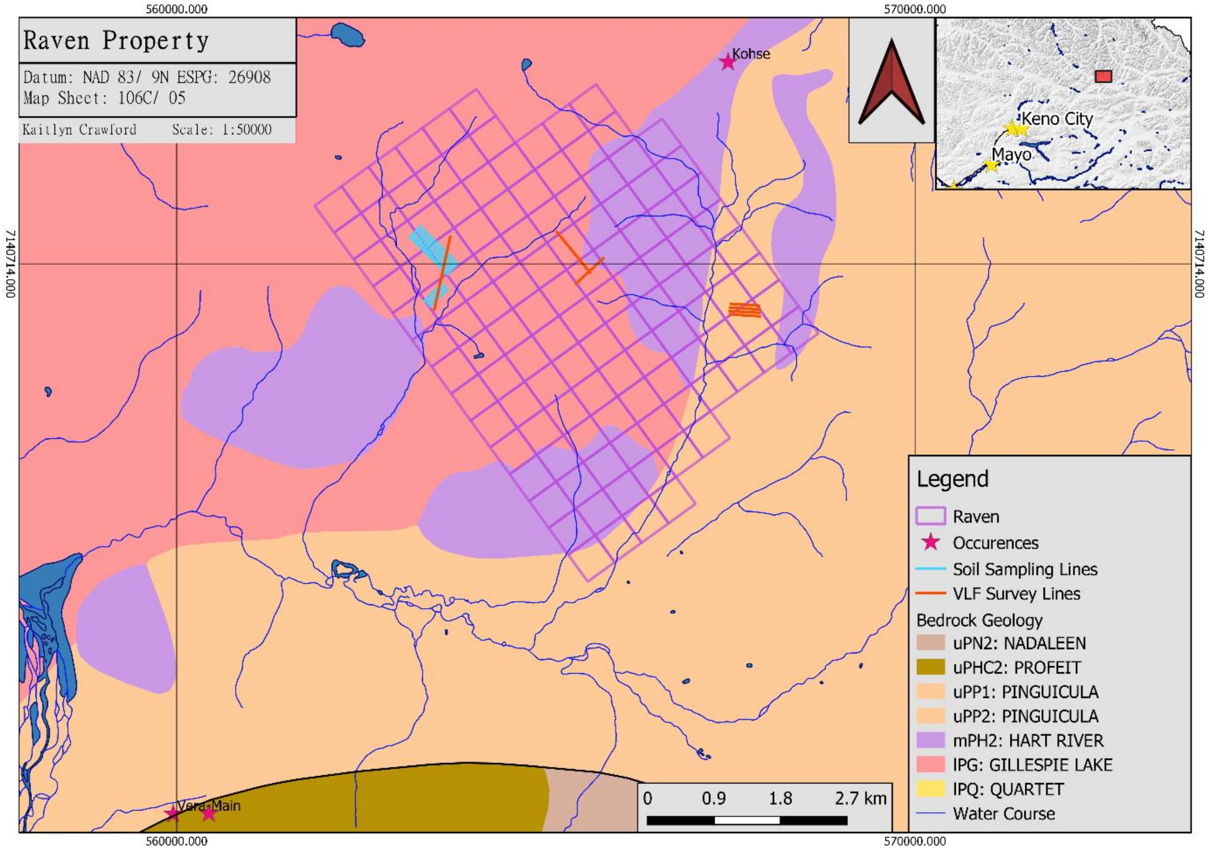


*Figure 6: Bedrock Geology of Raven Claims*

## Mineralization

There are several occurrences within a 12 km radius of the Raven property. South of the property these include the heavily mineralized Val and Vera occurrences. The Val occurrence is hosted in orange weathering stromatolitic dolostone breccia, that correlates with the Profeit Formation dolostone. Mineralization consists of argentiferous galena and tetrahedrite within

thin quartz veins and minor sparry dolomite, barite, tetrahedrite, galena and sphalerite. The dolostone outcrops as a block within an extensive unit of fissile dark grey shale. Prism Resources discovered the Val occurrence in 1988 and collected grab samples from mineralized boulders, one of which assayed 495 g/t Ag, 43.8% Pb, and 5.8% Zn (Yukon Minfile, 2019). The Vera Occurrence is a sediment hosted Mississippi Valley Type deposit. Historically it has produced rock samples up to 606.16 g/t silver, 347g/t lead and 3.18%, zinc. The Vera Main deposit is also hosted in orange weathering grey argillaceous dolomite of the Profeit Formation (Hay Creek Group). A vein-fault system occurs within the dolomite with fracture fillings of galena, argentiferous tetrahedrite and minor sphalerite, along with dolomite, ankerite, siderite, quartz, limonite, managenese oxides, pyrite, chalcopyrite, scorodite, smithsonite and clay (Yukon Minfile, 2019).

The Kohse occurrence lies 1 km northeast of the Raven property. This occurrence lies in the Hart River Dykes and has copper mineralization within veins. North of the property, within the 12 km radius, another sediment hosted Mississippi Valley Type deposit sits within the Gillespie Lake Group Sediments. The Super Dave occurrence consists of a 2 m wide quartz-carbonate vein containing pyrite and chalcopyrite that cuts dolostone. The margins of the vein are highly altered and contain disseminated fine-grained galena (Yukon Minfile, 2019). A study of NTS map sheet 106C/04 shows a high correlation between Mississippi Valley type hosted Au with Pb, Cu, Zn, W and Mo indicator minerals (Chakungal and Bennett, 2011).

# 2019 Exploration Program and Results

## Soil Sampling

During the summer of 2019, 4-man days were spent completing a small soil geochemical survey. The work occurred on August 29 and 154 samples were collected on the western portion of the property.

### Methods and Procedures

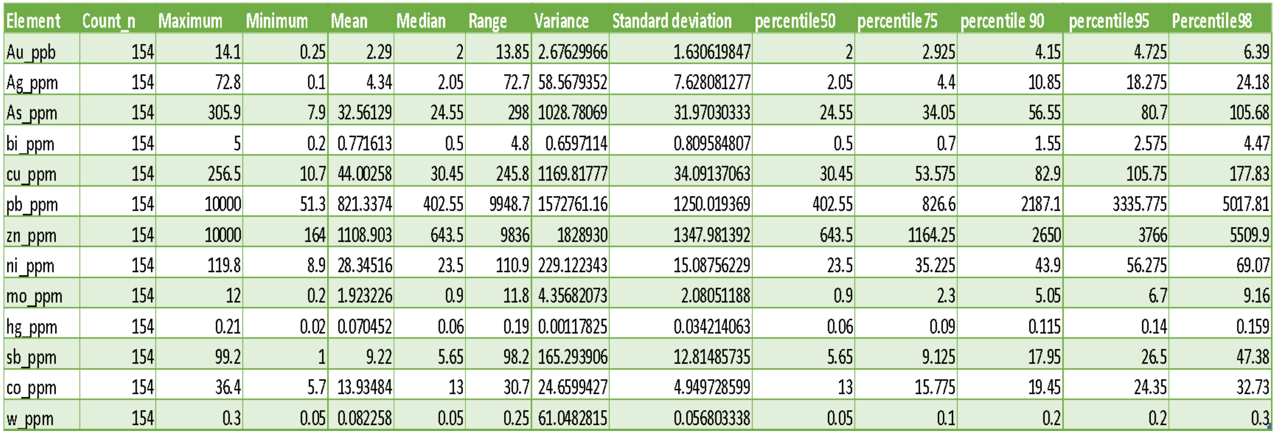
Field technicians navigated to sample sites using handheld GPS units. A C-Horizon sample is collected using an Eijklcamp brand hand auger at a depth of between 20 cm and 110 cm. Where necessary, in rocky or frozen ground, a mattock is used to obtain the sample. Photos are taken of the sample collected and sample site 5 m from sample hole with auger inserted. Typically, 400 to 500 g of soil is placed in a kraft bag. A three-part barcode sample ID tag is attached to a rock or branch in a visible area at the sample site along with a length of pink flagging tape. A barcode sample ID tag is tied to the kraft sample bag as well as a backup tag placed inside the kraft bag. The GPS location of the sample site is recorded with a Garmin 60cx or 76cx GPS device in UTM NAD 83 format, and the waypoint is labeled with the project name and the sample ID number. A weather-proof handheld device equipped with a barcode scanner is used in the field to record the descriptive attributes of the sample collected, including sample ID number, soil color, soil horizon, slope, sample depth, ground and tree vegetation and sample quality and any other relevant information.

### Analysis

Once received in the lab, soil samples are prepared using the SS80 method. Samples are dried at 60 degrees Celsius and sieved such that up to 100 grams of material passes 180 microns (80 mesh). The samples are then analyzed by the AQ201+U method which involves dissolving 15 grams of material in a hot Aqua Regia solution and determining the concentration of 37 elements of the resulting analyte by the ICP-MS technique.

## Results

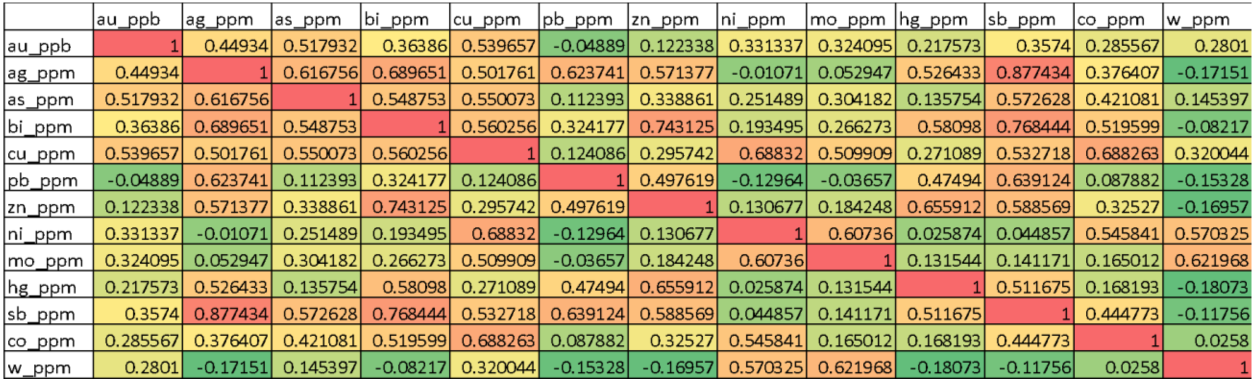
154 soil samples were collected and sent for assay. The results show a weak northwest trending Au anomaly over the area that was sampled (Figure 5). The highest returned values were 14.1 ppb Au, 10,000 ppm Zn and 10,000 ppm Pb which can be seen in the table below (Table 2).



| Element | Count_n | Maximum | Minimum | Mean | Median | Range | Variance | Standard deviation | percentile50 | percentile75 | percentile 90 | percentile95 | Percentile98 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Au_ppb | 154 | 14.1 | 0.25 | 2.29 | 2 | 13.85 | 2.67629966 | 1.630619847 | 2 | 2.925 | 4.15 | 4.725 | 6.39 |
| Ag_ppm | 154 | 72.8 | 0.1 | 4.34 | 2.05 | 72.7 | 58.5679352 | 7.628081277 | 2.05 | 4.4 | 10.85 | 18.275 | 24.18 |
| As_ppm | 154 | 305.9 | 7.9 | 32.56129 | 24.55 | 298 | 1028.78069 | 31.97030333 | 24.55 | 34.05 | 56.55 | 80.7 | 105.68 |
| bi_ppm | 154 | 5 | 0.2 | 0.771613 | 0.5 | 4.8 | 0.6597114 | 0.809584807 | 0.5 | 0.7 | 1.55 | 2.575 | 4.47 |
| cu_ppm | 154 | 256.5 | 10.7 | 44.00258 | 30.45 | 245.8 | 1169.81777 | 34.09137063 | 30.45 | 53.575 | 82.9 | 105.75 | 177.83 |
| pb_ppm | 154 | 10000 | 51.3 | 821.3374 | 402.55 | 9948.7 | 1572761.16 | 1250.019369 | 402.55 | 826.6 | 2187.1 | 3335.775 | 5017.81 |
| zn_ppm | 154 | 10000 | 164 | 1108.903 | 643.5 | 9836 | 1828930 | 1347.981392 | 643.5 | 1164.25 | 2650 | 3766 | 5509.9 |
| ni_ppm | 154 | 119.8 | 8.9 | 28.34516 | 23.5 | 110.9 | 229.122343 | 15.08756229 | 23.5 | 35.225 | 43.9 | 56.275 | 69.07 |
| mo_ppm | 154 | 12 | 0.2 | 1.923226 | 0.9 | 11.8 | 4.35682073 | 2.08051188 | 0.9 | 2.3 | 5.05 | 6.7 | 9.16 |
| hg_ppm | 154 | 0.21 | 0.02 | 0.070452 | 0.06 | 0.19 | 0.00117825 | 0.034214063 | 0.06 | 0.09 | 0.115 | 0.14 | 0.159 |
| sb_ppm | 154 | 99.2 | 1 | 9.22 | 5.65 | 98.2 | 165.293906 | 12.81485735 | 5.65 | 9.125 | 17.95 | 26.5 | 47.38 |
| co_ppm | 154 | 36.4 | 5.7 | 13.93484 | 13 | 30.7 | 24.6599427 | 4.949728599 | 13 | 15.775 | 19.45 | 24.35 | 32.73 |
| w_ppm | 154 | 0.3 | 0.05 | 0.082258 | 0.05 | 0.25 | 61.0482815 | 0.056803338 | 0.05 | 0.1 | 0.2 | 0.2 | 0.3 |

*Table 2: Statistical analysis of the 2019 soil assay results*

There is a strong correlation between Pb, Ag, Au, As, Cu and Bi which can be seen in the table below (Table 3). Sb and Ag had a particularly strong correlation trend. This mineral assemblage is similar to what is seen in the nearby Val and Vera occurrences.



| | au_ppb | ag_ppm | as_ppm | bi_ppm | cu_ppm | pb_ppm | zn_ppm | ni_ppm | mo_ppm | hg_ppm | sb_ppm | co_ppm | w_ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| au_ppb | 1 | 0.44934 | 0.517932 | 0.36386 | 0.539657 | -0.04889 | 0.122338 | 0.331337 | 0.324095 | 0.217573 | 0.3574 | 0.285567 | 0.2801 |
| ag_ppm | 0.44934 | 1 | 0.616756 | 0.689651 | 0.501761 | 0.623741 | 0.571377 | -0.01071 | 0.052947 | 0.526433 | 0.877434 | 0.376407 | -0.17151 |
| as_ppm | 0.517932 | 0.616756 | 1 | 0.548753 | 0.550073 | 0.112393 | 0.338861 | 0.251489 | 0.304182 | 0.135754 | 0.572628 | 0.421081 | 0.145397 |
| bi_ppm | 0.36386 | 0.689651 | 0.548753 | 1 | 0.560256 | 0.324177 | 0.743125 | 0.193495 | 0.266273 | 0.58098 | 0.768444 | 0.519599 | -0.08217 |
| cu_ppm | 0.539657 | 0.501761 | 0.550073 | 0.560256 | 1 | 0.124086 | 0.295742 | 0.68832 | 0.509909 | 0.271089 | 0.532718 | 0.688263 | 0.320044 |
| pb_ppm | -0.04889 | 0.623741 | 0.112393 | 0.324177 | 0.124086 | 1 | 0.497619 | -0.12964 | -0.03657 | 0.47494 | 0.639124 | 0.087882 | -0.15328 |
| zn_ppm | 0.122338 | 0.571377 | 0.338861 | 0.743125 | 0.295742 | 0.497619 | 1 | 0.130677 | 0.184248 | 0.655912 | 0.588569 | 0.32527 | -0.16957 |
| ni_ppm | 0.331337 | -0.01071 | 0.251489 | 0.193495 | 0.68832 | -0.12964 | 0.130677 | 1 | 0.60736 | 0.025874 | 0.044857 | 0.545841 | 0.570325 |
| mo_ppm | 0.324095 | 0.052947 | 0.304182 | 0.266273 | 0.509909 | -0.03657 | 0.184248 | 0.60736 | 1 | 0.131544 | 0.141171 | 0.165012 | 0.621968 |
| hg_ppm | 0.217573 | 0.526433 | 0.135754 | 0.58098 | 0.271089 | 0.47494 | 0.655912 | 0.025874 | 0.131544 | 1 | 0.511675 | 0.168193 | -0.18073 |
| sb_ppm | 0.3574 | 0.877434 | 0.572628 | 0.768444 | 0.532718 | 0.639124 | 0.588569 | 0.044857 | 0.141171 | 0.511675 | 1 | 0.444773 | -0.11756 |
| co_ppm | 0.285567 | 0.376407 | 0.421081 | 0.519599 | 0.688263 | 0.087882 | 0.32527 | 0.545841 | 0.165012 | 0.168193 | 0.444773 | 1 | 0.0258 |
| w_ppm | 0.2801 | -0.17151 | 0.145397 | -0.08217 | 0.320044 | -0.15328 | -0.16957 | 0.570325 | 0.621968 | -0.18073 | -0.11756 | 0.0258 | 1 |

*Table3: Correlation matrix of the 2019 soil assay results*

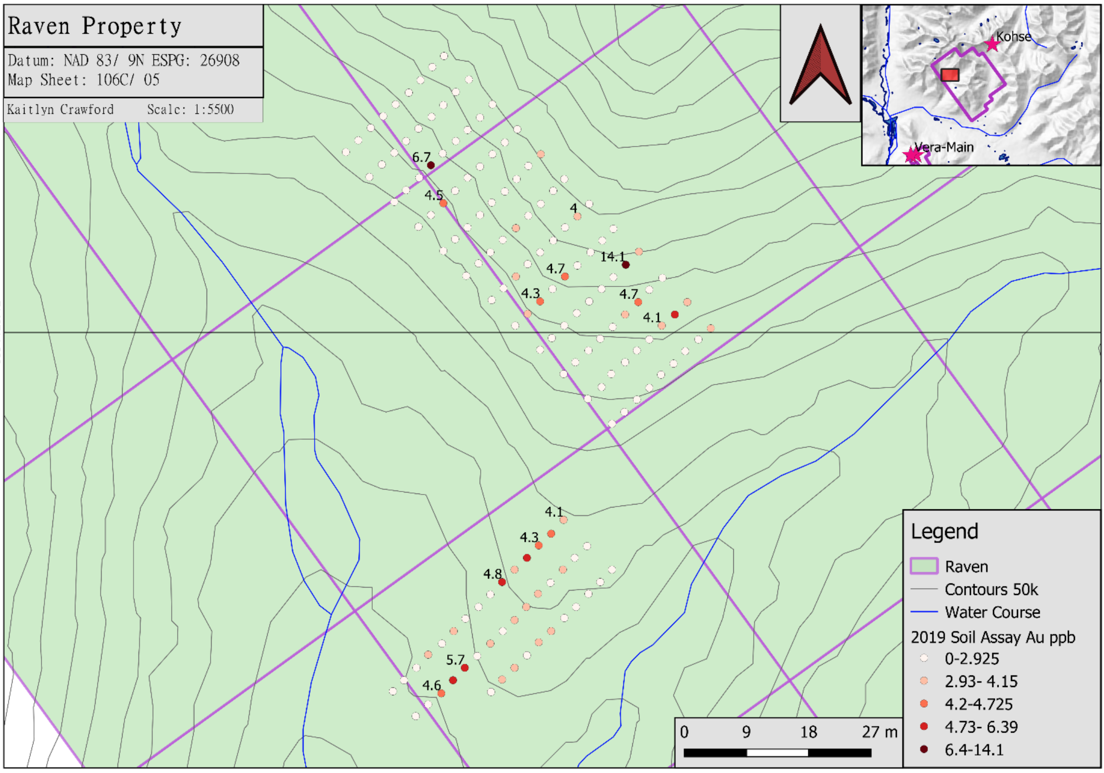


*Figure 7: Soil Locations with assay results for Au ppb*

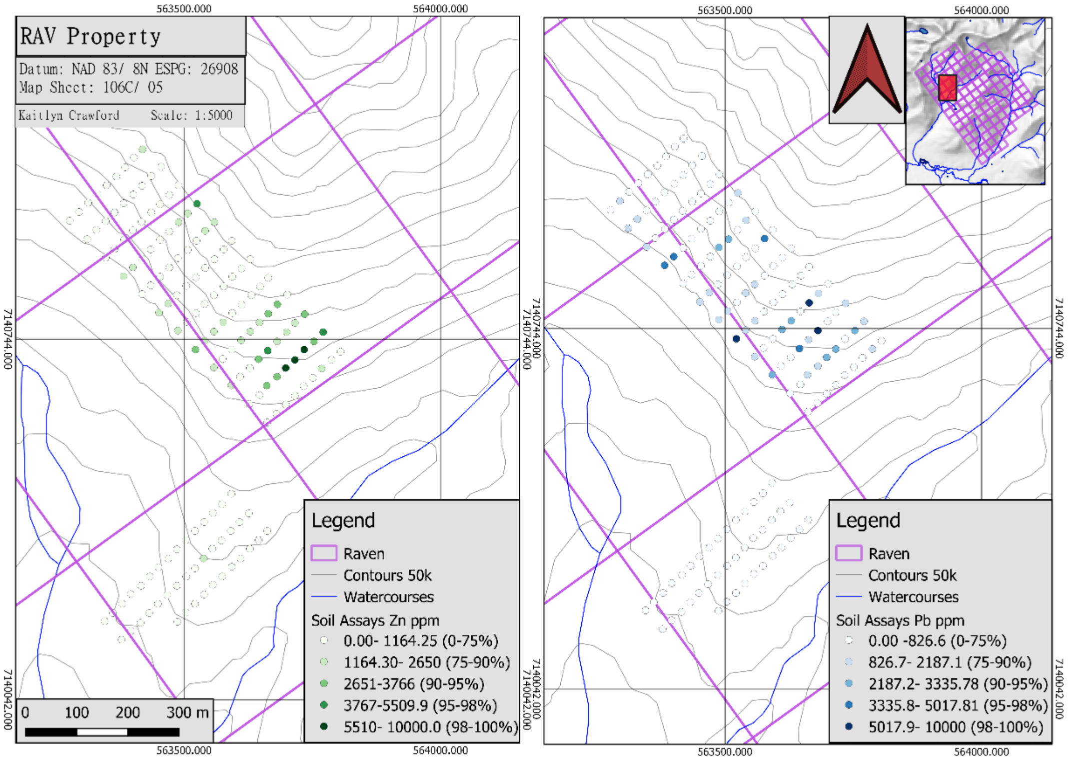


*Figure 8: 2019 location of Soil assays. A comparison between Zinc and Lead in soil*

## VLF Magnetics Surveys

Three areas on the Raven property were surveyed on August 29, 2019 covering a total of 3.3 line-km. The first area surveyed in the western claim area was a 1 km-line running NE. The second line was 500 m long running NE in the central area. The last set of survey lines completed were four parallel lines totaling 1 km near the eastern boundary of the claim group (Figure 8).

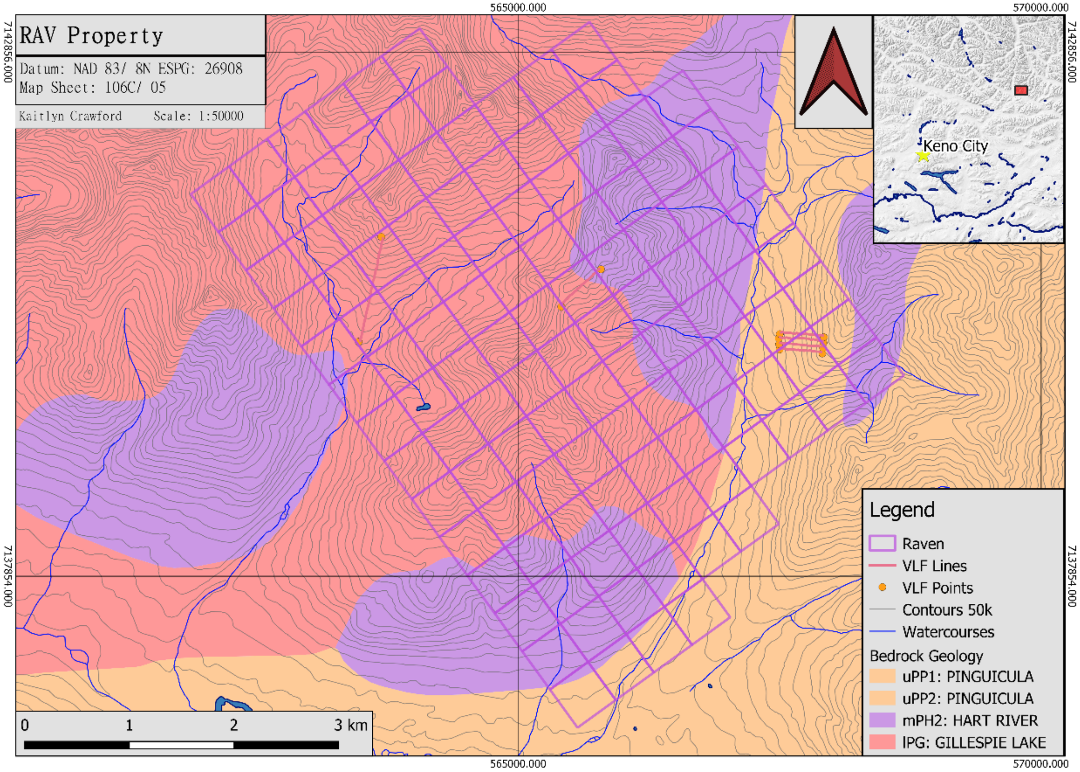


*Figure 9: Location of the VLF lines taken during the Summer of 2019 over the Raven property bedrock geology*

### Methods and Procedures

Data was acquired using GEM-19 portable VLF systems supplemented by a high-sensitivity proton magnetometer. The magnetometer has an absolute accuracy of +/- 0.2nT. Along with basic GPS tracking, GEM provides a navigation feature with the real-time coordinate transformation to UTM and the local grid. Operators can define a complete survey on a PC and download points to the magnetometer via an RS-232 serial port.

During the survey, a GEM-19 magnetometer was set up as the base station to collect data for correction and removal of unwanted noise arising from solar and atmospheric activity. Total coverage of the survey block amounted to 3.3 line-km along 6 survey lines taking 328 readings at about 10 m station spacing. The in-phase and out-of-phase (quadrature) signals were measured as the percentage of total field for three frequencies.

The methods and procedure for VLF+Mag surveys are discussed fully in the report “Raven GEOPHYSICAL REPORT GROUND VLF AND MAGNETIC SURVEY” by Geophysicist Amir H. Radjaee*, Ph.D., P.Geo* in Appendix III.

### Analysis

Once each survey was completed in the field, the data measurements were downloaded and reviewed to ensure the quality of the data collected. This allowed field errors to be addressed before moving the equipment. The VLF+Mag data sets were processed daily by the operator using EarthImager 2D software provided by Advanced Geosciences Inc. Data collected in the field was then processed by the Ground Truth Exploration Inc. geophysicist, Amir Radjaee.

The data is processed for magnetic diurnal correction and the Fraser filters are applied on in-phase and quadrature components of VLF+MAG data. The data can be processed in advanced levels using inversion modelling techniques recently developed for the 2D inversion of VLF+MAG data. The EMTOMO-VLF2Dmf which is a software program for the 2D inversion of VLF-EM data based on the finite element (FE) method. This will ensure that geological models respect a consistent structural, stratigraphic, and topological framework in addition to ensuring consistency between different geophysical models.

## Results

The four lines in the northeastern portion of the property are pictured below in both in-phase and out-phase. Data is represented for the three different Fraser lenses used. In the middle of the imagery and on the east side there are two areas of a higher electromagnetic signature (Figures 9, 10, 11). These have the potential to be underlying structures that may have provided the necessary porosity for hydrothermal fluid flow. The other two lines are discussed in Appendix III. For full details of the results see “Raven GEOPHYSICAL REPORT GROUND VLF AND MAGNETIC SURVEY” by Geophysicist Amir H. Radjaee*, Ph.D., P.Geo* in Appendix III.

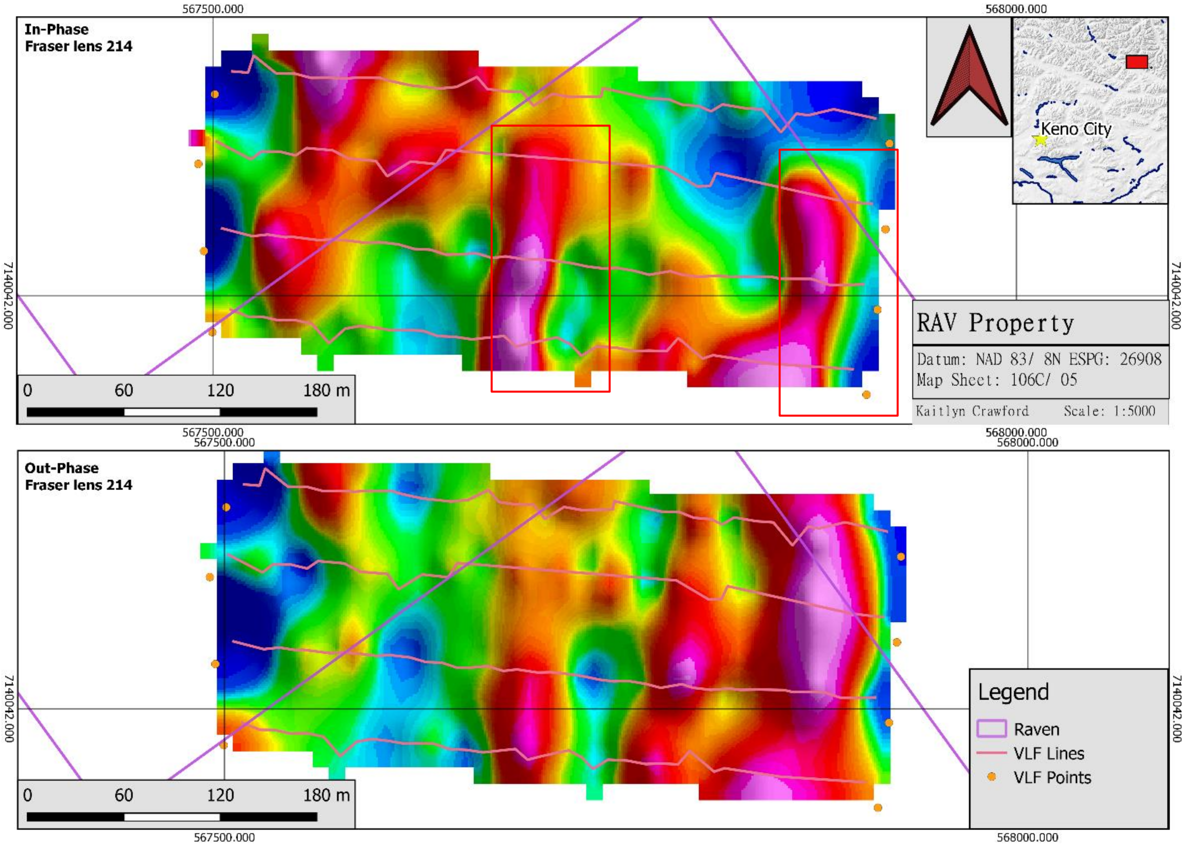


*Figure 10: Walking VLF taken during the 2019 field season. A 214 Fraser filter was used to process the data. Red boxes indicate areas where underlying structures may be.*

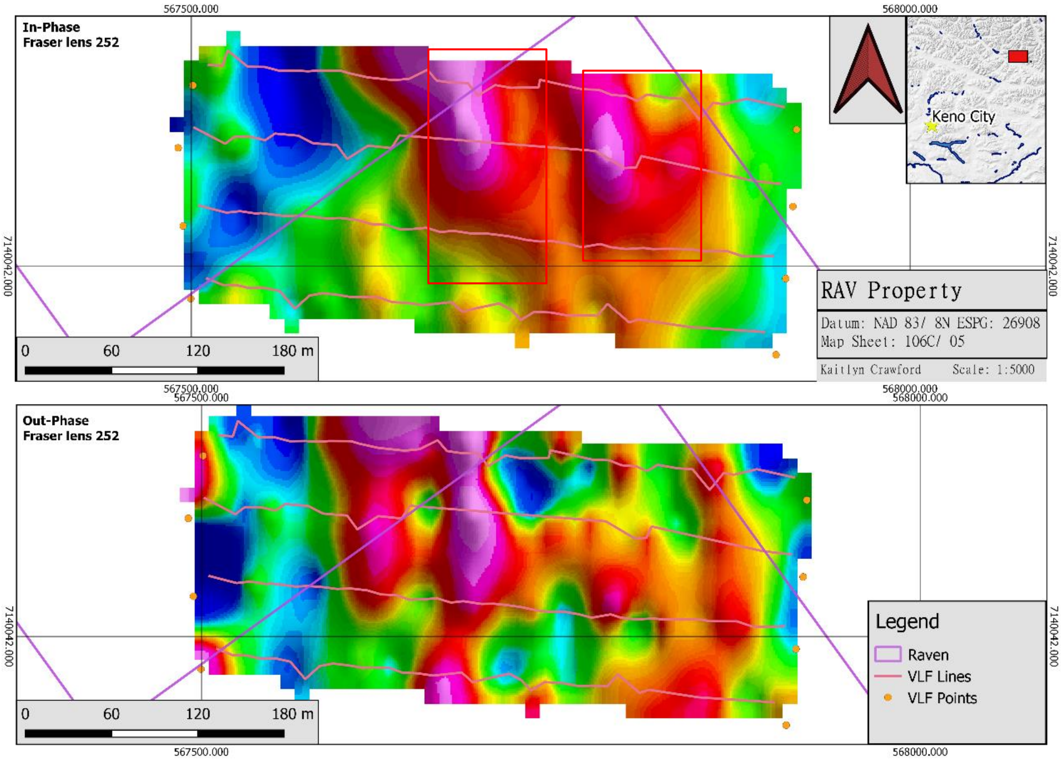


*Figure 11: Walking VLF taken during the 2019 field season. A 252 Fraser filter was used to process the data. Red boxes indicate areas where underlying structures may be*

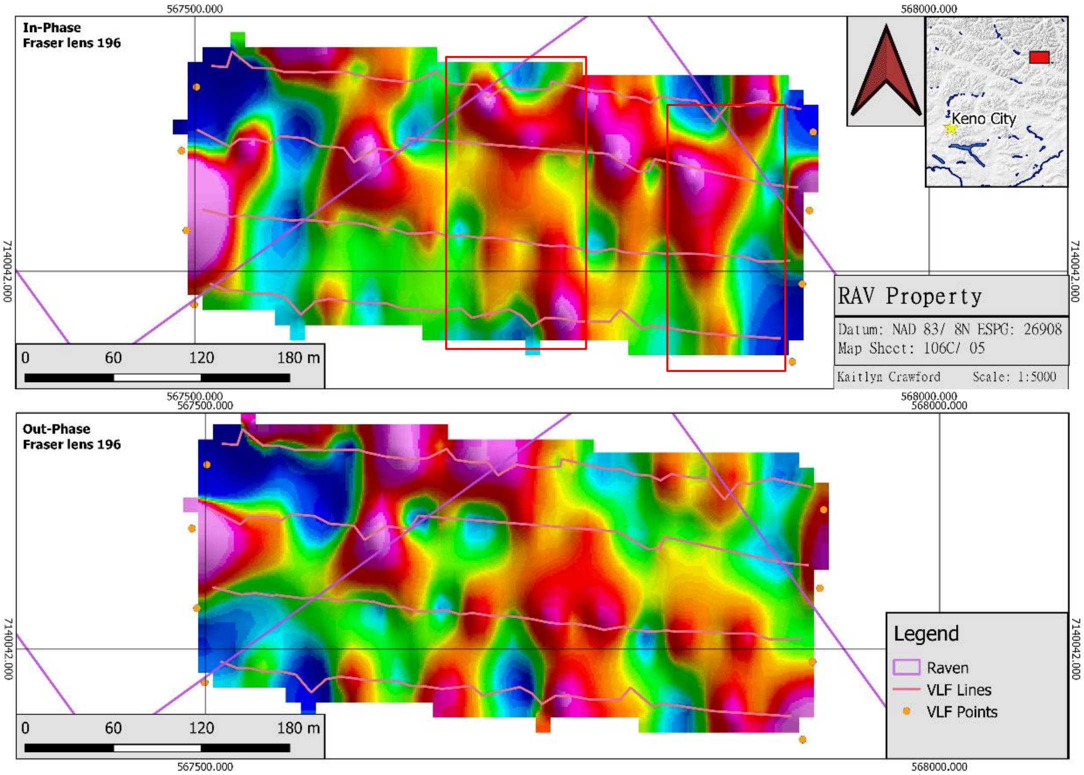


*Figure 12: Walking VLF taken during the 2019 field season. A 196 Fraser filter was used to process the data. Red boxes indicate areas where underlying structures may be*

## UAV Drone

A 10km$^2$ UAV drone imagery survey was flown over the central portion of the Raven property on August 29, 2019 (Figure 8). See map in appendix IV.

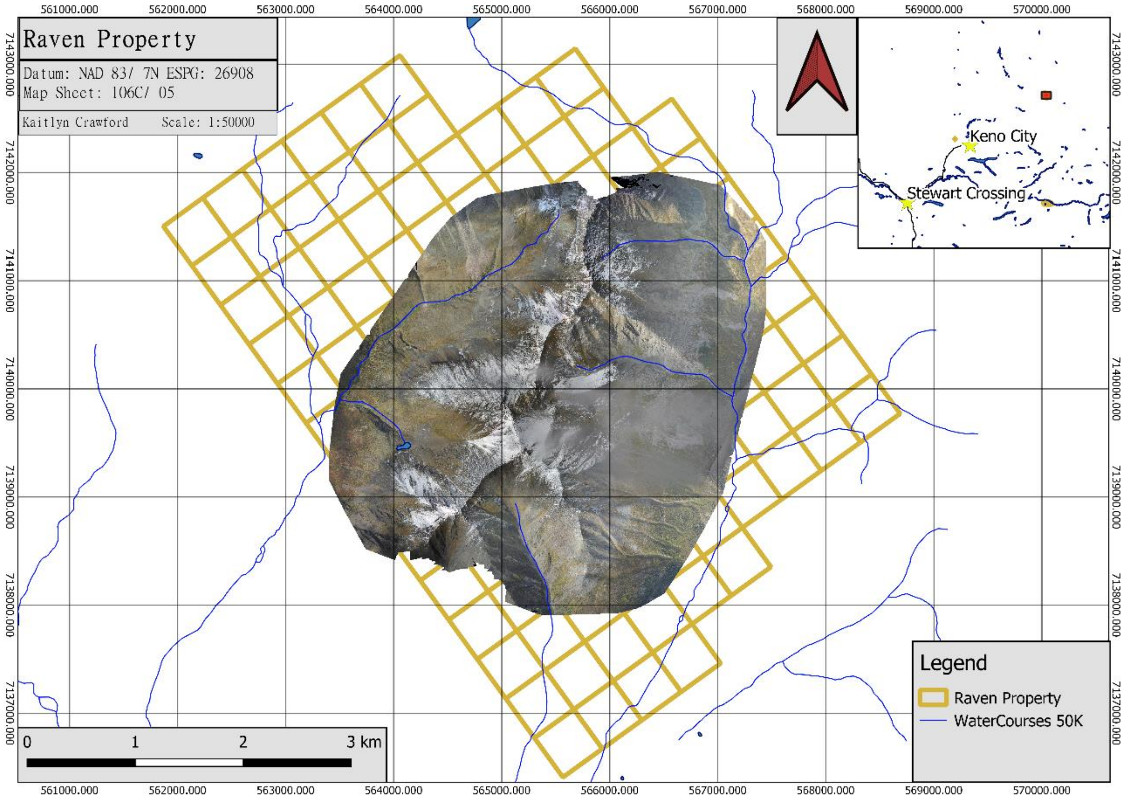


*Figure 13: Drone imagery over the Raven property taken during the summer of 2019*

## Interpretation and Conclusions

Results from the soils data show a strong correlation between Pb, Ag, Au, As, Cu and Bi. Similar mineral assemblages are seen in the nearby Val and Vera occurrences, which are both Mississippi Valley Type (MVT) occurrences. Although gold did not return high assay values, both lead and zinc returned values that exceeded the 10,000-ppm threshold. These results are promising for further exploration of MVT style deposits on the claims.

The VLF+Mag survey done on the property outlined the potential for two underlying structures in the northeast portion of the property. In the middle of the imagery and on the east side there are two areas of a higher electromagnetic signature (Figures 9, 10, 11). These have the potential to be underlying structures that may have provided the necessary porosity for hydrothermal fluid flow.

## Recommendations

Prospecting and bedrock mapping of the property is highly recommended to help identify mineralization styles in the area as well as help define zones where MVT mineralization may occur. In areas of deeper overburden, bedrock interface probing should be used. Additional geophysical surveys should be completed and the data used as a guide to help better define areas where fault and fracture structures may be located. These structures may play host to hydrothermal mineralization as seen in some of the Minfile occurrences in the area.

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## Statement of Expenditures

GroundTruth Exploration Conducted a 2-day exploration program on the Raven property on August 28 and 29, 2019. On August 28, a 10 km$^2$ drone imagery/topo survey was flown on the Raven claims with a crew of 2 requiring 1.3 hrs of helicopter time to access the property. On August 29, a total of 154 soil geochemical samples were collected and 3.3 km line of VLF+Mag traverses were surveyed. The soil and VLF+Mag crew of 5 drove to Mayo on Aug 27, worked Keystone on Aug 28, Raven Aug 29 and demobed Aug 30. Mobe-Demobe day charges were split between the 2 projects, with Aug 30 demobe being changed to Raven property.

| | | | | |
|---|---|---|---|---|
| **Soils - 154 soils collected (including Mobe/Demob)** | **29-Aug** | | | |
| **Labour - 154 soils charged at $25/sample inc. survey and demobe labour** | 154 | $25.00 | $3,850.00 | |
| **Equipment - Rental** | | | | |
| Laptop, GPS, Data Logger, Radios, Inreach, Sat Phone<br>Field Packs, Sampling tools @ $12.50/field man day | 4 | $12.50 | | |
| | | | $50.00 | |
| **Sampling Supplies -Consumables** | | | | |
| Kraft Bags, Barcode ID Tags, Ore Bags, Rice Bags<br>Flagging, Zip Ties, AA Batteries @ $0.50/sample | 154 | $0.50 | | |
| | | | $77.00 | **$3,977.00** |

| | | | | |
|---|---|---|---|---|
| **Mag/VLF - 3.1 line km, 1 man day + Mobe/Demobe** | **29-Aug** | | | |
| **Labour - 1 Operator + 1 Assant** | | | $650.00 | |
| **Equipment - Rental** | | | | |
| GEM Systems 19V MAG VLF with Mag Base station<br>, @ $150/day for MAG/VLF and $50/day for mag base | 1 | $200.00 | | |
| | | | $200.00 | |
| **Mag/VLF Data Processing** | | | | |
| Amir - 8 hours estimate (labour at cost +10%) | 8 | $65.00 | | |
| | | | $520.00 | **$1,370.00** |

| | | | | |
|---|---|---|---|---|
| **Drone - 8 flights/10km2, 2 man days, 2 drones** | **28-Aug** | | | |
| **Labour - 1 Operator at $350/d, 1 Asst at $250/d** | 1 | $600.00 | $600.00 | |
| **Equipment - Rental** | | | | |
| Sensefly Ebee Plus UAV with base station and laptop<br>, @ $250/day per drone system | 2 | $250.00 | | |
| | | | $500.00 | |
| **Drone Data Processing** | | | | |
| Final Processing and Deliverables - Orthoimage, DEM, Point Cloud - 8 flights @ $50/flight | 8 | $50.00 | | |
| | | | $400.00 | **$1,500.00** |

| | | | | |
|---|---|---|---|---|
| **Project Support** | **30-Aug** | | | |
| **Vehicle** | | | | |
| 1 Truck for Soil/Mag-VLF Crew 2d<br>, @ $75/day | 2 | $75.00 | | |
| Fuel Mayo to Dawson - $150 | | $150.00 | | |
| * Soil/Mag Truck charge charged on survey day Aug 29 and demobe day Aug 30/19 | | | $300.00 | |
| **Food/Accom** | | | | |
| Food for Crew of 4 soil samplers, 1 Mag/VLF, 2 Drone @ $40/md | 12 | $40.00 | | |
| Camp for Crew of 4 soil samplers, 1 Mag/VLF, 2 Drone @ $40/md | 12 | | | |

|  |  |  |  |  |
|---|---|---|---|---|
|  |  | $40.00 |  |  |
| ** Soil/Mag camp+accom charges on Survey and demobe day Aug 29,30/19 |  |  | $960.00 | **$1,260.00** |
| **Assessment Report** |  |  |  |  |
| Report by: Kaitlyn Crawford, GroundTruth Geologist - 12h | 12 | $35.00 |  |  |
|  |  |  | $420.00 | **$420.00** |
|  |  |  | **$8,527.00** | **$ 8,527.00** |

## Statement of Qualifications

I, Kaitlyn Crawford, do hereby declare that:

1. I am currently assisting with end of season report writing for GroundTruth Exploration Inc. of Dawson City, Yukon.
2. I graduated from Brandon University in 2018 with a B.Sc. degree in Geology.
3. I have worked as a geologist or geological assistant on and off since 2015.
4. I am not aware of any material, fact or material change with respect to the subject matter of this report, the omission to disclose which makes this report misleading.

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Dated:
March 31, 2020

# Appendices

# Appendix I: Soil Sample Descriptions and XRF Results

| sample_i | project_ | au_ppb | ag_ppm | as_ppm | bi_ppm | cu_ppm | hg_ppm | mo_ppm | pb_ppm |
|---|---|---|---|---|---|---|---|---|---|
| 1802537 | RAV | 2.2 | 3.1 | 203.8 | 0.4 | 20.5 | 0.04 | 0.9 | 446.3 |
| 1802538 | RAV | 2 | 2.2 | 56.4 | 0.4 | 20 | 0.06 | 1.2 | 343.7 |
| 1802539 | RAV | 1.9 | 1.7 | 50.2 | 0.7 | 43 | 0.05 | 1 | 202 |
| 1802540 | RAV | 1.9 | 1.5 | 23.8 | 0.4 | 22.2 | 0.04 | 0.7 | 280.5 |
| 1802541 | RAV | 1 | 0.9 | 19.1 | 0.2 | 20.5 | 0.04 | 0.7 | 168.5 |
| 1802542 | RAV | 1.7 | 2.6 | 32.3 | 0.4 | 29 | 0.05 | 0.8 | 675.7 |
| 1802543 | RAV | 1.2 | 2.8 | 30.4 | 0.4 | 31.2 | 0.04 | 0.8 | 798.3 |
| 1802544 | RAV | 0.9 | 3.1 | 31.7 | 0.4 | 30.9 | 0.04 | 0.8 | 980.2 |
| 1802545 | RAV | 0.5 | 2.4 | 26.1 | 0.3 | 26.7 | 0.04 | 0.8 | 767.6 |
| 1802546 | RAV | 0.25 | 4.8 | 27.8 | 0.5 | 26.3 | 0.04 | 0.9 | 1641.2 |
| 1802547 | RAV | 0.25 | 2.5 | 25.4 | 0.4 | 23.2 | 0.06 | 0.8 | 912.7 |
| 1802548 | RAV | 1.7 | 0.7 | 13.2 | 0.5 | 21.5 | 0.13 | 0.5 | 53.4 |
| 1802549 | RAV | 1.8 | 1.1 | 23.1 | 0.4 | 19.4 | 0.05 | 0.6 | 193 |
| 1802550 | RAV | 1.3 | 0.9 | 21.9 | 0.4 | 19.2 | 0.03 | 0.5 | 177.9 |
| 1802551 | RAV | 2.2 | 1.1 | 25.1 | 0.4 | 17.4 | 0.03 | 0.7 | 194 |
| 1802552 | RAV | 2.3 | 1.5 | 23.1 | 0.4 | 29.3 | 0.07 | 0.7 | 410.3 |
| 1802553 | RAV | 1.8 | 1.8 | 33.4 | 0.4 | 26.5 | 0.05 | 0.8 | 375.7 |
| 1802554 | RAV | 1.3 | 2.8 | 52 | 0.5 | 26.6 | 0.07 | 0.9 | 392.6 |
| 1802555 | RAV | 1.2 | 0.8 | 49.7 | 0.3 | 16.6 | 0.04 | 0.7 | 109 |
| 1802556 | RAV | 0.25 | 0.6 | 15.8 | 0.4 | 62.4 | 0.04 | 0.9 | 113.4 |
| 1802557 | RAV | 1.4 | 0.6 | 16.4 | 0.4 | 23.3 | 0.04 | 0.7 | 236.9 |
| 1802558 | RAV | 0.9 | 2.8 | 106 | 1.2 | 30.4 | 0.05 | 0.9 | 349.4 |
| 1802559 | RAV | 2.6 | 1.9 | 33.5 | 0.6 | 30.4 | 0.05 | 0.9 | 425.3 |
| 1802560 | RAV | 0.5 | 1.2 | 18.9 | 0.4 | 20.3 | 0.04 | 0.6 | 376.4 |
| 1802561 | RAV | 6.7 | 1.8 | 17.9 | 0.3 | 21.8 | 0.04 | 0.8 | 493 |
| 1802562 | RAV | 1.7 | 2.3 | 19.3 | 0.4 | 23.9 | 0.08 | 0.8 | 675.6 |
| 1802563 | RAV | 2.2 | 2.4 | 20.9 | 0.4 | 23.7 | 0.08 | 0.9 | 604.4 |
| 1802564 | RAV | 1 | 3.1 | 28.6 | 0.4 | 28.6 | 0.08 | 0.8 | 1129.3 |
| 1802565 | RAV | 0.9 | 11.3 | 47.5 | 0.7 | 45.7 | 0.06 | 1 | 3792.7 |
| 1802566 | RAV | 2.9 | 10.6 | 47.4 | 0.6 | 46.6 | 0.09 | 0.9 | 3543.6 |
| 1802567 | RAV | 4.5 | 1.1 | 18.9 | 0.4 | 22.3 | 0.05 | 0.6 | 291.5 |
| 1802568 | RAV | 2.5 | 1.6 | 19.9 | 0.4 | 25.8 | 0.03 | 0.7 | 329.1 |
| 1802569 | RAV | 2 | 1.5 | 24.1 | 0.4 | 28.1 | 0.04 | 0.7 | 359.6 |
| 1802570 | RAV | 2.1 | 1.1 | 15.5 | 0.3 | 15.2 | 0.03 | 0.6 | 311.2 |
| 1802571 | RAV | 1.7 | 1.3 | 20.2 | 0.2 | 10.7 | 0.04 | 1.2 | 687.4 |
| 1802572 | RAV | 1.1 | 2.1 | 21.2 | 0.3 | 15.6 | 0.05 | 0.9 | 531.8 |
| 1802573 | RAV | 1.2 | 2.1 | 33.4 | 0.4 | 26.1 | 0.09 | 1 | 902.5 |
| 1802611 | RAV | 3 | 3.9 | 27.5 | 1.3 | 44 | 0.05 | 1.4 | 212.8 |
| 1802612 | RAV | 14.1 | 72.8 | 305.9 | 5 | 256.5 | 0.1 | 2.3 | 947.1 |
| 1802613 | RAV | 1.4 | 31.2 | 38.2 | 1.9 | 82.1 | 0.13 | 1.7 | 10000 |
| 1802614 | RAV | 2.1 | 3 | 16.9 | 0.5 | 24.9 | 0.1 | 0.9 | 491 |
| 1802615 | RAV | 2.4 | 13.2 | 28.1 | 1 | 50.4 | 0.11 | 1 | 2235.7 |
| 1802616 | RAV | 0.25 | 16.3 | 35.7 | 0.7 | 34.1 | 0.1 | 0.7 | 3197.2 |
| 1802617 | RAV | 2.2 | 5.4 | 17.8 | 0.4 | 33 | 0.11 | 1 | 690 |
| 1802618 | RAV | 0.25 | 4.8 | 13.9 | 0.4 | 27 | 0.09 | 0.9 | 723.6 |
| 1802619 | RAV | 2 | 6 | 16.1 | 0.4 | 22.9 | 0.11 | 0.9 | 1153.9 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1802620 | RAV | 1.7 | 14.9 | 23.2 | 0.7 | 44.2 | 0.12 | 1 | 2212.7 |
| 1802621 | RAV | 2.6 | 2.1 | 11.7 | 0.4 | 18.9 | 0.09 | 1 | 365 |
| 1802622 | RAV | 0.25 | 1.5 | 13.6 | 0.5 | 26.8 | 0.08 | 1.7 | 454.8 |
| 1802623 | RAV | 0.25 | 22.2 | 24.2 | 1.3 | 66.8 | 0.14 | 1.5 | 4862.2 |
| 1802624 | RAV | 0.9 | 8.8 | 33.4 | 2.4 | 64.2 | 0.12 | 2.9 | 1319.8 |
| 1802625 | RAV | 1.8 | 9.3 | 32.6 | 2.5 | 65.3 | 0.13 | 2.8 | 1450 |
| 1802626 | RAV | 3.6 | 24.3 | 36.9 | 1.6 | 54.4 | 0.11 | 1.3 | 5035.1 |
| 1802627 | RAV | 4.7 | 10.2 | 48.1 | 2.9 | 49.2 | 0.11 | 1.2 | 808.1 |
| 1802628 | RAV | 1.3 | 6.9 | 44.5 | 4.5 | 105.6 | 0.11 | 1.3 | 477.4 |
| 1802629 | RAV | 1.4 | 10.7 | 65.5 | 1.8 | 53.5 | 0.14 | 10.1 | 1384.1 |
| 1802630 | RAV | 3.2 | 14.1 | 51.2 | 2.1 | 95.6 | 0.18 | 6.7 | 1460.6 |
| 1802631 | RAV | 6.4 | 17.8 | 71.6 | 2.9 | 82.3 | 0.21 | 7.6 | 2250.8 |
| 1802632 | RAV | 4.1 | 9 | 91.4 | 2.8 | 48.8 | 0.11 | 2.6 | 329.9 |
| 1802633 | RAV | 2.6 | 20 | 102.8 | 4.6 | 124.9 | 0.16 | 4.5 | 2785.1 |
| 1802634 | RAV | 2 | 19.7 | 61.2 | 4.2 | 83.5 | 0.15 | 4.2 | 3266.5 |
| 1802635 | RAV | 1.9 | 7.7 | 26.2 | 1.9 | 46.3 | 0.13 | 2.5 | 889.1 |
| 1802636 | RAV | 2.1 | 11 | 24.8 | 1.6 | 40.7 | 0.14 | 1.6 | 2161.5 |
| 1802637 | RAV | 1.5 | 1.2 | 15.6 | 1 | 19 | 0.04 | 1.9 | 158.4 |
| 1802638 | RAV | 0.25 | 0.7 | 33.4 | 1.1 | 70.2 | 0.03 | 5.3 | 281.4 |
| 1802639 | RAV | 0.7 | 0.3 | 26.9 | 0.7 | 45.7 | 0.03 | 3.7 | 112.1 |
| 1802640 | RAV | 0.25 | 0.4 | 15.4 | 0.5 | 22.1 | 0.03 | 2.3 | 95.1 |
| 1802641 | RAV | 1.7 | 2.2 | 18.5 | 0.6 | 26.9 | 0.08 | 2.8 | 119 |
| 1802642 | RAV | 2.9 | 1 | 26.6 | 0.8 | 29 | 0.03 | 3.2 | 257.5 |
| 1802643 | RAV | 1.6 | 0.5 | 47.9 | 1 | 42.7 | 0.02 | 6.7 | 349.8 |
| 1802644 | RAV | 1.7 | 1.1 | 24.1 | 0.7 | 80.1 | 0.03 | 3.4 | 185.4 |
| 1802645 | RAV | 2.9 | 2.8 | 24.9 | 1.4 | 24.7 | 0.08 | 2.1 | 333.2 |
| 1802646 | RAV | 2.8 | 10.3 | 38.1 | 0.8 | 65.3 | 0.1 | 5 | 1554.9 |
| 1802647 | RAV | 3.7 | 4.4 | 11.1 | 1.2 | 22.2 | 0.11 | 0.8 | 394.8 |
| 1802701 | RAV | 0.9 | 1.5 | 13.2 | 0.3 | 26.8 | 0.08 | 0.7 | 254.3 |
| 1802702 | RAV | 2.2 | 3 | 19.5 | 0.6 | 22.2 | 0.1 | 0.8 | 477.3 |
| 1802703 | RAV | 4.7 | 2.5 | 13.7 | 0.4 | 25.1 | 0.08 | 0.6 | 435 |
| 1802704 | RAV | 1.6 | 3.1 | 16.4 | 0.4 | 28.8 | 0.1 | 0.8 | 543.5 |
| 1802705 | RAV | 4.3 | 4.7 | 15.2 | 0.6 | 25.8 | 0.05 | 0.7 | 901.2 |
| 1802706 | RAV | 4.2 | 6.5 | 12.9 | 0.4 | 21.9 | 0.1 | 0.8 | 1479.3 |
| 1802707 | RAV | 2.1 | 23.1 | 7.9 | 0.8 | 27.8 | 0.12 | 0.7 | 6228.3 |
| 1813319 | RAV | 3.3 | 5.6 | 29.4 | 0.7 | 45 | 0.05 | 0.7 | 784.7 |
| 1813320 | RAV | 1.4 | 5.6 | 81.9 | 1.1 | 39.6 | 0.06 | 0.9 | 1582.9 |
| 1813321 | RAV | 0.9 | 3.7 | 32 | 0.7 | 41.5 | 0.08 | 0.4 | 622.3 |
| 1813322 | RAV | 1.1 | 4.1 | 26.3 | 0.5 | 25.9 | 0.06 | 0.6 | 2261 |
| 1813323 | RAV | 1.5 | 3.9 | 22.7 | 0.4 | 23.8 | 0.06 | 0.7 | 2540.9 |
| 1813324 | RAV | 1.5 | 1.7 | 15.8 | 0.3 | 29.3 | 0.07 | 0.6 | 269.5 |
| 1813325 | RAV | 1.8 | 1.7 | 15.5 | 0.3 | 27.7 | 0.06 | 0.6 | 251.5 |
| 1814351 | RAV | 2.2 | 2 | 23.4 | 0.5 | 37.2 | 0.08 | 0.6 | 580.8 |
| 1814352 | RAV | 2.3 | 1.5 | 19.5 | 0.4 | 24.5 | 0.08 | 0.5 | 465.8 |
| 1814353 | RAV | 2.6 | 2.8 | 24.4 | 0.4 | 29.9 | 0.06 | 0.5 | 798.1 |
| 1814354 | RAV | 1.6 | 2.4 | 32.6 | 0.4 | 34.3 | 0.11 | 0.7 | 1093.1 |
| 1814355 | RAV | 0.8 | 2.9 | 32.4 | 0.3 | 26.9 | 0.09 | 0.5 | 1333.2 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1814356 | RAV | 2.9 | 2.4 | 24.1 | 0.4 | 18.2 | 0.06 | 0.4 | 295.4 |
| 1814357 | RAV | 0.5 | 3.1 | 25.1 | 0.4 | 19.5 | 0.09 | 0.2 | 753.4 |
| 1814358 | RAV | 3.4 | 2.2 | 36.2 | 0.8 | 35.6 | 0.05 | 0.8 | 561.6 |
| 1814359 | RAV | 1.9 | 2 | 21.6 | 0.5 | 23.3 | 0.05 | 0.6 | 662 |
| 1814360 | RAV | 2.7 | 1.4 | 56.7 | 0.8 | 30.5 | 0.09 | 0.6 | 290.9 |
| 1814361 | RAV | 2.1 | 13.3 | 83.3 | 1.3 | 42.7 | 0.06 | 0.7 | 4372.1 |
| 1814362 | RAV | 0.9 | 0.9 | 18 | 0.6 | 28.4 | 0.06 | 0.9 | 96.6 |
| 1814363 | RAV | 2.2 | 0.6 | 11.7 | 0.3 | 22.4 | 0.05 | 0.7 | 94.2 |
| 1814364 | RAV | 4 | 0.6 | 10.4 | 0.2 | 14.9 | 0.06 | 0.7 | 162.9 |
| 1814365 | RAV | 2.3 | 0.7 | 13 | 0.2 | 22 | 0.05 | 0.7 | 96.5 |
| 1814366 | RAV | 2 | 1.5 | 12.6 | 0.3 | 21.7 | 0.06 | 0.9 | 267.5 |
| 1814367 | RAV | 2.6 | 3.9 | 19.1 | 0.6 | 25.6 | 0.09 | 0.9 | 1089.1 |
| 1814368 | RAV | 2.5 | 3.7 | 14.6 | 0.4 | 25.2 | 0.1 | 0.5 | 828.7 |
| 1814369 | RAV | 3 | 4.5 | 13.5 | 0.5 | 26.4 | 0.09 | 0.6 | 808.1 |
| 1814370 | RAV | 2.7 | 4.1 | 9.7 | 0.4 | 17.3 | 0.1 | 0.4 | 1165 |
| 1814371 | RAV | 2.8 | 5.7 | 14.2 | 0.5 | 30.3 | 0.09 | 0.6 | 1074 |
| 1814372 | RAV | 0.25 | 1.6 | 20.2 | 0.3 | 23.1 | 0.05 | 0.7 | 696 |
| 1814373 | RAV | 1.4 | 1.5 | 16.8 | 0.3 | 22.1 | 0.04 | 0.7 | 111.2 |
| 1814635 | RAV | 4.1 | 0.8 | 66 | 0.7 | 67.2 | 0.03 | 8.3 | 257.2 |
| 1814636 | RAV | 4.7 | 1.7 | 55 | 0.6 | 89.5 | 0.04 | 9.2 | 206.6 |
| 1814637 | RAV | 4.3 | 2.9 | 37.8 | 1.1 | 70.2 | 0.08 | 3.5 | 493.1 |
| 1814638 | RAV | 5 | 5.3 | 38.4 | 1.5 | 84.3 | 0.15 | 3.5 | 684.2 |
| 1814639 | RAV | 3.4 | 4.4 | 22.3 | 0.6 | 36.8 | 0.08 | 1.6 | 825.9 |
| 1814640 | RAV | 4.8 | 1.1 | 30.1 | 0.5 | 71.5 | 0.08 | 2.8 | 185.1 |
| 1814641 | RAV | 2.8 | 0.9 | 47.5 | 0.5 | 120.9 | 0.07 | 4.4 | 305.3 |
| 1814642 | RAV | 1 | 0.6 | 20.3 | 0.3 | 59.9 | 0.05 | 2.2 | 143.2 |
| 1814643 | RAV | 2.7 | 0.5 | 24.7 | 0.3 | 33.7 | 0.06 | 2 | 90.4 |
| 1814644 | RAV | 3.3 | 0.6 | 26.6 | 0.4 | 41.3 | 0.07 | 2.4 | 112.5 |
| 1814645 | RAV | 1.4 | 0.5 | 28.1 | 0.4 | 32 | 0.03 | 3 | 219.2 |
| 1814646 | RAV | 3.7 | 0.1 | 31.5 | 0.7 | 63.5 | 0.03 | 2.7 | 125.4 |
| 1814647 | RAV | 0.8 | 0.5 | 12.3 | 0.3 | 27.3 | 0.05 | 0.6 | 92.2 |
| 1814648 | RAV | 2.6 | 0.6 | 18.4 | 0.4 | 89.9 | 0.05 | 0.6 | 135 |
| 1814649 | RAV | 1.9 | 1.7 | 24.9 | 0.6 | 141.2 | 0.06 | 1.5 | 391.6 |
| 1814650 | RAV | 2.8 | 2 | 26.2 | 0.7 | 189.1 | 0.07 | 1.2 | 494.4 |
| 1814651 | RAV | 1.9 | 0.3 | 11.3 | 0.3 | 18.4 | 0.06 | 1.4 | 51.3 |
| 1814652 | RAV | 1.3 | 0.4 | 11.3 | 0.2 | 33.1 | 0.03 | 0.5 | 74.8 |
| 1814653 | RAV | 4.6 | 0.8 | 55.6 | 0.5 | 66.5 | 0.07 | 6 | 362.9 |
| 1814654 | RAV | 6.3 | 0.9 | 65.3 | 0.6 | 181.9 | 0.08 | 8.8 | 441.5 |
| 1814655 | RAV | 5.7 | 1.1 | 80.3 | 0.5 | 101.2 | 0.06 | 12 | 491.7 |
| 1814656 | RAV | 1.8 | 1.2 | 50.7 | 0.5 | 53.8 | 0.03 | 5.5 | 478.8 |
| 1814657 | RAV | 3.4 | 0.4 | 72.5 | 0.4 | 71.5 | 0.04 | 5.4 | 343.8 |
| 1814658 | RAV | 1.4 | 1.2 | 31 | 0.5 | 32.6 | 0.05 | 5.2 | 242.3 |
| 1814659 | RAV | 3.3 | 2.1 | 23 | 0.6 | 50.9 | 0.08 | 2.2 | 335.5 |
| 1814660 | RAV | 3.3 | 2.8 | 20.2 | 0.7 | 41.9 | 0.06 | 1.8 | 356.4 |
| 1814661 | RAV | 3.6 | 0.7 | 28.2 | 0.6 | 60.5 | 0.05 | 3.9 | 156 |
| 1814662 | RAV | 1.2 | 1 | 28.2 | 0.7 | 63.3 | 0.07 | 3.8 | 213.7 |
| 1814663 | RAV | 3.2 | 1.3 | 41.4 | 0.8 | 106.2 | 0.07 | 6.7 | 394.7 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1814664 | RAV | 1 | 0.3 | 19.5 | 0.6 | 47.7 | 0.04 | 2 | 112.6 |
| 1814665 | RAV | 1.3 | 0.2 | 17.6 | 0.4 | 36.6 | 0.03 | 1.8 | 170.4 |
| 1814666 | RAV | 2.2 | 0.4 | 16.1 | 0.4 | 29.9 | 0.03 | 1.8 | 71.7 |
| 1814667 | RAV | 0.25 | 0.2 | 13.4 | 0.4 | 19.2 | 0.03 | 1.6 | 82.7 |
| 1814668 | RAV | 1.9 | 0.6 | 14.5 | 0.3 | 28 | 0.06 | 1.4 | 65.4 |
| 1814669 | RAV | 2.2 | 0.5 | 19.8 | 0.5 | 43.2 | 0.05 | 2.1 | 90 |
| 1814670 | RAV | 0.8 | 0.7 | 16 | 0.5 | 33.4 | 0.05 | 1.6 | 130.6 |
| 1814671 | RAV | 3.2 | 1.5 | 23.2 | 0.7 | 59.7 | 0.08 | 3 | 207.3 |
| 1814672 | RAV | 3.6 | 1 | 43.7 | 0.5 | 54.7 | 0.05 | 5.1 | 139.9 |
| 1814673 | RAV | 2.7 | 0.6 | 21.6 | 0.6 | 44.3 | 0.03 | 2 | 218.1 |
| 1814674 | RAV | 3.8 | 5.1 | 30.5 | 1.1 | 75.8 | 0.1 | 2 | 543.5 |
| 1814675 | RAV | 3.5 | 5 | 31.8 | 1.5 | 98.5 | 0.1 | 2.4 | 790.8 |
| 1814676 | RAV | 3.9 | 2.3 | 23.6 | 0.9 | 42.5 | 0.09 | 1.6 | 271 |
| 1814677 | RAV | 1.1 | 0.5 | 11.7 | 0.3 | 28.9 | 0.04 | 0.8 | 99.4 |

| se_ppm | sb_ppm | te_ppm | tl_ppm | zn_ppm | ba_ppm | s_pct | ca_pct | co_ppm | cr_ppm |
|---:|---:|---:|---:|---:|---:|---:|---:|---:|---:|
| 0.9 | 9.5 | 0.1 | 0.2 | 1297 | 197 | 0.06 | 6.28 | 10.6 | 7 |
| 0.25 | 6.2 | 0.1 | 0.2 | 800 | 141 | 0.06 | 4.4 | 12.1 | 10 |
| 1.3 | 5.1 | 0.1 | 0.2 | 409 | 132 | 0.06 | 4.26 | 33 | 17 |
| 0.7 | 5.1 | 0.1 | 0.2 | 408 | 90 | 0.11 | 6.04 | 16.2 | 10 |
| 0.7 | 3.7 | 0.1 | 0.2 | 335 | 84 | 0.1 | 7.01 | 10.8 | 10 |
| 1.2 | 6.2 | 0.1 | 0.2 | 633 | 93 | 0.11 | 3.28 | 14.8 | 10 |
| 1 | 6.3 | 0.1 | 0.2 | 677 | 97 | 0.1 | 2.44 | 15.6 | 11 |
| 0.6 | 6.7 | 0.1 | 0.2 | 714 | 95 | 0.08 | 2.47 | 14.5 | 11 |
| 1 | 5.6 | 0.1 | 0.2 | 692 | 89 | 0.17 | 2.27 | 13.7 | 10 |
| 0.9 | 7.5 | 0.1 | 0.2 | 616 | 99 | 0.11 | 3.85 | 15.2 | 9 |
| 0.9 | 5.9 | 0.1 | 0.2 | 550 | 87 | 0.12 | 3.44 | 14 | 9 |
| 1.1 | 3.6 | 0.1 | 0.3 | 291 | 79 | 0.22 | 2.12 | 14.3 | 8 |
| 1 | 4 | 0.1 | 0.2 | 559 | 118 | 0.15 | 5.34 | 14.1 | 11 |
| 0.25 | 3.4 | 0.1 | 0.2 | 482 | 113 | 0.09 | 5.19 | 13.8 | 10 |
| 0.7 | 4.1 | 0.1 | 0.2 | 664 | 116 | 0.14 | 6.17 | 13.4 | 9 |
| 0.6 | 4.7 | 0.1 | 0.3 | 639 | 117 | 0.05 | 4.05 | 13.2 | 12 |
| 1 | 4.9 | 0.1 | 0.2 | 813 | 118 | 0.09 | 2.51 | 15.2 | 13 |
| 0.8 | 6.4 | 0.1 | 0.2 | 1051 | 107 | 0.1 | 3.34 | 16.1 | 13 |
| 0.6 | 3.2 | 0.1 | 0.3 | 385 | 112 | 0.11 | 6.53 | 10.4 | 11 |
| 0.8 | 2.8 | 0.1 | 0.2 | 228 | 111 | 0.07 | 6.97 | 22.5 | 14 |
| 0.6 | 2.5 | 0.1 | 0.1 | 306 | 112 | 0.09 | 7.84 | 17.2 | 10 |
| 1 | 9.7 | 0.1 | 0.1 | 559 | 113 | 0.025 | 5.01 | 17.8 | 9 |
| 1 | 6.1 | 0.1 | 0.2 | 617 | 101 | 0.08 | 1.69 | 18.4 | 14 |
| 0.8 | 3.9 | 0.1 | 0.1 | 358 | 96 | 0.06 | 5.98 | 12.2 | 9 |
| 0.6 | 3.3 | 0.1 | 0.1 | 310 | 64 | 0.09 | 7.22 | 11.6 | 11 |
| 0.25 | 3.9 | 0.1 | 0.2 | 393 | 102 | 0.1 | 2.64 | 13.2 | 11 |
| 0.8 | 3.9 | 0.1 | 0.3 | 453 | 105 | 0.13 | 1.11 | 13.9 | 16 |
| 0.25 | 6.1 | 0.1 | 0.2 | 584 | 73 | 0.15 | 2.39 | 16.4 | 11 |
| 0.7 | 18 | 0.1 | 0.2 | 2178 | 81 | 0.11 | 3.69 | 12.3 | 9 |
| 1.1 | 18.6 | 0.1 | 0.1 | 2359 | 85 | 0.1 | 3.98 | 13.4 | 9 |
| 0.8 | 3.6 | 0.1 | 0.2 | 421 | 91 | 0.09 | 5.18 | 10.6 | 10 |
| 1.4 | 4.2 | 0.1 | 0.2 | 648 | 131 | 0.11 | 3.93 | 13 | 12 |
| 0.6 | 4.7 | 0.1 | 0.1 | 722 | 95 | 0.17 | 4.59 | 12.7 | 12 |
| 0.7 | 3.7 | 0.1 | 0.05 | 964 | 113 | 0.09 | 7.13 | 9.8 | 8 |
| 0.25 | 7.9 | 0.1 | 0.05 | 1703 | 152 | 0.09 | 9.09 | 8.5 | 4 |
| 0.8 | 3.5 | 0.1 | 0.1 | 2511 | 146 | 0.1 | 3.74 | 11.4 | 8 |
| 0.6 | 6.2 | 0.1 | 0.2 | 4023 | 146 | 0.14 | 3.18 | 17.6 | 12 |
| 0.25 | 12.3 | 0.1 | 0.4 | 480 | 87 | 0.025 | 5.09 | 17.9 | 8 |
| 0.7 | 98.8 | 0.1 | 0.3 | 3132 | 123 | 0.025 | 0.97 | 36.4 | 12 |
| 0.6 | 99.2 | 0.1 | 0.2 | 2789 | 81 | 0.025 | 5.52 | 24.2 | 7 |
| 1 | 3.9 | 0.1 | 0.2 | 1203 | 88 | 0.025 | 2.86 | 11.4 | 10 |
| 1 | 16.9 | 0.1 | 0.1 | 1904 | 89 | 0.07 | 1.43 | 15.5 | 9 |
| 0.7 | 12.9 | 0.1 | 0.05 | 1596 | 51 | 0.06 | 5.94 | 10.8 | 6 |
| 0.25 | 6.2 | 0.1 | 0.1 | 1152 | 124 | 0.025 | 0.7 | 12 | 12 |
| 0.25 | 5.6 | 0.1 | 0.1 | 1143 | 107 | 0.05 | 1.1 | 9.9 | 12 |
| 1 | 7.2 | 0.1 | 0.05 | 1195 | 90 | 0.07 | 1.11 | 9.4 | 10 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 17.1 | 0.1 | 0.1 | 1729 | 80 | 0.025 | 0.43 | 12.1 | 13 |
| 0.25 | 3.4 | 0.1 | 0.1 | 505 | 115 | 0.1 | 0.71 | 9.9 | 14 |
| 0.7 | 4.8 | 0.1 | 0.1 | 689 | 101 | 0.11 | 1.32 | 10.9 | 12 |
| 0.5 | 26.2 | 0.1 | 0.1 | 3734 | 67 | 0.025 | 4.96 | 13.7 | 8 |
| 0.8 | 18.3 | 0.1 | 0.2 | 3862 | 122 | 0.025 | 2.92 | 23.7 | 14 |
| 0.25 | 18.6 | 0.1 | 0.2 | 4034 | 116 | 0.025 | 2.86 | 24.8 | 12 |
| 0.7 | 27.4 | 0.1 | 0.1 | 2032 | 68 | 0.025 | 1.68 | 15.7 | 10 |
| 0.9 | 14 | 0.1 | 0.1 | 2423 | 119 | 0.025 | 3.37 | 14.5 | 8 |
| 1.3 | 47.8 | 0.1 | 0.2 | 1656 | 127 | 0.08 | 1.18 | 17.3 | 12 |
| 0.9 | 22 | 0.1 | 0.3 | 3503 | 92 | 0.025 | 0.79 | 12.2 | 6 |
| 1 | 35 | 0.1 | 0.2 | 4735 | 75 | 0.12 | 2.89 | 14.3 | 6 |
| 1.5 | 26.1 | 0.1 | 0.3 | 3716 | 83 | 0.08 | 0.79 | 19.5 | 9 |
| 1.1 | 17.9 | 0.1 | 0.3 | 5596 | 98 | 0.06 | 1.61 | 19.1 | 11 |
| 1.3 | 42.6 | 0.1 | 0.3 | 10000 | 71 | 0.11 | 1.12 | 30.3 | 10 |
| 1.1 | 43.6 | 0.1 | 0.3 | 8256 | 79 | 0.025 | 5.45 | 23.7 | 7 |
| 0.7 | 14 | 0.1 | 0.1 | 2862 | 85 | 0.025 | 0.7 | 10.5 | 11 |
| 0.25 | 18 | 0.1 | 0.1 | 3163 | 72 | 0.025 | 0.66 | 12.4 | 12 |
| 0.6 | 4.1 | 0.1 | 0.1 | 629 | 133 | 0.025 | 0.41 | 8.1 | 19 |
| 1 | 8.1 | 0.1 | 0.2 | 605 | 82 | 0.08 | 0.16 | 14.2 | 16 |
| 1 | 3.6 | 0.1 | 0.2 | 327 | 101 | 0.06 | 0.15 | 18 | 20 |
| 0.25 | 2.3 | 0.1 | 0.2 | 428 | 144 | 0.07 | 0.47 | 8.1 | 20 |
| 0.8 | 3.9 | 0.1 | 0.1 | 466 | 134 | 0.025 | 0.55 | 10.7 | 19 |
| 0.25 | 6.8 | 0.1 | 0.1 | 825 | 106 | 0.025 | 0.4 | 10.4 | 16 |
| 0.25 | 9.8 | 0.1 | 0.2 | 1066 | 117 | 0.025 | 0.24 | 10.7 | 18 |
| 0.5 | 5.7 | 0.1 | 0.2 | 569 | 87 | 0.025 | 0.2 | 16.9 | 17 |
| 0.25 | 6.7 | 0.1 | 0.2 | 1420 | 95 | 0.025 | 0.85 | 11.5 | 8 |
| 0.8 | 17.8 | 0.1 | 0.2 | 1148 | 66 | 0.025 | 0.4 | 11.8 | 13 |
| 0.6 | 5.2 | 0.1 | 0.05 | 1045 | 84 | 0.09 | 4.56 | 10.9 | 8 |
| 0.9 | 5 | 0.1 | 0.1 | 339 | 92 | 0.09 | 1.52 | 9.9 | 10 |
| 0.9 | 6.3 | 0.1 | 0.1 | 922 | 60 | 0.07 | 0.94 | 12.4 | 8 |
| 0.25 | 5.3 | 0.1 | 0.1 | 1097 | 85 | 0.025 | 3.56 | 11.5 | 8 |
| 0.8 | 6.4 | 0.1 | 0.1 | 1283 | 108 | 0.06 | 0.63 | 13 | 9 |
| 0.25 | 7.9 | 0.1 | 0.05 | 1383 | 112 | 0.13 | 4.63 | 10 | 8 |
| 0.25 | 8.5 | 0.1 | 0.1 | 2216 | 91 | 0.06 | 9.17 | 8.1 | 7 |
| 0.25 | 15.5 | 0.1 | 0.05 | 2945 | 41 | 0.12 | 12.26 | 5.7 | 5 |
| 0.6 | 13 | 0.1 | 0.05 | 1982 | 105 | 0.025 | 4.75 | 13.2 | 10 |
| 0.25 | 15.7 | 0.1 | 0.05 | 1572 | 113 | 0.025 | 9.32 | 10.6 | 8 |
| 0.25 | 9.5 | 0.1 | 0.05 | 627 | 90 | 0.025 | 2.88 | 8.6 | 8 |
| 0.6 | 5.4 | 0.1 | 0.1 | 1154 | 119 | 0.025 | 3.63 | 9.9 | 10 |
| 0.7 | 5.1 | 0.1 | 0.1 | 1117 | 119 | 0.025 | 4.28 | 10.8 | 11 |
| 0.25 | 4.7 | 0.1 | 0.2 | 455 | 124 | 0.025 | 1.6 | 12.5 | 15 |
| 0.25 | 4.4 | 0.1 | 0.2 | 466 | 126 | 0.025 | 1.29 | 12.2 | 15 |
| 0.6 | 8.3 | 0.1 | 0.2 | 619 | 111 | 0.05 | 2.97 | 13.8 | 14 |
| 0.25 | 5.1 | 0.1 | 0.2 | 482 | 104 | 0.025 | 1.4 | 11.1 | 13 |
| 0.25 | 6.3 | 0.1 | 0.2 | 635 | 90 | 0.025 | 4.51 | 11.7 | 11 |
| 0.8 | 7.2 | 0.1 | 0.2 | 1342 | 135 | 0.025 | 1.02 | 11 | 11 |
| 0.8 | 7.2 | 0.1 | 0.2 | 1569 | 155 | 0.025 | 2.66 | 9.9 | 8 |

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|---|---|---|---|---|---|---|---|---|---|
| 0.25 | 4.9 | 0.1 | 0.05 | 377 | 95 | 0.09 | 6.35 | 7.1 | 5 |
| 0.25 | 5.5 | 0.1 | 0.05 | 515 | 81 | 0.11 | 2.8 | 7.9 | 7 |
| 0.6 | 7.2 | 0.1 | 0.2 | 477 | 122 | 0.025 | 1.54 | 13.5 | 11 |
| 0.25 | 6.4 | 0.1 | 0.2 | 845 | 122 | 0.025 | 7.61 | 12.6 | 8 |
| 0.6 | 9 | 0.1 | 0.2 | 316 | 124 | 0.025 | 2.15 | 12.1 | 7 |
| 0.25 | 17.4 | 0.1 | 0.2 | 1138 | 95 | 0.025 | 7.7 | 11.9 | 6 |
| 0.25 | 4.5 | 0.1 | 0.1 | 261 | 164 | 0.08 | 0.83 | 13.5 | 14 |
| 0.25 | 3.2 | 0.1 | 0.1 | 448 | 59 | 0.025 | 2.19 | 10.2 | 8 |
| 0.25 | 3.1 | 0.1 | 0.1 | 767 | 80 | 0.12 | 7.24 | 9 | 4 |
| 1.2 | 3.4 | 0.1 | 0.1 | 339 | 85 | 0.025 | 0.62 | 11.7 | 9 |
| 1.5 | 3.8 | 0.1 | 0.05 | 762 | 109 | 0.06 | 1.25 | 12.6 | 9 |
| 0.6 | 9.5 | 0.1 | 0.1 | 893 | 96 | 0.025 | 3.95 | 14.2 | 7 |
| 0.25 | 6.1 | 0.1 | 0.05 | 957 | 104 | 0.025 | 0.96 | 11.6 | 9 |
| 0.25 | 9.9 | 0.1 | 0.05 | 769 | 78 | 0.13 | 6.42 | 8.6 | 6 |
| 0.25 | 7.7 | 0.1 | 0.1 | 1015 | 77 | 0.025 | 7.05 | 7.8 | 5 |
| 0.25 | 13.7 | 0.1 | 0.05 | 1394 | 93 | 0.025 | 5.45 | 8.6 | 6 |
| 0.6 | 4.4 | 0.1 | 0.2 | 882 | 87 | 0.025 | 3.79 | 9.4 | 9 |
| 0.25 | 4.4 | 0.1 | 0.1 | 382 | 117 | 0.025 | 0.73 | 10.8 | 11 |
| 1.4 | 9 | 0.1 | 0.2 | 363 | 99 | 0.025 | 0.09 | 12.9 | 19 |
| 1.5 | 8.7 | 0.1 | 0.2 | 394 | 170 | 0.025 | 0.19 | 12.3 | 17 |
| 0.5 | 9.6 | 0.1 | 0.2 | 773 | 113 | 0.025 | 0.15 | 20.7 | 14 |
| 1 | 12.9 | 0.1 | 0.2 | 791 | 127 | 0.025 | 0.21 | 16.5 | 14 |
| 0.7 | 8.1 | 0.1 | 0.2 | 823 | 150 | 0.025 | 1.12 | 11.8 | 15 |
| 0.25 | 3.4 | 0.1 | 0.2 | 422 | 69 | 0.025 | 0.29 | 13.9 | 18 |
| 0.5 | 4.2 | 0.1 | 0.3 | 904 | 114 | 0.025 | 0.37 | 22.1 | 20 |
| 0.7 | 2.1 | 0.1 | 0.2 | 289 | 74 | 0.025 | 1.2 | 13.6 | 20 |
| 0.25 | 1.7 | 0.1 | 0.2 | 593 | 114 | 0.025 | 0.39 | 11.2 | 21 |
| 1 | 1.6 | 0.1 | 0.2 | 482 | 114 | 0.025 | 0.88 | 11.8 | 20 |
| 0.7 | 2.7 | 0.1 | 0.2 | 401 | 102 | 0.025 | 0.4 | 13.1 | 21 |
| 0.9 | 3.3 | 0.3 | 0.3 | 260 | 87 | 0.025 | 0.2 | 19.4 | 25 |
| 0.6 | 1.7 | 0.1 | 0.2 | 297 | 95 | 0.025 | 2.63 | 11.6 | 19 |
| 0.25 | 1.9 | 0.1 | 0.2 | 457 | 147 | 0.025 | 0.48 | 33.1 | 49 |
| 0.6 | 4 | 0.1 | 0.2 | 651 | 65 | 0.025 | 0.27 | 27.6 | 50 |
| 0.8 | 4.3 | 0.1 | 0.2 | 714 | 96 | 0.025 | 0.28 | 25.2 | 48 |
| 0.25 | 1 | 0.1 | 0.1 | 275 | 114 | 0.025 | 0.33 | 9.9 | 23 |
| 0.25 | 1.5 | 0.1 | 0.2 | 174 | 48 | 0.025 | 6.6 | 10 | 15 |
| 1.2 | 2.9 | 0.1 | 0.3 | 615 | 139 | 0.06 | 0.64 | 15 | 23 |
| 1.5 | 5 | 0.1 | 0.4 | 1065 | 130 | 0.025 | 0.26 | 18.4 | 28 |
| 1.5 | 6.2 | 0.1 | 0.3 | 615 | 55 | 0.025 | 0.09 | 12.1 | 18 |
| 0.9 | 3.4 | 0.1 | 0.2 | 462 | 85 | 0.025 | 0.3 | 13.3 | 18 |
| 1.2 | 4.7 | 0.1 | 0.2 | 545 | 119 | 0.025 | 0.29 | 17.9 | 25 |
| 0.9 | 3 | 0.1 | 0.2 | 225 | 129 | 0.06 | 0.59 | 6.7 | 20 |
| 0.6 | 5.8 | 0.1 | 0.2 | 309 | 123 | 0.025 | 1.63 | 16.8 | 20 |
| 0.7 | 6.5 | 0.1 | 0.2 | 1677 | 216 | 0.025 | 0.4 | 14.5 | 23 |
| 0.7 | 5.2 | 0.1 | 0.2 | 307 | 175 | 0.025 | 0.18 | 13 | 21 |
| 0.8 | 6.6 | 0.1 | 0.2 | 330 | 142 | 0.025 | 0.13 | 16.5 | 16 |
| 1.8 | 8.9 | 0.1 | 0.2 | 318 | 141 | 0.025 | 0.14 | 14.4 | 18 |

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|---|---|---|---|---|---|---|---|---|---|
| 0.7 | 3.1 | 0.1 | 0.2 | 178 | 224 | 0.025 | 0.32 | 17 | 24 |
| 0.8 | 2.3 | 0.1 | 0.2 | 335 | 171 | 0.025 | 0.24 | 15.2 | 31 |
| 0.5 | 2.2 | 0.1 | 0.2 | 169 | 158 | 0.025 | 0.22 | 12.5 | 21 |
| 0.5 | 1.6 | 0.1 | 0.2 | 190 | 129 | 0.025 | 0.36 | 10.4 | 25 |
| 0.25 | 1.8 | 0.1 | 0.2 | 211 | 168 | 0.025 | 0.46 | 12.1 | 23 |
| 0.7 | 3.3 | 0.1 | 0.2 | 213 | 121 | 0.025 | 0.34 | 16 | 16 |
| 0.25 | 2.8 | 0.1 | 0.1 | 224 | 139 | 0.025 | 0.27 | 14.6 | 18 |
| 0.6 | 5.2 | 0.1 | 0.2 | 249 | 112 | 0.025 | 0.2 | 16.1 | 17 |
| 1.4 | 5.4 | 0.1 | 0.2 | 267 | 168 | 0.025 | 0.21 | 14.4 | 26 |
| 0.6 | 4.9 | 0.1 | 0.2 | 267 | 213 | 0.025 | 0.29 | 16.3 | 21 |
| 1 | 12.8 | 0.1 | 0.2 | 747 | 210 | 0.025 | 0.18 | 17.8 | 16 |
| 0.6 | 16.1 | 0.1 | 0.2 | 1061 | 180 | 0.025 | 0.19 | 19.5 | 14 |
| 0.25 | 6.7 | 0.1 | 0.2 | 363 | 131 | 0.025 | 0.93 | 14.8 | 14 |
| 0.25 | 1.6 | 0.1 | 0.2 | 164 | 60 | 0.025 | 1.14 | 12 | 20 |

| fe_pct | mg_pct | ni_ppm | ti_pct | v_ppm | al_pct | k_pct | th_ppm | b_ppm | cd_ppm |
|---:|---:|---:|---:|---:|---:|---:|---:|---:|---:|
| 5.47 | 3.4 | 19.3 | 0.007 | 14 | 0.45 | 0.07 | 1.8 | 4 | 6.9 |
| 5.45 | 2.5 | 21.8 | 0.01 | 19 | 0.59 | 0.09 | 1.7 | 5 | 3.2 |
| 6.46 | 2.94 | 44 | 0.04 | 56 | 1.24 | 0.08 | 3.1 | 5 | 1.4 |
| 4.39 | 3.41 | 22.7 | 0.024 | 26 | 0.65 | 0.06 | 2.6 | 4 | 2 |
| 4.17 | 3.76 | 21.3 | 0.014 | 20 | 0.59 | 0.07 | 1.8 | 4 | 1.8 |
| 4.06 | 1.93 | 21.2 | 0.013 | 20 | 0.65 | 0.15 | 1.6 | 6 | 3.7 |
| 4.42 | 1.67 | 23 | 0.012 | 25 | 0.86 | 0.14 | 1.8 | 3 | 3.6 |
| 4.22 | 1.74 | 22.1 | 0.012 | 25 | 0.83 | 0.14 | 1.8 | 5 | 3.5 |
| 4.01 | 1.38 | 19.3 | 0.01 | 20 | 0.71 | 0.16 | 1.3 | 8 | 4.2 |
| 4.27 | 2.08 | 20.8 | 0.011 | 23 | 0.65 | 0.11 | 1.6 | 5 | 3.3 |
| 4.38 | 1.96 | 20 | 0.011 | 21 | 0.62 | 0.1 | 1.6 | 4 | 2.8 |
| 3.91 | 0.74 | 18.3 | 0.005 | 14 | 0.52 | 0.08 | 0.8 | 5 | 2.3 |
| 5.75 | 3.1 | 23.1 | 0.01 | 23 | 0.76 | 0.09 | 1.6 | 5 | 2.7 |
| 5.27 | 2.85 | 21.4 | 0.011 | 20 | 0.69 | 0.08 | 2.2 | 4 | 2.6 |
| 5.28 | 3.47 | 21.1 | 0.009 | 19 | 0.65 | 0.09 | 1.4 | 3 | 3.3 |
| 4.6 | 2.41 | 24.3 | 0.019 | 29 | 0.86 | 0.11 | 2.5 | 2 | 4.2 |
| 5.36 | 1.6 | 25.5 | 0.013 | 33 | 0.9 | 0.12 | 1.5 | 5 | 4.5 |
| 4.35 | 2.11 | 24.1 | 0.023 | 31 | 0.85 | 0.15 | 1.9 | 5 | 7.3 |
| 3.18 | 3.92 | 17.3 | 0.014 | 21 | 0.74 | 0.33 | 2.2 | 7 | 1.8 |
| 6.33 | 3.97 | 26.8 | 0.02 | 49 | 1.08 | 0.05 | 2.4 | 4 | 0.8 |
| 5.06 | 4.27 | 22 | 0.028 | 31 | 0.68 | 0.05 | 2.3 | 2 | 1.7 |
| 6.57 | 2.81 | 23.6 | 0.013 | 23 | 0.57 | 0.05 | 2.1 | 2 | 2.8 |
| 4.71 | 1.12 | 25.3 | 0.019 | 33 | 0.85 | 0.07 | 2.5 | 3 | 3.1 |
| 4.04 | 3.47 | 20 | 0.018 | 23 | 0.62 | 0.07 | 2.8 | 2 | 2.1 |
| 3.38 | 3.94 | 21.2 | 0.021 | 23 | 0.55 | 0.06 | 3 | 4 | 1.6 |
| 4.82 | 1.51 | 23.3 | 0.01 | 22 | 0.73 | 0.1 | 1.5 | 4 | 1.9 |
| 5.06 | 1.44 | 27.3 | 0.016 | 31 | 1.3 | 0.14 | 2.3 | 7 | 2.3 |
| 4.7 | 1.34 | 22.6 | 0.008 | 24 | 0.72 | 0.1 | 1.3 | 6 | 3.2 |
| 5.4 | 2.02 | 20.3 | 0.009 | 18 | 0.57 | 0.09 | 1.9 | 5 | 12.1 |
| 5.6 | 2.16 | 21.7 | 0.009 | 15 | 0.6 | 0.09 | 2.1 | 5 | 13.1 |
| 4.06 | 2.85 | 19.1 | 0.011 | 18 | 0.64 | 0.11 | 1.7 | 5 | 2.7 |
| 4.61 | 2.31 | 23.3 | 0.015 | 27 | 0.89 | 0.14 | 2.1 | 8 | 2.6 |
| 4.14 | 2.53 | 20.9 | 0.015 | 31 | 0.79 | 0.09 | 1.8 | 5 | 4.2 |
| 4.41 | 3.73 | 17.4 | 0.009 | 17 | 0.43 | 0.05 | 1.7 | 3 | 4.9 |
| 5.68 | 4.74 | 15.5 | 0.007 | 8 | 0.25 | 0.03 | 1.8 | 4 | 11.8 |
| 6.46 | 2.13 | 19.7 | 0.007 | 16 | 0.43 | 0.04 | 1.2 | 4 | 19.3 |
| 6.89 | 1.89 | 26.4 | 0.012 | 33 | 0.82 | 0.06 | 1.4 | 5 | 40.7 |
| 3.71 | 2.95 | 27.6 | 0.017 | 20 | 0.52 | 0.11 | 3.2 | 0.5 | 2.6 |
| 7.75 | 0.65 | 39.7 | 0.007 | 24 | 0.8 | 0.13 | 4.6 | 3 | 13.7 |
| 5.51 | 2.76 | 21.5 | 0.008 | 15 | 0.44 | 0.09 | 3.7 | 3 | 13.2 |
| 4.32 | 1.72 | 18 | 0.01 | 18 | 0.74 | 0.18 | 1.9 | 4 | 8.1 |
| 6.25 | 0.83 | 21.6 | 0.007 | 20 | 0.66 | 0.07 | 1.7 | 1 | 15.2 |
| 5.35 | 3.06 | 15.3 | 0.005 | 13 | 0.37 | 0.04 | 1.6 | 1 | 10.2 |
| 5.78 | 0.55 | 28.4 | 0.016 | 27 | 0.74 | 0.06 | 4.1 | 0.5 | 5.1 |
| 5.29 | 0.68 | 21.5 | 0.012 | 26 | 0.78 | 0.05 | 2.2 | 0.5 | 5.2 |
| 4.99 | 0.62 | 18.8 | 0.009 | 22 | 0.66 | 0.04 | 2.2 | 1 | 5.1 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5.47 | 0.45 | 24.8 | 0.013 | 28 | 0.9 | 0.11 | 2.9 | 0.5 | 7.2 |
| 4.29 | 0.46 | 18.8 | 0.012 | 31 | 0.96 | 0.08 | 1.5 | 0.5 | 2.9 |
| 3.7 | 0.45 | 17.8 | 0.01 | 26 | 0.99 | 0.06 | 1.2 | 0.5 | 5.7 |
| 5.48 | 2.73 | 25.9 | 0.012 | 22 | 0.64 | 0.08 | 3.3 | 2 | 17.6 |
| 5.3 | 1.66 | 41.9 | 0.019 | 28 | 0.85 | 0.1 | 6.4 | 2 | 13.3 |
| 5.23 | 1.7 | 41.6 | 0.019 | 27 | 0.86 | 0.11 | 6.2 | 1 | 14.4 |
| 4.96 | 1.03 | 24.1 | 0.012 | 20 | 0.61 | 0.09 | 3.3 | 2 | 10.9 |
| 6.94 | 1.69 | 23.7 | 0.005 | 17 | 0.51 | 0.06 | 1.8 | 2 | 16.6 |
| 7.32 | 0.55 | 23.9 | 0.003 | 23 | 0.78 | 0.1 | 2.1 | 4 | 9.4 |
| 4.34 | 0.53 | 24.6 | 0.005 | 22 | 0.54 | 0.15 | 8.2 | 2 | 26.7 |
| 5.67 | 1.33 | 28.6 | 0.004 | 16 | 0.31 | 0.09 | 2.5 | 3 | 37.9 |
| 6.09 | 0.43 | 36.6 | 0.007 | 28 | 0.67 | 0.13 | 3.2 | 3 | 25.9 |
| 7.43 | 0.81 | 32 | 0.005 | 23 | 0.7 | 0.11 | 2.6 | 0.5 | 24.9 |
| 8.37 | 0.63 | 67 | 0.006 | 28 | 0.76 | 0.1 | 2.7 | 2 | 54.3 |
| 6.22 | 2.68 | 55.8 | 0.005 | 18 | 0.46 | 0.08 | 3.3 | 1 | 37.5 |
| 6.15 | 0.38 | 29.9 | 0.007 | 22 | 0.85 | 0.08 | 3.3 | 2 | 9.8 |
| 5.8 | 0.34 | 21.7 | 0.007 | 22 | 0.83 | 0.08 | 2.4 | 3 | 15.5 |
| 3.28 | 0.37 | 17.7 | 0.01 | 39 | 1.24 | 0.09 | 1 | 3 | 1.5 |
| 4.11 | 0.33 | 28.6 | 0.005 | 34 | 0.91 | 0.13 | 0.7 | 0.5 | 2.5 |
| 4.14 | 0.48 | 36.6 | 0.009 | 37 | 1.23 | 0.12 | 1.3 | 0.5 | 1.2 |
| 3.1 | 0.42 | 20.7 | 0.009 | 43 | 1.35 | 0.11 | 0.7 | 0.5 | 1.8 |
| 4.79 | 0.38 | 21.4 | 0.012 | 40 | 1.17 | 0.07 | 1.5 | 3 | 2.5 |
| 3.59 | 0.32 | 23.5 | 0.009 | 35 | 0.91 | 0.08 | 1.5 | 3 | 2.7 |
| 4.03 | 0.31 | 27.5 | 0.01 | 43 | 0.95 | 0.08 | 1.2 | 3 | 3.5 |
| 3.59 | 0.44 | 43.7 | 0.009 | 32 | 1.03 | 0.11 | 3.6 | 3 | 2.8 |
| 4.97 | 0.38 | 16.4 | 0.005 | 16 | 0.59 | 0.07 | 2.3 | 3 | 16.1 |
| 3.32 | 0.33 | 28.4 | 0.007 | 28 | 0.79 | 0.11 | 2.8 | 3 | 6.4 |
| 6.67 | 2.09 | 12.6 | 0.004 | 14 | 0.38 | 0.1 | 1.8 | 6 | 8.8 |
| 3.98 | 0.9 | 18.6 | 0.009 | 21 | 0.69 | 0.1 | 2.1 | 1 | 1.3 |
| 4.88 | 0.46 | 24.1 | 0.005 | 18 | 0.53 | 0.05 | 1.6 | 2 | 3.2 |
| 4.43 | 2.06 | 19.4 | 0.01 | 16 | 0.52 | 0.07 | 2.9 | 4 | 6.7 |
| 5.06 | 0.36 | 23.8 | 0.006 | 19 | 0.61 | 0.06 | 1.9 | 0.5 | 6.5 |
| 5.27 | 2.57 | 20.1 | 0.008 | 15 | 0.53 | 0.06 | 1.8 | 4 | 10 |
| 4.63 | 4.91 | 14.5 | 0.009 | 12 | 0.38 | 0.05 | 2.2 | 2 | 18.4 |
| 6.11 | 6.93 | 8.9 | 0.004 | 7 | 0.24 | 0.03 | 1.2 | 5 | 24 |
| 4.65 | 2.62 | 18.4 | 0.02 | 23 | 0.58 | 0.05 | 3.7 | 2 | 14.5 |
| 5.21 | 4.58 | 15.3 | 0.02 | 16 | 0.39 | 0.06 | 5 | 2 | 11.4 |
| 4.7 | 1.53 | 14.3 | 0.007 | 18 | 0.51 | 0.04 | 1.9 | 3 | 3.3 |
| 6.41 | 2.08 | 17.9 | 0.008 | 20 | 0.64 | 0.04 | 2 | 3 | 6.9 |
| 5.97 | 2.42 | 20.6 | 0.01 | 23 | 0.68 | 0.04 | 2.1 | 2 | 7.7 |
| 4.74 | 1.41 | 25.5 | 0.027 | 38 | 1.17 | 0.11 | 4.7 | 2 | 2.3 |
| 4.36 | 1.2 | 25.5 | 0.023 | 36 | 1.1 | 0.1 | 4 | 2 | 2.3 |
| 4.84 | 1.98 | 24.2 | 0.018 | 33 | 1.1 | 0.13 | 3.4 | 3 | 3.1 |
| 4.82 | 0.89 | 20.4 | 0.012 | 28 | 0.88 | 0.1 | 1.9 | 2 | 2.4 |
| 4.29 | 2.76 | 20.4 | 0.016 | 24 | 0.74 | 0.09 | 2.8 | 2 | 3.5 |
| 5.47 | 0.61 | 21.8 | 0.008 | 22 | 0.74 | 0.07 | 1.8 | 2 | 13.2 |
| 5.48 | 1.42 | 20.3 | 0.006 | 15 | 0.54 | 0.07 | 1.7 | 4 | 16.7 |

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|---|---|---|---|---|---|---|---|---|---|
| 4.32 | 3.4 | 12.9 | 0.004 | 8 | 0.34 | 0.06 | 0.9 | 4 | 2.3 |
| 5.44 | 1.33 | 15.3 | 0.003 | 13 | 0.4 | 0.05 | 1 | 3 | 3.4 |
| 5.07 | 1.02 | 22.2 | 0.013 | 22 | 0.73 | 0.11 | 2.6 | 3 | 3.3 |
| 4.51 | 3.95 | 18.7 | 0.012 | 16 | 0.47 | 0.05 | 3.5 | 3 | 6.5 |
| 5.14 | 1.1 | 16.3 | 0.006 | 15 | 0.48 | 0.07 | 1.3 | 4 | 1.6 |
| 5.05 | 4.08 | 14.4 | 0.006 | 11 | 0.34 | 0.04 | 1.8 | 3 | 8.2 |
| 4.85 | 0.43 | 19 | 0.009 | 26 | 0.83 | 0.06 | 1.8 | 4 | 1.1 |
| 3.44 | 1.18 | 15.8 | 0.007 | 16 | 0.48 | 0.06 | 2 | 2 | 2.2 |
| 3.89 | 3.74 | 16 | 0.006 | 8 | 0.27 | 0.06 | 2.1 | 4 | 4 |
| 3.96 | 0.31 | 20.1 | 0.007 | 21 | 0.63 | 0.05 | 1.7 | 0.5 | 1.3 |
| 4.23 | 0.63 | 21.9 | 0.006 | 14 | 0.56 | 0.03 | 1.7 | 2 | 3.5 |
| 4.16 | 2.19 | 20.9 | 0.007 | 17 | 0.42 | 0.03 | 2.3 | 2 | 4 |
| 5.28 | 0.4 | 20.4 | 0.005 | 16 | 0.57 | 0.05 | 1.5 | 2 | 4.6 |
| 3.85 | 3.38 | 15.7 | 0.006 | 11 | 0.36 | 0.05 | 1.5 | 5 | 4.5 |
| 4.82 | 3.83 | 13.3 | 0.008 | 9 | 0.32 | 0.05 | 2.7 | 7 | 7.5 |
| 5.13 | 2.78 | 15.4 | 0.008 | 12 | 0.39 | 0.05 | 1.7 | 6 | 13 |
| 3.87 | 2.12 | 19.2 | 0.008 | 19 | 0.62 | 0.12 | 2 | 0.5 | 6.6 |
| 4.44 | 0.43 | 19.4 | 0.008 | 22 | 0.72 | 0.07 | 1.8 | 3 | 1.8 |
| 4.05 | 0.36 | 40.1 | 0.007 | 42 | 1.16 | 0.11 | 1.4 | 2 | 1.1 |
| 3.56 | 0.36 | 45.3 | 0.007 | 39 | 1.13 | 0.13 | 4 | 2 | 1.7 |
| 4.08 | 0.32 | 39.2 | 0.008 | 31 | 0.99 | 0.17 | 5.6 | 3 | 3.3 |
| 4.33 | 0.38 | 34.6 | 0.011 | 31 | 0.93 | 0.18 | 7.5 | 4 | 2.7 |
| 4.53 | 0.87 | 28.9 | 0.018 | 33 | 0.99 | 0.13 | 4.9 | 3 | 3.1 |
| 3.5 | 0.85 | 43.8 | 0.038 | 37 | 1.09 | 0.12 | 7.6 | 2 | 2.8 |
| 4.62 | 0.99 | 104.8 | 0.029 | 40 | 1.44 | 0.16 | 6 | 3 | 6.1 |
| 3.7 | 1.56 | 39.8 | 0.042 | 40 | 1.32 | 0.14 | 6.4 | 4 | 1.5 |
| 3.54 | 0.84 | 57.7 | 0.024 | 38 | 1.35 | 0.11 | 4.2 | 1 | 2.6 |
| 3.71 | 1.05 | 50 | 0.024 | 39 | 1.41 | 0.13 | 3 | 2 | 3.4 |
| 4.14 | 0.89 | 35.9 | 0.035 | 42 | 1.46 | 0.13 | 4.4 | 2 | 1.5 |
| 3.86 | 0.98 | 51.6 | 0.037 | 46 | 1.65 | 0.13 | 6 | 2 | 0.6 |
| 4.02 | 2.3 | 36.4 | 0.037 | 31 | 1.34 | 0.15 | 6.4 | 3 | 1.3 |
| 5.75 | 1.43 | 50.9 | 0.059 | 90 | 1.83 | 0.08 | 5.3 | 6 | 1.7 |
| 5.6 | 1.35 | 50.6 | 0.095 | 97 | 1.92 | 0.1 | 5.3 | 3 | 2.4 |
| 6.14 | 1.29 | 53.2 | 0.083 | 90 | 1.81 | 0.09 | 5.7 | 2 | 3.2 |
| 3.28 | 0.85 | 23.5 | 0.026 | 39 | 1.38 | 0.11 | 4.1 | 2 | 1.2 |
| 2.79 | 4.24 | 23.3 | 0.048 | 23 | 0.95 | 0.16 | 6.3 | 3 | 0.8 |
| 3.98 | 0.6 | 59.1 | 0.018 | 53 | 1.61 | 0.1 | 1.9 | 2 | 2.1 |
| 4.34 | 0.66 | 119.8 | 0.025 | 63 | 1.86 | 0.12 | 4 | 3 | 3.1 |
| 4.6 | 0.56 | 65.6 | 0.027 | 56 | 1.32 | 0.12 | 2.7 | 2 | 1.6 |
| 4.17 | 0.5 | 42.5 | 0.02 | 49 | 1.28 | 0.1 | 2.1 | 3 | 2.4 |
| 4.13 | 0.64 | 69.3 | 0.026 | 54 | 1.6 | 0.13 | 3.6 | 3 | 1.8 |
| 3.1 | 0.54 | 24.2 | 0.017 | 57 | 1.29 | 0.08 | 1.9 | 2 | 0.6 |
| 4.16 | 1.51 | 38.2 | 0.041 | 49 | 1.28 | 0.22 | 7.5 | 4 | 1.5 |
| 4.32 | 0.57 | 35 | 0.018 | 42 | 1.66 | 0.15 | 5.1 | 2 | 5 |
| 3.73 | 0.42 | 36.6 | 0.018 | 43 | 1.43 | 0.12 | 5.1 | 2 | 1.4 |
| 3.93 | 0.42 | 39.5 | 0.008 | 33 | 1.03 | 0.12 | 6.3 | 2 | 1 |
| 4.39 | 0.37 | 43 | 0.01 | 40 | 1.33 | 0.15 | 6.3 | 3 | 1.2 |

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|---|---|---|---|---|---|---|---|---|---|
| 4.42 | 0.59 | 37.5 | 0.032 | 52 | 1.64 | 0.16 | 4.9 | 3 | 0.6 |
| 4.05 | 0.65 | 34.4 | 0.025 | 64 | 1.77 | 0.09 | 3.6 | 3 | 0.6 |
| 4.16 | 0.45 | 28.5 | 0.014 | 42 | 1.26 | 0.09 | 3.7 | 2 | 0.7 |
| 3.85 | 0.45 | 21.2 | 0.017 | 48 | 1.6 | 0.08 | 2.2 | 2 | 0.7 |
| 4.33 | 0.55 | 30.3 | 0.017 | 42 | 1.33 | 0.1 | 3.3 | 2 | 1.2 |
| 3.75 | 0.53 | 33.6 | 0.013 | 33 | 1.03 | 0.16 | 7.3 | 3 | 1 |
| 3.9 | 0.54 | 28.6 | 0.009 | 32 | 1.14 | 0.1 | 5.6 | 2 | 0.8 |
| 3.95 | 0.45 | 35.9 | 0.01 | 34 | 1.23 | 0.17 | 6.4 | 3 | 1.1 |
| 4.32 | 0.48 | 43.6 | 0.015 | 48 | 2.03 | 0.1 | 4.8 | 1 | 0.7 |
| 3.84 | 0.54 | 41.8 | 0.013 | 38 | 1.48 | 0.16 | 7.2 | 3 | 0.9 |
| 5.35 | 0.41 | 36.1 | 0.013 | 32 | 1.14 | 0.14 | 7.4 | 3 | 2.8 |
| 4.55 | 0.36 | 37.1 | 0.01 | 29 | 0.99 | 0.16 | 7 | 3 | 3.8 |
| 4.5 | 0.81 | 28.3 | 0.02 | 34 | 1.01 | 0.17 | 7 | 4 | 1.5 |
| 3.93 | 1.52 | 28.1 | 0.043 | 32 | 1.35 | 0.16 | 6.5 | 2 | 1.2 |

| ga_ppm | la_ppm | mn_ppm | na_pct | p_pct | sc_ppm | sr_ppm | u_ppm | w_ppm | point_type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 14 | 8495 | 0.005 | 0.06 | 2.5 | 23 | 1.3 | 0.1 | Soil Sample |
| 1 | 14 | 7896 | 0.007 | 0.058 | 2.7 | 16 | 1.5 | 0.05 | Soil Sample |
| 4 | 19 | 5791 | 0.005 | 0.077 | 5.3 | 16 | 1 | 0.05 | Soil Sample |
| 2 | 15 | 4505 | 0.005 | 0.055 | 3.6 | 17 | 0.7 | 0.1 | Soil Sample |
| 2 | 14 | 4343 | 0.005 | 0.058 | 3.5 | 19 | 0.6 | 0.05 | Soil Sample |
| 2 | 17 | 3786 | 0.005 | 0.075 | 2.9 | 12 | 0.9 | 0.05 | Soil Sample |
| 2 | 19 | 3898 | 0.005 | 0.08 | 2.9 | 10 | 1.1 | 0.05 | Soil Sample |
| 2 | 19 | 3667 | 0.004 | 0.073 | 3 | 11 | 1 | 0.05 | Soil Sample |
| 2 | 16 | 3541 | 0.005 | 0.094 | 2.6 | 11 | 0.9 | 0.05 | Soil Sample |
| 2 | 18 | 4999 | 0.005 | 0.087 | 2.8 | 15 | 0.8 | 0.05 | Soil Sample |
| 2 | 18 | 4888 | 0.005 | 0.078 | 2.7 | 14 | 0.8 | 0.05 | Soil Sample |
| 1 | 14 | 3740 | 0.003 | 0.13 | 1.7 | 12 | 0.8 | 0.05 | Soil Sample |
| 2 | 15 | 6319 | 0.005 | 0.071 | 3.4 | 15 | 0.7 | 0.05 | Soil Sample |
| 2 | 15 | 5972 | 0.005 | 0.07 | 3.3 | 14 | 0.6 | 0.05 | Field Dupli |
| 2 | 14 | 5739 | 0.007 | 0.066 | 2.8 | 15 | 0.7 | 0.05 | Soil Sample |
| 3 | 19 | 4546 | 0.006 | 0.07 | 3.7 | 18 | 0.8 | 0.1 | Soil Sample |
| 3 | 20 | 5250 | 0.004 | 0.083 | 3.3 | 12 | 0.8 | 0.05 | Soil Sample |
| 3 | 18 | 3918 | 0.006 | 0.08 | 3.2 | 14 | 1 | 0.1 | Soil Sample |
| 2 | 16 | 3214 | 0.009 | 0.071 | 3.1 | 17 | 0.8 | 0.05 | Soil Sample |
| 4 | 18 | 5652 | 0.007 | 0.089 | 5.5 | 21 | 0.7 | 0.05 | Soil Sample |
| 2 | 14 | 4898 | 0.006 | 0.077 | 3.8 | 20 | 0.7 | 0.05 | Soil Sample |
| 2 | 15 | 7576 | 0.006 | 0.07 | 3.8 | 18 | 1.2 | 0.05 | Soil Sample |
| 2 | 18 | 3940 | 0.006 | 0.083 | 4 | 12 | 0.9 | 0.1 | Soil Sample |
| 2 | 16 | 4555 | 0.007 | 0.066 | 3.6 | 17 | 0.6 | 0.05 | Soil Sample |
| 2 | 14 | 2863 | 0.008 | 0.067 | 3 | 23 | 0.6 | 0.1 | Soil Sample |
| 2 | 21 | 4857 | 0.004 | 0.097 | 3.2 | 13 | 0.6 | 0.05 | Soil Sample |
| 3 | 21 | 3792 | 0.004 | 0.088 | 3.9 | 9 | 0.7 | 0.05 | Soil Sample |
| 2 | 19 | 4325 | 0.004 | 0.108 | 2.4 | 12 | 0.8 | 0.05 | Soil Sample |
| 2 | 15 | 6380 | 0.005 | 0.075 | 3.1 | 13 | 1.4 | 0.05 | Soil Sample |
| 2 | 15 | 7075 | 0.005 | 0.075 | 3.4 | 14 | 1.4 | 0.05 | Soil Sample |
| 2 | 16 | 3740 | 0.005 | 0.076 | 2.8 | 17 | 0.5 | 0.05 | Soil Sample |
| 2 | 17 | 6072 | 0.007 | 0.071 | 3.1 | 21 | 0.8 | 0.05 | Soil Sample |
| 2 | 17 | 3575 | 0.006 | 0.084 | 2.9 | 17 | 0.7 | 0.1 | Soil Sample |
| 1 | 12 | 5784 | 0.005 | 0.058 | 2.5 | 20 | 1 | 0.1 | Soil Sample |
| 0.5 | 9 | 10000 | 0.005 | 0.046 | 2.3 | 26 | 2.6 | 0.1 | Soil Sample |
| 1 | 13 | 9925 | 0.004 | 0.064 | 2.6 | 15 | 1.3 | 0.05 | Soil Sample |
| 2 | 16 | 8189 | 0.005 | 0.088 | 3.5 | 15 | 1.1 | 0.05 | Soil Sample |
| 2 | 17 | 2939 | 0.008 | 0.073 | 3.4 | 13 | 0.8 | 0.05 | Soil Sample |
| 2 | 12 | 10000 | 0.005 | 0.053 | 6.1 | 12 | 1.6 | 0.05 | Soil Sample |
| 1 | 18 | 8894 | 0.006 | 0.063 | 4.6 | 17 | 1.6 | 0.05 | Soil Sample |
| 2 | 17 | 4747 | 0.007 | 0.08 | 3.8 | 13 | 0.9 | 0.05 | Soil Sample |
| 2 | 18 | 8383 | 0.004 | 0.084 | 3.9 | 9 | 1 | 0.05 | Soil Sample |
| 0.5 | 12 | 8036 | 0.006 | 0.076 | 3.4 | 16 | 0.8 | 0.05 | Soil Sample |
| 2 | 23 | 6957 | 0.004 | 0.056 | 5.2 | 9 | 0.8 | 0.2 | Soil Sample |
| 2 | 22 | 5295 | 0.003 | 0.09 | 4.6 | 8 | 0.6 | 0.05 | Soil Sample |
| 2 | 19 | 4761 | 0.004 | 0.071 | 3.6 | 7 | 0.6 | 0.05 | Soil Sample |

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|---|---|---|---|---|---|---|---|---|---|
| 3 | 24 | 3631 | 0.003 | 0.078 | 5.1 | 6 | 0.8 | 0.05 | Soil Sampl |
| 3 | 20 | 3094 | 0.004 | 0.1 | 4.1 | 9 | 0.6 | 0.05 | Soil Sampl |
| 3 | 13 | 3279 | 0.004 | 0.16 | 2.5 | 10 | 1.1 | 0.05 | Soil Sampl |
| 2 | 15 | 7626 | 0.006 | 0.088 | 4.6 | 18 | 1 | 0.05 | Soil Sampl |
| 2 | 17 | 8143 | 0.006 | 0.076 | 5 | 19 | 1.1 | 0.1 | Soil Sampl |
| 2 | 17 | 7988 | 0.006 | 0.078 | 4.9 | 19 | 1.1 | 0.1 | Field Dupli |
| 2 | 19 | 5946 | 0.006 | 0.078 | 4.6 | 11 | 1.1 | 0.05 | Soil Sampl |
| 1 | 21 | 8350 | 0.004 | 0.085 | 4.3 | 12 | 1 | 0.05 | Soil Sampl |
| 2 | 13 | 6751 | 0.004 | 0.087 | 5.1 | 9 | 1 | 0.1 | Soil Sampl |
| 1 | 25 | 4785 | 0.002 | 0.083 | 3.4 | 13 | 1.9 | 0.05 | Soil Sampl |
| 1 | 10 | 7537 | 0.004 | 0.101 | 3.9 | 14 | 1.5 | 0.05 | Soil Sampl |
| 2 | 17 | 6540 | 0.004 | 0.108 | 4.4 | 12 | 1.7 | 0.05 | Soil Sampl |
| 2 | 15 | 8559 | 0.003 | 0.129 | 5.3 | 11 | 0.8 | 0.05 | Soil Sampl |
| 2 | 12 | 10000 | 0.004 | 0.089 | 5.2 | 10 | 1.4 | 0.05 | Soil Sampl |
| 1 | 11 | 9627 | 0.006 | 0.084 | 4.6 | 20 | 1.1 | 0.05 | Soil Sampl |
| 2 | 17 | 5142 | 0.003 | 0.147 | 4.5 | 8 | 1.4 | 0.05 | Soil Sampl |
| 2 | 14 | 6148 | 0.003 | 0.133 | 4.1 | 7 | 1.5 | 0.05 | Soil Sampl |
| 4 | 15 | 1084 | 0.004 | 0.135 | 1.8 | 10 | 0.7 | 0.1 | Soil Sampl |
| 3 | 19 | 1576 | 0.002 | 0.111 | 1.2 | 6 | 1 | 0.05 | Soil Sampl |
| 3 | 22 | 1399 | 0.004 | 0.092 | 2.2 | 7 | 1.1 | 0.1 | Soil Sampl |
| 5 | 14 | 799 | 0.004 | 0.154 | 1.4 | 9 | 0.9 | 0.1 | Soil Sampl |
| 3 | 20 | 2042 | 0.004 | 0.171 | 3 | 8 | 1 | 0.05 | Soil Sampl |
| 3 | 16 | 1515 | 0.003 | 0.115 | 1.8 | 7 | 0.9 | 0.05 | Soil Sampl |
| 4 | 17 | 1401 | 0.005 | 0.098 | 1.7 | 8 | 1.3 | 0.1 | Soil Sampl |
| 3 | 26 | 1098 | 0.003 | 0.08 | 3.9 | 5 | 1.1 | 0.1 | Soil Sampl |
| 1 | 17 | 4695 | 0.002 | 0.132 | 4.1 | 8 | 1 | 0.05 | Soil Sampl |
| 2 | 19 | 1260 | 0.003 | 0.122 | 3.2 | 7 | 1.3 | 0.1 | Soil Sampl |
| 0.5 | 12 | 8236 | 0.007 | 0.13 | 3.9 | 16 | 0.7 | 0.05 | Soil Sampl |
| 2 | 19 | 2912 | 0.005 | 0.083 | 3.7 | 9 | 0.5 | 0.05 | Soil Sampl |
| 1 | 21 | 4434 | 0.003 | 0.088 | 3 | 6 | 0.9 | 0.05 | Soil Sampl |
| 1 | 19 | 5593 | 0.006 | 0.083 | 4.5 | 13 | 0.6 | 0.05 | Soil Sampl |
| 2 | 20 | 5544 | 0.002 | 0.069 | 3.4 | 7 | 0.7 | 0.05 | Soil Sampl |
| 1 | 16 | 6951 | 0.005 | 0.087 | 3.4 | 14 | 0.7 | 0.05 | Soil Sampl |
| 1 | 12 | 7355 | 0.008 | 0.053 | 2.8 | 22 | 0.7 | 0.05 | Soil Sampl |
| 0.5 | 9 | 9251 | 0.009 | 0.048 | 2.2 | 21 | 0.8 | 0.1 | Soil Sampl |
| 2 | 16 | 4736 | 0.008 | 0.068 | 3.9 | 17 | 0.8 | 0.1 | Soil Sampl |
| 0.5 | 12 | 6461 | 0.011 | 0.065 | 3.9 | 28 | 1.2 | 0.1 | Soil Sampl |
| 1 | 17 | 4387 | 0.005 | 0.077 | 2.9 | 10 | 0.7 | 0.05 | Soil Sampl |
| 1 | 17 | 7693 | 0.006 | 0.079 | 3.5 | 11 | 0.9 | 0.1 | Soil Sampl |
| 1 | 17 | 7254 | 0.007 | 0.071 | 3.6 | 13 | 1 | 0.1 | Soil Sampl |
| 3 | 27 | 3601 | 0.007 | 0.063 | 5.3 | 14 | 0.8 | 0.05 | Soil Sampl |
| 3 | 27 | 3490 | 0.006 | 0.059 | 4.7 | 12 | 0.8 | 0.05 | Field Dupli |
| 3 | 25 | 3727 | 0.007 | 0.089 | 4.3 | 15 | 0.8 | 0.05 | Soil Sampl |
| 3 | 22 | 4109 | 0.004 | 0.081 | 3.4 | 10 | 0.7 | 0.05 | Soil Sampl |
| 2 | 19 | 4280 | 0.007 | 0.073 | 3.8 | 17 | 0.7 | 0.05 | Soil Sampl |
| 2 | 19 | 5597 | 0.005 | 0.08 | 3.4 | 10 | 0.9 | 0.05 | Soil Sampl |
| 0.5 | 17 | 7084 | 0.005 | 0.082 | 3.1 | 13 | 0.9 | 0.05 | Soil Sampl |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.5 | 16 | 4789 | 0.006 | 0.091 | 2.4 | 15 | 0.5 | 0.05 | Soil Sampl |
| 0.5 | 22 | 5631 | 0.004 | 0.101 | 2.3 | 9 | 0.5 | 0.05 | Soil Sampl |
| 2 | 19 | 4629 | 0.006 | 0.082 | 4.6 | 10 | 0.9 | 0.05 | Soil Sampl |
| 1 | 16 | 5419 | 0.008 | 0.065 | 4 | 22 | 0.8 | 0.2 | Soil Sampl |
| 1 | 16 | 4945 | 0.005 | 0.089 | 2.9 | 9 | 0.7 | 0.05 | Soil Sampl |
| 0.5 | 12 | 6864 | 0.007 | 0.061 | 3 | 19 | 1.1 | 0.05 | Soil Sampl |
| 2 | 21 | 4363 | 0.005 | 0.09 | 3.1 | 9 | 0.6 | 0.1 | Soil Sampl |
| 1 | 17 | 2039 | 0.005 | 0.09 | 3.4 | 9 | 0.5 | 0.05 | Soil Sampl |
| 0.5 | 13 | 7857 | 0.005 | 0.073 | 2.9 | 22 | 0.5 | 0.05 | Soil Sampl |
| 2 | 19 | 3070 | 0.004 | 0.069 | 2.9 | 7 | 0.7 | 0.05 | Soil Sampl |
| 1 | 17 | 5284 | 0.002 | 0.068 | 2.6 | 8 | 0.5 | 0.05 | Soil Sampl |
| 1 | 19 | 5276 | 0.005 | 0.071 | 2.8 | 13 | 0.7 | 0.1 | Soil Sampl |
| 1 | 22 | 6457 | 0.003 | 0.09 | 3 | 7 | 0.7 | 0.05 | Soil Sampl |
| 0.5 | 15 | 5062 | 0.005 | 0.079 | 2.8 | 17 | 0.5 | 0.05 | Soil Sampl |
| 0.5 | 14 | 7963 | 0.009 | 0.076 | 3.7 | 18 | 0.7 | 0.05 | Soil Sampl |
| 0.5 | 14 | 7571 | 0.008 | 0.083 | 3.2 | 16 | 0.9 | 0.05 | Soil Sampl |
| 2 | 16 | 3068 | 0.007 | 0.09 | 3.8 | 13 | 0.7 | 0.05 | Soil Sampl |
| 2 | 21 | 3771 | 0.004 | 0.082 | 3.7 | 8 | 0.6 | 0.05 | Soil Sampl |
| 4 | 25 | 867 | 0.003 | 0.102 | 1.2 | 7 | 1.5 | 0.2 | Soil Sampl |
| 3 | 27 | 1287 | 0.004 | 0.098 | 3.2 | 9 | 2 | 0.3 | Soil Sampl |
| 3 | 30 | 2405 | 0.003 | 0.075 | 5.1 | 6 | 1.2 | 0.05 | Soil Sampl |
| 3 | 27 | 2676 | 0.005 | 0.1 | 6.8 | 8 | 1.5 | 0.2 | Soil Sampl |
| 3 | 25 | 3246 | 0.006 | 0.086 | 6 | 12 | 0.8 | 0.1 | Soil Sampl |
| 3 | 25 | 1603 | 0.004 | 0.083 | 5.3 | 7 | 1.9 | 0.2 | Soil Sampl |
| 4 | 27 | 2528 | 0.004 | 0.089 | 6.8 | 8 | 1.8 | 0.2 | Soil Sampl |
| 4 | 24 | 1647 | 0.004 | 0.072 | 5.8 | 9 | 0.9 | 0.1 | Soil Sampl |
| 4 | 21 | 1158 | 0.005 | 0.062 | 4.7 | 9 | 1.3 | 0.05 | Soil Sampl |
| 4 | 22 | 1660 | 0.006 | 0.098 | 4.5 | 11 | 1.3 | 0.1 | Soil Sampl |
| 4 | 23 | 1525 | 0.005 | 0.077 | 4.8 | 8 | 1.8 | 0.1 | Soil Sampl |
| 4 | 22 | 959 | 0.005 | 0.045 | 4 | 8 | 0.9 | 0.1 | Soil Sampl |
| 3 | 26 | 2810 | 0.005 | 0.059 | 5.8 | 13 | 0.7 | 0.05 | Soil Sampl |
| 6 | 18 | 4105 | 0.005 | 0.061 | 9 | 9 | 0.7 | 0.05 | Soil Sampl |
| 6 | 18 | 3381 | 0.004 | 0.069 | 11.3 | 7 | 0.8 | 0.05 | Soil Sampl |
| 6 | 21 | 4591 | 0.003 | 0.065 | 14.1 | 6 | 0.7 | 0.05 | Field Dupli |
| 4 | 19 | 1046 | 0.004 | 0.06 | 4.2 | 8 | 1 | 0.05 | Soil Sampl |
| 3 | 16 | 1545 | 0.006 | 0.052 | 3.9 | 17 | 0.5 | 0.05 | Soil Sampl |
| 5 | 21 | 962 | 0.005 | 0.155 | 3.6 | 13 | 4 | 0.2 | Soil Sampl |
| 5 | 35 | 900 | 0.005 | 0.094 | 4.7 | 11 | 6.1 | 0.3 | Soil Sampl |
| 4 | 23 | 730 | 0.003 | 0.124 | 2.1 | 6 | 3.7 | 0.3 | Soil Sampl |
| 4 | 19 | 1199 | 0.003 | 0.105 | 3.6 | 7 | 1.6 | 0.2 | Soil Sampl |
| 5 | 20 | 1144 | 0.006 | 0.116 | 3.6 | 12 | 3 | 0.3 | Soil Sampl |
| 5 | 20 | 689 | 0.004 | 0.105 | 3.4 | 9 | 1.3 | 0.2 | Soil Sampl |
| 3 | 25 | 2352 | 0.007 | 0.08 | 7.5 | 12 | 0.9 | 0.1 | Soil Sampl |
| 4 | 26 | 2889 | 0.006 | 0.084 | 5.7 | 12 | 1 | 0.1 | Soil Sampl |
| 4 | 27 | 1618 | 0.004 | 0.077 | 4.3 | 9 | 1.4 | 0.2 | Soil Sampl |
| 3 | 30 | 1810 | 0.003 | 0.079 | 6.6 | 5 | 1.1 | 0.1 | Soil Sampl |
| 3 | 31 | 1856 | 0.004 | 0.103 | 4.1 | 8 | 1.9 | 0.2 | Soil Sampl |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 27 | 1825 | 0.005 | 0.101 | 4.9 | 10 | 1.1 | 0.1 | Soil Sample |
| 5 | 21 | 1142 | 0.007 | 0.069 | 5.9 | 13 | 0.9 | 0.2 | Soil Sample |
| 3 | 26 | 2554 | 0.004 | 0.065 | 4.6 | 7 | 0.9 | 0.1 | Soil Sample |
| 5 | 19 | 1145 | 0.005 | 0.081 | 3.9 | 10 | 0.8 | 0.1 | Soil Sample |
| 4 | 26 | 1868 | 0.005 | 0.082 | 5.7 | 9 | 0.9 | 0.05 | Soil Sample |
| 3 | 31 | 1958 | 0.003 | 0.077 | 6.7 | 7 | 0.9 | 0.05 | Soil Sample |
| 3 | 27 | 1852 | 0.003 | 0.071 | 5.7 | 6 | 0.8 | 0.05 | Soil Sample |
| 3 | 31 | 1578 | 0.003 | 0.082 | 6.3 | 6 | 1.1 | 0.1 | Soil Sample |
| 4 | 27 | 1476 | 0.005 | 0.123 | 4.2 | 11 | 1.3 | 0.2 | Soil Sample |
| 3 | 28 | 1988 | 0.005 | 0.093 | 4.8 | 10 | 1.3 | 0.2 | Soil Sample |
| 3 | 32 | 4409 | 0.004 | 0.069 | 7.8 | 7 | 1.1 | 0.1 | Soil Sample |
| 2 | 28 | 3791 | 0.003 | 0.068 | 6.4 | 7 | 1 | 0.05 | Field Dupli |
| 3 | 27 | 2936 | 0.005 | 0.076 | 6.6 | 10 | 0.8 | 0.1 | Soil Sample |
| 4 | 25 | 1935 | 0.004 | 0.065 | 5.2 | 8 | 0.6 | 0.05 | Soil Sample |

| technici | sample_d | sample_ti | utm_zone | utm_east | utm_nort | longitud | latitude | elevatio | sample_m |
|---|---|---|---|---|---|---|---|---|---|
| Hector | ####### | 10:57:40 | 08N | 563419 | 7141114 | -133.68 | 64.3899 | 1538 | Auger |
| Hector | ####### | 11:10:44 | 08N | 563402 | 7141098 | -133.69 | 64.3897 | 1523 | Auger |
| Hector | ####### | 11:20:12 | 08N | 563385 | 7141079 | -133.69 | 64.3895 | 1496 | Auger |
| Hector | ####### | 11:30:06 | 08N | 563368 | 7141061 | -133.69 | 64.3894 | 1495 | Auger |
| Hector | ####### | 11:38:21 | 08N | 563349 | 7141044 | -133.69 | 64.3892 | 1494 | Auger |
| Hector | ####### | 11:47:56 | 08N | 563331 | 7141027 | -133.69 | 64.3891 | 1461 | Auger |
| Hector | ####### | 11:55:39 | 08N | 563313 | 7141010 | -133.69 | 64.3889 | 1454 | Auger |
| Hector | ####### | 12:03:05 | 08N | 563295 | 7140992 | -133.69 | 64.3888 | 1441 | Auger |
| Hector | ####### | 12:14:17 | 08N | 563277 | 7140975 | -133.69 | 64.3886 | 1448 | Auger |
| Hector | ####### | 12:23:27 | 08N | 563311 | 7140939 | -133.69 | 64.3883 | 1431 | Auger |
| Hector | ####### | 12:31:45 | 08N | 563329 | 7140957 | -133.69 | 64.3885 | 1416 | Auger |
| Hector | ####### | 12:42:24 | 08N | 563347 | 7140974 | -133.69 | 64.3886 | 1447 | Mattock |
| Hector | ####### | 12:59:54 | 08N | 563364 | 7140991 | -133.69 | 64.3888 | 1471 | Auger |
| Hector | ####### | 13:03:50 | 08N | 563364 | 7140991 | -133.69 | 64.3888 | 1471 | |
| Hector | ####### | 13:11:23 | 08N | 563382 | 7141009 | -133.69 | 64.3889 | 1483 | Auger |
| Hector | ####### | 13:20:57 | 08N | 563401 | 7141026 | -133.69 | 64.3891 | 1506 | Auger |
| Hector | ####### | 13:27:45 | 08N | 563418 | 7141043 | -133.69 | 64.3892 | 1533 | Auger |
| Hector | ####### | 13:34:34 | 08N | 563436 | 7141062 | -133.68 | 64.3894 | 1513 | Auger |
| Hector | ####### | 13:43:46 | 08N | 563455 | 7141080 | -133.68 | 64.3895 | 1523 | Auger |
| Hector | ####### | 13:55:33 | 08N | 563489 | 7141044 | -133.68 | 64.3892 | 1536 | Auger |
| Hector | ####### | 14:04:16 | 08N | 563471 | 7141025 | -133.68 | 64.389 | 1539 | Auger |
| Hector | ####### | 14:12:13 | 08N | 563453 | 7141007 | -133.68 | 64.3889 | 1526 | Auger |
| Hector | ####### | 14:20:24 | 08N | 563436 | 7140991 | -133.68 | 64.3887 | 1504 | Auger |
| Hector | ####### | 14:29:33 | 08N | 563417 | 7140973 | -133.69 | 64.3886 | 1503 | Auger |
| Hector | ####### | 14:41:12 | 08N | 563400 | 7140956 | -133.69 | 64.3884 | 1475 | Auger |
| Hector | ####### | 14:49:32 | 08N | 563383 | 7140938 | -133.69 | 64.3883 | 1453 | Auger |
| Hector | ####### | 14:57:44 | 08N | 563364 | 7140920 | -133.69 | 64.3881 | 1420 | Auger |
| Hector | ####### | 15:08:32 | 08N | 563347 | 7140903 | -133.69 | 64.388 | 1405 | Auger |
| Hector | ####### | 15:19:16 | 08N | 563382 | 7140867 | -133.69 | 64.3876 | 1419 | Auger |
| Hector | ####### | 15:26:49 | 08N | 563400 | 7140884 | -133.69 | 64.3878 | 1421 | Auger |
| Hector | ####### | 15:33:56 | 08N | 563418 | 7140901 | -133.69 | 64.3879 | 1449 | Auger |
| Hector | ####### | 15:44:00 | 08N | 563435 | 7140919 | -133.68 | 64.3881 | 1449 | Auger |
| Hector | ####### | 15:52:23 | 08N | 563453 | 7140938 | -133.68 | 64.3883 | 1483 | Auger |
| Hector | ####### | 16:01:03 | 08N | 563471 | 7140954 | -133.68 | 64.3884 | 1486 | Auger |
| Hector | ####### | 16:09:45 | 08N | 563489 | 7140972 | -133.68 | 64.3886 | 1515 | Auger |
| Hector | ####### | 16:17:34 | 08N | 563507 | 7140989 | -133.68 | 64.3887 | 1525 | Auger |
| Hector | ####### | 16:27:40 | 08N | 563525 | 7141008 | -133.68 | 64.3889 | 1572 | Auger |
| Luke Se | ####### | 19:05:48 | 08N | 563701 | 7140831 | -133.68 | 64.3873 | 1496 | Mattock |
| Luke Se | ####### | 19:09:21 | 08N | 563682 | 7140812 | -133.68 | 64.3871 | 1493 | Mattock |
| Luke Se | ####### | 19:10:53 | 08N | 563664 | 7140794 | -133.68 | 64.3869 | 1489 | Mattock |
| Luke Se | ####### | 19:12:20 | 08N | 563647 | 7140777 | -133.68 | 64.3868 | 1486 | Hands |
| Luke Se | ####### | 19:13:48 | 08N | 563629 | 7140759 | -133.68 | 64.3866 | 1476 | Mattock |
| Luke Se | ####### | 19:15:01 | 08N | 563611 | 7140742 | -133.68 | 64.3865 | 1466 | Mattock |
| Luke Se | ####### | 19:16:03 | 08N | 563593 | 7140724 | -133.68 | 64.3863 | 1457 | Auger |
| Luke Se | ####### | 19:17:13 | 08N | 563575 | 7140706 | -133.68 | 64.3862 | 1444 | Auger |
| Luke Se | ####### | 19:19:08 | 08N | 563558 | 7140689 | -133.68 | 64.386 | 1435 | Auger |

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|---|---|---|---|---|---|---|---|---|---|
| Luke Se | ####### | 19:20:21 | 08N | 563592 | 7140654 | -133.68 | 64.3857 | 1429 | Auger |
| Luke Se | ####### | 19:21:36 | 08N | 563609 | 7140671 | -133.68 | 64.3858 | 1438 | Auger |
| Luke Se | ####### | 19:22:37 | 08N | 563628 | 7140688 | -133.68 | 64.386 | 1445 | Auger |
| Luke Se | ####### | 19:23:58 | 08N | 563645 | 7140705 | -133.68 | 64.3861 | 1450 | Mattock |
| Luke Se | ####### | 19:25:07 | 08N | 563663 | 7140722 | -133.68 | 64.3863 | 1457 | Hands |
| Luke Se | ####### | 19:28:25 | 08N | 563663 | 7140722 | -133.68 | 64.3863 | 1457 | |
| Luke Se | ####### | 19:28:35 | 08N | 563681 | 7140740 | -133.68 | 64.3864 | 1464 | Mattock |
| Luke Se | ####### | 19:29:55 | 08N | 563700 | 7140758 | -133.68 | 64.3866 | 1471 | Hands |
| Luke Se | ####### | 19:32:02 | 08N | 563716 | 7140776 | -133.68 | 64.3868 | 1479 | Hands |
| Luke Se | ####### | 19:33:50 | 08N | 563735 | 7140793 | -133.68 | 64.3869 | 1484 | Hands |
| Luke Se | ####### | 19:35:04 | 08N | 563771 | 7140758 | -133.68 | 64.3866 | 1460 | Auger |
| Luke Se | ####### | 19:36:52 | 08N | 563753 | 7140740 | -133.68 | 64.3864 | 1452 | Hands |
| Luke Se | ####### | 19:38:03 | 08N | 563734 | 7140724 | -133.68 | 64.3863 | 1446 | Auger |
| Luke Se | ####### | 19:39:32 | 08N | 563716 | 7140704 | -133.68 | 64.3861 | 1443 | Mattock |
| Luke Se | ####### | 19:40:37 | 08N | 563698 | 7140688 | -133.68 | 64.386 | 1438 | Hands |
| Luke Se | ####### | 19:41:36 | 08N | 563681 | 7140671 | -133.68 | 64.3858 | 1431 | Auger |
| Luke Se | ####### | 19:43:10 | 08N | 563661 | 7140654 | -133.68 | 64.3857 | 1426 | Auger |
| Luke Se | ####### | 19:44:15 | 08N | 563647 | 7140635 | -133.68 | 64.3855 | 1422 | Auger |
| Luke Se | ####### | 19:45:23 | 08N | 563627 | 7140618 | -133.68 | 64.3854 | 1417 | Auger |
| Luke Se | ####### | 19:47:50 | 08N | 563662 | 7140582 | -133.68 | 64.385 | 1405 | Auger |
| Luke Se | ####### | 19:49:00 | 08N | 563680 | 7140599 | -133.68 | 64.3852 | 1410 | Auger |
| Luke Se | ####### | 19:49:57 | 08N | 563698 | 7140617 | -133.68 | 64.3853 | 1414 | Auger |
| Luke Se | ####### | 19:51:01 | 08N | 563716 | 7140634 | -133.68 | 64.3855 | 1415 | Auger |
| Luke Se | ####### | 19:52:10 | 08N | 563733 | 7140653 | -133.68 | 64.3857 | 1420 | Auger |
| Luke Se | ####### | 19:53:15 | 08N | 563751 | 7140669 | -133.68 | 64.3858 | 1423 | Auger |
| Luke Se | ####### | 19:54:38 | 08N | 563768 | 7140687 | -133.68 | 64.386 | 1429 | Hands |
| Luke Se | ####### | 19:55:46 | 08N | 563787 | 7140704 | -133.68 | 64.3861 | 1433 | Auger |
| Luke Se | ####### | 19:57:02 | 08N | 563805 | 7140720 | -133.68 | 64.3862 | 1434 | Hands |
| Daniel | ####### | 16:02:39 | 08N | 563631 | 7140830 | -133.68 | 64.3873 | 1521 | Hands |
| Daniel | ####### | 16:10:39 | 08N | 563612 | 7140811 | -133.68 | 64.3871 | 1501 | Hands |
| Daniel | ####### | 16:21:07 | 08N | 563594 | 7140795 | -133.68 | 64.387 | 1491 | Mattock |
| Daniel | ####### | 16:29:08 | 08N | 563576 | 7140777 | -133.68 | 64.3868 | 1475 | Mattock |
| Daniel | ####### | 16:37:26 | 08N | 563558 | 7140759 | -133.68 | 64.3866 | 1464 | Mattock |
| Daniel | ####### | 16:47:21 | 08N | 563540 | 7140741 | -133.68 | 64.3865 | 1448 | Mattock |
| Daniel | ####### | 16:58:50 | 08N | 563522 | 7140724 | -133.68 | 64.3863 | 1436 | Mattock |
| Daniel | ####### | 10:33:20 | 08N | 563559 | 7140972 | -133.68 | 64.3886 | 1548 | Mattock |
| Daniel | ####### | 11:08:22 | 08N | 563541 | 7140955 | -133.68 | 64.3884 | 1539 | Mattock |
| Daniel | ####### | 11:17:15 | 08N | 563524 | 7140936 | -133.68 | 64.3882 | 1525 | Mattock |
| Daniel | ####### | 11:25:06 | 08N | 563507 | 7140918 | -133.68 | 64.3881 | 1511 | Mattock |
| Daniel | ####### | 11:35:14 | 08N | 563488 | 7140902 | -133.68 | 64.3879 | 1494 | Mattock |
| Daniel | ####### | 11:47:13 | 08N | 563471 | 7140884 | -133.68 | 64.3878 | 1483 | Mattock |
| Daniel | ####### | 11:48:27 | 08N | 563471 | 7140884 | -133.68 | 64.3878 | 1483 | |
| Daniel | ####### | 12:00:06 | 08N | 563453 | 7140866 | -133.68 | 64.3876 | 1462 | Mattock |
| Daniel | ####### | 12:09:37 | 08N | 563435 | 7140849 | -133.68 | 64.3875 | 1455 | Mattock |
| Daniel | ####### | 12:18:00 | 08N | 563418 | 7140832 | -133.69 | 64.3873 | 1438 | Mattock |
| Daniel | ####### | 12:42:21 | 08N | 563451 | 7140796 | -133.68 | 64.387 | 1428 | Mattock |
| Daniel | ####### | 12:51:17 | 08N | 563469 | 7140814 | -133.68 | 64.3872 | 1437 | Mattock |

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|---|---|---|---|---|---|---|---|---|---|
| Daniel ( | ####### | 12:59:50 | 08N | 563486 | 7140830 | -133.68 | 64.3873 | 1455 | Mattock |
| Daniel ( | ####### | 13:10:47 | 08N | 563504 | 7140848 | -133.68 | 64.3875 | 1471 | Mattock |
| Daniel ( | ####### | 13:22:21 | 08N | 563523 | 7140865 | -133.68 | 64.3876 | 1488 | Mattock |
| Daniel ( | ####### | 13:29:08 | 08N | 563541 | 7140883 | -133.68 | 64.3878 | 1501 | Hands |
| Daniel ( | ####### | 13:38:24 | 08N | 563559 | 7140900 | -133.68 | 64.3879 | 1517 | Hands |
| Daniel ( | ####### | 13:47:37 | 08N | 563577 | 7140919 | -133.68 | 64.3881 | 1528 | Mattock |
| Daniel ( | ####### | 13:55:13 | 08N | 563593 | 7140936 | -133.68 | 64.3882 | 1548 | Hands |
| Daniel ( | ####### | 14:12:19 | 08N | 563629 | 7140900 | -133.68 | 64.3879 | 1559 | Hands |
| Daniel ( | ####### | 14:19:47 | 08N | 563612 | 7140882 | -133.68 | 64.3877 | 1547 | Hands |
| Daniel ( | ####### | 14:28:24 | 08N | 563594 | 7140866 | -133.68 | 64.3876 | 1528 | Hands |
| Daniel ( | ####### | 14:37:15 | 08N | 563577 | 7140847 | -133.68 | 64.3874 | 1514 | Hands |
| Daniel ( | ####### | 14:45:04 | 08N | 563558 | 7140830 | -133.68 | 64.3873 | 1495 | Mattock |
| Daniel ( | ####### | 14:55:31 | 08N | 563540 | 7140813 | -133.68 | 64.3871 | 1480 | Mattock |
| Daniel ( | ####### | 15:04:26 | 08N | 563523 | 7140795 | -133.68 | 64.387 | 1463 | Mattock |
| Daniel ( | ####### | 15:15:12 | 08N | 563505 | 7140778 | -133.68 | 64.3868 | 1450 | Mattock |
| Daniel ( | ####### | 15:25:26 | 08N | 563488 | 7140761 | -133.68 | 64.3867 | 1435 | Mattock |
| Daniel ( | ####### | 15:49:57 | 08N | 563664 | 7140864 | -133.68 | 64.3876 | 1542 | Hands |
| Daniel ( | ####### | 15:56:39 | 08N | 563648 | 7140847 | -133.68 | 64.3874 | 1538 | Mattock |
| Frances | ####### | 06:02:45 | 08N | 563592 | 7140443 | -133.68 | 64.3838 | 1349 | Auger |
| Frances | ####### | 06:11:25 | 08N | 563574 | 7140423 | -133.68 | 64.3836 | 1342 | Auger |
| Frances | ####### | 06:19:20 | 08N | 563556 | 7140406 | -133.68 | 64.3835 | 1339 | Auger |
| Frances | ####### | 06:27:21 | 08N | 563539 | 7140388 | -133.68 | 64.3833 | 1329 | Auger |
| Frances | ####### | 06:35:14 | 08N | 563521 | 7140371 | -133.68 | 64.3832 | 1319 | Auger |
| Frances | ####### | 06:43:11 | 08N | 563503 | 7140353 | -133.68 | 64.383 | 1311 | Auger |
| Frances | ####### | 06:51:02 | 08N | 563486 | 7140335 | -133.68 | 64.3829 | 1305 | Auger |
| Frances | ####### | 06:59:18 | 08N | 563469 | 7140317 | -133.68 | 64.3827 | 1297 | Auger |
| Frances | ####### | 07:07:51 | 08N | 563450 | 7140300 | -133.68 | 64.3825 | 1287 | Auger |
| Frances | ####### | 07:15:25 | 08N | 563433 | 7140282 | -133.69 | 64.3824 | 1279 | Auger |
| Frances | ####### | 07:22:46 | 08N | 563416 | 7140264 | -133.69 | 64.3822 | 1272 | Auger |
| Frances | ####### | 07:30:14 | 08N | 563396 | 7140248 | -133.69 | 64.3821 | 1267 | Auger |
| Frances | ####### | 07:37:07 | 08N | 563379 | 7140229 | -133.69 | 64.3819 | 1265 | Auger |
| Frances | ####### | 07:44:10 | 08N | 563361 | 7140211 | -133.69 | 64.3818 | 1258 | Auger |
| Frances | ####### | 07:51:16 | 08N | 563345 | 7140195 | -133.69 | 64.3816 | 1253 | Auger |
| Frances | ####### | 07:57:20 | 08N | 563345 | 7140195 | -133.69 | 64.3816 | 1253 | |
| Frances | ####### | 08:08:19 | 08N | 563378 | 7140159 | -133.69 | 64.3813 | 1257 | Auger |
| Frances | ####### | 08:16:26 | 08N | 563396 | 7140176 | -133.69 | 64.3814 | 1261 | Auger |
| Frances | ####### | 08:25:00 | 08N | 563415 | 7140192 | -133.69 | 64.3816 | 1266 | Auger |
| Frances | ####### | 08:32:57 | 08N | 563432 | 7140211 | -133.69 | 64.3817 | 1272 | Auger |
| Frances | ####### | 08:40:29 | 08N | 563449 | 7140229 | -133.68 | 64.3819 | 1279 | Auger |
| Frances | ####### | 08:51:10 | 08N | 563467 | 7140246 | -133.68 | 64.3821 | 1290 | Auger |
| Frances | ####### | 08:59:10 | 08N | 563486 | 7140264 | -133.68 | 64.3822 | 1299 | Auger |
| Frances | ####### | 09:09:36 | 08N | 563504 | 7140282 | -133.68 | 64.3824 | 1303 | Auger |
| Frances | ####### | 09:19:55 | 08N | 563521 | 7140298 | -133.68 | 64.3825 | 1312 | Auger |
| Frances | ####### | 09:28:48 | 08N | 563538 | 7140317 | -133.68 | 64.3827 | 1319 | Auger |
| Frances | ####### | 09:38:02 | 08N | 563555 | 7140336 | -133.68 | 64.3828 | 1326 | Auger |
| Frances | ####### | 09:48:53 | 08N | 563573 | 7140352 | -133.68 | 64.383 | 1332 | Auger |
| Frances | ####### | 09:58:38 | 08N | 563591 | 7140371 | -133.68 | 64.3832 | 1338 | Auger |

|  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| Frances | ####### | 10:21:21 | 08N | 563608 | 7140388 | -133.68 | 64.3833 | 1339 | Auger |
| Frances | ####### | 10:28:47 | 08N | 563626 | 7140405 | -133.68 | 64.3835 | 1340 | Auger |
| Frances | ####### | 10:37:31 | 08N | 563662 | 7140371 | -133.68 | 64.3831 | 1323 | Auger |
| Frances | ####### | 10:51:24 | 08N | 563645 | 7140353 | -133.68 | 64.383 | 1315 | Auger |
| Frances | ####### | 10:59:39 | 08N | 563628 | 7140336 | -133.68 | 64.3828 | 1314 | Auger |
| Frances | ####### | 11:07:13 | 08N | 563610 | 7140317 | -133.68 | 64.3827 | 1313 | Auger |
| Frances | ####### | 11:14:56 | 08N | 563593 | 7140301 | -133.68 | 64.3825 | 1315 | Auger |
| Frances | ####### | 11:23:42 | 08N | 563574 | 7140282 | -133.68 | 64.3824 | 1311 | Auger |
| Frances | ####### | 11:33:01 | 08N | 563556 | 7140266 | -133.68 | 64.3822 | 1308 | Auger |
| Frances | ####### | 11:40:17 | 08N | 563539 | 7140247 | -133.68 | 64.3821 | 1303 | Auger |
| Frances | ####### | 11:47:20 | 08N | 563521 | 7140229 | -133.68 | 64.3819 | 1301 | Auger |
| Frances | ####### | 11:52:26 | 08N | 563521 | 7140229 | -133.68 | 64.3819 | 1301 |  |
| Frances | ####### | 12:03:07 | 08N | 563503 | 7140212 | -133.68 | 64.3817 | 1294 | Auger |
| Frances | ####### | 12:09:24 | 08N | 563487 | 7140194 | -133.68 | 64.3816 | 1289 | Auger |

| sample_d | sampled_ | site_slo | soil_col | site_veg | site_gro | sample_m | sample_q | sample_t | sample_n |
|---|---|---|---|---|---|---|---|---|---|
| 40 | C | Steep | Chocola | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 40 | B | Subtle | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 80 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 60 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Outcrop |
| 50 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 40 | C | Steep | Light B | Alders | Grass C | Damp | Excelle | Silt | Coarse |
| 80 | C | Pronoun | Light B | No Tree | Grass C | Damp | Excelle | Silt | Coarse |
| 70 | C | Pronoun | Light B | No Tree | Grass C | Damp | Excelle | Silt | Coarse |
| 40 | C | Pronoun | Light B | Alders | Grass C | Damp | Good | Silt | Coarse |
| 50 | C | Pronoun | Light B | No Tree | Grass C | Damp | Excelle | Sand | Coarse |
| 40 | C | Pronoun | Light B | No Tree | Grass C | Damp | Excelle | Silt | Coarse |
| 40 | B | Steep | Dark Br | No Tree | Thin Mo | Damp | Good | Silt | Rocky T |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Coarse |
| | | | | | | | | | |
| 30 | C | Steep | Light B | No Tree | Rock Co | Damp | Excelle | Silt | Coarse, |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Coarse |
| 60 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 50 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Outcrop |
| 50 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Chocola | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Outcrop |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Outcrop |
| 40 | C | Steep | Light B | No Tree | Grass C | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Light B | No Tree | Grass C | Damp | Excelle | Silt | Quartz |
| 40 | C | Pronoun | Light B | No Tree | Grass C | Damp | Excelle | Silt | Fine |
| 40 | C | Steep | Light B | No Tree | Grass C | Damp | Excelle | Silt | Organic |
| 40 | C | Steep | Light B | No Tree | Grass C | Damp | Excelle | Silt | Fine |
| 60 | C | Steep | Light B | No Tree | Grass C | Damp | Excelle | Silt | Fine |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 50 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Silt | Quartz |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 40 | C | Steep | Dark Br | No Tree | Thin Mo | Damp | Excelle | Silt | Outcrop |
| 40 | C | Steep | Light B | No Tree | Thin Mo | Damp | Excelle | Sand | Coarse |
| 40 | C | Subtle | Chocola | No Tree | Bare So | Damp | Good | Sand | Dull Re |
| 50 | C | Pronoun | Dark Br | No Tree | Bare So | Damp | Good | Sand | Quartz |
| 30 | B | Pronoun | Dark Br | No Tree | Bare So | Damp | Good | Silt | Rusty R |
| 30 | B | Pronoun | Chocola | Willows | Bare So | Damp | Excelle | Silt | Dull Re |
| 40 | B | Subtle | Chocola | No Tree | Bare So | Damp | Good | Silt | Rusty R |
| 50 | B | Subtle | Dark Br | No Tree | Bare So | Damp | Good | Silt | Quartz |
| 60 | C | Subtle | Chocola | Willows | Grass C | Wet | Good | Sand | Bright |
| 70 | C | Subtle | Dark Br | Willows | Thin Mo | Damp | Good | Sand | Dull Re |
| 60 | B | Subtle | Chocola | Willows | Grass C | Damp | Good | Silt | Dull Re |

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|---|---|---|---|---|---|---|---|---|---|
| 60 | B | Subtle | Chocola | Subalpi | Grass C | Damp | Good | Silt | Rusty R |
| 50 | B | Subtle | Dark Br | Subalpi | Grass C | Damp | Good | Silt | Dull Re |
| 60 | B | Subtle | Dark Br | Willows | Thin Mo | Damp | Good | Silt | Bright |
| 40 | C | Subtle | Chocola | Willows | Bare So | Damp | Good | Sand | Rocky T |
| 30 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Sand | Quartz |
|  |  |  |  |  |  |  |  |  |  |
| 50 | B | Subtle | Chocola | No Tree | Bare So | Damp | Good | Silt | Quartz |
| 30 | B | Subtle | Chocola | No Tree | Bare So | Damp | Good | Silt | Dull Re |
| 30 | B | Subtle | Dark Br | Willows | Bare So | Damp | Good | Silt | Rusty R |
| 20 | C | Pronoun | Bluish | Willows | Bare So | Damp | Good | Sand | Bright |
| 60 | B | Subtle | Dark Br | Willows | Grass C | Damp | Good | Silt | Bright |
| 40 | B | Subtle | Dark Br | Willows | Rock Co | Damp | Good | Silt | Rusty R |
| 70 | C | Subtle | Reddish | Subalpi | Grass C | Damp | Good | Silt | Dull Re |
| 40 | C | Subtle | Bluish | No Tree | Bare So | Damp | Good | Silt | Quartz |
| 30 | C | Subtle | Chocola | Willows | Bare So | Damp | Good | Sand | Dull Re |
| 70 | B | Flat | Chocola | Willows | Grass C | Damp | Good | Silt | Dull Re |
| 60 | B | Flat | Dark Br | Willows | Grass C | Damp | Good | Silt | Dull Re |
| 70 | B | Subtle | Bluish | Willows | Grass C | Damp | Good | Silt | Dull Re |
| 50 | B | Flat | Chocola | No Tree | Grass C | Damp | Good | Silt | Bright |
| 60 | C | Subtle | Dark Ol | No Tree | Grass C | Damp | Good | Sand | Dull Re |
| 50 | B | Subtle | Bluish | No Tree | Grass C | Damp | Good | Silt | Bright |
| 60 | C | Subtle | Dark Ol | No Tree | Grass C | Damp | Good | Silt | Bright |
| 50 | C | Subtle | Bluish | Willows | Grass C | Damp | Good | Sand | Bright |
| 60 | C | Flat | Dark Br | Subalpi | Grass C | Damp | Good | Silt | Bright |
| 70 | C | Flat | Dark Ol | Willows | Grass C | Damp | Good | Sand | Bright |
| 40 | B | Flat | Dark Br | No Tree | Grass C | Damp | Good | Silt | Organic |
| 60 | B | Subtle | Dark Br | Willows | Grass C | Damp | Good | Silt | Bright |
| 30 | C | Pronoun | Chocola | Willows | Bare So | Damp | Good | Sand | Dull Re |
| 10 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 10 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 20 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Silt | Fine |
| 30 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 20 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Silt | Fine |
| 10 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 30 | C | Steep | Chocola | No Tree | Rock Co | Damp | Good | Sand | Fine,Ro |
| 40 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine,Ro |
| 20 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine,Ro |
| 20 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine |
| 40 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine |
| 50 | C | Steep | Chocola | No Tree | Thin Mo | Damp | Good | Sand | Fine |
|  |  |  |  |  |  |  |  |  |  |
| 40 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine,Ro |
| 30 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Sand | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine |
| 30 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine |

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|---|---|---|---|---|---|---|---|---|---|
| 40 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Sand | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Sand | Fine |
| 30 | C | Pronoun | Chocola | Willows | Bare So | Damp | Good | Silt | Fine |
| 5 | C | Pronoun | Chocola | Willows | Bare So | Damp | Good | Sand | Fine |
| 10 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Silt | Fine |
| 10 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 20 | C | Steep | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 20 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 20 | C | Steep | Chocola | No Tree | Rock Co | Damp | Good | Silt | Fine |
| 20 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Silt | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Silt | Fine |
| 20 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 40 | C | Pronoun | Chocola | No Tree | Rock Co | Damp | Good | Silt | Fine |
| 30 | C | Pronoun | Chocola | No Tree | Rock Co | Damp | Good | Silt | Fine |
| 10 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 20 | C | Pronoun | Chocola | No Tree | Bare So | Damp | Good | Silt | Fine |
| 50 | C | Pronoun | Chocola | Subalpi | Grass C | Damp | Good | Sand | Rocky T |
| 60 | C | Pronoun | Chocola | No Tree | Grass C | Damp | Good | Silt | Dull Re |
| 60 | C | Pronoun | Chocola | No Tree | Grass C | Damp | Good | Sand | Dull Re |
| 70 | C | Pronoun | Chocola | Willows | Grass C | Damp | Good | Sand | Clay |
| 50 | B | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Silt | Rocky T |
| 50 | C | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Sand | Dull Re |
| 60 | C | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Sand | Dull Re |
| 70 | C | Pronoun | Dark Br | Willows | Grass C | Damp | Good | Sand | Dull Re |
| 60 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Dull Re |
| 60 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Rocky T |
| 40 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Dull Re |
| 50 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Dull Re |
| 90 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Bright |
| 90 | C | Pronoun | Dark Br | Dwarf B | Thin Mo | Damp | Good | Gravel | Dull Re |
| 60 | C | Pronoun | Chocola | Willows | Sphagnu | Damp | Good | Sand | Dull Re |
| | | | | | | | | | |
| 70 | B | Pronoun | Dark Br | Willows | Grass C | Damp | Good | Silt | Dull Re |
| 70 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Bright |
| 50 | B | Pronoun | Dark Br | Dwarf B | Grass C | Damp | Poor | Silt | Organic |
| 50 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Bright |
| 70 | B | Pronoun | Dark Br | Dwarf B | Thin Mo | Damp | Good | Silt | Sandy |
| 50 | C | Pronoun | Chocola | Willows | Thin Mo | Damp | Good | Sand | Dull Re |
| 50 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Rocky T |
| 50 | B | Subtle | Chocola | Dwarf B | Grass C | Damp | Good | Sand | Dull Re |
| 50 | C | Pronoun | Chocola | No Tree | Thin Mo | Damp | Good | Sand | Rocky T |
| 50 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Rocky T |
| 60 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Dull Re |
| 80 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Clay,Du |
| 60 | B | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Silt | Dull Re |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 60 | B | Subtle | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Dull Re |
| 60 | B | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Silt | Dull Re |
| 60 | B | Pronoun | Dark Bl | Dwarf B | Thin Mo | Damp | Good | Silt | Bright |
| 50 | B | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Silt | Rocky T |
| 50 | B | Pronoun | Chocola | Dwarf B | Grass C | Damp | Good | Silt | Dull Re |
| 70 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Dull Re |
| 60 | B | Pronoun | Chocola | Dwarf B | Sphagnu | Damp | Good | Silt | Rocky T |
| 50 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Bright |
| 40 | B | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Rocky T |
| 60 | B | Subtle | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Dull Re |
| 50 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Sand | Rocky T |
| | | | | | | | | | |
| 50 | C | Pronoun | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Rocky T |
| 60 | B | Subtle | Chocola | Dwarf B | Thin Mo | Damp | Good | Silt | Sandy |

| addition | sample_ph | site_photo | reason_de | shipment | duplicat | shipment | job_number |
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# Appendix II: VLF+MAG Report

# GEOPHYSICAL REPORT
# GROUND VLF AND MAGNETIC SURVEY

## Raven (RAV) Project

YT, Canada

Work Performed On: August 29, 2019

FOR:

**Shawn Ryan**
Dawson City, YT

Report# SRP-GVLF19-RAV / Rev. 01

Prepared By:
**GroundTruth Exploration Inc.**
BOX 70, Dawson City, YT

Author: Amir H. Radjaee, *Ph.D., P.Geo*

**March 2020**

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## 1.0 Introduction

This report describes data acquisition and preliminary data processing results of the 2019 ground VLF and magnetic survey. The GroundTruth Exploration was commissioned by Shawn Ryan, Dawson City, YT to run the survey and process the data.

On August 29, 2019, ground VLF (GVLF) and ground magnetic (GMAG) surveys were completed over the Raven claims (RAV) located in the Yukon Territory. This survey is a part of a comprehensive survey completed in order to target future exploration on the property. All data, grids and maps are delivered in NAD83 UTM Zone 8N.

## 2.0 Purpose and Scope

The primary purpose of completing ground VLF and magnetic geophysical surveys is to determine the spatial distribution of subsurface electrical and magnetic properties of rocks. This, in turn, will allow the characterization of geophysical signatures for zones of mineralization and support geological models and structural mapping.

## 3.0 Survey Description

Data were acquired using GEM-19 portable VLF systems supplemented by a high-sensitivity proton magnetometer. The magnetometer has an absolute accuracy of +/- 0.2nT. Along with basic GPS tracking, GEM provides a navigation feature with the real-time coordinate transformation to UTM and the local grid. Operators can define a complete survey on PC and download points to the magnetometer via RS-232 serial port.

During the survey, a GEM-19 magnetometer was set up as the base station to collect data for correction and removing of unwanted noise arising from solar and atmospheric activity.

Total coverage of the survey block amounted to 3.3 line-km along 6 survey lines tacking 328 readings at about 10m station spacing. The survey lines are in an azimuthal direction of E-W (NE 95°) with line spacing of 50m for lines 0 through 3, SW-NE (NE 44°) for line 4 and SSW-NNE (NE 12°) for line 5. The in-phase and out-of-phase (quadrature) signals were measured as percentage of total field for three frequencies. The VLF transmitter frequencies used for this survey are presented in Table 1. The outline of survey areas and layout of flight lines are shown in Figure-1.

**Table 1:** The parameters of VLF Tx stations.

| VLF Tx Station | Frequency (kHz) | Latitude | Longitude |
|---|---|---|---|
| NML, ND | 25.2 | 46.365987°N | 98.335667°W |
| NSS, MD | 21.4 | 38.977778°N | 76.453333°W |
| GQD, UK | 19.6 | 54.911683°N | 3.278738°W |
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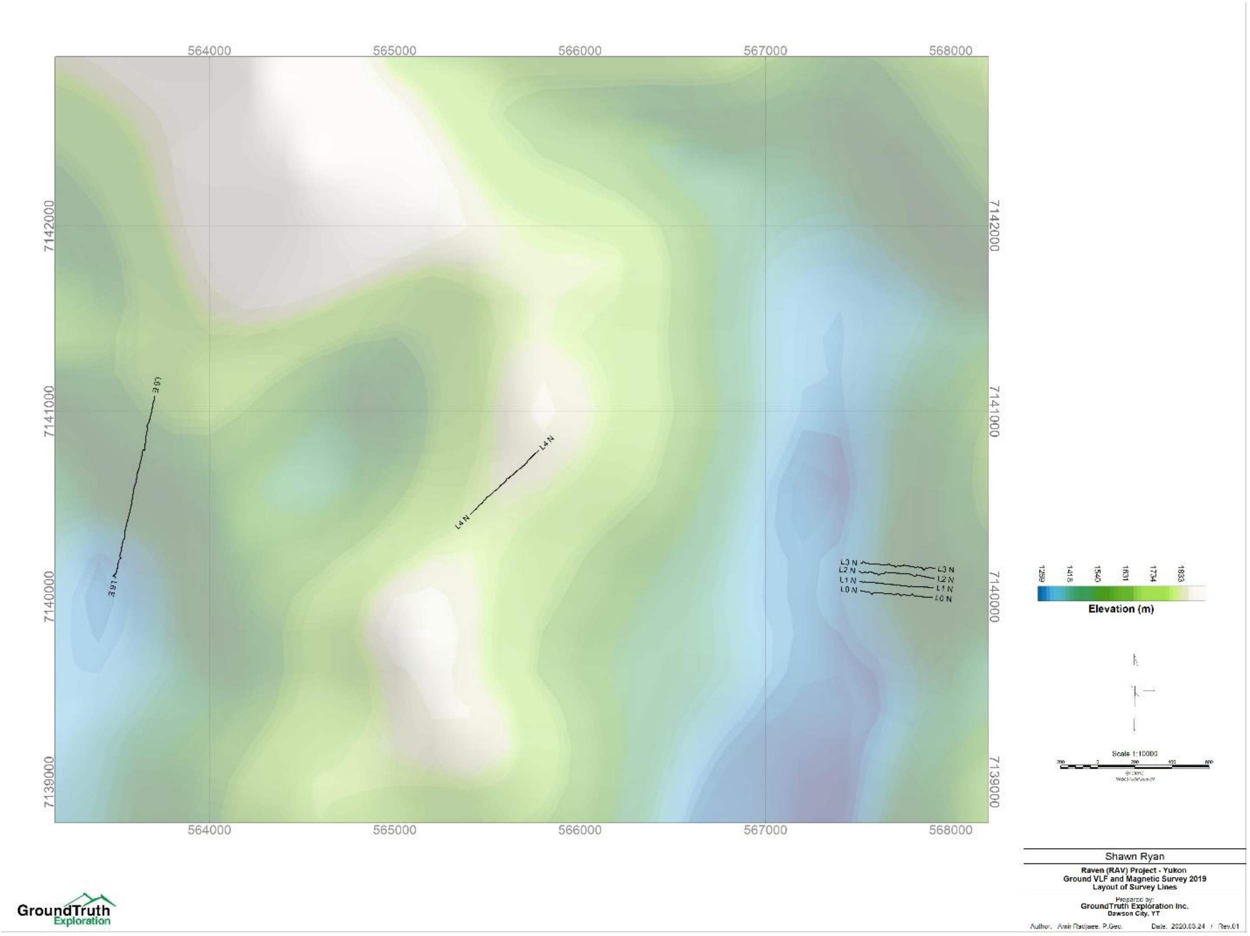


**Figure 1:** Location map of ground VLF/Mag survey 2019 on Raven (RAV) property, YT.

# 4.0 Survey Theory

## 4.1 Very Low Frequency (VLF) survey

Very Low Frequency Electromagnetics (VLF) is a geophysical ground probing technology that uses powerful remote radio transmitters set up in different parts of the world for the military submarine comminucation. In radio communications terminology, VLF means very low frequency, about 15 to 25 kHz, while relative to frequencies generally used in geophysical exploration, these are very high frequencies. The radiated field from a remote VLF transmitter, propagating over a uniform or horizontally layered earth and measured on the earth's surface, consists of a vertical electric field component and a horizontal magnetic field component each perpendicular to the direction of propagation.

These radio transmitters are very powerful and induce electric currents in conductive bodies thousands of kilometres away. Under normal conditions, the fields produced are relatively uniform in the far-field at a significant distance (hundreds of kilometres) from the transmitters. The induced currents produce secondary magnetic fields that can be detected at the surface through the deviation of the normal radiated field (Figure 2).

VLF is used in many applications, including mineral exploration, water exploration and more. In mineral exploration, VLF data are used to map geologic structure, including the apparent dip of the fault and shear zones. The data can be interpreted to identify the dip of these structures for reliable drilling. Data are also used to identify conductive ground which might correspond to sulphide or clay rich concentrations. A third application is to map overburden in preparation for drilling and further sampling. All of these features have electrical contrasts with surrounding rocks, tending to be more electrically conductive or resistive and are reasonable targets.

The depth of investigation is controlled by the electrical “Skin-Depth” of the local geology. It varies from shallow to in some cases >100m depending upon the overall background resistivity of the subsurface. Typically, 20-75 meters can be expected. Conductive overburden suppresses signals, and depth penetration may be severely limited at times. VLF works best where rocks are resistive and overburden is minimal or is highly resistive.

The data include in-phase and out-of-phase signals as a percentage of the total field, horizontal component (x), horizontal component (y), and field strength in pT. The electrical conductivity of rocks can be modelled by the inversion of VLF data.

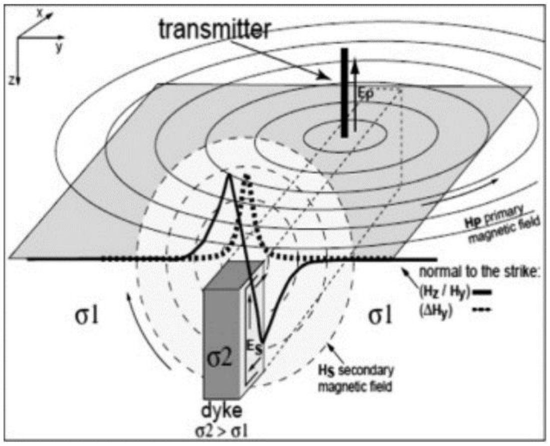


**Figure 2:** EM field distribution for the VLF method in E-polarization with theoretical signals over a vertical conductive dike (after Bosch and Müller, 2001).

## 4.2 Magnetic surveys

Magnetic is the most commonly used geophysical method for gold, diamond, platinum group metals and base metal exploration. Measurements of the magnetic field contain information about subsurface variations in magnetic susceptibility. Data can be acquired in the air (planes, satellites), on the ground (stationary, moving platforms, marine) and underground (boreholes, tunnels). The measurements record the sum of Earth’s field and fields induced in magnetic materials. More magnetic (i.e. susceptible) materials have stronger induced fields. Removing Earth’s field from the observations yields anomalous fields that can be interpreted in terms of where magnetic material lies and also its susceptibility and shape. Processed data are presented as maps or profiles, and advanced processing, involving inversion, yields parametric structures or 3D models of the subsurface susceptibility distribution.

Magnetic surveying is extremely versatile and can be applied in many areas in the geosciences including geologic mapping and mineral exploration. In gold exploration, magnetics helps in direct detection of associated mineralization and for mapping large- and local-scale structure (faults, dikes, and shear zones).

To a first approximation, Earth’s magnetic field resembles a large dipolar source with a negative pole in the northern hemisphere and a positive pole in the southern hemisphere. The dipole is offset from the center of the earth and also tilted. The north magnetic pole at the surface of the earth is approximately at Melville Island. The field at any location on the Earth is generally described in terms described of magnitude $|B|$, declination $D$ and inclination $I$ as illustrated in Figure 3.

When the magnetic source field is applied to earth materials it causes the material to become magnetized. Magnetization is dipole moment per unit volume. This is a vector quantity because a dipole has a strength and a direction. Because Earth's field is different at different locations on the earth, then the same object gets magnetized differently depending on where it is situated. As a consequence, magnetic data from a steel drum buried at the north pole will be very different from that from a drum buried at the equator.

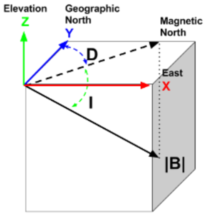


**Figure 3:** Earth’s magnetic field, declination (D) and inclination angles (2018, GeoSci Developers).

## 5.0 Results and recommendations

The data are processed for magnetic diurnal correction and the Fraser filter are applied on in-phase and quadrature components of VLF data. The data can be processed in advanced levels using inversion modelling techniques recently developed for the 2D inversion of VLF data. The EMTOMO-VLF2Dmf which is a software program for the 2D inversion of VLF-EM data based on the finite element (FE) method. This will ensure that geological models respect a consistent structural, stratigraphic, and topological framework in addition to ensuring consistency between different geophysical models.

The combination of geophysical models and geological and drilling information allows some general correlations to be made. The interpretations of VLF results can better identify lithological and structures features, as well as, the fracture zones.

# 6.0 Deliverables

**Summary report in .pdf format**

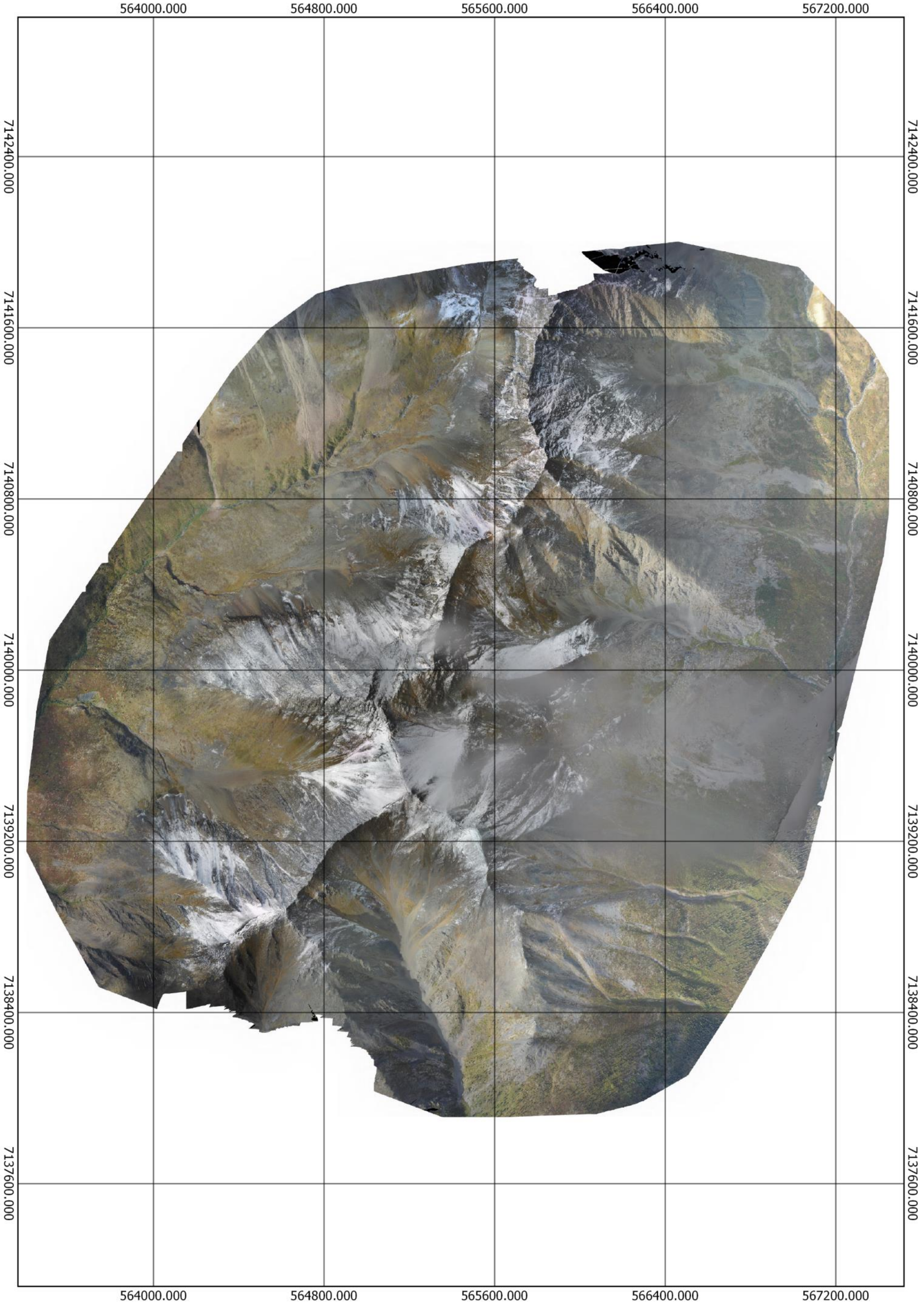
**Database in Geosoft .dbf and .xyz formats**

**Fraser filter Grids in Geosoft and Tiff format**

**Location Maps in .pdf and .jpg formats**

**Survey lines in Arcview shapefile format**

# Appendix III: Drone Survey Image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