K2 Project

Focused Regional Exploration Report

YMEP 20-038

Commodity:	Vanadium
Mining District:	Dawson
Map Sheet:	116I-09
Lat & Long:	centered at 66°40’ N, 136°20’ W
Project Operator:	Tao Song
Author:	Tao Song, GIT
Work period:	July 15, 2020 – March 31, 2021
Submit Date:	March 31, 2021

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SUMMARY

K2 project is a focused regional exploration program that was commissioned to evaluate vanadium mineralization over an area of 15x5km in North Yukon in 2020. Field work was performed during the period of July 15-27, 2020. Metallurgical test work and mineralogical studies were conducted from August 2020 to March 2021.

Vanadium mineralization was identified by rock sampling over a strike length of 15 kilometers in the summer of 2020. Thirty-eight mineral claims were subsequently staked to cover the mineralization over 9 kilometers.

Twenty core samples of the drill hole Fox07-03 were retrieved at the Bostock Core Library. One interval sample M091 was submitted for SEM studies and bio-leaching test. SEM EDS was used to determine the vanadium association with organic carbon. Four types of cultured bacteria were tested on the vanadium-bearing sample.

Key conclusions reached in the exploration are:

1. The vanadium mineralized corridor strikes N-S over tens of kilometers, dips shallowly west, and has a thickness of approximately 150 meters.
2. V_2O_5 grades within the mineralized zone vary between 0.3% and 1.08%, with an average of 0.45%.
3. SEM work determined vanadium is mostly hosted in mica and iron oxides of carbonaceous black shale. It is proofed by SEM that V_2O_5 values have no direct association with organic carbon content. It is inferred that vanadium is released during the diagenesis from carbon to mica and oxides.
4. Four types of cultured bacteria were tested on one drill core sample to liberate vanadium, but recoveries were extremely low.

The exploration expenditure eligible for the YMEP is $26741.4 (Appendix B). It is recommended to conduct more metallurgical work on rock and drill core samples to determine the recovery. It is crucial for the project to achieve a high vanadium recovery.

1 INTRODUCTION

K2 focused regional project is targeted to identify the vanadium mineralization in North Yukon. The project is subsidized by Yukon Mineral Exploration Program (YMEP) in the focus regional module. This report is prepared by Tao Song to describe the exploration program and submitted to YMEP for approval.

2 PROJECT LOCATION

The project area is located in North Yukon, approximately 50 km by road north of Eagle Plains and 460 km by road north of Dawson City (Figure 1). It is on the NTS map sheet 116I-09. The center of the property is at 66°40' N, 136°20' W in NAD83 datum. The target area has a size of 15x5km and is shown in Figure 2.

Figure 1. Project Location

3 ACCESSIBILITY, CLIMATE, INFRASTRUCTURE & PHYSIOGRAPHY

3.1 Accessibility

Dempster Highway provides a direct access to the target area. It is an all-weather year-round gravel road that connects the Canadian road network to Arctic Ocean. The entrance of Dempster Highway is near the Klondike Highway 674 km post that is 40 km east of Dawson City. Travel time from Dawson City to the target area is approximately 6 hours over 460 km by road.

3.2 Climate

The mean annual temperature for the Eagle Plains area is -6.5°C with a summer mean of 10°C and a winter mean of -23.5°C. Mean annual precipitation ranges 400-450 mm.

3.3 Local Resources and Infrastructures

Eagle Plains is the closest supply station, 50 km south of the property. It has a population of 10, and provides services of accommodation, restaurant, gas, car repairing and showing. Eagle Plains to the site is about 45 minutes over 50 km by road.

The second closest supply station is Fort McPherson in NWT, on the east bank of Peel River. It has a population of 700, and has convenience stores, gas stations and accommodation facilities.

Dawson City has a population of 1300-1400, the second largest town of Yukon. Two helicopter companies are based in Dawson. Dawson City is connected to the provincial power grids and is the northernmost that power grids extend.

Rock River Campground is 20 km north of the project area.

Three gravel pits are found along the highway within the project area. They were named in terms of the road distance from “0” kilometer sign of the Dempster Highway, namely GP412, GP417, and GP423 (Figure 2).

3.4 Physiography and Ecology

The project area is in the foothills of the western edge of Richardson Mountains. A series of discontinuous mounds trend N-S along the Dempster Highway.

This region is classified as a high subarctic eco-climate. The vegetative cover of this ecoregion is subarctic forest. Open, often very stunted stands of black spruce and tamarack with secondary quantities of white spruce and ground cover of dwarf birch, willow, ericaceous shrubs, cotton grass, lichen, and moss, are predominant.

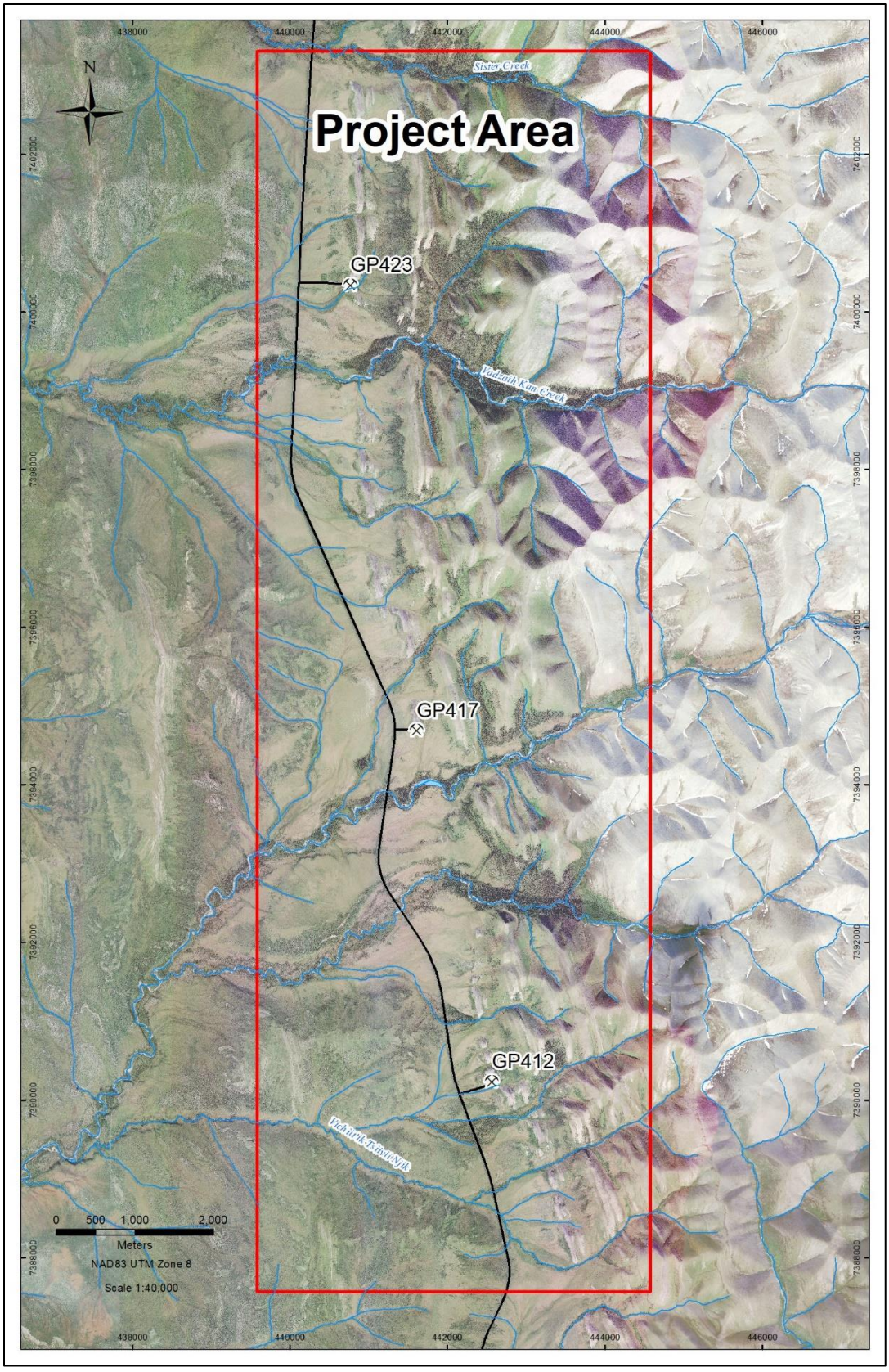

Figure 2. Geography of Project Area

4 EXPLORATION HISTORY

The Eagle Plains area was assessed for mineral potentials by Yukon Geological Survey in 1997 (Heon, 2006). Twelve samples were taken from the target area, but none returned V_2O_5 values more than 0.2%.

Shawn Ryan in 2005 explored for the Nick horizon in the region. Fifty-nine soil samples were taken on the target area, but none exceeds 0.2% V_2O_5.

Strategic Metals staked the Fox and NiMo Sum property in 2006, 20 km north of the target area. In 2007, seven diamond holes were drilled on the NiMo Sun and White Fox properties to determine the downdip extension of the Nick horizon from surface. 50 samples were sent for analysis at ALS, and 30 of them contained more than 0.2% V_2O_5, the highest being 0.62%. Since Strategic Metals was focused on nickel and zinc, sampling was performed on the Nick horizon only. Vanadium was overlooked, and no samples were taken on vanadium rich intervals. NiMo Sun and White Fox claims expired in 2012 and Strategic Metals let them lapse. DVY196 staked these claims in 2018.

Oil was discovered in the Eagle Plain basin in 1959. Extensive exploration for petroleum was incurred in the 1960s, with 33 wells were drilled and hydrocarbon reserves defined (Osadetz, 2005). No production was made yet.

5 GEOLOGICAL SETTING AND MINERALIZATION

5.1 Regional Geology

The region is underlain by three lithological units (Figure 3):

1) **Imperial Formation**: Upper Devonian–Mississippian, marine, siliciclastic unit overlying the Canol Formation

2**) Canol Formation**: Middle-Upper Devonian dark grey to black, soft to very hard, non-calcareous black shale (Fraser, 2013)

3) **Road River Group**: a thick succession of calcareous shale unit underlying the Canol Formation

The contact between the Canol Formation and Road River Group is marked by Ni-Zn-PGE mineralization, named the Nick horizon.

The target area lies along the western margin of the Richardson Mountains. Episodic reactivation of the Richardson Fault Array in Early and Middle Paleozoic formed a north- to northwest-trending intracratonic deep-water sedimentary basin known as the Richardson Trough, flanked by carbonate shelves, Mackenzie Platform to the east and Porcupine Platform to the west (Jeletzky, 1962). The trough was inverted into a faulted, north-plunging anticlinorium by the reactivation of Paleozoic faults in Late Cretaceous and Tertiary time (Norris, 1997), resulting in the mountain range observed today.

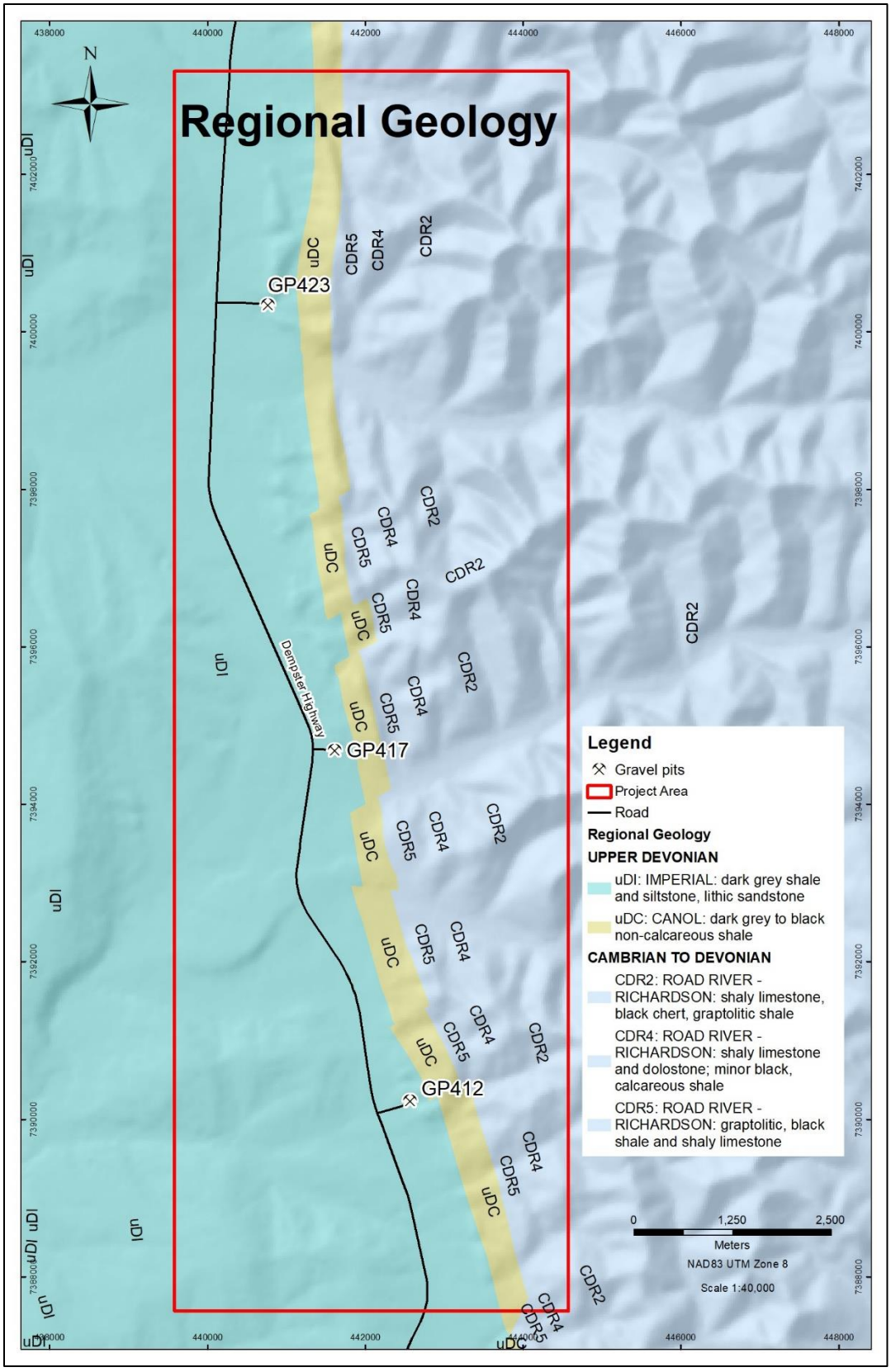

Figure 3. Regional Geology

5.2 Vanadium Mineralization of the Canol Formation at Trail River

Tiffani Fraser measured and analyzed a section of 261m along the Trail River in 2013. The returned results look appealing. Canol Formation outcrop is situated on the north bank of the Trail River, on the eastern flank of the Richardson Mountains.

The section starts from Road River Group, go to the Road River – Canol Transition zone, through the main body of the Canol Formation, into the Imperial Formation.

The Road River – Canol Transition zone is about 3 meters thick. It is known to contain the Nick horizon. Nick horizon is cherty, phosphorus, with elevated nickel and zinc. At the transition zone, vanadium content is elevated from 80 ppm to 600 ppm (Fraser, 2013). Highest vanadium values are found in the lower half of the Canol Formation and above the transition zone, 50-meter-thick averaging 0.22% V_2O_5 (Figure 4).

Road River Group and Imperial Formation contain vanadium values between 20 and 200ppm, significantly lower than Canol Formation, as shown in Figure 4.

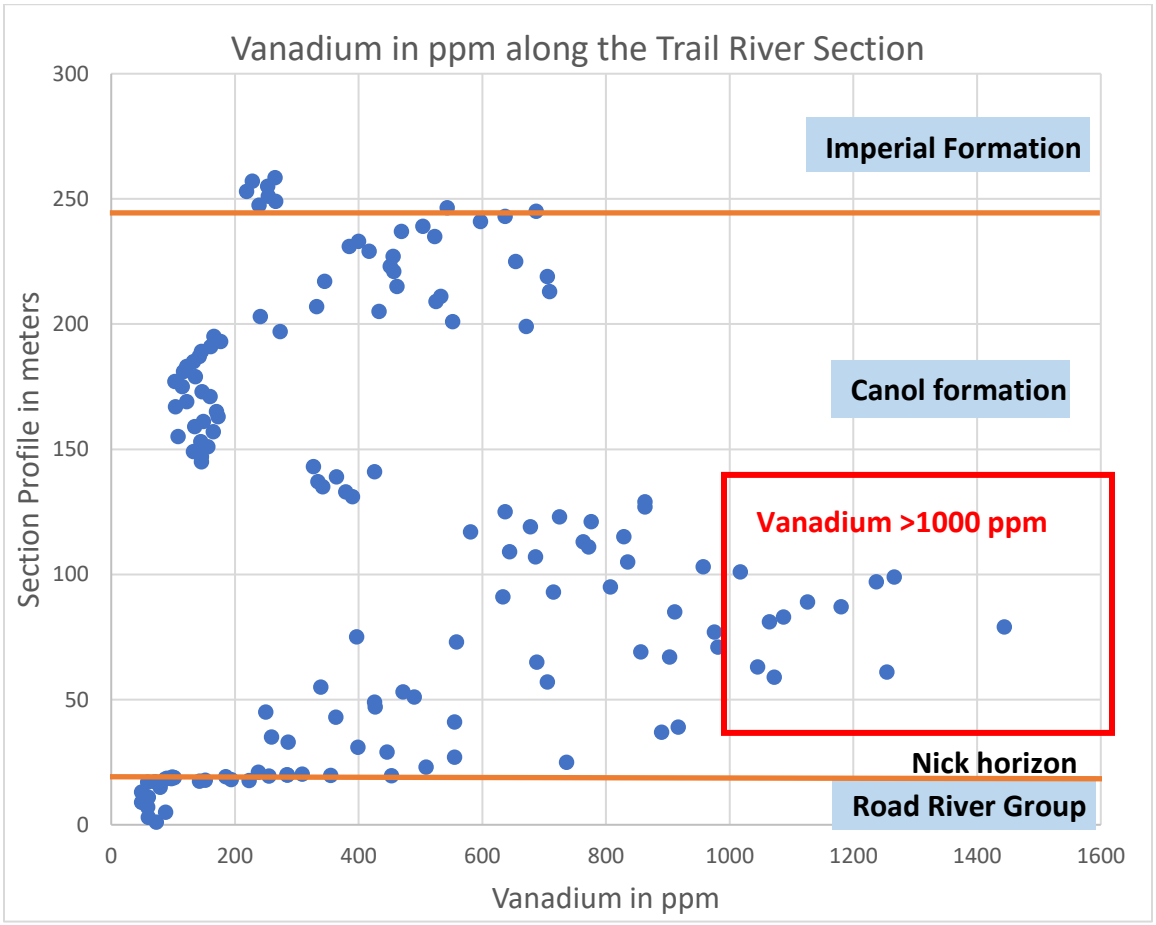

Figure 4. Vanadium Values along the Trail River Section

5.3 Property Geology and Mineralization

The project area is underlain by the Canol Formation that is characteristic of siliceous non-calcareous black shale, dipping west 15-25°. Rocks are commonly sub-cropped on the surface and fragmented into centimeter scale angular platy pieces. Three types of shale units are found within the Canol Formation on the target area (from top to bottom, as shown in

Figure 5). They have varying silica and carbon content.

- **Siliceous black shale unit**: the top unit, dark grey, some carbon, high silica content, serving as a cap to protect the carbonaceous black shale unit, containing V_2O_5 lower than 0.2%.
- **Carbonaceous black shale unit**: dark grey to deep black, siliceous, carbonaceous black shale, containing V_2O_5 in the range of 0.3 to 1%. When weathered, rock surface becomes light grey, with some dark grey color in the background.
- **Cherty shale unit**: the bottom unit, grey to dark grey cherty shale, carbon poor, containing vanadium lower than 100ppm. It dips west at 60-80° and is exposed on the east of the target area as high reliefs.

Discontinuous mounds are made of the siliceous black shale unit, while the low relief to the east of mounds is made of carbonaceous black shale, covered by dense vegetations. Nick horizon is stratigraphically a lower unit than the carbonaceous black shale, but it was not observed on the target area. Canol Formation on the target area contains vanadium values high in the core and low outwards. This observation on the property is consistent with analytical results at Trail River by Tiffani Fraser.

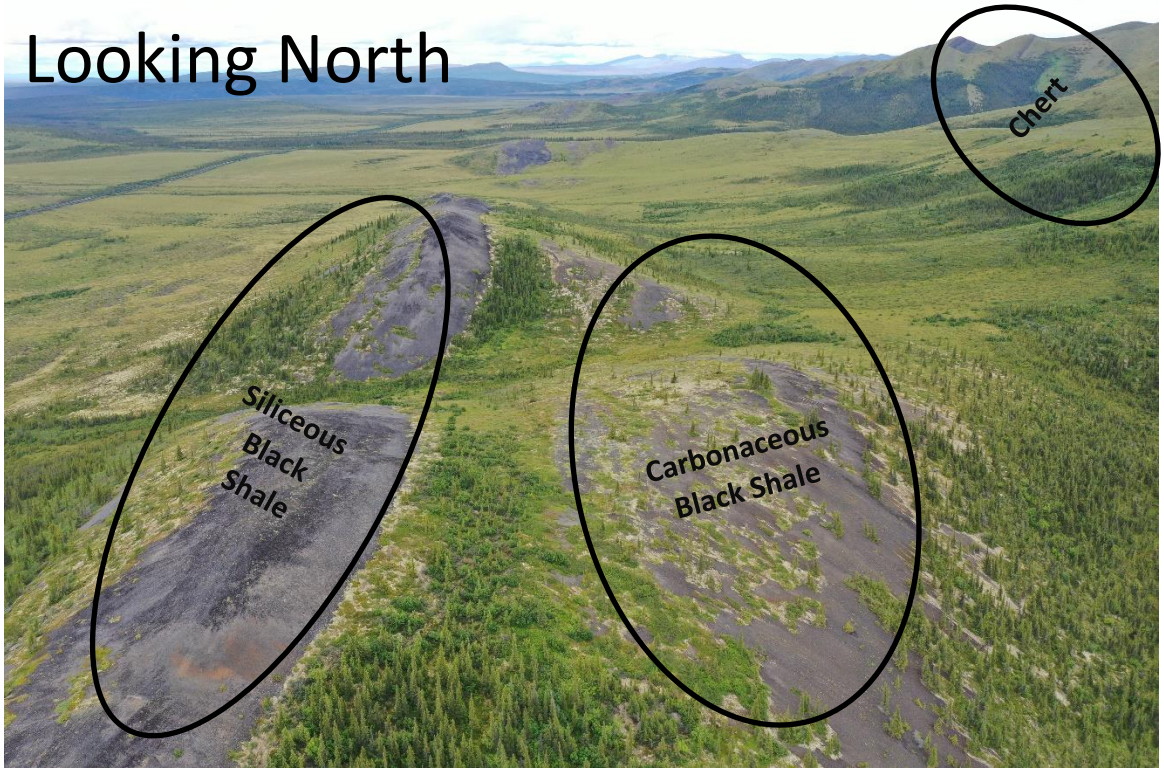

Figure 5. Property Geology

6 DEPOSIT TYPES

6.1 Vanadium Deposit Types

There are four types of vanadium deposits identified in the world:

1) Ti-V magnetite
2) sandstone hosted vanadium
3) black shale hosted vanadium
4) vanadate

K2 project belongs to the category of black shale hosted vanadium. This type of deposits is also found in China, US, Australia, Sweden and Madagascar (Figure 6). China has a number of black shale host vanadium projects in production.

6.2 Mechanism of Vanadium Deposition in Black Shale

Evolution of a black shale host vanadium deposit can be generalized as such:

1) Vanadium is dissolved in oxic seawater;
2) Vanadium is reduced and adsorbed by settling organic matters such as algae in anoxic seawater;
3) Organic matters precipitate and vanadium may be further reduced to V^{3+} on the seafloor;
4) As organic matters are buried, diagenesis takes place and algae die;
5) With compaction, organics undergoes burial metamorphism and vanadium becomes disconnected from organic matters. Vanadium may enter into crystal lattice of clay to substitute for aluminum;
6) Late stage of uplifting and oxidation may alter the clay to vanadium-bearing mica. Some vanadium may be adsorbed by iron oxides.

Organic matters indeed play an important role in collecting vanadium in seawater and on seafloor. After burial, vanadium is disconnected from organic carbon and participates into clay. In the field, vanadium-rich black shale is visually indistinguishable from other black shale above and below. Although vanadium-rich black shale contains 10-15% less silica than overlying black shale, it is still difficult to differentiate two black shale units by naked eyes. On a property scale, low topography is a good marker for the carbon-rich black shale corridor.

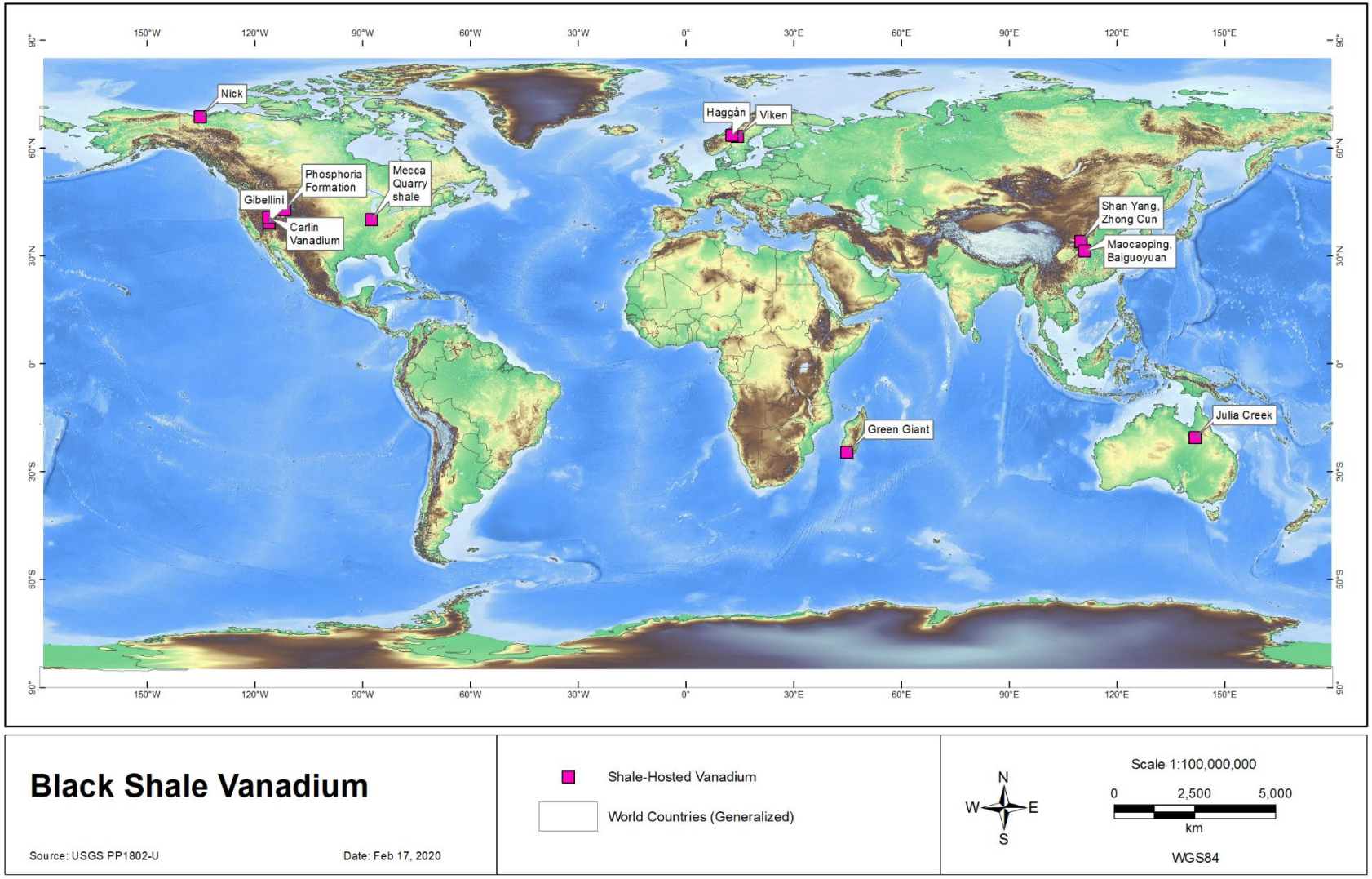

Figure 6. Black Shale Hosted Vanadium

7 REGIONAL PROSPECTING (JULY 15-21, 2020)

The regional prospecting was conducted during July 15-21, 2020. It was targeted to assess the vanadium mineralization over an area of 15x5km. One-person crew travelled from Whitehorse to Eagle Plains which was then used as the daily base. The crew commutes to the target area daily to perform the field work.

The prospecting program covers a strike length of 15 km with a focus on siliceous, non-calcareous, organic-rich black shale unit, which is known as the Canol Formation.

217 rock samples were collected in the field and analyzed by a portable XRF for immediate geochemical results.

7.1 Sampling & XRF Reading Procedures

The target area is largely covered by vegetations. Black shale units are outcropped or sub-cropped at discontinuous mounds and are well exposed at gravel pits as vertical sections. Rock chips are very angular, flaky to platy, and in sizes of centimeters.

Rock samples were taken at roughly 50 meters. Wherever the mineralized zone is encountered, tighter grids were applied at an interval of 20 meters. Each sample weighs about 0.2 kg and was placed into a labeled zip-lock bag. Sample locations were recorded by a handheld GPS. Samples were not flagged in the field.

Sample surfaces were cleared off soils, moisture, and mosses. No crushing or grinding was applied on rock samples. Each sample was XRF tested for at least 30 second. Results were written in the field book and on the Tyvek tag.

7.2 XRF Calibration

Niton xl3t portable XRF analyzer was hired for the field work. Calibration was performed on 40 pulps. Pulps were prepared from 40 rock samples that were collected during the regional prospecting in June 2019. Rock samples were prepared at ALS Whitehorse using the code PREP-31. They were crushed to 70% less than 2mm, riffle split off 250 grams, and pulverized to 85% passing 74 microns. Prepared samples were sent to ALS Vancouver for chemical analyses using the 48-element four acid method ME-MS61.

Portable XRF calibration was performed in Vancouver before leaving for field work. Vanadium values by XRF are almost identical to those by 4-acid digestion and MS finish. The difference is within 5%. Therefore, no calibration is required.

7.3 Sample Results

A total of 217 rock samples were collected and analyzed by a handheld XRF in the field. Sample results are plotted as dots in Figure 7 to indicate V_2O_5 concentration.

Vanadium mineralization is categorized in terms of V_2O_5 values (Table 1). Sample descriptions and geochemical results are included in Appendix C. Sample IDs and V_2O_5 results were plotted and included in Appendix K.

Table 1. V_2O_5 Mineralization Categories

Category	**V_2O_5 Grades**
Strongly mineralized	>0.5%
Moderately mineralized	0.3-0.5%
Weakly mineralized	0.1-0.3%
Unmineralized	<0.1%

Table 2. Number of Samples in Each Category

V_2O_5 Grades	**No. of Samples**
>0.5%	4
0.3-0.5%	34
0.1-0.3%	60
<0.1%	119

The highest V_2O_5 grade is 0.78%. The average grade of 38 moderately to strongly mineralized rock samples (Table 2) is 0.405%.

Vanadium bearing minerals are hosted in black shale and cannot be seen by naked eyes. The only way to determine the V_2O_5 content is by a handheld XRF. Black shale has variable amount of silica and carbon. Siliceous black shale contains lower V_2O_5 grades between 0.1 and 0.2%, while carbonaceous black shale contains higher V_2O_5. It is tempting to think within carbonaceous black shale, carbon is positively correlated with higher V_2O_5 values, but this statement is not supported during the field investigation. SEM EDS work at Bureau Veritas further proved carbonaceous matters does not contain much vanadium, as discussed in Chapter 10.5.

7.4 Interpretation & Recommendation

Red and orange dots in Figure 7 indicate moderately to strongly mineralized rock samples. They form a north-south corridor sub-paralleling the Dempster Highway. The mineralized zone stretches 15 kilometers and has widths of 100-150 meters.

It is recommended to stake the mineralized zone immediately.

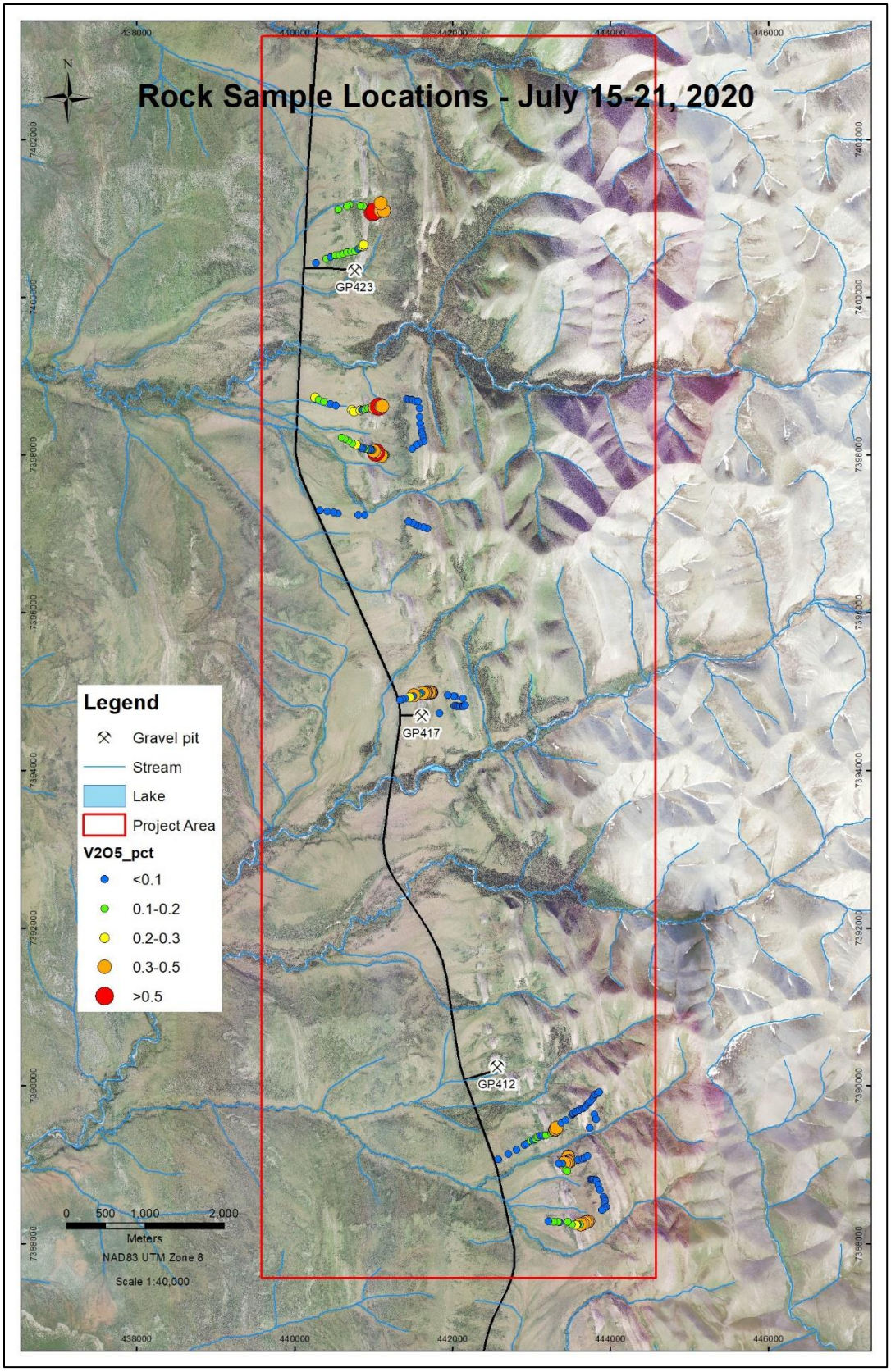

Figure 7. Rock Sample Locations - July 15-21, 2020

8 CLAIM STAKING

Upon receiving positive results from regional prospecting, 38 full size mineral claims in 3 claim blocks were staked during July 18-21, 2020 to partially cover the known 15km vanadium corridor (Table 3 & Figure 8).

Table 3. Claim Blocks and Areas

Claim Names	**Block ID**	**Area (km^2)**
KV01-KV12	Block 1	2.5
KV13-KV18	Block 2	1.25
KV39-KV58	Block 3	4.18

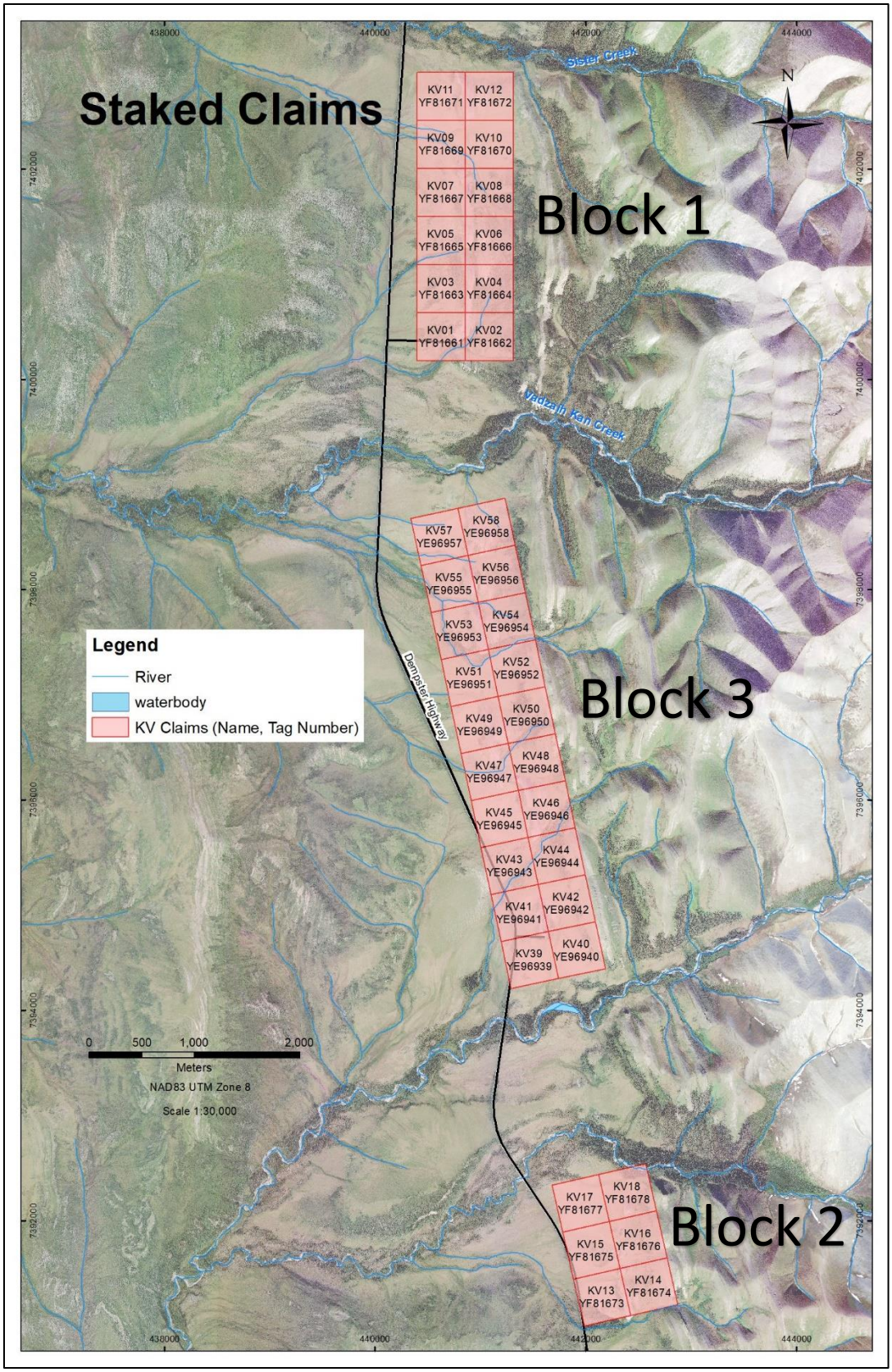

Figure 8. Staked Claims

9 EXPLORATION (JULY 23-27, 2020)

A rock sampling program was undertaken on mineral claims by Tao Song during the period of July 23-27, 2020. 480 rock samples were taken and analyzed by a portable XRF analyzer in the field.

9.1 Sampling & XRF Reading Procedures

As described in Chapter 7.1.

9.2 XRF Calibration

As described in Chapter 7.2.

9.3 Rock Sample Results

This phase of rock sampling placed more focus on the mineralized corridor. A total of 480 rock samples were collected and analyzed by a handheld XRF analyzer in the field. Sample results are plotted as colored dots in Figure 9 to represent V_2O_5 values.

Sample descriptions and geochemical results are included in Appendix D. Sample IDs and V_2O_5 results were plotted and included in Appendix L.

Table 4. Number of Samples in Each Category

V_2O_5 Grades	**No. of Samples**
>0.5%	23
0.3-0.5%	65
0.1-0.3%	173
<0.1%	219

The highest V_2O_5 grade is 1.08%. The average grade of 88 moderately and strongly mineralized rock samples (Table 4) is 0.45%.

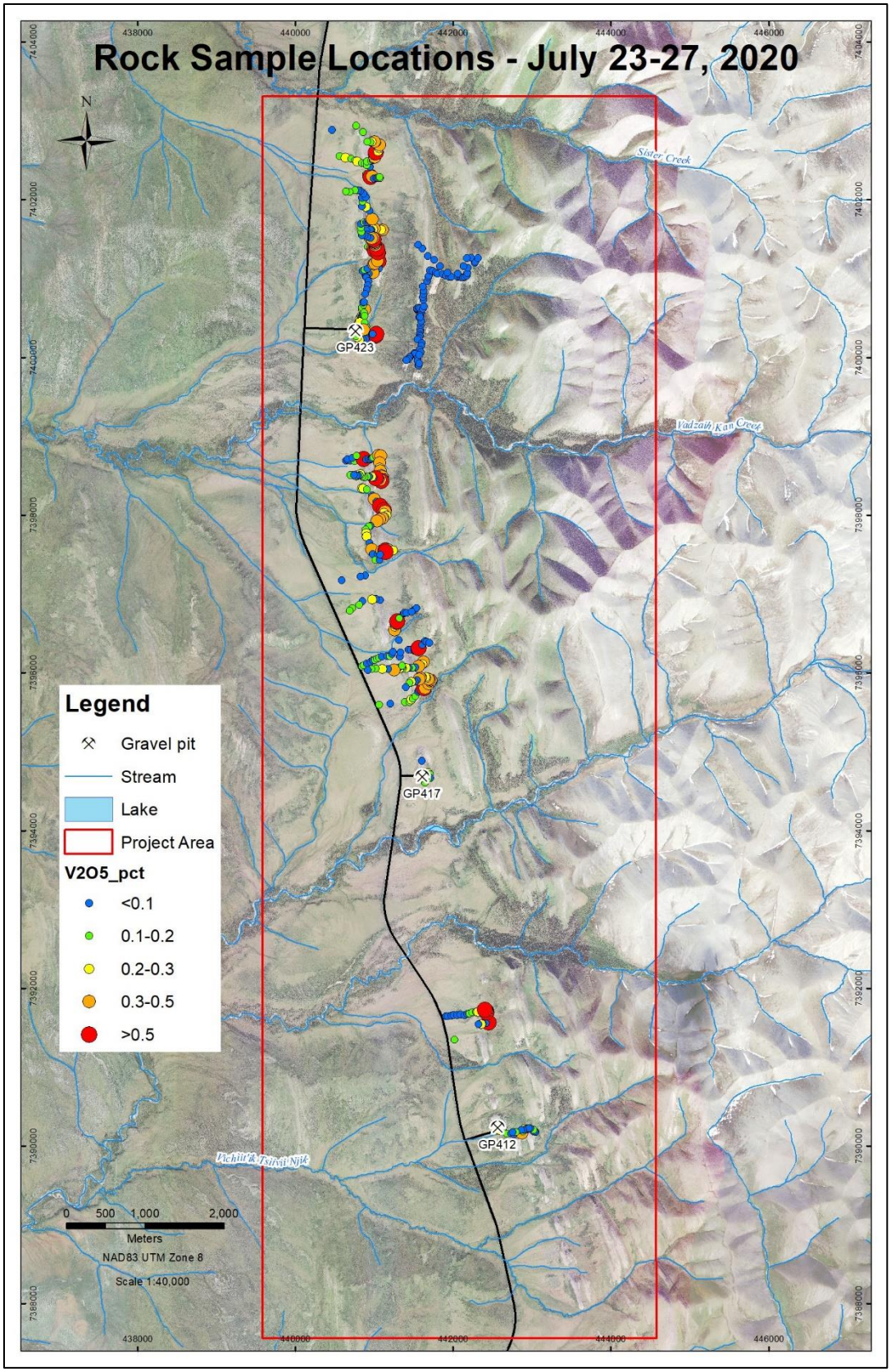

Figure 9. Rock Sample Locations - July 23-27, 2020

9.4 Vanadium Variability Test within the Mineralized Zone

Taking rock samples along the traverse line helps in identifying the mineralized zone. But the question comes to how the vanadium grade changes within the zone. Does V_2O_5 value of one rock sample represent an interval of 20m? And how frequently may the vanadium grade change within the mineralized zone?

To answer the questions above, 8 sample locations (Figure 10) were selected for re-sampling. Of 8 samples, 2 samples contain average grade V_2O_5 of 0.45%, 1 sample contain low grade V_2O_5, and 5 samples contain V_2O_5 higher than 0.45%. Two kilos of rock samples were randomly collected in a radius of 2m from each sample site. Another reason to take these samples is for metallurgical purpose, as discussed in Chapter 10.3.

XRF readings were performed on 10-11 rock pieces of each sample site (Appendix E). Variability sample IDs have an addition "m" as a suffix to the traverse sample IDs. Variability sample results are included in Appendix E and summarised in Table 5.

Table 5. V_2O_5 Comparison between Traverse Samples and Variability Samples

Sample ID_Traverse	V_2O_5_ pct	Sample ID_Variability	# samples	V_2O_5 Average_%	V_2O_5 Low_%	V_2O_5 High_%
C0004432	0.70	**C0004432m**	11	0.48	0.34	0.71
C0004556	0.91	**C0004556m**	11	0.27	0.05	0.58
C0004650	0.56	**C0004650m**	11	0.43	0.29	0.62
C0004700	0.46	**C0004700m**	10	0.57	0.38	1.51
C0004701	0.63	**C0004701m**	10	0.39	0.25	0.63
C0004702	0.54	**C0004702m**	10	0.25	0.16	0.45
R144	0.17	**R144m**	10	0.43	0.16	1.03
R206	0.45	**R206m**	10	0.46	0.33	0.69

The variability test confirmed that vanadium mineralization exists within the zone. However, by comparing traverse samples with variability samples, 5 variability sample sites returned V_2O_5 values significantly lower than counterpart traverse samples sites, and 3 variability sample sites returned V_2O_5 values higher than traverse sample sites. By averaging V_2O_5 values of numerous XRF readings from each sample site, the effect of erratic V_2O_5 highs (up to 1.51%) is removed. V_2O_5 values tend to be smoothed out.

Vanadium mineralization is extensive and predictable along the 15km corridor, but V_2O_5 grades within the mineralized zone vary in a broad range from 0.05% to 1.51%. Portable XRF analyzes the rock sample via a small window and does not represent the whole piece of rock. By taking numerous XRF readings on rock samples from each site, nugget effect is removed, and the grade becomes more representative. The average grade of the mineralized zone is estimated to be 0.4-0.45% V_2O_5.

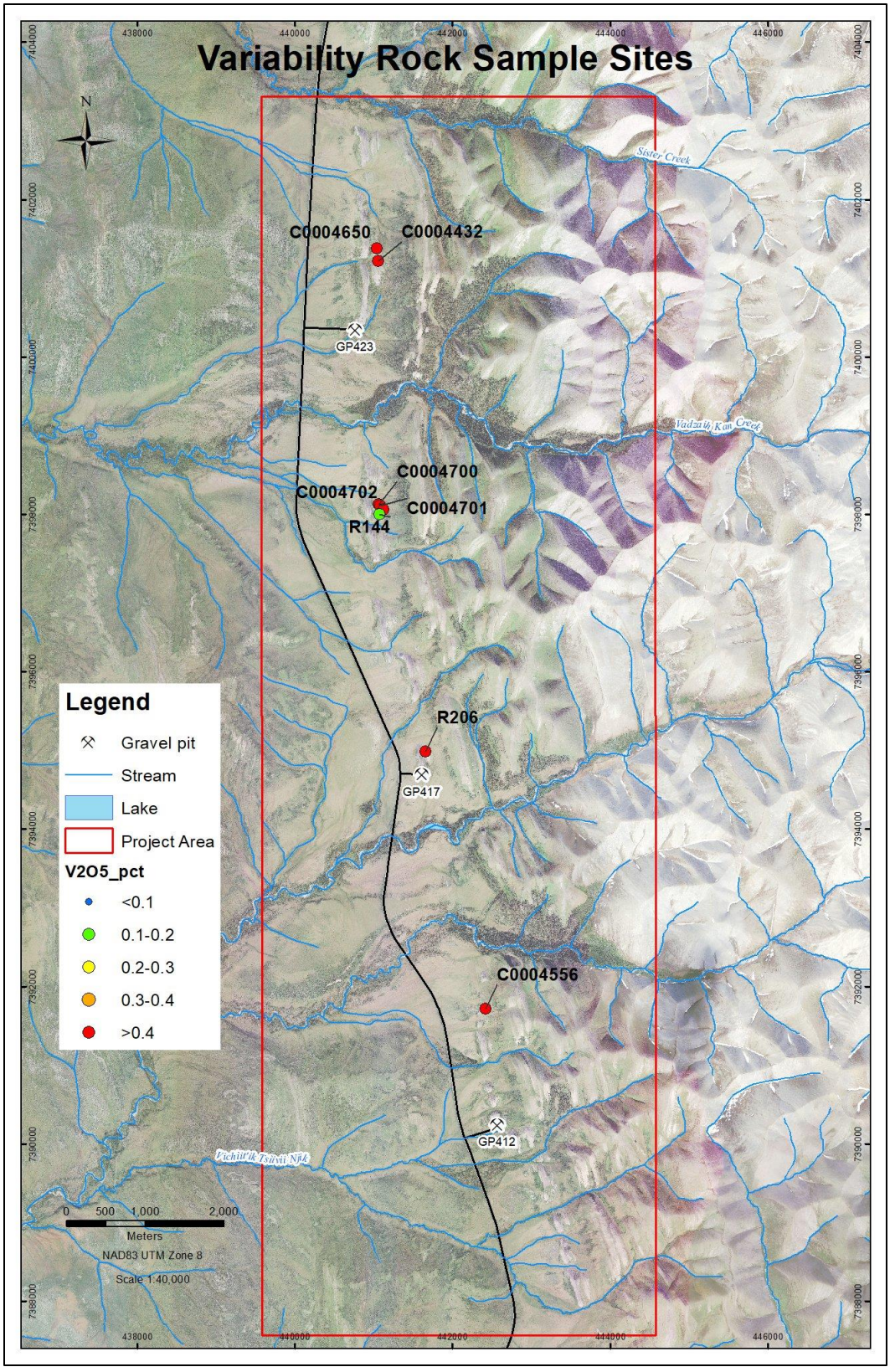

Figure 10. Variability Rock Sample Sites

9.5 Drone Orthomosaic Imagery

Aerial drone surveying was completed during the period of July 26-27, 2020 using DJI Mavic 2 Pro. Three claim blocks were covered by the drone survey.

A total of 4520 images were captured during the survey. Imagery resolution of 5 cm per pixel was maintained throughout. The drone images were collected at a high resolution to aid in future exploration and planning.

The drone imagery was post processed in Pix4D software. Final products of the aerial drone survey are high resolution orthomosaic color imageries, which are included in Appendix M.

9.6 Interpretation

A vanadium rich carbonaceous black shale corridor was identified by rock sampling. The corridor is north-south trending, has a thickness of 150 meters, and dip shallowly west. The corridor is fringed by vanadium poor siliceous unit on both sides, as illustrated in Figure 11.

High grade V_2O_5 black shale is soft in nature and is thus weathered away to form a low relief. The overlying unit is siliceous black shale, more competent, forming a positive relief. The cherty shale unit is the most competent unit, forming a mountain to the east of the property.

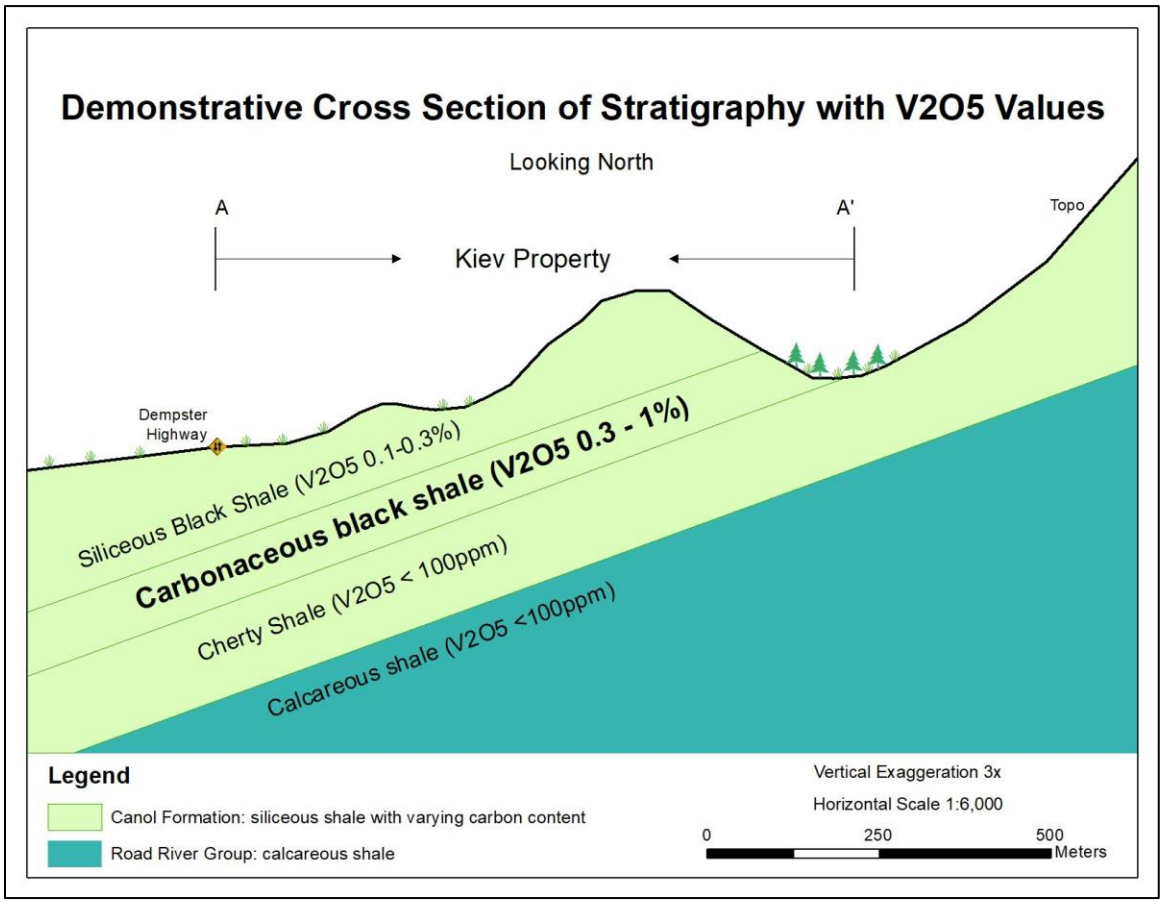

Figure 11. Demonstrative Cross Section of Stratigraphy and V_2O_5 Values

10 MINERALOGY & METALLURGY

Bio leaching tests and mineralogical studies on surface rock samples and drill core samples were undertaken at Bureau Veritas in Vancouver during the period of Nov 2020 to Mar 2021.

10.1 Drill Core Sample Collection

Twenty drill core samples of FX07-03 were cut and collected by Tao Song from the 2-1B bin at the Bostock Core Library on August 13, 2020. FX07-03 was drilled by Strategic Metals in 2007, with a focus on a nickel rich horizon. The purposes of core sampling are to provide samples for SEM studies and bioleaching testwork.

Drillhole FX07-03 was kept at the Bostock Core Library in Whitehorse. In core boxes, most drill cores were previously sampled, and only half cores or quarter cores were left. Some intervals were unfortunately missing. Where half cores were available, half cores were split by rock saw into quarter cores, which was placed into heavy duty poly bags. Where quarter cores were available, two pieces of quarter cores of each interval were collected and placed into heavy duty poly bags. Sampled intervals are listed below in Table 6. Bags were secured by zap straps. Plastic bags were labelled with sample IDs by permanent marker. Sample IDs were also written on Tyvek tags that were inserted into plastic bags.

M078 to M095 were continuously taken (except missing an interval of 79.8-81m). M036, M138, and M184 were selected to understand the geochemistry of overlying and underlying rocks.

Table 6. Sampled Intervals of FX07-03

Hole ID	From (m)	To (m)	Length (m)	Sample ID	Box #
FX07-03	36.8	36.9	0.1	M036	5
FX07-03	78.54	79	0.46	M078	13
FX07-03	79	79.8	0.8	M079	13
FX07-03	81	82.2	1.2	M081	13
FX07-03	82.2	83.4	1.2	M082	13
FX07-03	83.4	84.4	1	M083	13
FX07-03	84.4	85.4	1	M084	13-14
FX07-03	85.4	86.4	1	M085	14
FX07-03	86.4	87.4	1	M086	14
FX07-03	87.4	88.4	1	M087	14
FX07-03	88.4	89.4	1	M088	14
FX07-03	89.4	90.4	1	M089	14-15
FX07-03	90.4	91.4	1	M090	15
FX07-03	91.4	92.4	1	M091	15
FX07-03	92.4	93.4	1	M092	15
FX07-03	93.4	94.5	1.1	M093	15
FX07-03	94.5	95.5	1	M094	15-16
FX07-03	95.5	96.5	1	M095	16
FX07-03	138.2	138.4	0.2	M138	23
FX07-03	184.5	184.7	0.2	M184	31

10.2 Geochemical Analysis of Drill Core Samples

10.2.1 Goals

The goals of geochemical analysis on drill core samples are:

1) Characterizing the geochemistry of non-weathered vanadium enriched black shale,
2) Comparing element concentrations by three analytical methods,
3) Determining the concentration of organic carbon.

10.2.2 Geochemical Results by Whole Rock XRF

Twenty core samples were crushed and pulverized to 80% passing 74 microns. Whole rock X-ray Fluorescence analysis (code XF701) was applied on fused samples to determine geochemical concentration of major and minor elements. Results are listed below in Table 7.

Table 7. Whole Rock Analysis of 20 Core Samples

Hole ID	Sample ID	From_m	To_m	V_2O_5_%	Total Carbon_%
FX07-03	M036	36.8	36.9	0.419	6.34
FX07-03	M078	78.54	79	0.521	6.54
FX07-03	M079	79	79.8	0.534	6.89
FX07-03	M081	81	82.2	0.586	7.74
FX07-03	M082	82.2	83.4	0.382	6.73
FX07-03	M083	83.4	84.4	0.366	7.58
FX07-03	M084	84.4	85.4	0.383	7.69
FX07-03	M085	85.4	86.4	0.49	9.06
FX07-03	M086	86.4	87.4	0.481	7.4
FX07-03	M087	87.4	88.4	0.403	8.01
FX07-03	M088	88.4	89.4	0.408	8.22
FX07-03	M089	89.4	90.4	0.413	7.7
FX07-03	M090	90.4	91.4	0.512	8.1
FX07-03	M091	91.4	92.4	0.532	9.52
FX07-03	M092	92.4	93.4	0.45	8.34
FX07-03	M093	93.4	94.5	0.423	9.03
FX07-03	M094	94.5	95.5	0.34	8.83
FX07-03	M095	95.5	96.5	0.371	8.83
FX07-03	M138	138.2	138.4	0.301	11.25
FX07-03	M184	184.5	184.7	0.1	9.85

V_2O_5 grades fluctuate between 0.34% and 0.586% within the interval of 78.54 m to 96.5 m. Both M036 and M138 return V_2O_5 greater than 0.3%, indicating the vanadium mineralization is at least 100 meters thick. M184 returns V_2O_5 at 0.1%, which terminates the vanadium system. It is inferred that the vanadium mineralization stops somewhere between 138.4m and 184.5m.

Total carbon values are in the range of 6.34 to 11.25%. The concentration of carbon increases slightly down the hole, suggesting a more reduced system. The association between carbon and vanadium is not supported.

10.2.3 Geochemical Characteristics of the Vanadium Mineralized Zone

Samples M078 to M095 form a consecutively mineralized zone of vanadium over an interval of 18 meters. This 18-meter interval does not represent the entire mineralized system, but it helps in characterizing the geochemistry within the vanadium mineralization. The averaged elemental values of M078-M095 core samples are reported as oxides and listed in Table 8.

Table 8. Geochemical Characteristics of Core Samples M078-M095

Elements	Average Values of M078-M095	Unit
LOI	12.74	%
Al_2O_3	4.53	%
BaO	0.81	%
CaO	4.39	%
Cr_2O_3	0.03	%
Fe_2O_3	1.69	%
K_2O	1.07	%
MgO	0.58	%
MnO	0.01	%
Na_2O	0.19	%
P_2O_5	0.20	%
SO_3	4.07	%
SiO_2	72.69	%
TiO_2	0.21	%
V_2O_5	0.45	%
ZnO	0.32	%
ZrO_2	<0.01	%
Total Carbon	8.19	%

V_2O_5 values are averaged at 0.45%, which is consistent with the averaged value of surface rock samples.

10.2.4 Geochemical Analysis by Aqua Regia Digestion & Multi Acid Digestion

Five core samples (M036, M081, M087, M091, M138) were selected for aqua regia digestion (code AQ251) with ICP-MS finish and multi acid digestion (code MA300) with ICP-ES finish.

The goals of these two chemical analyses are:

1) to compare the vanadium leachability between aqua regia digestion and multi acid digestion.
2) to understand the percentage of vanadium leached out with aqua regia digestion and multi acid digestion, by comparing vanadium values of these two methods against those of Whole Rock XRF.

Whole rock XRF is considered a near total digestion method against partial digestion of aqua regia and multi acid methods. By comparing vanadium values of these three methods, aqua regia has the worst performance in leaching out vanadium, while multi acid digestion produces vanadium values similar to whole rock XRF digestion (Table 9).

Table 9. V_2O_5 Values of Core Samples by Aqua Regia, Multi Acid & Whole Rock XRF Digestion

Sample ID	V_2O_5_%_AQ251	V_2O_5_%_MA300	V_2O_5_%_Whole Rock XRF
M036	0.32	0.39	0.42
M081	0.46	0.56	0.59
M087	0.32	0.39	0.40
M091	0.41	0.51	0.53
M138	0.22	0.28	0.30

10.2.5 Organic Carbon

Five core samples (M036, M081, M087, M091, M138) were also selected to determine the organic carbon content by the LECO method. Results are listed in Table 10.

Organic carbon is the major form of carbon in black shale, accounting for 70-92% in five core samples.

Table 10. Organic Carbon vs Total Carbon of Core Samples

Hole	Sample ID	Organic Carbon %	Total Carbon %	Comments
FX07-03	M036	7.22	6.34	Erratic result
FX07-03	M081	5.43	7.74	
FX07-03	M087	6.73	8.01	
FX07-03	M091	8.78	9.52	
FX07-03	M138	9.03	11.25	

10.3 Geochemical Results on Surface Rock Samples

10.3.1 Goals

The goals of geochemical analysis on surface rock samples are:

1) Characterize the geochemistry of weathered vanadium bearing black shale,
2) Using three analytical methods, compare element concentrations of each method,
3) Determine the concentration of organic carbon. It is useful in metallurgical test.

10.3.2 Geochemical Results by Whole Rock XRF

Eight surface rock samples were selected for whole rock XRF analysis. They were retrieved during the variability rock sampling (as discussed in Chapter 9.4). Rock samples were crushed and pulverized to 80% passing 74 microns. Whole rock X-ray Fluorescence analysis (code XF701) was applied on fused samples to determine geochemical concentration of major and minor elements. Results are listed below in Table 11.

Table 11. V_2O_5 Values by Whole Rock XRF

Sample ID	V_2O_5_%_Variability 10 readings by portable XRF	V_2O_5_%_Whole Rock XRF	Total Carbon %
C0004432m	0.479	0.377	7.11
C0004556m	0.267	0.42	2.5
C0004650m	0.430	0.467	2.25
C0004700m	0.573	0.406	2.68
C0004701m	0.388	0.472	2.07
C0004702m	0.254	0.29	3.33
R144m	0.431	0.346	1.95
R206m	0.459	0.444	3.15

V_2O_5 grades fluctuate between 0.29% and 0.467% V_2O_5.

Total carbon values are in general between 1.95% and 3.33%, with one exemption of C0004432m being 7.11%. Sample C0004432m is deemed as an erratic sample and therefore excluded in geochemical calculation for surface rock samples. The surface rock samples contain much less total carbon than drill core samples.

10.3.3 Geochemical Characteristics of Surface Rock Samples

Averaged geochemical results are listed in Table 12.

Table 12. Geochemical Characteristics of Surface Samples

Elements	Average Values of 7 surface rock samples	Unit
LOI	5.44	%
Al_2O_3	3.90	%
BaO	0.32	%
CaO	0.75	%
Cr_2O_3	0.02	%
Fe_2O_3	1.28	%
K_2O	0.89	%
MgO	0.31	%
MnO	<0.01	%
Na_2O	0.04	%
P_2O_5	0.25	%
SO_3	0.39	%
SiO_2	86.44	%
TiO_2	0.18	%
V_2O_5	0.41	%
ZnO	0.11	%
ZrO_2	<0.01	%
Total Carbon	2.56	%

10.3.4 Geochemical Analysis by Aqua Regia Digestion & Multi Acid Digestion

One surface rock sample C0004650m was selected for aqua regia digestion with ICP-MS finish (code AQ251) and multi acid digestion with ICP-ES finish (code MA300).

Whole rock XRF is considered a near total digestion method against partial digestion of aqua regia and multi acid methods. By comparing vanadium values of these three methods, aqua regia has the worst performance in leaching out vanadium, while multi acid digestion produces vanadium values similar to whole rock XRF digestion (Table 13).

Table 13. V_2O_5 Values of Surface Rock by Aqua Regia, Multi Acid & Whole Rock XRF

Sample ID	V_2O_5_%_Aqua Regia	V_2O_5_%_Multi Acid	V_2O_5_%_Whole Rock XRF
C0004650m	0.331	0.442	0.467

10.3.5 Organic Carbon

One surface rock sample C0004650m was selected to determine the organic carbon content by the LECO method. Results are listed in Table 14. Organic carbon is the major form of carbon in black shale, accounting for 96.4% in rock sample C0004650m. It is inferred that inorganic carbon was leached out by oxidation on the surface.

Table 14. Organic Carbon vs Total Carbon of Surface Rock Sample

Sample ID	Organic Carbon %	Total Carbon %
C0004650m	2.17	2.25

10.4 Geochemical Comparison between Drill Core Samples and Surface Rock Samples

Geochemical results of surface rock samples and drill core samples are listed in Table 15. By comparing oxide values, surface rock samples in general contain lower amounts of oxides than drill core samples. Two exceptions are P2O5 and SiO2. Higher SiO2 content in surface samples can be explained by oxidation on the surface, which leaches metals out of rock and leaves SiO_2 behind.

Table 15. Geochemical Results of Surface Rocks and Drill Cores

Elements	7 surface rock samples average values by XF 701	Core M078-M095 average values by XF 701	Unit	Ratio Surface vs Core
LOI	5.44	12.74	%	43%
Al_2O_3	3.90	4.53	%	86%
BaO	0.32	0.81	%	40%
CaO	0.75	4.39	%	17%
Cr_2O_3	0.02	0.03	%	73%
Fe_2O_3	1.28	1.69	%	76%
K_2O	0.89	1.07	%	83%
MgO	0.31	0.58	%	54%
MnO	<0.01	0.01	%	NA
Na_2O	0.04	0.19	%	21%
P_2O_5	0.25	0.20	%	123%
SO_3	0.39	4.07	%	10%
SiO_2	86.44	72.69	%	119%
TiO_2	0.18	0.21	%	84%
V_2O_5	0.41	0.45	%	91%
ZnO	0.11	0.32	%	34%
ZrO_2	<0.01	<0.01	%	NA
Total Carbon	2.56	8.19	%	31%

Element leachability by oxidation can be grouped into 3 categories: severe, moderate, and mild (Table 16). Carbon, calcium, sodium, sulfur, and zinc are vulnerable to weathering, resulting in high elemental loss. Barium and magnesium are less vulnerable to weathering, yielding to 40-60% element loss. Aluminum, chromium, iron, potassium, titanium, and vanadium undergone minimal loss during the weathering, indicating they may form or substitute for each other in the same crystal lattice. This partially explains the vanadium association with titanium and poor recoveries of vanadium in diluted sulfuric acid in early 2020. Potassium is considered a mobile element, but it is somehow not severely leached out. This phenomenon suggests that potassium may be locked with vanadium in roescolite, as discussed in Chapter 10.5.4.

Table 16. Elemental Loss during weathering

Elements	Elemental Loss after Weathering	Leaching Intensity
C, Ca, Na, S, Zn	65-90%	Severe
Ba, Mg	40-60%	Moderate
Al, Cr, Fe, K, Ti, V	5-25%	Mild

10.5 SEM work on Oct 22, 2020

10.5.1 Goals

The goals of the SEM work include:

1) Determining mineral compositions
2) Determining vanadium distribution and association with minerals
3) identifying organic carbon and its vanadium concentration.

10.5.2 Samples and Preparation

Three samples were used for SEM work, M036, M091, and C0004650m. They represent three different geological environments.

- C0004650m is a surface sample and represents an oxidized environment.
- M036 is from a depth of 36 meters down the hole and represents a much less oxidized environment.
- M091 is from a depth of 91 meters down the hole and represents a reduced environment.

Upon receipt of the samples, the representative cuts were taken from each of the three test samples for the chemical analysis and mineralogical studies. The standard chemical analysis protocols were performed on each of the test samples as received, to assist the calibrations of QEMSCAN analysis.

Each of the unsized samples as received was mounted into the 30mm blocks using epoxy. During the mounting, graphite was also added into each sample block in order to decrease the particle touching and the settlement of mineral particles with relatively high specific gravity. The mounted sample blocks were ground, polished and carbon coated using the standard QEMSCAN sample preparation procedures.

10.5.3 Mineral Compositions

SEM work was performed on ground samples by a SEM specialist at Bureau Veritas on Oct 22, 2020. Mineral Compositions are determined by QEMSCAN Bulk Mineral Analysis (BMA). Results are listed in Table 17.

Table 17. Mineral Compositions of SEM Samples

Minerals	C0004650m	M036	M091
Cu Sulphides	<0.01	0.02	0.01
Galena	<0.01	<0.01	<0.01
Sphalerite	<0.01	0.06	0.74
Pyrite	0.02	0.29	2.79
Tivanite (VTiOx)	<0.01	0.12	0.61
Paramonoseite (VO2)	<0.01	<0.01	<0.01
Roscoelite?	0.10	0.25	0.27
Goethite	0.52	0.06	<0.01
Iron Metal	0.09	0.14	0.05
Quartz	87.3	82.1	65.8
K-Feldspar	6.82	3.27	8.56
Wollastonite	0.01	2.43	5.00
Plagioclase Feldspar	0.70	0.52	1.72
Muscovite/Illite	1.17	0.45	1.47
Calcite	<0.01	0.66	1.83
Pyroxene/Amphibole	0.02	0.16	0.38
'Kaolinite' (clay)	0.15	0.02	0.04
Rutile/Anatase	0.12	0.02	0.06
Apatite	0.40	0.03	0.73
Ca-sulphate	0.01	1.37	0.58
Chlorite	0.17	0.05	0.10
Zircon	0.03	0.04	0.04
Organic Carbon/Graphite	2.17	7.22	8.78
Others	0.15	0.70	0.42
Total	100.0	100.0	100.0

10.5.4 Vanadium Distribution

Vanadium distribution is listed in Table 18. Vanadium in C0004650m is largely in mica and goethite, reflecting an oxidizing environment. Vanadium in M036 is largely in tivanite and vanadium mica, suggesting partial oxidation. Vanadium in M091 is mainly in tivanite, which is the original form of vanadium hosting mineral in a reduced environment. As tivanite is gradually oxidized by uplifting and weathering, it converts to roscoelite/illite, and then to goethite.

Table 18. Vanadium Distribution by Vanadium Bearing Minerals

Mineral	C0004650m	M036	M091
Tivanite (VTiOx)	2.6	51.8	85.9
Paramonoseite (VO2)	0.0	0.0	0.0
Roscoelite?	47.2	45.5	10.4
Goethite	28.8	0.8	0.0
Muscovite/Illite	21.3	1.9	3.7
Total	100.0	100.0	100.0

10.5.5 Observations and Discussions on Organic Carbon under SEM

Only 4 pieces of organic carbon were found in the sample M091 under SEM. Their carbon and vanadium values are listed in Table 19. No carbon was observed with confidence in M036 and C0004650m.

Table 19. Organic Carbon and Vanadium Association in M091

Particle #	Carbon_%	Vanadium_%
Particle 1	45.57	0.32
Particle 2	91.55	BDL
Particle 3	89.9	BDL
Particle 3-2	73.9	0.07
Particle 4	87.7	0.03
Particle 4-2	87.35	0.023

The highest vanadium content in carbon was found in Particle 1 of sample M091. It contains 45% carbon and 0.32% vanadium (Figure 12). Its chemical composition is listed in Table 20. Other organic carbon particles contain vanadium less than 0.07% (equivalent to 0.125% V_2O_5). 0.125% V_2O_5 is considered a background value along the Canol Formation. SEM images are included in Appendix I.

The SEM specialist suspected carbon is too fine grained (-74 micron) to be observed under SEM. Carbon is soft in nature and may be ground into finer grains much smaller than 74 microns. It is recommended to cut thin sections of core samples for additional SEM EDS testing.

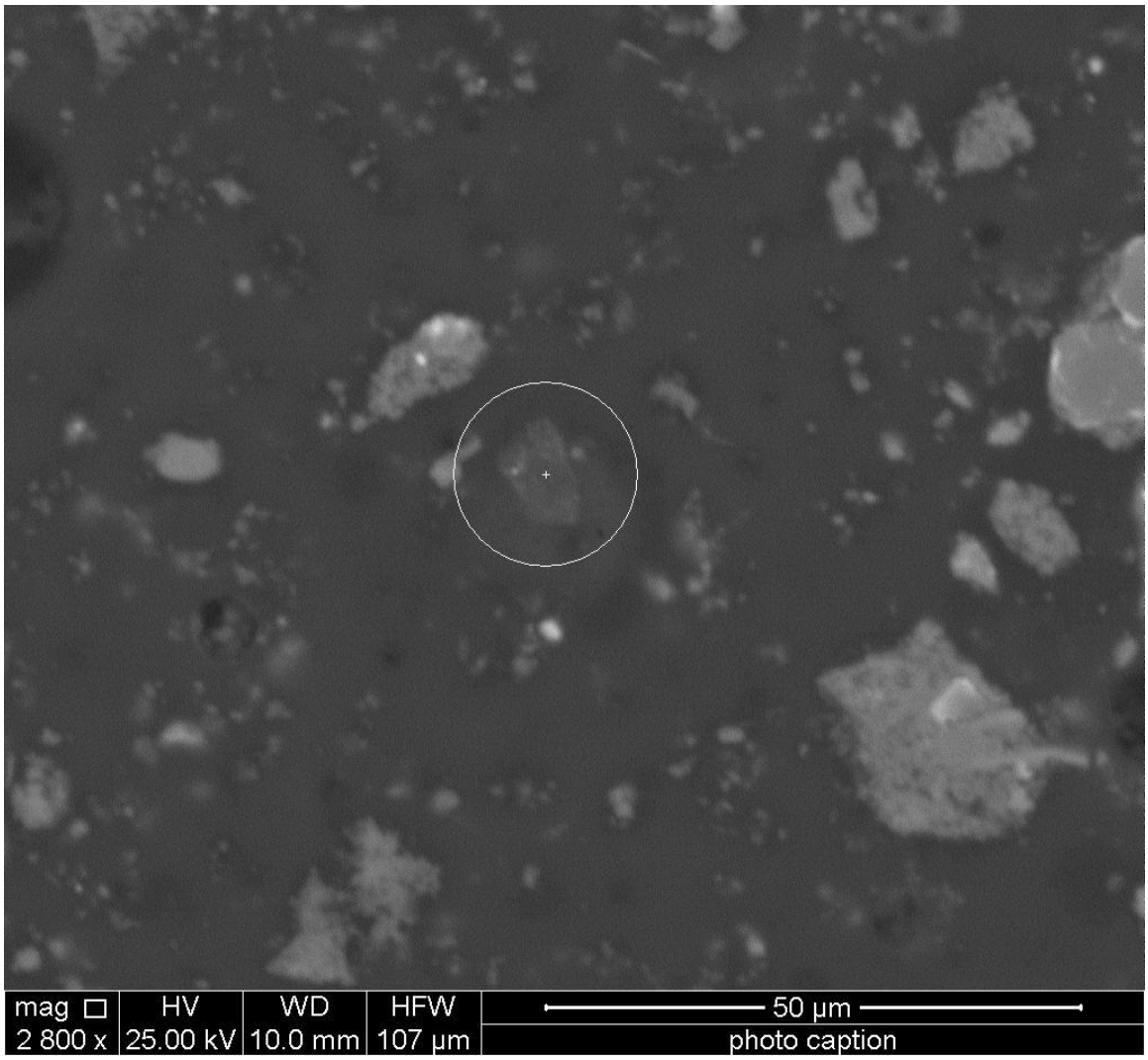

Figure 12. Particle 1 under SEM

Table 20. Chemical Composition of Particle 1 of M091

Element	[norm. wt.%]
Oxygen	22.07
Silicon	10.58
Chlorine	3.50
Aluminium	3.76
Sulfur	8.41
Calcium	2.89
Potassium	1.59
Vanadium	0.32
Magnesium	1.31
Carbon	45.57
	100.00

10.6 SEM work on Nov 2, 2020

10.6.1 Samples and Thin Sections

Two pieces of drill core samples (BX3 and BX5) were sourced from FX07-01. FX07-01 was drilled by Strategic Metals in 2007, with a focus on a nickel rich horizon. Core samples were cut and prepared into thin sections by Vancouver Petrographics in Langley.

BX3 was taken at 18.6 meters from the collar. BX5 was taken at 31.5 meters from the collar. Their chemical composition is unknown, but they are expected to contain 0.3-0.5% V_2O_5 and 7% total carbon.

Core samples BX3 and BX5 are expected to have geological similarities to M036. No mineral composition or vanadium deportment work was performed on the two samples. The SEM work was only focused on the association between vanadium and organic carbon.

10.6.2 Observations on Organic Carbon

Results are listed in Table 21. The highest vanadium concentration is 0.298% (Figure 13 & Table 22), and most organic carbons contain vanadium less than 0.07% (equivalent to 0.125% V_2O_5), which is considered weakly mineralized.

It can be seen in Table 21 that vanadium concentration is unassociated with organic carbon. Organic Carbon may play a role in collecting vanadium during the deposition phase, but as it is buried at depths, vanadium was released into oxides and mica during the diagenesis.

Table 21. Vanadium and Organic Carbon Association in BX3 and BX5

Sample ID	Particle #	Organic Carbon_%	Vanadium_%
BX3	Particle 1	68.24	0.028
BX3	Particle 2	81.13	0.14
BX3	Particle 2-2	81.46	0.059
BX3	Particle 3	84.89	0.062
BX5	Particle 1	24.87	0.03
BX5	Particle 1-2	77.87	0.04
BX5	Particle 2	84.09	0.16
BX5	Particle 3	89.65	0.017
BX5	Particle 4	79.02	0.298

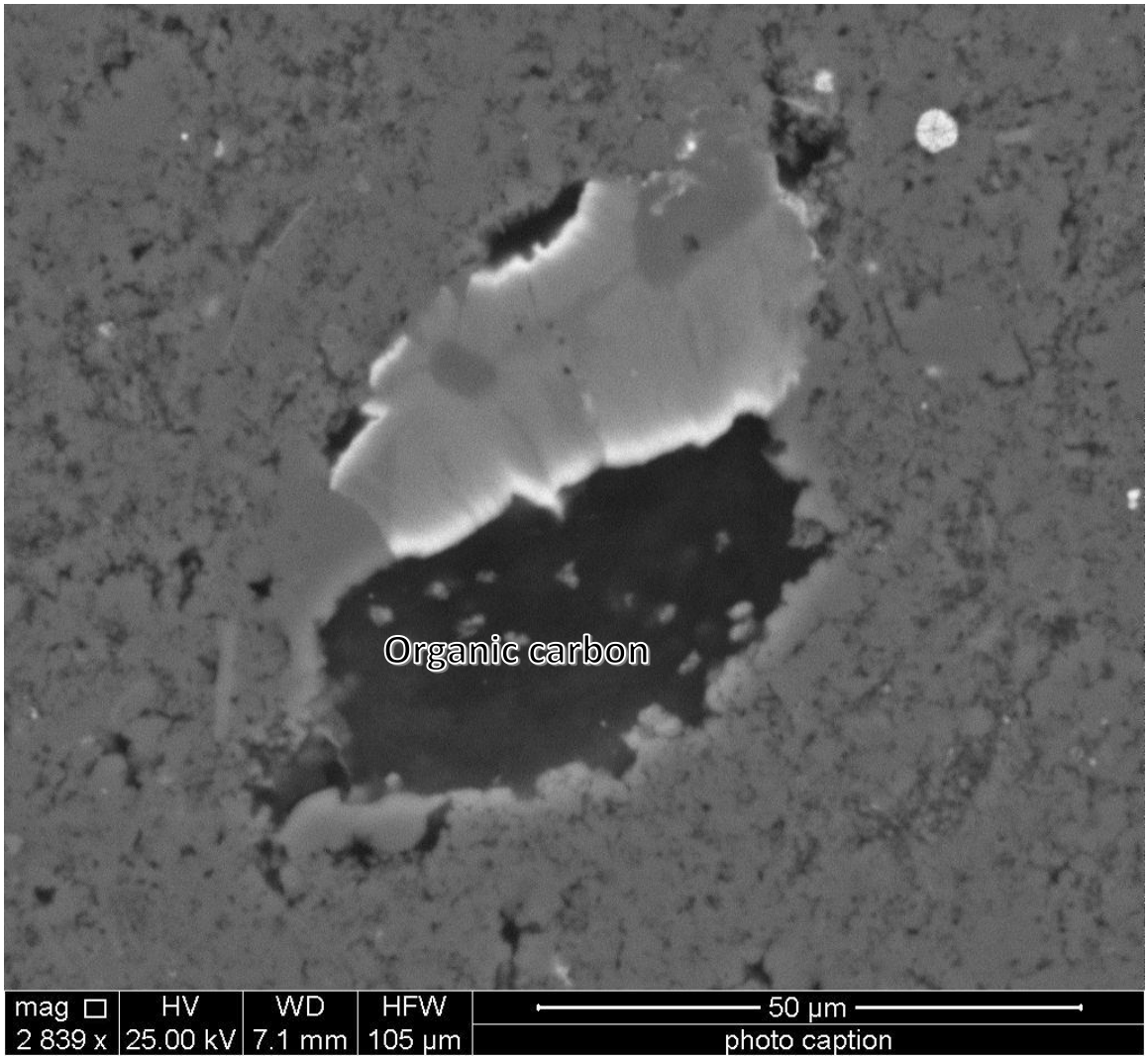

Figure 13. Particle 4 of Sample BX5

Table 22. Chemical Composition of Particle 4 of Sample BX5

Element	[norm. wt.%]
Carbon	79.02
Oxygen	11.65
Silicon	1.03
Sulfur	6.94
Calcium	0.13
Nickel	0.93
Vanadium	0.298
Total	100

10.7 Bioleaching

10.7.1 Goals & Background

Various bioleaching testwork on black shale vanadium ores was documented in academic papers. Vanadium recoveries are up to 69.2%, using Acidithiobacillus Ferrooxidans (AF). The best recovery was achieved at the conditions of 32 ℃ and initial PH 2.1 for a duration of 30 days (Liao, 2015).

The goal of the bioleaching test was to duplicate the test conditions of Liao experiment and produce competitive results.

10.7.2 Initial 3 Tests

Three bioleaching tests were initiated in January 2021. Test 1&2 used in-house bacteria, and Test 3 used a type of mesophile bacteria from Australia.

When ORP reading is higher than 550mV, the solution samples were taken for assay. Results are listed in Table 23.

Table 23. Results of Initial 3 Bioleaching Tests

Test #	Bacteria	ORP, mV at Day 35
Test 1	AF pyrite culture	638
Test 2	AF chalcopyrite culture	478
Test 3	Mesophile culture (from Australia)	488

Only Test 1 returned ORP higher than the 550mV threshold. The vanadium recovery from Test 1 was 4.4% after leaching of 35 days (Table 24).

Table 24. Vanadium Recovery of Test 1

Test 1				
Sample time, Day	**Total volume ml**	**Assay**		**Recovery*, V%**
		V, mg/L	**V, mg**	
27	145	4.13	0.60	4.3
29	145	4.36	0.63	4.5
30	150	3.83	0.57	4.1
35	155	3.94	0.61	4.4

10.7.3 The Fourth Test

The fourth bioleaching test (New B1) was commissioned in February 2012. The slurry from Test 1 was used to inoculate a new sample for the fourth test New B1. Results showed minor improvement on vanadium recovery (Table 25).

Table 25. Vanadium Recovery of New B1 Test

New B1				
Sample time, Day	**Total volume ml**	**Assay**		**Recovery*, V%**
		V, mg/L	**V, mg**	
20	140	5.72	0.80	5.7
27	140	6.32	0.88	6.3
37	150	4.52	0.74	5.3

10.8 Conclusions of Mineralogical and Metallurgical Work

SEM work showed vanadium is mostly hosted in iron oxides and mica minerals. By comparing geochemical results, it is inferred that vanadium may be associated with iron, aluminum, titanium and potassium. The geochemical conclusion indirectly supports the vanadium deportment to oxides and mica.

SEM work proved that vanadium concentration is not associated with organic carbon. Organic carbon made contribution in collecting vanadium in the seawater and on the seafloor, but as the deposition went on, vanadium was disconnected from organic particles.

Bioleaching tests using Acidithiobacillus Ferrooxidans returned very low vanadium recoveries. The leaching results are significantly lower than those of Liao's testwork.

11 CONCLUSIONS & RECOMMENDATIONS

Regional prospecting shows the Canol Formation hosts tremendous vanadium resources at averaged values of 0.4-0.45% V_2O_5. The mineralization likely exceeds 40 kilometers along a North-South trend. The thickness is averaged at 150 meters.

To make the vanadium resources economical, it is recommended to conduct more metallurgical work to improve vanadium recoveries. Bioleaching is considered an environment-friendly method and should be investigated in greater details.

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APPENDIX A - STATEMENT OF QUALIFICATION

I, Tao Song, submit the following information to support my competence that is required to carry out the field work and prepare for the assessment report on the K2 project.

Education

- Bachelor of Computer Engineering degree, specialized in database, Yanshan University, China, 2005
- Bachelor of Science degree in Geology, University of British Columbia, 2010

Experience

- 4 years of experience as a company geologist with Merit Mining, Vancouver
  - Resource modeling
  - Drill ready exploration projects and grassroot programs in Canada
  - Project evaluation from early stage to producing (Au, Cu, Pb, Zn)
  - Development of a global mining and geology database

- 6 years of experience as a consulting geologist, Vancouver
  - Drill program supervision
  - Regional targeting
  - Project evaluation
  - Resource evaluation

Professional Affiliations

- Geoscientist in Training with the Association of Professional Engineers and Geoscientists of the Province of British Columbia, Canada, System ID 164368, since February 2011.
- Member of AME BC
- Member of PDAC

APPENDIX B - ELIGIBLE EXPENSE

Item	Rate	Unit	Amount	Cost
Tao Song, field work	$ 400	day	20	$ 8,000.00
Field allowance	$ 100	day	20	$ 2,000.00
Tao Song, report writing	$ 400	day	4	$ 1,600.00
Truck rental (personal)				$ 2,250.00
Drone rental	$ 50	day	6	$ 300.00
XRF rental (personal)	$ 110	day	17	$ 1,870.00
Bioleaching	$ 922.23	test	4	$ 3,688.91
Acid leaching	$ 858.34	test	3	$ 2,575.02
SEM	$ 525	sample	3	$ 1,575.00
Thin section preparation	$ 47	sample	2	$ 94.50
Geochemical	$ 32.42	sample	86	$ 2,787.97
			Total	**$ 26,741.40**

APPENDIX C - SAMPLE DESCRIPTION & XRF RESULTS - JULY 15-21, 2020

Sample ID	Exposure	Type	Lithology	Easting	Northing	V_2O_5_%	Mo_ppm	Zn_ppm	Ni_ppm	Fe_ppm	Ca_ppm	K_ppm	S_ppm
R001	Float	Rock	Black shale	442583	7389066	0.029	< LOD	317.92	< LOD	76185.08	< LOD	8827.08	< LOD
R002	Float	Rock	Black shale	442711	7389135	0.038	< LOD	47.59	157.41	19185.47	< LOD	17712.9	624.79
R003	Float	Rock	Black shale	442812	7389192	0.072	< LOD	< LOD	< LOD	1807.65	< LOD	5819.16	< LOD
R004	Float	Rock	Black shale	442913	7389247	0.064	18.59	453.3	< LOD	25410.4	< LOD	8041.72	1090.56
R005	Float	Rock	Black shale	442939	7389265	0.070	< LOD	< LOD	< LOD	2960.12	< LOD	7988.14	1775.32
R006	Float	Rock	Black shale	442987	7389303	0.134	14.61	24.18	122.44	19108.96	< LOD	24143.67	31536.85
R007	Float	Rock	Black shale	443021	7389310	0.085	< LOD	< LOD	< LOD	2195.29	< LOD	11123.34	1306.73
R008	Float	Rock	Black shale	443057	7389324	0.103	< LOD	< LOD	73.8	1444.85	< LOD	7480.43	< LOD
R009	Float	Rock	Black shale	443067	7389349	0.104	11.23	< LOD	< LOD	3606.6	< LOD	4867.09	< LOD
R010	Float	Rock	Black shale	443091	7389355	0.107	10.68	< LOD	84.13	7848.71	< LOD	6193.24	1579.75
R011	Float	Rock	Black shale	443112	7389364	0.071	7.98	< LOD	84.77	7860.87	< LOD	18881.3	7509.69
R012	Subcrop	Rock	Black shale	443142	7389368	0.067	9.49	< LOD	< LOD	2591.13	< LOD	10518.97	1584.56
R013	Subcrop	Rock	Black shale	443184	7389370	0.157	< LOD	< LOD	< LOD	1525.63	< LOD	10947.97	< LOD
R014	Subcrop	Rock	Black shale	443256	7389402	0.144	< LOD	< LOD	< LOD	1370.5	< LOD	11778.75	< LOD
R015	Subcrop	Rock	Black shale	443289	7389419	0.104	16.58	< LOD	< LOD	1048.63	< LOD	6574.16	< LOD
R016	Subcrop	Rock	Black shale	443299	7389437	0.451	27.56	652.03	104.44	4947.03	412.87	8642.88	< LOD
R017	Subcrop	Rock	Black shale	443310	7389448	0.419	40.52	313.35	< LOD	4381.46	188.61	6840.52	< LOD
R018	Subcrop	Rock	Black shale	443322	7389464	0.357	48.82	92.01	87.8	1749.71	669.9	7088.24	579.32
R019	Float	Rock	Black shale	443379	7389526	0.034	< LOD	92.25	< LOD	40312.44	379.57	22313.84	< LOD
R020	Float	Rock	Black shale	443438	7389565	0.027	< LOD	62.95	< LOD	10783.57	3585.02	16848.28	< LOD
R021	Float	Rock	Black shale	443517	7389627	0.023	< LOD	88.77	< LOD	22423.63	< LOD	26258.81	< LOD
R022	Float	Rock	Black shale	443529	7389641	0.042	< LOD	79.38	97.69	8890.22	< LOD	25178.68	< LOD
R023	Float	Rock	Black shale	443534	7389648	0.043	< LOD	76.28	177.43	7591.13	< LOD	19122.78	< LOD
R024	Float	Rock	Black shale	443557	7389665	0.067	< LOD	103.39	137.79	9561.46	264.62	24315.33	745.31
R025	Float	Rock	Black shale	443560	7389671	0.029	< LOD	85.8	141.9	8289.34	1164.13	10237.84	< LOD
R026	Subcrop	Rock	Black shale	443590	7389684	0.019	< LOD	79.07	103.63	19949.71	203.31	23468.97	< LOD
R027	Subcrop	Rock	Black shale	443615	7389698	0.026	< LOD	51.69	148.19	18996.61	629.73	19292.07	< LOD
R028	Subcrop	Rock	Black shale	443651	7389713	0.027	< LOD	57.72	94.82	19876.08	< LOD	25693.82	< LOD
R029	Subcrop	Rock	Black shale	443675	7389726	0.028	< LOD	48.51	138.73	27650.19	735.11	33175.27	742.87
R030	Subcrop	Rock	Black shale	443688	7389740	0.002	< LOD	49.31	98.86	41112.04	171851.5	14933.59	< LOD

R031	Outcrop	Rock	Black shale	443715	7389769	0.018	< LOD	56.13	< LOD	21237.8	1054.85	24156.36	< LOD
R032	Outcrop	Rock	Black shale	443731	7389783	0.019	< LOD	63.21	< LOD	27698.58	359.77	26629.89	553.52
R033	Outcrop	Rock	Black shale	443755	7389804	0.028	< LOD	72.11	95.62	28117.66	403.67	19025.51	< LOD
R034	Outcrop	Rock	Black shale	443787	7389850	0.026	< LOD	70.41	152.78	17758.01	600.65	21296.65	< LOD
R035	Outcrop	Rock	Black shale	443805	7389886	0.029	< LOD	56.09	125.28	14297.92	236.12	24006.45	< LOD
R036	Outcrop	Rock	Black shale	443817	7389895	0.062	< LOD	58.78	89.88	4421.43	2680.59	24121.6	< LOD
R037	Outcrop	Rock	Black shale	443844	7389909	0.051	< LOD	74.66	< LOD	4241.65	1995.2	19953.8	< LOD
R038	Outcrop	Rock	Black shale	443863	7389921	0.028	< LOD	63.59	83.12	3065.1	10367.29	6342.53	< LOD
R039	Subcrop	Rock	Black shale	443803	7389638	0.015	< LOD	47.57	< LOD	23140.27	179.68	19474.74	< LOD
R040	Subcrop	Rock	Black shale	443824	7389572	0.023	< LOD	74.66	< LOD	23902.94	400.76	28058.13	< LOD
R041	Subcrop	Rock	Black shale	443738	7389468	0.039	< LOD	111.59	< LOD	31813.46	650.34	33449.99	< LOD
R042	Subcrop	Rock	Black shale	443472	7389099	0.375	65.4	953.11	175.15	7368.71	5875.11	10154.16	2114.78
R043	Subcrop	Rock	Black shale	443473	7389093	0.304	68.02	744.14	120.19	6663.96	1434.76	9963.06	543.7
R044	Subcrop	Rock	Black shale	443488	7389044	0.330	30.85	902.48	86.81	8140.48	3390.63	12995.41	1007.61
R045	Subcrop	Rock	Black shale	443479	7389039	0.362	58.28	1048.9	< LOD	5628.29	258.96	7330.08	< LOD
R046	Subcrop	Rock	Black shale	443461	7389031	0.383	29.74	1249.01	112.43	3540.61	1286.24	6758.66	439.85
R047	Float	Rock	Black shale	443591	7389060	0.081	< LOD	155.75	513.09	21674.25	1818.19	24403.64	< LOD
R048	Float	Rock	Black shale	443653	7389076	0.062	< LOD	176.33	173.88	18696.05	2329.38	18265.2	< LOD
R049	Float	Rock	Black shale	443683	7389087	0.036	< LOD	72.27	101.91	24603.08	200.5	28000.59	< LOD
R050	Float	Rock	Black shale	443715	7389105	0.044	< LOD	146.3	153.94	8419.74	< LOD	14991.88	< LOD
R051	Subcrop	Rock	Black shale	443445	7389019	0.329	30.88	384.83	< LOD	4181.05	261.98	6121.89	557.42
R052	Subcrop	Rock	Black shale	443414	7389018	0.313	82.27	481.15	152.78	6567.39	303.03	6381.41	406.28
R053	Subcrop	Rock	Black shale	443392	7389015	0.019	< LOD	33.73	< LOD	843.06	204.56	1964.9	< LOD
R054	Subcrop	Rock	Black shale	443349	7389014	0.025	17.83	17.8	< LOD	834.35	< LOD	2904.45	< LOD
R055	Subcrop	Rock	Black shale	443438	7388934	0.148	52.88	197.41	86.4	10571.88	796.85	11848.68	1008.55
R056	Subcrop	Rock	Black shale	443453	7388916	0.134	39.22	119.62	< LOD	3243.58	346.38	6665.67	< LOD
R057	Float	Rock	Black shale	443754	7388811	0.024	< LOD	48.92	187.08	15904.48	1318.17	22531.09	< LOD
R058	Float	Rock	Black shale	443769	7388810	0.040	< LOD	88.92	138.04	25301.83	< LOD	33223.21	< LOD
R059	Float	Rock	Black shale	443782	7388808	0.054	< LOD	198.39	194.27	19746.32	287.7	21749.72	< LOD
R060	Float	Rock	Black shale	443796	7388804	0.039	< LOD	170.05	229.57	28112.56	11366.13	24266.93	2522.55
R061	Float	Rock	Black shale	443820	7388801	0.041	< LOD	126.29	112.21	25448.36	< LOD	20645.8	< LOD
R062	Float	Rock	Black shale	443826	7388789	0.056	< LOD	168.72	218.74	16360.97	1259.74	20228.55	< LOD
R063	Float	Rock	Black shale	443852	7388744	0.054	< LOD	141.43	98.86	9374.95	1640.21	19940.22	1106.98

R064	Float	Rock	Black shale	443868	7388682	0.039	< LOD	43.31	219.71	19672.38	2393.12	17563.21	< LOD
R065	Float	Rock	Black shale	443918	7388592	0.016	< LOD	66.87	78.46	18119.23	< LOD	14718.15	< LOD
R066	Float	Rock	Black shale	443928	7388568	0.026	< LOD	85.35	< LOD	13170.06	< LOD	13834.66	< LOD
R067	Float	Rock	Black shale	443935	7388536	0.047	< LOD	108.99	370.21	21058.97	2071.72	29856.83	999.45
R068	Float	Rock	Black shale	443930	7388501	0.036	< LOD	87.54	194.7	11809.41	1780.36	17582.55	649.39
R069	Float	Rock	Black shale	443948	7388463	0.025	< LOD	25.09	96.16	3400.06	298.22	9326.76	< LOD
R070	Float	Rock	Black shale	443922	7388445	0.036	< LOD	112.72	189.45	9463.15	589.46	19389.73	< LOD
R071	Float	Rock	Black shale	443896	7388423	0.043	< LOD	60.98	173.64	9557.06	1066.77	16290.49	777.17
R072	Subcrop	Rock	Black shale	443736	7388297	0.273	21.26	1284.87	143.72	5911.6	1086.61	9195.9	496.68
R073	Subcrop	Rock	Black shale	443728	7388291	0.092	14.87	558.68	255.37	2096.75	236972.4	4306.62	2031.95
R074	Subcrop	Rock	Black shale	443720	7388284	0.362	44.41	1198.21	175.17	11388.3	1518.83	10815.62	1058.78
R075	Subcrop	Rock	Black shale	443707	7388276	0.426	21.48	215.41	< LOD	1651.77	< LOD	9033.9	< LOD
R076	Subcrop	Rock	Black shale	443695	7388266	0.238	30.07	30.78	110.27	2164.05	430.29	9026.6	< LOD
R077	Subcrop	Rock	Black shale	443688	7388265	0.359	53.17	250.87	80.66	4195.92	< LOD	5155.79	< LOD
R078	Subcrop	Rock	Black shale	443650	7388247	0.326	48.59	562.26	< LOD	3189.1	568.59	4079.83	< LOD
R079	Subcrop	Rock	Black shale	443629	7388241	0.315	63.65	1412.33	191.84	8716.56	2317.07	7743.35	1127.39
R080	Subcrop	Rock	Black shale	443622	7388240	0.119	38.99	147.65	< LOD	8398.98	136.96	6842.64	906.32
R081	Subcrop	Rock	Black shale	443595	7388238	0.049	11.79	17.95	106.2	9035.11	< LOD	16192.83	26628.21
R082	Subcrop	Rock	Black shale	443567	7388236	0.234	28.4	< LOD	< LOD	5533.81	< LOD	10881.97	1073.26
R083	Subcrop	Rock	Black shale	443520	7388238	0.122	12.01	< LOD	< LOD	1214.72	< LOD	3686.05	510.83
R084	Subcrop	Rock	Black shale	443463	7388277	0.185	24.63	< LOD	< LOD	1504.57	< LOD	7099.8	< LOD
R085	Float	Rock	Black shale	443364	7388270	0.065	27.09	< LOD	< LOD	9866.19	979.34	7434.52	4019.17
R086	Float	Rock	Black shale	443341	7388272	0.110	14.08	< LOD	< LOD	2454.82	< LOD	7048.28	574.58
R087	Float	Rock	Black shale	443285	7388275	0.152	15.59	28.54	104.88	5687.02	2162.99	7426.13	2981.54
R088	Float	Rock	Black shale	443218	7388284	0.085	14.75	< LOD	< LOD	9351.89	< LOD	3689.51	< LOD
R089	Outcrop	Rock	Black shale	441683	7397066	0.017	< LOD	62.88	80.51	17511.29	377.8	21301.22	< LOD
R090	Outcrop	Rock	Black shale	441636	7397081	0.020	< LOD	41.37	93.8	13202.03	1853.05	14392.67	489.85
R091	Subcrop	Rock	Black shale	441564	7397103	0.047	< LOD	66.57	220.43	5870.3	766.48	10876.85	546.25
R092	Float	Rock	Black shale	441534	7397115	0.030	< LOD	40.15	100.46	7392.43	< LOD	15279.92	< LOD
R093	Float	Rock	Black shale	441502	7397132	0.049	< LOD	120.6	130.77	16978.1	328.99	29443.56	< LOD
R094	Float	Rock	Black shale	441442	7397152	0.044	< LOD	97.3	245.16	18625.14	2785.62	23677.62	665.99
R095	Float	Rock	Black shale	440889	7397237	0.007	9.66	< LOD	< LOD	2217.33	585.89	1331.27	< LOD
R096	Float	Rock	Black shale	440808	7397238	0.018	< LOD	39.09	< LOD	9341.8	182.55	9699.58	637.88

R097	Float	Rock	Black shale	440550	7397253	0.056	10.32	158.33	408.46	19049.13	232.31	12706.5	625.04
R098	Float	Rock	Black shale	440495	7397268	0.059	< LOD	74.72	< LOD	16059.64	2924.72	19569.46	2104.03
R099	Float	Rock	Black shale	440415	7397284	0.054	< LOD	195.82	< LOD	27576.14	2069.28	16359.04	518.56
R100	Float	Rock	Black shale	440322	7397295	0.021	12.47	52.64	93.47	18924.34	< LOD	2906.21	< LOD
R101	Float	Rock	Black shale	440259	7398723	0.264	45.83	260.57	< LOD	37268.57	134.03	4295.56	< LOD
R102	Float	Rock	Black shale	440305	7398701	0.124	24.31	299.07	254.97	46361	4231.24	20251.12	1370.36
R103	Float	Rock	Black shale	440372	7398672	0.115	18.7	135.78	< LOD	20263.56	3012.75	15299.23	< LOD
R104	Float	Rock	Black shale	440455	7398647	0.043	7.94	85.32	80.61	11307.5	6796.49	5968.23	< LOD
R105	Float	Rock	Black shale	440521	7398623	0.090	23.91	115.63	< LOD	21822.96	1801.75	8140.56	< LOD
R106	Float	Rock	Black shale	440726	7398570	0.214	13.54	< LOD	< LOD	1000.56	< LOD	6854.84	< LOD
R107	Float	Rock	Black shale	440757	7398549	0.252	17.19	22.45	< LOD	15287.07	231.39	8605.21	< LOD
R108	Float	Rock	Black shale	440832	7398565	0.218	< LOD	< LOD	< LOD	1799.82	< LOD	8079.44	< LOD
R109	Float	Rock	Black shale	440857	7398568	0.156	18.32	< LOD	65.9	3530.34	182.25	5240.95	3110.33
R110	Float	Rock	Black shale	440862	7398567	0.093	16.87	22.18	< LOD	1465.16	< LOD	6260.93	< LOD
R111	Subcrop	Rock	Black shale	440889	7398576	0.134	< LOD	< LOD	< LOD	1793.83	< LOD	8324.69	< LOD
R112	Subcrop	Rock	Black shale	440907	7398584	0.148	9.38	< LOD	< LOD	987.69	95.96	7745.68	< LOD
R113	Subcrop	Rock	Black shale	440939	7398593	0.176	29.53	34.34	< LOD	2875.49	< LOD	10339.29	< LOD
R114	Subcrop	Rock	Black shale	440972	7398596	0.053	8.12	< LOD	63.57	847.05	< LOD	3031.82	817.97
R115	Subcrop	Rock	Black shale	440998	7398598	0.039	12.12	< LOD	< LOD	435.75	< LOD	3293.99	< LOD
R116	Subcrop	Rock	Black shale	441019	7398599	0.468	79.5	823.03	125.85	24715.57	419.84	7503.35	< LOD
R117	Subcrop	Rock	Black shale	441042	7398610	0.263	43.13	259.4	92.42	1884.57	409.82	2989.66	389.38
R118	Subcrop	Rock	Black shale	441072	7398610	0.631	67.63	497.91	93.98	4354.75	1541.28	10111.85	3067.5
R119	Subcrop	Rock	Black shale	441098	7398614	0.375	64.55	1119.84	201.7	7900.86	5536.84	10485.8	11408.04
R120	Subcrop	Rock	Black shale	441104	7398616	0.234	32.18	924.39	153.15	14996.89	4191.68	12380.45	891.04
R121	Subcrop	Rock	Black shale	441114	7398619	0.333	56.57	822.18	152.57	9674.97	2933.57	11756.15	583.53
R122	Float	Rock	Black shale	441423	7398706	0.030	< LOD	48.84	145.82	10091.57	3484.32	12399.28	490.32
R123	Float	Rock	Black shale	441453	7398700	0.047	< LOD	92.99	130.3	21274.81	1317.48	20566.98	< LOD
R124	Float	Rock	Black shale	441485	7398699	0.027	< LOD	97.09	82.51	8608.42	161.43	13350.58	< LOD
R125	Float	Rock	Black shale	441502	7398691	0.031	< LOD	62.05	140.97	14563.09	< LOD	24363.35	< LOD
R126	Subcrop	Rock	Black shale	441533	7398682	0.037	< LOD	57.88	< LOD	5294.23	< LOD	11345.3	< LOD
R127	Outcrop	Rock	Black shale	441569	7398678	0.026	< LOD	84.88	104.72	13648.65	269.08	18309.61	< LOD
R128	Outcrop	Rock	Black shale	441586	7398592	0.021	< LOD	46.37	106.88	15731.46	399.95	18116.53	632.57
R129	Outcrop	Rock	Black shale	441587	7398485	0.036	< LOD	95.15	121.19	23424.22	< LOD	34339.75	< LOD

R130	Outcrop	Rock	Black shale	441593	7398395	0.034	< LOD	52.97	136.93	16110.97	< LOD	27259.59	< LOD
R131	Outcrop	Rock	Black shale	441610	7398330	0.027	< LOD	64.16	129.31	20007.18	256.12	24694.06	< LOD
R132	Outcrop	Rock	Black shale	441615	7398287	0.031	< LOD	126.45	154.55	23099.88	< LOD	26707.96	< LOD
R133	Outcrop	Rock	Black shale	441620	7398259	0.002	< LOD	47.33	112.58	19027.63	< LOD	23697.07	< LOD
R134	Outcrop	Rock	Black shale	441636	7398210	0.039	< LOD	77.42	229.65	24087.26	753.65	34601.79	< LOD
R135	Outcrop	Rock	Black shale	441642	7398172	0.032	< LOD	93.84	251.49	58100.76	2387.3	29861.69	903.59
R136	Outcrop	Rock	Black shale	441644	7398172	0.039	< LOD	81.88	107.95	24030.9	< LOD	28731.92	< LOD
R137	Float	Rock	Black shale	441581	7398142	0.017	< LOD	62.13	136	15405.07	< LOD	19663.6	< LOD
R138	Float	Rock	Black shale	441543	7398120	0.038	< LOD	85.16	166.45	21642.82	234.05	25931.33	1241.11
R139	Float	Rock	Black shale	441490	7398073	0.034	< LOD	58.36	169.14	25279.02	6341.48	27863.73	1002.16
R140	Float	Rock	Black shale	441161	7398002	0.194	55.43	278.77	136.76	6245.29	9324.97	8195.21	1536.35
R141	Subcrop	Rock	Black shale	441131	7397999	0.244	32.92	806.62	134.61	3796.77	2499.69	8469.57	829.92
R142	Subcrop	Rock	Black shale	441119	7397993	0.235	52.71	251.97	< LOD	3982.42	2730.74	5912.38	400.31
R143	Subcrop	Rock	Black shale	441096	7397989	0.351	63.63	176.66	< LOD	3520.83	< LOD	5781.52	< LOD
R144	Subcrop	Rock	Black shale	441070	7398003	0.172	22.04	665	104.74	11413.78	1175.41	5124.56	827.55
R145	Subcrop	Rock	Black shale	441051	7398018	0.380	65.51	164.2	68.49	3447.62	212.64	6374.9	1125.63
R146	Subcrop	Rock	Black shale	441032	7398026	0.660	78.1	476.2	143.24	17135.89	< LOD	9320.03	638.6
R147	Subcrop	Rock	Black shale	441022	7398033	0.404	61.82	1089.72	168.27	5765.93	2190.35	6367.28	1085.87
R148	Subcrop	Rock	Black shale	441006	7398051	0.320	37.73	859.75	144.22	10016.51	1488.06	15421.84	1126.87
R149	Subcrop	Rock	Black shale	440992	7398062	0.114	27.54	872.91	225.79	41936.86	436.53	14660.44	1245.41
R150	Subcrop	Rock	Black shale	440979	7398064	0.031	19	< LOD	81.06	2036.64	< LOD	7748.06	< LOD
R151	Subcrop	Rock	Black shale	440965	7398070	0.032	< LOD	< LOD	< LOD	1409.31	< LOD	6147.14	< LOD
R152	Subcrop	Rock	Black shale	440937	7398072	0.036	14.65	< LOD	< LOD	2951.99	481.51	9067.68	2675.98
R153	Subcrop	Rock	Black shale	440905	7398076	0.184	10.49	< LOD	< LOD	877.4	< LOD	7480.38	< LOD
R154	Float	Rock	Black shale	440878	7398080	0.100	< LOD	< LOD	94.63	465.12	< LOD	3551.51	< LOD
R155	Float	Rock	Black shale	440856	7398085	0.019	16.72	< LOD	< LOD	736.91	< LOD	3650.44	< LOD
R156	Float	Rock	Black shale	440827	7398104	0.046	45.77	< LOD	< LOD	2123.04	< LOD	8538.77	< LOD
R157	Float	Rock	Black shale	440783	7398127	0.227	25.38	< LOD	< LOD	3521.43	< LOD	8751.9	1253.55
R158	Float	Rock	Black shale	440735	7398146	0.172	7.1	< LOD	75.1	8358.9	< LOD	8427.14	2507.64
R159	Float	Rock	Black shale	440683	7398175	0.174	24.97	< LOD	98.99	9326.86	< LOD	6417.74	< LOD
R160	Float	Rock	Black shale	440641	7398202	0.135	17.63	< LOD	71.12	4996.97	206.81	14628.02	< LOD
R161	Float	Rock	Black shale	440596	7398221	0.140	23.97	19.91	< LOD	3683.9	< LOD	5615.43	< LOD
R162	Float	Rock	Black shale	440276	7400431	0.058	18.13	< LOD	80.22	12547.36	< LOD	7992.35	< LOD

R163	Float	Rock	Black shale	440401	7400488	0.134	15.03	< LOD	85.54	7629.26	2082.52	17674.21	559.08
R164	Float	Rock	Black shale	440458	7400509	0.076	16	28.01	< LOD	6528.6	1085.66	12159.03	< LOD
R165	Float	Rock	Black shale	440519	7400526	0.106	52.35	46.5	102.47	35962.12	1532.06	18494.3	3853.48
R166	Float	Rock	Black shale	440571	7400533	0.101	31.64	< LOD	70.48	5251.18	280.06	7211.6	367.38
R167	Float	Rock	Black shale	440621	7400551	0.145	9.13	< LOD	< LOD	3811.45	578.58	12167.23	1120.85
R168	Float	Rock	Black shale	440666	7400566	0.139	19.49	37.88	< LOD	5913.51	1176.76	10320.73	1296.64
R169	Float	Rock	Black shale	440718	7400578	0.174	11.28	< LOD	64.49	4299.03	< LOD	6942.11	< LOD
R170	Float	Rock	Black shale	440766	7400584	0.129	28.33	< LOD	< LOD	7223.05	< LOD	19879.76	13179.38
R171	Float	Rock	Black shale	440808	7400607	0.096	< LOD	< LOD	< LOD	832.16	< LOD	6654.39	< LOD
R172	Float	Rock	Black shale	440836	7400631	0.165	11.51	20.4	< LOD	830.49	< LOD	7991.77	< LOD
R173	Subcrop	Rock	Black shale	440869	7400641	0.263	23.3	< LOD	< LOD	2476.33	209.95	12846.28	2866.22
R174	Subcrop	Rock	Black shale	440875	7400662	0.259	16.56	< LOD	< LOD	3282.6	< LOD	16982.23	5136.5
R175	Subcrop	Rock	Black shale	440991	7401075	0.595	46.84	405.83	114.22	6655.76	327.24	7548.9	< LOD
R176	Subcrop	Rock	Black shale	441016	7401087	0.785	90.57	742.58	164.02	10884.82	< LOD	13380.15	< LOD
R177	Subcrop	Rock	Black shale	441072	7401094	0.216	< LOD	< LOD	< LOD	2966.75	< LOD	10317.31	1605.86
R178	Subcrop	Rock	Black shale	441092	7401097	0.449	26.55	126.3	< LOD	2651.21	< LOD	5459.88	< LOD
R179	Subcrop	Rock	Black shale	441114	7401103	0.275	28.39	265.27	105.6	4390.11	436.62	10389.63	< LOD
R180	Subcrop	Rock	Black shale	441136	7401100	0.414	55.21	344.49	134.14	10592.24	< LOD	13654.13	< LOD
R181	Subcrop	Rock	Black shale	441116	7401168	0.298	41.23	725.25	106.9	4491.18	2627.02	8985.49	5193.36
R182	Subcrop	Rock	Black shale	441091	7401195	0.314	58.04	366.03	< LOD	6662.43	< LOD	10980.71	< LOD
R183	Subcrop	Rock	Black shale	440874	7401154	0.110	16.57	< LOD	< LOD	1713.32	< LOD	8110.26	< LOD
R184	Subcrop	Rock	Black shale	440834	7401159	0.172	< LOD	< LOD	< LOD	1460.72	< LOD	7421.89	480.7
R185	Float	Rock	Black shale	440699	7401170	0.102	23.59	17.67	103.55	3070.26	< LOD	4410.87	< LOD
R186	Float	Rock	Black shale	440663	7401151	0.115	21.95	43.07	< LOD	5565.91	< LOD	6967.58	< LOD
R187	Float	Rock	Black shale	440554	7401111	0.129	55.37	98.16	111.26	29325.59	354.19	7843.16	897.31
R188	Float	Rock	Black shale	441839	7394721	0.068	< LOD	225.09	257.1	26408.95	302.23	23521.22	< LOD
R189	Float	Rock	Black shale	442027	7394817	0.022	< LOD	47.58	< LOD	13465.63	389.17	28625.65	< LOD
R190	Float	Rock	Black shale	442047	7394815	0.043	< LOD	59.66	< LOD	17241.82	2163.06	26661.01	985.21
R191	Float	Rock	Black shale	442063	7394813	0.054	< LOD	108.68	126.33	12704.09	297.72	24511.1	< LOD
R192	Float	Rock	Black shale	442081	7394813	0.033	< LOD	40.45	154.52	13471.99	305.31	25593.42	< LOD
R193	Subcrop	Rock	Black shale	442104	7394814	0.074	< LOD	93	304.29	9297.82	411.85	21942	435.31
R194	Subcrop	Rock	Black shale	442137	7394814	0.028	< LOD	20.79	134.77	13160.62	617.01	16695.2	779.75
R195	Subcrop	Rock	Black shale	442142	7394814	0.049	< LOD	188.77	106.43	22099.04	277.93	23969.76	< LOD

R196	Outcrop	Rock	Black shale	442162	7394825	0.029	< LOD	47.97	151.23	21674.02	550.5	21236.1	802.59
R197	Outcrop	Rock	Black shale	442137	7394916	0.018	< LOD	53.49	121.84	13793.98	< LOD	15777.6	< LOD
R198	Subcrop	Rock	Black shale	442041	7394934	0.065	< LOD	62.99	195.41	4772.79	< LOD	12507.76	< LOD
R199	Float	Rock	Black shale	442017	7394939	0.056	< LOD	55.12	162.94	6780.65	176.92	13008.24	< LOD
R200	Float	Rock	Black shale	441944	7394953	0.047	< LOD	94.33	185.22	12676.98	1499.37	29462.96	< LOD
R201	Subcrop	Rock	Black shale	441739	7394986	0.301	15.37	1443.27	307	13251.31	42210.73	13327.87	5675.6
R202	Subcrop	Rock	Black shale	441726	7394987	0.335	15.29	990.74	128.04	4559.34	1779.63	10432.29	494.87
R203	Subcrop	Rock	Black shale	441722	7394985	0.332	28.21	637.88	131.61	4726.22	554.61	8468.21	< LOD
R204	Subcrop	Rock	Black shale	441704	7394985	0.327	29.18	58.08	82.19	7973.04	< LOD	11995.02	< LOD
R205	Subcrop	Rock	Black shale	441670	7394988	0.470	55.51	647.12	< LOD	4577.82	404.73	6240.73	411.07
R206	Subcrop	Rock	Black shale	441660	7394982	0.452	44.26	2648.03	122.79	4059.94	1238.64	7055.53	437.83
R207	Subcrop	Rock	Black shale	441645	7394980	0.382	99.4	1103.07	238.36	6340.49	33531.5	8263.36	2506.43
R208	Subcrop	Rock	Black shale	441627	7394978	0.459	37.72	821.28	84.93	5990.21	1482.99	8071.52	< LOD
R209	Subcrop	Rock	Black shale	441610	7394979	0.042	15.03	721.06	196.8	12703.42	140499.1	6569.84	115712.1
R210	Subcrop	Rock	Black shale	441573	7394960	0.102	8.72	< LOD	< LOD	2582.19	< LOD	6874.43	5589.34
R211	Subcrop	Rock	Black shale	441545	7394956	0.064	< LOD	< LOD	< LOD	1384.97	366.87	2713.77	933.32
R212	Float	Rock	Black shale	441514	7394951	0.455	50.9	328.61	< LOD	6425.55	< LOD	8083.79	< LOD
R213	Float	Rock	Black shale	441503	7394939	0.015	10.11	373.64	197.88	6753.5	466722.3	3785.45	< LOD
R214	Float	Rock	Black shale	441458	7394925	0.240	30.46	36.87	83.71	15251.29	< LOD	11917.41	< LOD
R215	Float	Rock	Black shale	441407	7394914	0.073	22.11	20.08	< LOD	4333.71	< LOD	7599.44	< LOD
R216	Float	Rock	Black shale	441373	7394902	0.073	10.22	122.03	< LOD	9015.81	< LOD	9336.59	< LOD
R217	Float	Rock	Black shale	441339	7394890	0.036	< LOD	38.61	83.67	15158.99	< LOD	5009.58	< LOD

APPENDIX D - SAMPLE DESCRIPTION & XRF RESULTS - JULY 23-27, 2020

SampleID	Exposure	Type	Lithology	Easting	Northing	V_2O_5_%	Mo_ppm	Zn_ppm	Ni_ppm	Fe_ppm	Ca_ppm	K_ppm	S_ppm
C0004311	Subcrop	Rock	Black shale	440785	7400370	0.185	16.22	< LOD	< LOD	2217.09	< LOD	13733.11	1290.36
C0004312	Subcrop	Rock	Black shale	440785	7400371	0.064	37.13	102.02	98.15	117355.1	< LOD	13513.81	14060.61
C0004313	Subcrop	Rock	Black shale	440801	7400386	0.314	21.2	< LOD	< LOD	7417.95	1798.97	15481.94	12907.47
C0004314	Subcrop	Rock	Black shale	440821	7400417	0.315	31.47	< LOD	< LOD	5919.47	3221.23	20704.61	33357.99
C0004315	Subcrop	Rock	Black shale	440818	7400441	0.161	49.23	< LOD	118.24	67489.73	< LOD	33206.9	79153.34
C0004316	Outcrop	Rock	Black shale	440819	7400450	0.245	30.51	< LOD	< LOD	2413.37	127.16	14473.93	3026.99
C0004317	Outcrop	Rock	Black shale	440823	7400486	0.230	20.11	14.99	< LOD	3263.66	598.98	11931.87	4125.9
C0004318	Outcrop	Rock	Black shale	440825	7400491	0.146	9	< LOD	< LOD	752.08	< LOD	8763.97	923.62
C0004319	Outcrop	Rock	Black shale	440828	7400506	0.101	25.12	< LOD	< LOD	2975.08	398.07	8516	2302.2
C0004320	Outcrop	Rock	Black shale	440840	7400516	0.147	17.42	< LOD	< LOD	986.66	149.88	6039.66	1096.57
C0004321	Outcrop	Rock	Black shale	440847	7400528	0.227	20.94	< LOD	< LOD	3255.83	< LOD	10211.37	2115.14
C0004322	Outcrop	Rock	Black shale	440847	7400530	0.162	13.47	< LOD	< LOD	1496.89	192.22	8658.84	2488.86
C0004323	Outcrop	Rock	Black shale	440852	7400540	0.195	17.8	11.97	< LOD	1183.31	< LOD	10559.74	2246.31
C0004324	Outcrop	Rock	Black shale	440855	7400544	0.073	16.98	< LOD	< LOD	917.95	< LOD	4462.9	1519.74
C0004325	Outcrop	Rock	Black shale	440868	7400553	0.187	14.82	< LOD	< LOD	1110.28	< LOD	9337.31	4903.84
C0004326	Outcrop	Rock	Black shale	440875	7400572	0.249	9.67	< LOD	52.31	983.16	< LOD	10803.26	769.37
C0004327	Outcrop	Rock	Black shale	440888	7400588	0.145	12.94	< LOD	< LOD	1399.67	< LOD	7117.91	406.75
C0004328	Outcrop	Rock	Black shale	440884	7400602	0.154	< LOD	< LOD	< LOD	707.37	< LOD	7786.13	< LOD
C0004329	Outcrop	Rock	Black shale	440881	7400609	0.496	490.3	639.1	231.98	256492.1	803.89	4776.53	5475.11
C0004330	Outcrop	Rock	Black shale	440848	7400635	0.135	8.76	< LOD	< LOD	665.8	< LOD	6726.99	< LOD
C0004331	Outcrop	Rock	Black shale	440871	7400667	0.194	11.65	< LOD	< LOD	1725.98	< LOD	9464.32	660.57
C0004332	Outcrop	Rock	Black shale	440861	7400699	0.085	21.68	< LOD	< LOD	1519.8	< LOD	5720.33	435.16
C0004333	Outcrop	Rock	Black shale	440875	7400702	0.099	22.85	< LOD	< LOD	2315.9	197.22	9701.31	1967.42
C0004334	Outcrop	Rock	Black shale	440821	7400461	0.175	14.88	< LOD	< LOD	1692.76	< LOD	10363.73	1679.99
C0004335	Outcrop	Rock	Black shale	440819	7400448	0.300	11.86	< LOD	55.57	3614	< LOD	11122.04	1849.49
C0004336	Float	Rock	Black shale	440836	7400340	0.225	20.35	< LOD	< LOD	3807.17	299.25	10727.57	5075.78
C0004337	Float	Rock	Black shale	440859	7400351	0.237	21.99	30.77	97.32	32736	3775.35	20509.37	42592.8
C0004338	Float	Rock	Black shale	440871	7400360	0.125	24.68	< LOD	47.91	4349.87	187.69	13321.38	7418.46
C0004339	Float	Rock	Black shale	440887	7400372	0.160	19.22	< LOD	< LOD	1834.97	184.89	8675.69	1519.81
C0004340	Float	Rock	Black shale	440900	7400392	0.181	16.95	< LOD	69.93	1356.99	189.97	8656.05	1749.02

C0004341	Subcrop	Rock	Black shale	441560	7400592	0.074	< LOD	100.57	224.86	12913.66	372.13	28062.99	< LOD
C0004342	Subcrop	Rock	Black shale	441554	7400601	0.033	< LOD	21.47	115.76	11247.58	193.74	16550.82	< LOD
C0004343	Subcrop	Rock	Black shale	441543	7400618	0.034	< LOD	59.54	160.58	9212.02	183.05	16455.63	< LOD
C0004344	Subcrop	Rock	Black shale	441546	7400622	0.033	< LOD	30.52	220.75	9755.11	200632.8	10048.85	1938.87
C0004345	Subcrop	Rock	Black shale	441563	7400626	0.030	< LOD	28.41	164.32	9420.57	182.45	13868.72	< LOD
C0004346	Subcrop	Rock	Black shale	441582	7400620	0.030	< LOD	93.87	173.87	19559.08	< LOD	26843.12	< LOD
C0004347	Outcrop	Rock	Black shale	441599	7400573	0.027	< LOD	54.53	120.19	31772.71	251.1	26428.56	< LOD
C0004348	Outcrop	Rock	Black shale	441586	7400536	0.019	< LOD	79.66	180.03	27271.9	3471.33	30441.91	< LOD
C0004349	Outcrop	Rock	Black shale	441574	7400505	0.028	< LOD	35.04	153.6	55358.13	1765.79	25249.43	< LOD
C0004350	Outcrop	Rock	Black shale	441591	7400405	0.020	< LOD	40.03	104.63	20706.3	269.27	22836.7	< LOD
C0004351	Outcrop	Rock	Black shale	441586	7400348	0.023	< LOD	51.83	70.57	21650.48	176.96	26008.94	< LOD
C0004352	Outcrop	Rock	Black shale	441585	7400326	0.010	< LOD	75.54	81.88	10674.35	447.48	8812.64	< LOD
C0004353	Outcrop	Rock	Black shale	441582	7400290	0.023	< LOD	60.56	128.58	19005.72	< LOD	20143.74	< LOD
C0004354	Outcrop	Rock	Black shale	441583	7400270	0.021	6.24	60.54	136.48	23601	< LOD	21203.57	< LOD
C0004355	Outcrop	Rock	Black shale	441576	7400243	0.019	6.54	32.47	82.09	17655.88	< LOD	18282.29	< LOD
C0004356	Outcrop	Rock	Black shale	441551	7400231	0.027	< LOD	87.74	158.14	21813.16	191.33	27852.49	< LOD
C0004357	Outcrop	Rock	Black shale	441604	7400183	0.028	< LOD	42.57	90.4	24700.41	1246.14	24819.61	< LOD
C0004358	Outcrop	Rock	Black shale	441598	7400145	0.014	6.02	280.15	< LOD	14551.88	40840.2	12050.81	< LOD
C0004359	Outcrop	Rock	Black shale	441579	7400103	0.013	< LOD	21.55	67	3366.71	153.92	9738.08	< LOD
C0004360	Outcrop	Rock	Black shale	441594	7400068	0.025	< LOD	66.91	122.36	33249.86	3432.4	28838.51	868.39
C0004361	Subcrop	Rock	Black shale	441535	7400027	0.033	< LOD	53.24	110.67	21994.61	216.66	32732.51	< LOD
C0004362	Subcrop	Rock	Black shale	441515	7400050	0.034	< LOD	75.93	116.66	21604.93	400.45	28694.05	< LOD
C0004363	Outcrop	Rock	Black shale	441516	7400048	0.032	< LOD	48.1	98.38	18437.28	466.49	28583.88	< LOD
C0004364	Outcrop	Rock	Black shale	441459	7400008	0.020	< LOD	56.46	131.2	19676.52	185.96	21942.35	< LOD
C0004365	Outcrop	Rock	Black shale	441448	7400005	0.019	< LOD	51.91	119.17	15362.35	384.94	17250.9	< LOD
C0004366	Outcrop	Rock	Black shale	441439	7399975	0.002	< LOD	75.39	162.66	69616.24	5678.25	13492.08	< LOD
C0004367	Outcrop	Rock	Black shale	441413	7399962	0.025	< LOD	39.34	< LOD	17638.52	200.8	18825.1	< LOD
C0004368	Outcrop	Rock	Black shale	441553	7399991	0.021	< LOD	54.81	< LOD	20634.69	830.14	26947.71	< LOD
C0004369	Outcrop	Rock	Black shale	441554	7399961	0.020	< LOD	39.82	< LOD	18680.42	805.51	18963.39	< LOD
C0004370	Outcrop	Rock	Black shale	441564	7399896	0.033	< LOD	105.41	257.69	93049.38	< LOD	18017.72	3439.77
C0004371	Outcrop	Rock	Black shale	441570	7399926	0.002	< LOD	91.3	280.1	465131.5	440.28	6606.86	4382.38
C0004372	Outcrop	Rock	Black shale	441576	7400033	0.011	< LOD	29.79	102.67	11822.56	145.35	2430.54	< LOD
C0004373	Outcrop	Rock	Black shale	441598	7400457	0.018	< LOD	32.1	171.82	14950.32	< LOD	16233.02	< LOD

C0004374	Outcrop	Rock	Black shale	441584	7400516	0.027	< LOD	61.93	124.21	24862.33	885.97	30977.51	< LOD
C0004375	Outcrop	Rock	Black shale	441619	7400616	0.030	< LOD	58.76	90.16	18568.62	359.18	29861.21	< LOD
C0004376	Outcrop	Rock	Black shale	441631	7400646	0.026	< LOD	84.99	99.85	42318.62	1817.14	30556.55	731.46
C0004377	Outcrop	Rock	Black shale	441627	7400733	0.024	< LOD	112.46	174.11	63229	1084.43	22154.61	< LOD
C0004378	Outcrop	Rock	Black shale	441623	7400765	0.002	< LOD	40.02	95.55	14536.42	< LOD	8631.38	< LOD
C0004379	Outcrop	Rock	Black shale	441629	7400807	0.034	< LOD	49.81	178.86	29334.83	690.33	32903.1	< LOD
C0004380	Outcrop	Rock	Black shale	441630	7400842	0.027	< LOD	70.28	135.82	22549.4	501.27	21186.56	< LOD
C0004381	Outcrop	Rock	Black shale	441619	7400899	0.019	< LOD	23.26	96.91	14311.29	< LOD	16183.61	< LOD
C0004382	Outcrop	Rock	Black shale	441673	7400969	0.025	< LOD	36.93	117.11	20391.29	< LOD	24930.69	< LOD
C0004383	Outcrop	Rock	Black shale	441691	7401013	0.017	9.13	55.89	163.62	16600.17	654.65	17181.02	< LOD
C0004384	Outcrop	Rock	Black shale	441693	7401038	0.019	< LOD	198.13	118.78	51778.79	711.52	12444.9	< LOD
C0004385	Outcrop	Rock	Black shale	441710	7401102	0.026	< LOD	54.63	203.32	22299.34	508.78	28740.59	< LOD
C0004386	Outcrop	Rock	Black shale	441745	7401093	0.023	< LOD	69.29	167.12	20059.14	< LOD	24192.2	< LOD
C0004387	Outcrop	Rock	Black shale	441783	7401072	0.027	< LOD	76.61	99.9	23195.66	756.49	26914.98	< LOD
C0004388	Outcrop	Rock	Black shale	441806	7401059	0.028	< LOD	43.15	148.38	19385.14	611.29	26452.46	< LOD
C0004389	Subcrop	Rock	Black shale	441874	7401054	0.057	< LOD	111.76	130.44	5827.41	8843.65	18909.99	< LOD
C0004390	Subcrop	Rock	Black shale	441909	7401037	0.046	< LOD	46.26	103.2	2918.03	1441.58	13442.78	< LOD
C0004391	Subcrop	Rock	Black shale	441955	7401024	0.032	8.56	195.97	< LOD	9787.52	6781.34	11142.85	1279.51
C0004392	Subcrop	Rock	Black shale	441978	7401019	0.055	12.18	53.95	< LOD	3847.36	3652.12	5330.94	< LOD
C0004393	Subcrop	Rock	Black shale	442059	7401019	0.002	< LOD	75.16	< LOD	4266.06	10175.63	1794.09	1270.33
C0004394	Subcrop	Rock	Black shale	442087	7401020	0.012	9.99	35.37	99.76	6019.72	8939.86	8548.64	445.28
C0004395	Subcrop	Rock	Black shale	442108	7401012	0.008	7.89	36.87	< LOD	5221.04	14114.8	6461.69	< LOD
C0004396	Subcrop	Rock	Black shale	442128	7401014	0.002	< LOD	< LOD	< LOD	565.69	1484.9	640.93	< LOD
C0004397	Subcrop	Rock	Black shale	442150	7401024	0.002	< LOD	17.87	< LOD	734.18	2077.57	1088.77	383.9
C0004398	Subcrop	Rock	Black shale	442174	7401033	0.002	< LOD	< LOD	< LOD	920.44	846.63	1047.05	382.16
C0004399	Subcrop	Rock	Black shale	442182	7401069	0.004	< LOD	43.05	< LOD	1962.31	166.44	1459.74	< LOD
C0004400	Subcrop	Rock	Black shale	442187	7401136	0.030	< LOD	22.95	< LOD	9887.21	< LOD	23216.34	< LOD
C0004401	Subcrop	Rock	Black shale	442279	7401197	0.002	< LOD	21.4	< LOD	444.97	1314.03	866.83	225.13
C0004402	Outcrop	Rock	Black shale	442286	7401212	0.009	7.93	72.84	89.87	1913.79	5298.98	1971.46	< LOD
C0004403	Outcrop	Rock	Black shale	442316	7401259	0.034	18.8	80.15	< LOD	1069.22	2141.89	1938.48	< LOD
C0004404	Outcrop	Rock	Black shale	442227	7401264	0.002	< LOD	27.39	106.06	1052.46	482580.3	1073.08	< LOD
C0004405	Subcrop	Rock	Black shale	442176	7401255	0.010	< LOD	60.5	82.58	6959.35	235.37	3111.54	< LOD
C0004406	Subcrop	Rock	Black shale	442132	7401158	0.002	< LOD	27.72	115.25	1077.44	534013.6	1750.83	< LOD

C0004407	Subcrop	Rock	Black shale	442062	7401065	0.008	< LOD	31.15	65.62	2627.29	1468.65	3412.94	< LOD
C0004408	Subcrop	Rock	Black shale	441934	7401074	0.014	9.18	< LOD	87.38	10403.17	92718.63	9465.07	< LOD
C0004409	Outcrop	Rock	Black shale	441835	7401159	0.034	< LOD	64.12	182.59	23572.23	2257.13	30045.41	< LOD
C0004410	Outcrop	Rock	Black shale	441764	7401241	0.039	< LOD	154.06	98	28320.13	359.89	34136.8	< LOD
C0004411	Outcrop	Rock	Black shale	441684	7401284	0.035	< LOD	85.33	120.16	22022.48	505.07	30397.76	< LOD
C0004412	Subcrop	Rock	Black shale	441611	7401380	0.024	< LOD	41.62	114.63	16677.34	< LOD	21087.9	< LOD
C0004413	Subcrop	Rock	Black shale	441558	7401426	0.013	< LOD	27.98	149.1	16862.48	145.21	13655.99	< LOD
C0004414	Float	Rock	Black shale	441106	7401619	0.325	51.65	426.55	165.28	8402.75	1669.82	11900.18	996.42
C0004415	Float	Rock	Black shale	441090	7401620	0.248	93.06	356.11	185.15	8822.56	2328.46	8998.4	< LOD
C0004416	Float	Rock	Black shale	441003	7401628	0.327	53.66	352.76	106.83	3352.52	457.31	3863.94	1751.37
C0004417	Float	Rock	Black shale	440988	7401626	0.250	60.32	608.78	265.45	7074.61	16502.21	17153.62	1368.12
C0004418	Float	Rock	Black shale	440967	7401616	0.075	13.95	102.06	83.82	16789.54	< LOD	3134.72	< LOD
C0004419	Float	Rock	Black shale	440957	7401615	0.058	29.47	91.75	< LOD	7181.84	< LOD	4321.11	< LOD
C0004420	Subcrop	Rock	Black shale	440905	7401611	0.029	6.85	< LOD	< LOD	731.25	871.65	3529.74	937.05
C0004421	Subcrop	Rock	Black shale	440915	7401555	0.033	16.49	37.01	< LOD	1645.7	169.31	5532.01	< LOD
C0004422	Subcrop	Rock	Black shale	440920	7401504	0.163	12.63	< LOD	< LOD	972.25	< LOD	3493.6	< LOD
C0004423	Subcrop	Rock	Black shale	440922	7401398	0.170	17.75	< LOD	< LOD	738.51	< LOD	6042.12	< LOD
C0004424	Subcrop	Rock	Black shale	440971	7401405	0.171	36.58	419.08	83.76	10610.52	220.24	5156.86	1446.64
C0004425	Subcrop	Rock	Black shale	440984	7401387	0.451	20.48	1353.81	167.77	4039.93	4600.77	7425.04	1937.59
C0004426	Subcrop	Rock	Black shale	441008	7401363	0.572	68.43	286.12	68.43	4941.57	879.03	9367.29	1112.17
C0004427	Subcrop	Rock	Black shale	441022	7401357	0.205	46.02	60.61	84.05	978.73	< LOD	8105.9	< LOD
C0004428	Subcrop	Rock	Black shale	441057	7401338	0.341	10.17	26.71	102.07	759.08	< LOD	4638.8	< LOD
C0004429	Subcrop	Rock	Black shale	441069	7401325	0.336	23.84	131.15	84.96	4356.13	300.09	12957.51	3073.03
C0004430	Subcrop	Rock	Black shale	441086	7401300	0.282	15.88	731.9	101.86	5407.93	2493.48	8969.59	400.96
C0004431	Subcrop	Rock	Black shale	441060	7401235	0.333	41.95	563.62	< LOD	9426.05	245.58	12573.05	788.14
C0004432	Subcrop	Rock	Black shale	441057	7401215	0.704	56.31	460.21	78.61	5345.05	492.74	11277.98	481.62
C0004433	Subcrop	Rock	Black shale	441064	7401183	0.156	17.96	19.51	106.52	716.36	< LOD	3721.71	< LOD
C0004434	Subcrop	Rock	Black shale	441063	7401130	0.092	9.35	55.32	< LOD	1773.07	< LOD	5496.83	< LOD
C0004435	Subcrop	Rock	Black shale	441012	7401082	0.253	72.39	135.54	< LOD	3071.63	< LOD	5645.73	350.06
C0004436	Subcrop	Rock	Black shale	440989	7401075	0.307	44.05	230.44	< LOD	3539.6	< LOD	4012.74	372.43
C0004437	Subcrop	Rock	Black shale	440937	7401064	0.068	23.2	< LOD	< LOD	4409.89	< LOD	11309.84	4857.45
C0004438	Outcrop	Rock	Black shale	440905	7401065	0.133	13.32	< LOD	< LOD	1031.22	< LOD	7474.26	444.6
C0004439	Outcrop	Rock	Black shale	440889	7401046	0.027	12.91	< LOD	< LOD	863.52	1544.11	5196.57	< LOD

C0004440	Outcrop	Rock	Black shale	440899	7401027	0.018	33.63	< LOD	67.03	5542.73	383.35	3859.87	4079.46
C0004441	Outcrop	Rock	Black shale	440900	7401012	0.023	24.94	< LOD	102.92	479.43	< LOD	4600.31	651.03
C0004442	Outcrop	Rock	Black shale	440929	7400966	0.051	18.4	< LOD	< LOD	1353.3	< LOD	6125.95	< LOD
C0004443	Outcrop	Rock	Black shale	440923	7400915	0.015	16.99	< LOD	< LOD	1097.11	< LOD	4097.21	561.62
C0004444	Outcrop	Rock	Black shale	440906	7400861	0.084	19.13	< LOD	< LOD	741.69	< LOD	5319.21	421.67
C0004445	Outcrop	Rock	Black shale	440888	7400802	0.045	12.27	< LOD	< LOD	2373.49	< LOD	4305.82	6027.51
C0004446	Outcrop	Rock	Black shale	440874	7400569	0.172	20	< LOD	< LOD	913.57	111.13	8456.6	< LOD
C0004447	Outcrop	Rock	Black shale	440883	7400529	0.114	16.51	< LOD	< LOD	1611.07	550.25	14358.86	3303.73
C0004448	Outcrop	Rock	Black shale	440879	7400436	0.118	16.8	< LOD	< LOD	1001.67	< LOD	7742.9	925.78
C0004449	Float	Rock	Black shale	440866	7400350	0.368	17.16	< LOD	112.66	4057.7	326.89	16074.15	5479.05
C0004450	Float	Rock	Black shale	440648	7398693	0.020	15.81	126.86	< LOD	6793.53	172670	7107.61	975.49
C0004451	Float	Rock	Black shale	440666	7398699	0.014	22.65	57.41	< LOD	2882.29	12320.27	4409.95	320.96
C0004452	Float	Rock	Black shale	440699	7398688	0.050	11.76	139.7	195.02	5653.73	670.83	12436.81	718.76
C0004453	Float	Rock	Black shale	440750	7398687	0.163	21.01	105.9	93.21	32863.54	230.45	8154.42	610.65
C0004454	Subcrop	Rock	Black shale	440870	7398709	0.799	85.93	39.42	< LOD	30783.96	1066.52	42976.52	19269.11
C0004455	Outcrop	Rock	Black shale	440900	7398702	0.077	19.43	< LOD	< LOD	590.35	< LOD	3820.24	< LOD
C0004456	Subcrop	Rock	Black shale	440932	7398709	0.035	12.15	< LOD	< LOD	909.18	< LOD	4640.22	330.68
C0004457	Subcrop	Rock	Black shale	440950	7398707	0.083	6.72	< LOD	< LOD	1172.41	< LOD	3649.71	< LOD
C0004458	Float	Rock	Black shale	440961	7398712	0.043	7.88	< LOD	73.31	761.64	< LOD	6999.81	334.5
C0004459	Float	Rock	Black shale	440975	7398718	0.094	10.1	95.08	< LOD	6725.44	3357.6	16431.52	885.21
C0004460	Float	Rock	Black shale	440993	7398732	0.112	15.79	120.5	72.89	11734.49	1781.72	16273.42	593.06
C0004461	Subcrop	Rock	Black shale	441042	7398762	0.280	< LOD	64.99	97.66	2097.96	5319.08	4710.4	< LOD
C0004462	Subcrop	Rock	Black shale	441061	7398757	0.430	21.85	86.88	< LOD	1472.39	< LOD	8083.85	< LOD
C0004463	Subcrop	Rock	Black shale	441083	7398755	0.485	102.66	1015.58	232.75	14978.49	5834.35	17070.65	2414.3
C0004464	Float	Rock	Black shale	441069	7398667	0.325	119.43	819.93	122.13	5917.08	3799.81	7324.21	1191.25
C0004465	Subcrop	Rock	Black shale	441073	7398602	0.282	28.53	961.07	98.52	4781.5	1213.03	11390.87	843.91
C0004466	Subcrop	Rock	Black shale	441079	7398562	0.316	78.27	462.96	88.04	4806.81	609.96	6087.49	344.8
C0004467	Subcrop	Rock	Black shale	441092	7398502	0.356	66.6	352.1	< LOD	3886.88	1050.95	8229.67	353.57
C0004468	Subcrop	Rock	Black shale	441106	7398487	0.360	61.32	775.9	126.82	7427.8	1200.32	12536.86	954.93
C0004469	Subcrop	Rock	Black shale	441131	7398478	0.200	13.73	191.83	< LOD	3586.9	< LOD	7442.28	< LOD
C0004470	Subcrop	Rock	Black shale	441125	7398432	0.205	56.25	276.75	74.32	3584.26	< LOD	6439.47	< LOD
C0004471	Subcrop	Rock	Black shale	441109	7398431	0.339	27.63	129.47	< LOD	1345.48	< LOD	6860.42	281.04
C0004472	Subcrop	Rock	Black shale	441090	7398433	0.525	43.27	805.53	68.46	6452.82	2522.07	12594.37	1135.08

C0004473	Outcrop	Rock	Black shale	441075	7398447	0.343	35.25	594.88	181.75	7251.61	1137.84	5748.29	447.06
C0004474	Subcrop	Rock	Black shale	441059	7398457	0.293	32.79	61.98	< LOD	2259.13	463.02	5771.37	1838.01
C0004475	Subcrop	Rock	Black shale	441048	7398462	0.302	56.7	646.8	127.31	8594.46	6832.43	7331.04	12192.13
C0004476	Subcrop	Rock	Black shale	441021	7398467	0.675	111.84	421.66	89.34	7620.42	160.01	8712.88	409.78
C0004477	Outcrop	Rock	Black shale	440998	7398472	0.021	14.77	< LOD	< LOD	1290.95	< LOD	1949.33	649.93
C0004478	Outcrop	Rock	Black shale	440973	7398487	0.218	28.99	25.35	< LOD	3782.94	< LOD	9131.23	1575.5
C0004479	Outcrop	Rock	Black shale	440945	7398489	0.063	13.85	< LOD	< LOD	4249.32	< LOD	10148.54	10291.98
C0004480	Subcrop	Rock	Black shale	440915	7398488	0.188	11.14	< LOD	85.77	1730.63	< LOD	5895.95	< LOD
C0004481	Subcrop	Rock	Black shale	440880	7398483	0.103	< LOD	< LOD	< LOD	2088.21	179.41	11991.1	2847.29
C0004482	Float	Rock	Black shale	440855	7398490	0.188	< LOD	< LOD	70.2	1099.53	634.02	9144.38	1118.66
C0004483	Float	Rock	Black shale	440823	7398503	0.150	< LOD	30.2	64.96	1806.37	< LOD	12222.47	< LOD
C0004484	Float	Rock	Black shale	440799	7398504	0.106	10.41	22.15	< LOD	1903	< LOD	5333.1	< LOD
C0004485	Float	Rock	Black shale	440772	7398502	0.207	12.75	25.62	< LOD	2514.02	< LOD	8474.62	788.31
C0004486	Float	Rock	Black shale	440735	7398506	0.065	18.16	< LOD	< LOD	3733.88	< LOD	3923.71	< LOD
C0004487	Float	Rock	Black shale	440698	7398511	0.179	18.87	18.99	83.35	9125.19	307.03	9503.7	< LOD
C0004488	Float	Rock	Black shale	441661	7394718	0.017	22.87	< LOD	< LOD	2038.22	267.69	3389.68	2004.76
C0004489	Float	Rock	Black shale	441671	7394733	0.028	17.49	< LOD	< LOD	1209.6	365.67	5995.48	686.66
C0004490	Float	Rock	Black shale	441679	7394741	0.104	29.13	195.81	144.16	9240.75	64520.81	11893.12	5915.05
C0004491	Float	Rock	Black shale	441683	7394741	0.035	21.98	< LOD	< LOD	4532.11	1056.75	3384.12	1329.8
C0004492	Float	Rock	Black shale	441683	7394738	0.196	17.34	< LOD	< LOD	1722	< LOD	8200.36	1101.15
C0004493	Float	Rock	Black shale	441683	7394731	0.284	45.18	289.78	113.61	2286.37	1392.93	2954.36	616.93
C0004494	Float	Rock	Black shale	441708	7394716	0.104	12.94	80.07	128.26	5193.7	378.63	7745.06	733.19
C0004495	Float	Rock	Black shale	441712	7394667	0.055	21.16	< LOD	73.14	3518.31	499.5	9723	1484.75
C0004496	Float	Rock	Black shale	441687	7394659	0.164	27.32	102.03	130.37	8975.99	267.31	5110.99	< LOD
C0004497	Float	Rock	Black shale	441655	7394662	0.112	< LOD	50.62	< LOD	5653.9	2412.39	15925.89	847.56
C0004498	Float	Rock	Black shale	441649	7394609	0.121	26.45	79.44	< LOD	12417.41	2705.5	7364.2	996.92
C0004499	Float	Rock	Black shale	441637	7394664	0.116	12.84	< LOD	98.41	587.46	474.44	5310.57	1562.55
C0004500	Float	Rock	Black shale	441625	7394683	0.187	29.49	< LOD	< LOD	3788.21	< LOD	8432.84	2553.73
C0004501	Float	Rock	Black shale	440845	7396080	0.112	8.21	< LOD	< LOD	3916.96	< LOD	9881.85	1557.56
C0004502	Float	Rock	Black shale	440871	7396096	0.112	8.68	< LOD	73.71	5809.53	< LOD	9425.58	< LOD
C0004503	Float	Rock	Black shale	440907	7396120	0.070	24.04	84.37	147.81	31554.58	634.14	19917.8	< LOD
C0004504	Float	Rock	Black shale	440953	7396139	0.034	10.66	62.56	< LOD	55275.15	< LOD	10886.71	< LOD
C0004505	Float	Rock	Black shale	440986	7396155	0.085	< LOD	< LOD	< LOD	3618.08	< LOD	16517.76	1716.83

C0004506	Float	Rock	Black shale	441011	7396165	0.125	9.2	< LOD	< LOD	2165.97	< LOD	10464.83	1236.47
C0004507	Float	Rock	Black shale	441036	7396180	0.117	< LOD	< LOD	< LOD	1089.2	< LOD	4852.46	512.94
C0004508	Float	Rock	Black shale	441066	7396192	0.129	< LOD	< LOD	85.02	2521.52	127.18	12271.27	1457.02
C0004509	Subcrop	Rock	Black shale	441097	7396207	0.100	10.45	51.14	66.5	2662.87	215.93	6330.86	< LOD
C0004510	Subcrop	Rock	Black shale	441163	7396212	0.041	12.28	< LOD	< LOD	1144.78	< LOD	7519.26	< LOD
C0004511	Subcrop	Rock	Black shale	441197	7396215	0.187	< LOD	< LOD	< LOD	2567.42	253.42	12481.5	2495.59
C0004512	Subcrop	Rock	Black shale	441226	7396237	0.040	19.64	< LOD	84.63	2360.23	390.44	7330.19	5240.44
C0004513	Subcrop	Rock	Black shale	441243	7396267	0.079	11.31	< LOD	< LOD	3733.21	466.22	14194.01	5422.21
C0004514	Float	Rock	Black shale	441435	7396293	0.029	< LOD	113.45	152.61	14624.76	435.46	12443.64	< LOD
C0004515	Float	Rock	Black shale	441461	7396291	0.041	< LOD	76.91	84.35	21922.23	599.6	19701.22	< LOD
C0004516	Subcrop	Rock	Black shale	441526	7396289	0.259	64.91	529.18	88.41	3840.47	4111.86	6254.04	666.94
C0004517	Subcrop	Rock	Black shale	441544	7396297	0.388	47.19	354.94	< LOD	3760.55	1662.7	4386.6	314.42
C0004518	Subcrop	Rock	Black shale	441567	7396315	0.582	50.66	260.49	109.35	4071.62	315.67	7703.24	740.6
C0004519	Float	Rock	Black shale	441615	7396357	0.072	< LOD	172.18	392.13	25672.89	3662.2	22298.22	< LOD
C0004520	Float	Rock	Black shale	441646	7396401	0.046	< LOD	73.1	238.75	12683.94	473.72	16987.04	< LOD
C0004521	Float	Rock	Black shale	441666	7396394	0.045	< LOD	102.77	194.41	10837.74	249.75	16078.81	< LOD
C0004522	Float	Rock	Black shale	441702	7396382	0.045	< LOD	95.6	224.37	11013.88	< LOD	16035.87	< LOD
C0004523	Subcrop	Rock	Black shale	441628	7396137	0.321	43.93	574.86	116.72	2427.09	4013.52	6031.12	1475.04
C0004524	Subcrop	Rock	Black shale	441613	7396113	0.269	25.81	2498.53	212.51	15285.3	2454.79	11223.08	909.08
C0004525	Subcrop	Rock	Black shale	441599	7396097	0.137	23.23	296.32	104.93	3529.85	< LOD	6178.4	< LOD
C0004526	Outcrop	Rock	Black shale	441568	7396080	0.383	49.03	668.16	126.21	4412.47	1226	5549.03	914.36
C0004527	Subcrop	Rock	Black shale	441526	7396071	0.060	8.89	< LOD	< LOD	1044.2	< LOD	3178.86	334.91
C0004528	Outcrop	Rock	Black shale	441488	7396062	0.181	10.3	< LOD	107.53	1070.81	< LOD	7511.32	< LOD
C0004529	Outcrop	Rock	Black shale	441443	7396066	0.029	7.09	< LOD	< LOD	817.3	< LOD	1500.71	1071.34
C0004530	Subcrop	Rock	Black shale	441405	7396061	0.216	24.2	28.17	79.57	4962.82	< LOD	15360.42	3919.89
C0004531	Subcrop	Rock	Black shale	441371	7396055	0.143	13.99	< LOD	< LOD	2551.71	< LOD	11498.76	2468.02
C0004532	Float	Rock	Black shale	441355	7396068	0.200	< LOD	< LOD	< LOD	925.68	98.01	5510.31	289.92
C0004533	Float	Rock	Black shale	441322	7396059	0.234	30.27	< LOD	< LOD	6900.25	< LOD	8419.54	7057.13
C0004534	Float	Rock	Black shale	441299	7396049	0.070	12.28	< LOD	< LOD	4980.51	144.35	4993.92	1147.1
C0004535	Float	Rock	Black shale	441254	7396036	0.321	41.32	23.46	73.38	20010.76	< LOD	7588.76	625.82
C0004536	Float	Rock	Black shale	441178	7396049	0.089	< LOD	< LOD	< LOD	2905.17	394.78	5024.65	1634.81
C0004537	Float	Rock	Black shale	441106	7396048	0.207	10.47	< LOD	75.46	8435.61	< LOD	8797.59	< LOD
C0004538	Float	Rock	Black shale	441022	7396054	0.145	30.28	22.48	< LOD	12544.34	1278.38	15209.52	1359.64

C0004539	Float	Rock	Black shale	440971	7396049	0.128	7.96	< LOD	69.82	10220.1	< LOD	6858.95	< LOD
C0004540	Float	Rock	Black shale	440920	7396035	0.054	13.01	34.64	115.25	7428.91	< LOD	8412.33	2367.83
C0004541	Float	Rock	Black shale	441910	7391645	0.081	< LOD	133.52	93.59	13053.5	656.14	14901.29	< LOD
C0004542	Float	Rock	Black shale	441930	7391649	0.024	< LOD	66.55	143.62	16903.44	256.28	12886.65	696.44
C0004543	Float	Rock	Black shale	441976	7391656	0.035	< LOD	60.01	205.63	14369.35	207.13	21292.13	< LOD
C0004544	Float	Rock	Black shale	442003	7391658	0.039	< LOD	85.05	135.35	26756.17	511.59	21596.02	< LOD
C0004545	Float	Rock	Black shale	442056	7391660	0.030	< LOD	36.1	102.2	9248.92	202.42	14241.76	423.08
C0004546	Float	Rock	Black shale	442097	7391664	0.040	< LOD	56.01	158.95	6265.83	< LOD	13926.01	< LOD
C0004547	Float	Rock	Black shale	442147	7391662	0.053	< LOD	53.89	< LOD	13109.35	< LOD	21932.41	< LOD
C0004548	Float	Rock	Black shale	442182	7391671	0.099	< LOD	< LOD	109.87	1366.61	< LOD	6825.5	308.2
C0004549	Subcrop	Rock	Black shale	442211	7391681	0.112	< LOD	< LOD	< LOD	2176	< LOD	9966.28	< LOD
C0004550	Subcrop	Rock	Black shale	442242	7391693	0.107	< LOD	< LOD	< LOD	1326.44	< LOD	9716.62	< LOD
C0004551	Subcrop	Rock	Black shale	442288	7391699	0.146	< LOD	< LOD	< LOD	1362.68	< LOD	11589.83	458.84
C0004552	Subcrop	Rock	Black shale	442320	7391702	0.202	28.63	< LOD	< LOD	14350.44	< LOD	17838.33	20631.58
C0004553	Subcrop	Rock	Black shale	442367	7391707	0.028	8.41	24.84	< LOD	2584.82	< LOD	2113.67	842.35
C0004554	Subcrop	Rock	Black shale	442377	7391708	0.113	24.26	157.65	< LOD	9522.91	< LOD	16318.13	1676.5
C0004555	Subcrop	Rock	Black shale	442396	7391712	0.060	< LOD	426.96	< LOD	2461.73	331965.1	4704.29	< LOD
C0004556	Subcrop	Rock	Black shale	442422	7391717	0.906	44.93	1099.87	119.08	9663.9	1487.25	17656.01	< LOD
C0004557	Subcrop	Rock	Black shale	442441	7391715	0.372	35.68	269.1	< LOD	3650.3	128.51	5219	< LOD
C0004558	Subcrop	Rock	Black shale	442470	7391695	0.050	< LOD	158.9	190.82	17744.69	248.28	16222.06	< LOD
C0004559	Subcrop	Rock	Black shale	442465	7391578	0.468	45.96	72.84	97.46	1912.34	< LOD	6645.6	< LOD
C0004560	Subcrop	Rock	Black shale	442451	7391566	1.079	51.5	12076.56	594.37	9517.13	15033.87	16152.62	2636.76
C0004561	Subcrop	Rock	Black shale	442420	7391560	0.026	9.73	287.95	179.89	2002.5	398085.9	2518.55	< LOD
C0004562	Subcrop	Rock	Black shale	442378	7391552	0.093	8.27	< LOD	74.28	3596.17	129.35	7298.42	7509.54
C0004563	Subcrop	Rock	Black shale	442358	7391547	0.278	36.01	37.41	99.52	4521.17	< LOD	12029.35	3032.14
C0004564	Subcrop	Rock	Black shale	442327	7391546	0.025	16.55	< LOD	103.83	1955.3	201.32	3156.93	569.01
C0004565	Float	Rock	Black shale	442591	7390204	0.233	9.98	17.85	< LOD	1597.52	438.87	11782.26	935.07
C0004566	Float	Rock	Black shale	442631	7390213	0.128	24.97	182.65	80.51	4989.46	289.74	11262.33	1180.88
C0004567	Subcrop	Rock	Black shale	442683	7390154	0.119	10.06	< LOD	98.14	1011.4	< LOD	4910.55	< LOD
C0004568	Subcrop	Rock	Black shale	442735	7390159	0.054	7.72	< LOD	< LOD	372.58	< LOD	2988.36	640.73
C0004569	Subcrop	Rock	Black shale	442774	7390153	0.094	8.98	< LOD	< LOD	630.2	1195.2	4178.31	626.38
C0004570	Subcrop	Rock	Black shale	442870	7390166	0.367	33.85	207.01	< LOD	3065.31	< LOD	5990.6	< LOD
C0004571	Subcrop	Rock	Black shale	442885	7390181	0.154	18.08	< LOD	< LOD	4705.5	< LOD	9825.5	6871.7

C0004572	Subcrop	Rock	Black shale	442913	7390217	0.255	25.16	< LOD	< LOD	1802.65	< LOD	8878.44	< LOD
C0004573	Subcrop	Rock	Black shale	442930	7390217	0.112	20.4	< LOD	< LOD	1507.08	147.37	5080.37	860.79
C0004574	Subcrop	Rock	Black shale	442951	7390216	0.097	11.73	< LOD	< LOD	455.21	< LOD	3616.93	< LOD
C0004575	Subcrop	Rock	Black shale	443008	7390211	0.146	< LOD	76.92	< LOD	3333.22	750.64	14337.14	2912.32
C0004576	Subcrop	Rock	Black shale	443009	7390201	0.143	16.1	96.49	90.38	6592.27	1808.2	18708.25	6153.09
C0004577	Subcrop	Rock	Black shale	443020	7390181	0.050	15.01	< LOD	< LOD	1105.4	< LOD	4521.33	< LOD
C0004578	Subcrop	Rock	Black shale	443048	7390176	0.028	12.52	< LOD	100.48	740.14	136.55	4385.21	< LOD
C0004579	Subcrop	Rock	Black shale	443036	7390193	0.070	39.12	119.08	83.38	5227.95	< LOD	5916.45	488.29
C0004580	Subcrop	Rock	Black shale	443023	7390206	0.183	27.89	384.17	90.9	5265.62	1491.84	17324.97	1044.51
C0004581	Subcrop	Rock	Black shale	442980	7390227	0.058	11.72	20.08	< LOD	611.23	< LOD	1846.27	< LOD
C0004582	Subcrop	Rock	Black shale	442964	7390223	0.061	14.55	< LOD	< LOD	544.93	< LOD	2579.72	< LOD
C0004583	Subcrop	Rock	Black shale	442891	7390201	0.072	48.25	< LOD	117.52	9049.32	1227.79	13558.25	18066.7
C0004584	Subcrop	Rock	Black shale	442865	7390204	0.077	10.36	< LOD	< LOD	615.19	147.84	4354.36	< LOD
C0004585	Subcrop	Rock	Black shale	442797	7390178	0.175	19.37	57.76	72.99	5057.66	208.52	16557.93	758.08
C0004586	Subcrop	Rock	Black shale	442757	7390176	0.015	12.76	< LOD	< LOD	1134.64	< LOD	1652.05	815.3
C0004587	Subcrop	Rock	Black shale	440861	7400176	0.023	18.79	< LOD	< LOD	898.23	< LOD	5663.61	< LOD
C0004588	Subcrop	Rock	Black shale	440879	7400181	0.223	23.46	< LOD	76.15	3615.35	< LOD	10407.24	1128.13
C0004589	Subcrop	Rock	Black shale	440905	7400196	0.039	20.82	< LOD	< LOD	1658.17	< LOD	7379.01	717.67
C0004590	Subcrop	Rock	Black shale	440914	7400200	0.045	23.48	< LOD	< LOD	23082.22	< LOD	34839.66	59642.62
C0004591	Subcrop	Rock	Black shale	441027	7400273	0.528	47.15	209.95	97.27	3944.88	< LOD	6746.15	< LOD
C0004592	Subcrop	Rock	Black shale	441034	7400297	0.526	81.95	303.57	96.43	7464.38	624.39	9286.09	685.12
C0004593	Subcrop	Rock	Black shale	440982	7400298	0.055	< LOD	104.73	114.25	11301.34	622.68	13325.93	< LOD
C0004594	Subcrop	Rock	Black shale	440895	7400234	0.052	17.88	92.69	95.31	2315.02	< LOD	5201.44	< LOD
C0004595	Subcrop	Rock	Black shale	440862	7400231	0.054	< LOD	< LOD	< LOD	937.36	< LOD	12804.73	< LOD
C0004596	Float	Rock	Black shale	440832	7400207	0.152	16.53	< LOD	73.88	1740.61	< LOD	7211.72	< LOD
C0004597	Float	Rock	Black shale	440814	7400223	0.211	7.76	25.98	< LOD	3144.73	< LOD	10998.77	5253.43
C0004598	Float	Rock	Black shale	440788	7400256	0.223	23.6	35.84	74.41	3839.2	< LOD	8548.3	689.53
C0004599	Float	Rock	Black shale	440772	7400268	0.107	18.93	23.35	93.05	4060.51	< LOD	8642.67	1541.2
C0004600	Float	Rock	Black shale	440565	7402550	0.128	29.41	27.13	< LOD	23611.19	736.45	14107.36	744.22
C0004601	Float	Rock	Black shale	440635	7402533	0.217	39.66	980.95	155.55	81024.12	286.57	12643.33	943.45
C0004602	Float	Rock	Black shale	440713	7402517	0.151	16.2	< LOD	< LOD	4980.08	< LOD	5287.35	588.21
C0004603	Float	Rock	Black shale	440757	7402498	0.142	34.99	29.14	< LOD	9786.68	< LOD	7662.99	< LOD
C0004604	Float	Rock	Black shale	440790	7402487	0.245	43.51	21.4	< LOD	33161.84	< LOD	22823.13	32059.03

C0004605	Subcrop	Rock	Black shale	440850	7402465	0.144	12.31	< LOD	< LOD	3402.86	189.24	10588.1	4583.81
C0004606	Subcrop	Rock	Black shale	440881	7402459	0.122	9.53	< LOD	71.14	1377.88	< LOD	5811.58	636.62
C0004607	Subcrop	Rock	Black shale	440909	7402445	0.025	33.39	< LOD	< LOD	1870.43	< LOD	4129.48	599.38
C0004608	Subcrop	Rock	Black shale	440901	7402320	0.174	12.84	18.01	< LOD	2734.09	< LOD	8784.31	2692.94
C0004609	Subcrop	Rock	Black shale	440929	7402298	0.253	10.55	23.92	< LOD	2563.74	< LOD	12685.69	1471.4
C0004610	Subcrop	Rock	Black shale	440957	7402291	0.577	45.94	176.29	83.1	3692.41	< LOD	7534.12	855.22
C0004611	Subcrop	Rock	Black shale	440975	7402292	0.326	8.58	40.6	88.42	1520.45	< LOD	6690.17	< LOD
C0004612	Subcrop	Rock	Black shale	440999	7402267	0.093	27.49	67.13	< LOD	1922.04	248.4	2926.74	< LOD
C0004613	Float	Rock	Black shale	441028	7402275	0.070	< LOD	293.28	144.18	6632.68	210135.1	5094.9	< LOD
C0004614	Float	Rock	Black shale	441046	7402272	0.057	25.04	128.6	143.16	5652.58	1662.7	15587.97	< LOD
C0004615	Float	Rock	Black shale	441063	7402275	0.145	57.34	267.96	165.67	6654.7	3505.22	8450.23	998.2
C0004616	Float	Rock	Black shale	441077	7402277	0.188	52.63	339.91	174.32	10214.99	5967.85	12948.97	1328.51
C0004617	Float	Rock	Black shale	441070	7402285	0.123	59.37	164.57	84.91	6412.36	1931.12	6723.35	611.7
C0004618	Float	Rock	Black shale	440951	7402416	0.063	59.33	81.76	103.27	9483.07	< LOD	7112.92	< LOD
C0004619	Subcrop	Rock	Black shale	440912	7402440	0.111	7.39	< LOD	< LOD	3941.51	< LOD	4881.36	< LOD
C0004620	Subcrop	Rock	Black shale	440908	7402484	0.111	< LOD	< LOD	< LOD	887.63	< LOD	6659.21	< LOD
C0004621	Float	Rock	Black shale	440966	7402490	0.181	17.05	101.62	103.83	13308.06	1651.8	23708.36	< LOD
C0004622	Subcrop	Rock	Black shale	440983	7402497	0.055	15.13	53.1	< LOD	7505.44	< LOD	7836.56	< LOD
C0004623	Subcrop	Rock	Black shale	440997	7402504	0.061	23.8	< LOD	114.08	3338.88	< LOD	10345.95	< LOD
C0004624	Subcrop	Rock	Black shale	441008	7402536	0.396	24.58	314.23	86.94	3998.16	1034.44	5889.65	< LOD
C0004625	Subcrop	Rock	Black shale	441004	7402581	0.351	30.53	160.22	< LOD	2520.22	< LOD	6356.94	< LOD
C0004626	Subcrop	Rock	Black shale	441022	7402596	0.534	53.72	551.88	85.86	6172.66	913.99	9827.01	484.07
C0004627	Subcrop	Rock	Black shale	441053	7402613	0.297	12.23	322.46	107.75	1605.41	562.51	7071.2	952.4
C0004628	Subcrop	Rock	Black shale	441065	7402654	0.219	13.91	30.08	< LOD	1505.81	< LOD	4987.39	< LOD
C0004629	Subcrop	Rock	Black shale	441072	7402696	0.492	38.62	122.14	125.81	4010.46	123.38	6982.4	< LOD
C0004630	Subcrop	Rock	Black shale	441041	7402721	0.168	< LOD	20.58	< LOD	1491.9	< LOD	4881.56	1046.94
C0004631	Subcrop	Rock	Black shale	441014	7402730	0.112	19.16	535.62	< LOD	2089.95	257872.6	2920.03	< LOD
C0004632	Subcrop	Rock	Black shale	441005	7402733	0.374	39.24	832.56	89.28	3336.42	557.6	6570.39	< LOD
C0004633	Subcrop	Rock	Black shale	440970	7402735	0.284	44.79	162.01	92.17	3011.79	< LOD	2731.57	< LOD
C0004634	Subcrop	Rock	Black shale	440953	7402726	0.123	9.24	33.96	< LOD	2599.11	< LOD	10711.69	847.32
C0004635	Subcrop	Rock	Black shale	440919	7402738	0.119	10.12	< LOD	< LOD	656.9	94.41	4373.72	< LOD
C0004636	Subcrop	Rock	Black shale	440859	7402858	0.139	15.46	25	< LOD	1351.14	< LOD	6538.93	471.43
C0004637	Subcrop	Rock	Black shale	440775	7402935	0.131	19.18	< LOD	< LOD	1277.23	< LOD	6389.45	< LOD

C0004638	Float	Rock	Black shale	440470	7402887	0.002	< LOD	51.51	89.46	20617.19	< LOD	7889.74	< LOD
C0004639	Subcrop	Rock	Black shale	440852	7401099	0.040	19.87	< LOD	< LOD	3068.65	< LOD	5127.94	4169.25
C0004640	Subcrop	Rock	Black shale	440883	7401110	0.137	17.34	< LOD	< LOD	2328.79	< LOD	6449.2	2441.02
C0004641	Subcrop	Rock	Black shale	440919	7401123	0.049	24.7	< LOD	< LOD	2598.28	< LOD	6138.46	1400.55
C0004642	Subcrop	Rock	Black shale	441000	7401186	0.401	20.46	160.45	< LOD	2785.14	< LOD	5255.94	< LOD
C0004643	Subcrop	Rock	Black shale	441012	7401190	0.384	45.69	815.41	132.59	3973.34	2154.91	6461.95	878.18
C0004644	Subcrop	Rock	Black shale	441027	7401213	0.198	8.27	< LOD	< LOD	1196.76	531.93	6097.27	1915.78
C0004645	Subcrop	Rock	Black shale	441041	7401227	0.449	20.12	21.54	85.53	1348.66	< LOD	6013.76	< LOD
C0004646	Subcrop	Rock	Black shale	441033	7401293	0.128	7.18	< LOD	< LOD	789.09	< LOD	2952	< LOD
C0004647	Subcrop	Rock	Black shale	441030	7401309	0.192	8.3	28.14	84.25	1837.61	< LOD	7540.75	< LOD
C0004648	Subcrop	Rock	Black shale	441048	7401334	0.534	10.99	125.29	78.03	3708.22	< LOD	12918.47	1421.58
C0004649	Subcrop	Rock	Black shale	441048	7401358	0.399	31.68	228.1	81.13	3313.12	1156.64	5931.27	454.49
C0004650	Subcrop	Rock	Black shale	441040	7401381	0.559	47.7	289.38	68.45	4539.88	< LOD	8498.02	< LOD
C0004651	Subcrop	Rock	Black shale	441019	7401424	0.448	24.01	28.21	< LOD	1357.33	< LOD	7563.22	< LOD
C0004652	Subcrop	Rock	Black shale	441011	7401442	0.368	50.06	361.36	134.33	3940.04	3042.5	4769.45	< LOD
C0004653	Subcrop	Rock	Black shale	441008	7401452	0.379	68.36	575.58	107.31	9403.95	2525.1	14591.81	1587.96
C0004654	Subcrop	Rock	Black shale	441006	7401462	0.354	42.9	968.55	212.91	3733.2	6026.28	7040.49	1186.59
C0004655	Subcrop	Rock	Black shale	440996	7401493	0.971	99.24	1022.6	212.95	9729.03	3903.97	13871.73	1614.14
C0004656	Subcrop	Rock	Black shale	440991	7401514	0.463	48.98	952.88	139	3299.9	810.7	5430.88	< LOD
C0004657	Subcrop	Rock	Black shale	440973	7401512	0.323	35.23	545.55	91.66	2448.29	1819.53	3768.74	949.15
C0004658	Subcrop	Rock	Black shale	440956	7401517	0.076	19.21	25.07	< LOD	1194.95	576.96	4575.02	1136.11
C0004659	Subcrop	Rock	Black shale	440915	7401529	0.028	13.07	< LOD	< LOD	873.82	141.06	3452.13	< LOD
C0004660	Outcrop	Rock	Black shale	440884	7401552	0.045	19.74	< LOD	70.93	1561.25	< LOD	5576.32	7281.8
C0004661	Subcrop	Rock	Black shale	440851	7401548	0.079	13.65	< LOD	< LOD	1088.3	< LOD	6370.9	825.89
C0004662	Subcrop	Rock	Black shale	440842	7401591	0.162	13.06	< LOD	< LOD	1209.41	< LOD	7129.91	< LOD
C0004663	Subcrop	Rock	Black shale	440836	7401646	0.136	14.97	< LOD	< LOD	1689.77	< LOD	6167.78	< LOD
C0004664	Subcrop	Rock	Black shale	440834	7401694	0.023	7.37	< LOD	< LOD	1883.89	< LOD	5522.47	457.53
C0004665	Subcrop	Rock	Black shale	440877	7401709	0.106	47.47	< LOD	67.45	5641.11	< LOD	9890.43	1642.35
C0004666	Subcrop	Rock	Black shale	440905	7401710	0.056	22.48	< LOD	< LOD	1052.94	< LOD	7682.95	< LOD
C0004667	Subcrop	Rock	Black shale	440928	7401709	0.028	22.58	< LOD	< LOD	2632.78	< LOD	6712.41	< LOD
C0004668	Subcrop	Rock	Black shale	440942	7401730	0.072	12.71	< LOD	< LOD	2854.02	< LOD	8019.13	1943.61
C0004669	Subcrop	Rock	Black shale	440960	7401734	0.278	28.35	189.79	< LOD	2490.08	< LOD	4131.82	< LOD
C0004670	Subcrop	Rock	Black shale	440976	7401738	0.281	36.87	237.97	< LOD	3346.76	187.05	4179.84	< LOD

C0004671	Subcrop	Rock	Black shale	440977	7401755	0.346	39.82	163	< LOD	2658.28	< LOD	3481.74	< LOD
C0004672	Subcrop	Rock	Black shale	440945	7401859	0.046	29.13	52.13	80.55	3631.07	< LOD	9481.15	1132.35
C0004673	Subcrop	Rock	Black shale	440897	7401907	0.218	45.4	231.74	133.54	3516.68	< LOD	5005.84	993.74
C0004674	Subcrop	Rock	Black shale	440846	7401914	0.031	9.33	< LOD	< LOD	245.52	< LOD	882.33	< LOD
C0004675	Subcrop	Rock	Black shale	440853	7401979	0.171	15.17	45.46	89.39	2049.9	477.13	8456.03	1596.85
C0004676	Subcrop	Rock	Black shale	440849	7402022	0.027	8.95	< LOD	< LOD	444.57	311.72	1613.39	729.19
C0004677	Subcrop	Rock	Black shale	440894	7402031	0.011	15.87	< LOD	< LOD	400.8	< LOD	1661.98	< LOD
C0004678	Subcrop	Rock	Black shale	440870	7402078	0.077	8.9	18.53	< LOD	641.9	< LOD	2157.48	< LOD
C0004679	Subcrop	Rock	Black shale	440825	7402112	0.052	7.52	< LOD	< LOD	501.19	< LOD	2608.93	< LOD
C0004680	Subcrop	Rock	Black shale	440802	7402119	0.090	< LOD	< LOD	< LOD	1897.33	< LOD	11129.15	< LOD
C0004681	Float	Rock	Black shale	440760	7402120	0.198	10.89	< LOD	76.37	3040.47	< LOD	8280.29	778.26
C0004682	Float	Rock	Black shale	440694	7402100	0.187	14.46	23.06	< LOD	14739.92	174.97	8462.13	< LOD
C0004683	Float	Rock	Black shale	440643	7402107	0.195	42.56	42.31	< LOD	30318.85	335.32	13269.37	< LOD
C0004684	Float	Rock	Black shale	440665	7398712	0.065	< LOD	133.03	108.04	8343.36	82014.64	10963.02	1540.22
C0004685	Float	Rock	Black shale	440723	7398727	0.060	< LOD	49.48	< LOD	8385.08	37715.38	9220.37	3879.71
C0004686	Float	Rock	Black shale	440780	7398753	0.162	23.33	393.15	114.79	26801.6	2664.72	12866.98	3210.92
C0004687	Float	Rock	Black shale	440827	7398525	0.232	17.9	24.03	< LOD	3469.51	607.53	10297.69	2118.59
C0004688	Float	Rock	Black shale	440822	7398506	0.104	< LOD	51.57	90.2	2872.71	< LOD	6543.69	875.62
C0004689	Float	Rock	Black shale	440798	7398502	0.079	< LOD	22.6	81.94	5095.85	< LOD	14080.86	2752.2
C0004690	Float	Rock	Black shale	440781	7398502	0.037	13.31	29.62	< LOD	4735.12	< LOD	8498.74	1585.28
C0004691	Float	Rock	Black shale	440747	7398509	0.045	29.72	18.95	< LOD	2438.08	< LOD	7378.78	< LOD
C0004692	Subcrop	Rock	Black shale	440850	7398340	0.211	< LOD	< LOD	< LOD	2177.6	245.08	8378.8	< LOD
C0004693	Subcrop	Rock	Black shale	440863	7398336	0.237	29.58	62.72	< LOD	4827.25	1421.04	13749.42	5830.75
C0004694	Float	Rock	Black shale	440906	7398325	0.169	< LOD	< LOD	< LOD	1284.36	< LOD	7432.65	< LOD
C0004695	Float	Rock	Black shale	440974	7398252	0.073	14.21	191.05	< LOD	14229.48	505.73	5632.21	< LOD
C0004696	Subcrop	Rock	Black shale	440984	7398232	0.062	19.73	228.13	< LOD	21268.05	495.93	6497.64	< LOD
C0004697	Subcrop	Rock	Black shale	441001	7398206	0.336	48.52	325.45	126.16	6823.42	911.66	7306.3	< LOD
C0004698	Subcrop	Rock	Black shale	441033	7398168	0.069	13.1	169.45	90.83	4791.49	1954.07	10842.96	2559.32
C0004699	Subcrop	Rock	Black shale	441054	7398134	0.294	54.91	489.22	< LOD	4690.44	1405.7	5223.92	854.75
C0004700	Subcrop	Rock	Black shale	441066	7398123	0.461	63.84	8966.94	437.81	5693.92	7214.04	8788.17	1670.96
C0004701	Subcrop	Rock	Black shale	441078	7398112	0.629	16.68	627.8	136.79	8789.27	5911.58	9992	1273.58
C0004702	Subcrop	Rock	Black shale	441125	7398063	0.545	86.1	1071.43	192.91	11038.45	11018.52	12757.32	661.58
C0004703	Subcrop	Rock	Black shale	441140	7398048	0.378	31.52	719.57	131.75	6236.4	4315.43	11273.73	1734.14

C0004704	Subcrop	Rock	Black shale	441129	7398030	0.266	44.67	591.29	77.22	5262.21	273.53	7845.26	< LOD
C0004705	Subcrop	Rock	Black shale	441152	7397991	0.061	< LOD	135.7	67.34	7049.84	210.12	15300.1	2584.41
C0004706	Subcrop	Rock	Black shale	441160	7397992	0.217	73.71	373.68	< LOD	5202.27	3531.85	9283.02	< LOD
C0004707	Subcrop	Rock	Black shale	441130	7397973	0.226	19.5	530.65	117.75	3297.6	2981.45	6949.57	11762.14
C0004708	Subcrop	Rock	Black shale	441107	7397962	0.403	64.62	253.7	109.14	4825.96	< LOD	7312.45	470.75
C0004709	Subcrop	Rock	Black shale	441073	7397944	0.468	43.9	85.08	71.43	2125.81	< LOD	5695.4	< LOD
C0004710	Subcrop	Rock	Black shale	441039	7397929	0.435	48.14	267.34	96.82	4685.31	3622.15	7301.68	548.72
C0004711	Subcrop	Rock	Black shale	440957	7397862	0.042	46.07	< LOD	< LOD	4353.54	< LOD	4386.69	1210.99
C0004712	Subcrop	Rock	Black shale	440933	7397856	0.102	22.36	< LOD	80.59	798.19	< LOD	7854.76	< LOD
C0004713	Subcrop	Rock	Black shale	440897	7397820	0.186	12.97	< LOD	< LOD	1148.28	< LOD	5998.16	< LOD
C0004714	Subcrop	Rock	Black shale	440902	7397767	0.203	16.31	< LOD	< LOD	1019.18	183.33	7821.57	< LOD
C0004715	Subcrop	Rock	Black shale	440910	7397731	0.286	27.28	< LOD	< LOD	4428.17	330.42	13588.15	2856.09
C0004716	Subcrop	Rock	Black shale	440941	7397649	0.023	11.73	< LOD	< LOD	1292.45	< LOD	5235.05	< LOD
C0004717	Subcrop	Rock	Black shale	440969	7397566	0.311	11.37	18.92	< LOD	8956.16	745.28	17685.28	10792.44
C0004718	Subcrop	Rock	Black shale	440984	7397504	0.036	43.9	23.56	< LOD	4837.39	< LOD	6322.38	756.84
C0004719	Subcrop	Rock	Black shale	441014	7397433	0.157	17.3	< LOD	< LOD	2150.28	< LOD	6318.97	< LOD
C0004720	Subcrop	Rock	Black shale	441070	7397431	0.044	18.46	< LOD	< LOD	1992.26	< LOD	8123.09	604.66
C0004721	Subcrop	Rock	Black shale	441053	7397509	0.027	32.22	< LOD	< LOD	2846.78	1036.41	6051.76	1604.86
C0004722	Subcrop	Rock	Black shale	441070	7397524	0.079	36.65	28.78	90.79	3050.88	< LOD	9426.57	< LOD
C0004723	Subcrop	Rock	Black shale	441099	7397549	0.303	42.85	287.98	94.89	3747.72	< LOD	5092	641.49
C0004724	Subcrop	Rock	Black shale	441146	7397551	0.544	46.74	373.46	99.33	5046.21	2215.1	7537.08	551.39
C0004725	Subcrop	Rock	Black shale	441179	7397559	0.368	12.98	126.77	< LOD	2510.02	< LOD	4783.03	< LOD
C0004726	Subcrop	Rock	Black shale	441203	7397553	0.289	27.78	168.61	69.76	3071.59	< LOD	6645.46	< LOD
C0004727	Subcrop	Rock	Black shale	441240	7397552	0.248	61.19	368.99	116.32	4590.05	11475.04	9996.29	2809.11
C0004728	Subcrop	Rock	Black shale	441147	7397530	0.529	60.56	387.04	< LOD	6779.59	< LOD	5906.31	< LOD
C0004729	Subcrop	Rock	Black shale	441079	7397496	0.094	22.41	28.68	< LOD	3228.39	< LOD	12764.87	1730.38
C0004730	Float	Rock	Black shale	440890	7397235	0.019	< LOD	82.67	83.44	20369.44	1168.19	18325.41	< LOD
C0004731	Float	Rock	Black shale	440826	7397219	0.042	< LOD	85.47	132.16	19838.3	1145.94	24050.33	< LOD
C0004732	Float	Rock	Black shale	440589	7397176	0.056	8.74	89.1	< LOD	11352.91	1245.99	12954.9	< LOD
C0004733	Float	Rock	Black shale	442017	7391347	0.172	25.73	76.75	115.21	33174.68	392.23	12514.44	855.21
C0004734	Float	Rock	Black shale	441062	7395595	0.132	24.33	17.31	< LOD	4553.22	340.79	11013.49	5395.4
C0004735	Float	Rock	Black shale	441207	7395612	0.096	10.94	< LOD	< LOD	6703.92	319.13	11709.43	1152.32
C0004736	Float	Rock	Black shale	441389	7395629	0.146	8.92	< LOD	< LOD	5187.09	< LOD	10322.44	384.05

C0004737	Float	Rock	Black shale	441451	7395632	0.118	7.2	< LOD	< LOD	1523.83	< LOD	9860.11	< LOD
C0004738	Subcrop	Rock	Black shale	441471	7395662	0.292	25.69	< LOD	< LOD	5444.07	< LOD	11491.17	2900.19
C0004739	Subcrop	Rock	Black shale	441490	7395671	0.185	11.58	< LOD	< LOD	2924.27	< LOD	15070.93	1574.63
C0004740	Subcrop	Rock	Black shale	441526	7395705	0.121	13.86	< LOD	74.95	880.84	< LOD	5892.81	< LOD
C0004741	Subcrop	Rock	Black shale	441561	7395761	0.086	15.22	< LOD	< LOD	2865.49	< LOD	5816.06	3190.08
C0004742	Subcrop	Rock	Black shale	441564	7395777	0.064	21.27	< LOD	108.08	2833.47	< LOD	9703.68	2078.03
C0004743	Subcrop	Rock	Black shale	441594	7395795	0.075	7.24	< LOD	< LOD	1288.81	< LOD	7279.54	619.77
C0004744	Subcrop	Rock	Black shale	441604	7395798	0.068	8.09	32.75	< LOD	3498.16	< LOD	8421.76	< LOD
C0004745	Subcrop	Rock	Black shale	441613	7395803	0.289	43.21	657.4	149.77	4794.39	7070.5	10778.61	2053.84
C0004746	Subcrop	Rock	Black shale	441631	7395809	0.514	87.2	1116.07	113.75	6065.04	537.91	9021.13	< LOD
C0004747	Subcrop	Rock	Black shale	441646	7395808	0.409	67.61	306.17	85.62	3774.13	141.27	5573.21	< LOD
C0004748	Subcrop	Rock	Black shale	441693	7395857	0.482	68.65	1035.27	157.64	5104.72	4840.64	10260.17	1025.1
C0004749	Subcrop	Rock	Black shale	441720	7395893	0.313	46.97	796.4	135.16	12874.13	3778.49	7731.94	463.54
C0004750	Subcrop	Rock	Black shale	441719	7395906	0.357	19.24	514.77	162.02	5452.39	4738.61	9032.67	1305.75
C0004751	Subcrop	Rock	Black shale	441700	7395915	0.386	47.85	961.04	< LOD	6456.99	4310.86	9254.9	2276.86
C0004752	Subcrop	Rock	Black shale	441689	7395922	0.301	44.82	956.1	120.48	7097.73	848.97	10839.29	< LOD
C0004753	Subcrop	Rock	Black shale	441662	7395936	0.201	7.74	118.81	< LOD	2475.65	2194.4	8235.4	1022.02
C0004754	Subcrop	Rock	Black shale	441652	7395945	0.231	25.14	860.18	118.08	6011.42	1881.01	10539.03	1688.82
C0004755	Subcrop	Rock	Black shale	441622	7395952	0.175	35.88	42.76	< LOD	1179.67	< LOD	6394.14	< LOD
C0004756	Subcrop	Rock	Black shale	441589	7395933	0.336	37.01	193.3	< LOD	3228.61	< LOD	4089.42	< LOD
C0004757	Subcrop	Rock	Black shale	441571	7395921	0.430	68.95	639.75	108.44	5675.58	1276.76	6763.05	< LOD
C0004758	Subcrop	Rock	Black shale	441548	7395904	0.071	6.9	37.74	< LOD	1518	573.58	7819.9	537.48
C0004759	Subcrop	Rock	Black shale	441517	7395889	0.031	34.75	< LOD	85.59	1442.91	< LOD	6200.41	< LOD
C0004760	Subcrop	Rock	Black shale	441474	7395889	0.258	< LOD	24.64	< LOD	1106.5	< LOD	9266.96	< LOD
C0004761	Float	Rock	Black shale	441448	7395875	0.144	18.12	26.87	83.91	26914.42	< LOD	15270.55	25487.13
C0004762	Float	Rock	Black shale	441403	7395822	0.083	< LOD	< LOD	< LOD	4371.1	165.74	9164.53	2224.87
C0004763	Subcrop	Rock	Black shale	441357	7396091	0.179	10.59	< LOD	< LOD	4197.87	473.75	16352.08	5738.33
C0004764	Subcrop	Rock	Black shale	441330	7396205	0.084	32.26	< LOD	< LOD	1997.09	< LOD	9002.12	663.29
C0004765	Subcrop	Rock	Black shale	441337	7396260	0.018	19.89	< LOD	< LOD	841.81	< LOD	2124.65	309.16
C0004766	Float	Rock	Black shale	441313	7396417	0.037	16.28	249.48	199.98	11759.41	924.49	10736.64	< LOD
C0004767	Subcrop	Rock	Black shale	441262	7396545	0.376	38.36	536.16	< LOD	3180.75	411.17	4632.07	< LOD
C0004768	Subcrop	Rock	Black shale	441266	7396582	0.270	8.94	198.38	< LOD	2397.08	< LOD	7526.27	811.58
C0004769	Subcrop	Rock	Black shale	441284	7396622	0.470	40.03	492.63	140.67	5865.85	167.22	10583.55	< LOD

C0004770	Subcrop	Rock	Black shale	441298	7396650	0.760	7.16	501.37	< LOD	1582.9	3000.79	22095.84	1552.92
C0004771	Subcrop	Rock	Black shale	441321	7396693	0.186	74.56	311.28	247.94	7771.78	48685.44	10717.68	2281.09
C0004772	Float	Rock	Black shale	441375	7396757	0.067	< LOD	123.78	129.02	16062.31	2668.26	24206.62	< LOD
C0004773	Float	Rock	Black shale	441384	7396761	0.041	< LOD	58.83	135.04	15342.93	2560.65	16657.3	880.27
C0004774	Float	Rock	Black shale	441413	7396761	0.064	< LOD	132.01	161.19	17297.63	2666.44	26475.37	1966.78
C0004775	Float	Rock	Black shale	441502	7396797	0.098	< LOD	147.91	267.72	16820.92	1585.49	22343.87	< LOD
C0004776	Float	Rock	Black shale	441541	7396819	0.052	< LOD	51.96	194.93	7239.93	243.99	16497.31	< LOD
C0004777	Float	Rock	Black shale	441475	7396773	0.038	< LOD	37.5	188.75	8438.26	318.33	16332.1	< LOD
C0004778	Subcrop	Rock	Black shale	441080	7396922	0.088	16.56	< LOD	< LOD	1590.66	490.85	6330.44	996.51
C0004779	Subcrop	Rock	Black shale	441022	7396938	0.049	14.79	< LOD	< LOD	920.68	< LOD	6644.26	478.99
C0004780	Subcrop	Rock	Black shale	440979	7396929	0.220	< LOD	116.58	114.29	2408.35	1134.19	16877.04	2478.26
C0004781	Float	Rock	Black shale	440853	7396907	0.092	10.12	58.6	< LOD	22772.22	< LOD	6607.93	< LOD
C0004782	Float	Rock	Black shale	440811	7396864	0.132	11.5	46.67	93.01	9856.8	< LOD	7757.14	< LOD
C0004783	Float	Rock	Black shale	440728	7396819	0.129	24.17	96.89	82.1	28150.46	< LOD	5966.13	< LOD
C0004784	Float	Rock	Black shale	440692	7396788	0.114	25.53	146.81	186.52	14277.49	< LOD	12287.26	976.37
C0004785	Subcrop	Rock	Black shale	441609	7394883	0.024	14.39	< LOD	< LOD	614.82	215.43	3862.78	1267.59
C0004786	Subcrop	Rock	Black shale	442427	7391694	0.690	62.73	1531.41	86.86	12673.23	7791.02	16164.79	1708.43
C0004787	Subcrop	Rock	Black shale	442431	7391716	0.375	63.6	369.35	< LOD	4289.74	< LOD	5068.8	< LOD
C0004788	Subcrop	Rock	Black shale	442420	7391716	0.379	30.71	1279.34	69.46	2821.13	1112.65	5831.14	< LOD
C0004789	Subcrop	Rock	Black shale	442416	7391718	0.376	59.09	388.26	94.44	6020.52	114.11	7976.88	< LOD
C0004790	Subcrop	Rock	Black shale	442403	7391728	0.699	70	654.19	169.55	7344.15	1445.95	12201.96	8809.73

APPENDIX E - VANADIUM VARIABILITY TEST

SAMPLE	V_2O_5_%	Mo_ppm	Zn_ppm	Ni_ppm	Fe_ppm	Ca_ppm	K_ppm	S_ppm
C0004650m	0.62	64.76	520.86	124.16	8189.23	282.08	11290.56	593.49
C0004650m	0.29	43.38	264.93	< LOD	3103.25	304.77	5180.27	793.88
C0004650m	0.44	33.41	807.22	237.69	9724.67	1745.44	7811.35	508.91
C0004650m	0.52	35.08	317.98	89.58	4219.08	354.99	7792.75	625.68
C0004650m	0.44	60.33	235.83	< LOD	3657.91	127.18	6146.83	490.12
C0004650m	0.56	52.97	290.02	< LOD	4671.48	258.94	8471.89	2201.39
C0004650m	0.44	47.91	353.63	98.2	6666.79	< LOD	7917.54	< LOD
C0004650m	0.35	56.33	391.91	68.26	4318.61	976.25	7045.61	1294.17
C0004650m	0.32	49.81	404.42	97.15	4236.38	< LOD	5730.16	< LOD
C0004650m	0.35	44.82	281.47	74.61	4868.94	113.06	5476.4	1826.65
C0004650m	0.40	45.75	318.02	< LOD	4622.63	327.05	6934.4	1440.53
R144m	1.03	106.55	1110.78	351.84	18487.02	1629.78	18155.32	1767.04
R144m	0.33	56.62	573.14	102.44	8784.16	842.73	7499.03	< LOD
R144m	0.16	35.12	641.5	158.63	10652.38	3515.95	6617.53	884.93
R144m	0.36	61.64	635.91	152.21	8902.88	982.94	8271	446.82
R144m	0.31	64.07	641.49	194.97	9266.37	5655	7655.68	1854.83
R144m	0.34	67.12	736.28	162.73	10719.8	4931.39	8258.78	948.32
R144m	0.19	< LOD	86.47	75.92	1445.71	138.69	6866.02	511.4
R144m	0.60	65.03	1062.1	285.75	14098.01	1870.19	17072.38	479.12
R144m	0.42	71.34	456.48	150.39	12213.98	469.9	11978.29	3612.41
R144m	0.57	70.33	640.73	210.49	8908.5	1831.73	11217.38	1450.64
R206m	0.43	47.55	867.08	130.72	5515.89	930.84	7214.46	635.14
R206m	0.69	44.28	1272.89	235.57	5886.45	6024.86	9634.74	2867.72
R206m	0.46	75.52	937.5	124.97	5503.32	7641.68	6946.05	1552.19
R206m	0.44	11.71	284.21	< LOD	4377.34	636.78	7286.41	< LOD
R206m	0.55	54.68	358.59	72.65	5997.8	840.63	8587.27	946.18
R206m	0.33	41.98	276.96	< LOD	5449.69	573.9	5852.29	980.66
R206m	0.42	54.12	1330.33	124.73	5382.46	2130.57	9127.1	624.28
R206m	0.41	60.52	558.14	92.15	6070.94	< LOD	5821.46	< LOD
R206m	0.48	49.58	442.34	115.59	5601.16	292	6534.53	410.67
R206m	0.36	51.07	1092.12	109.28	3541.48	6852.8	6135.36	1907.27
C0004701m	0.25	34.12	545.36	72.16	3493.01	5441.57	4568.75	1039.75
C0004701m	0.44	140.21	1037.31	136.27	9187.01	7538.26	10521.43	1108.09
C0004701m	0.28	43.67	404.85	< LOD	3081.21	3489.22	5502.48	< LOD
C0004701m	0.37	53.49	778.1	109.76	5849.65	5072.34	7652.53	1038.24
C0004701m	0.63	67.57	1004.71	156.44	10005.47	5010.46	12916.6	1051.96
C0004701m	0.35	60.78	665.42	126.96	6589.07	6210.89	6739.04	1021.31
C0004701m	0.44	56.27	805.7	< LOD	6648.51	4192.44	6773.06	919.43

C0004701m	0.41	55.57	590.71	71.71	3720.83	8035.47	6999.32	1172.58
C0004701m	0.41	64.66	664.54	84.87	6526.73	3500.53	6947.92	1107.85
C0004701m	0.30	8.56	537.94	92.19	3420.66	7598	12847.19	761.58
C0004432m	0.52	42.08	672.61	190.35	6522.04	1758.52	8729.53	486.72
C0004432m	0.60	92.42	366.34	119.99	5083.4	846.28	8696.18	390.87
C0004432m	0.56	69.16	484.5	91.72	5667.88	1477.34	9848.63	< LOD
C0004432m	0.71	86.76	522.85	122.87	6077.78	3265.82	11521.66	< LOD
C0004432m	0.39	45.37	262.51	112.6	4889.5	590.91	7648.22	< LOD
C0004432m	0.36	36.06	216.62	121.87	4362.11	< LOD	7789.45	< LOD
C0004432m	0.59	63.17	484.17	< LOD	5233.37	1998.68	10137.83	< LOD
C0004432m	0.34	50.49	261.39	104.16	4369.7	< LOD	8073.68	< LOD
C0004432m	0.45	69.84	203.41	75.35	3209.8	120.14	6997.44	< LOD
C0004432m	0.39	116.65	274.51	126.65	4647.61	155.83	6263.6	424.81
C0004432m	0.38	116.42	271.01	98.79	4340.18	< LOD	5733.33	< LOD
C0004556m	0.38	51.03	495.51	< LOD	4375.21	678.91	6221.3	< LOD
C0004556m	0.15	19.77	316.06	< LOD	3418.86	1809.33	5238.36	569.32
C0004556m	0.14	7.62	192.28	74.78	1604.93	5161.63	2931.49	< LOD
C0004556m	0.35	53.1	361.13	< LOD	4108.02	126.76	5702.22	< LOD
C0004556m	0.14	10.77	85.33	< LOD	1850.73	121.92	4121.21	626.62
C0004556m	0.58	73.8	518.53	94.35	6127.79	245.98	8457.3	488.69
C0004556m	0.09	< LOD	74.87	< LOD	1269.33	623.46	3122.81	664.52
C0004556m	0.34	38.78	665.88	103.39	3411.25	758.88	5625.6	< LOD
C0004556m	0.18	23.02	291.02	< LOD	1170.94	< LOD	3328.68	< LOD
C0004556m	0.53	69.85	552.88	67.15	5266.79	1037.14	8212.97	1155.19
C0004556m	0.05	< LOD	130.22	96.05	7207.64	509.2	14186.54	< LOD
C0004702m	0.22	20.98	599.43	< LOD	4395.42	2647.24	9333.04	< LOD
C0004702m	0.37	36.86	475.43	103.24	4434.58	4259.72	9957.66	555.85
C0004702m	0.24	29.01	523.43	94.6	6433.39	3144.01	14744.03	1173.96
C0004702m	0.45	26.87	572.46	97.64	5891.18	561.16	11132.6	< LOD
C0004702m	0.18	49.4	874.91	132.03	6665.23	3405.37	11288.12	734.36
C0004702m	0.23	33.77	578.55	125.87	9991.23	5261.23	12172.9	1252.04
C0004702m	0.20	18.95	502.21	179.9	5383.95	4162.38	14330.33	891.22
C0004702m	0.16	24.67	484.85	126.51	4876.99	4333.04	10841.66	549.91
C0004702m	0.30	49.29	598.35	112.68	9051.24	5792.27	10848.67	1345.42
C0004702m	0.21	29.87	462.94	170.82	5303.2	5840.49	14128.64	1849.93
C0004700m	1.51	112.7	1469.82	272.43	12505.91	6587.87	18513.04	2975.46
C0004700m	0.41	53.74	989.29	159.59	5442.38	3854.56	7803.61	1713.42
C0004700m	0.46	51.49	874.12	109.54	4706.51	4659.29	8004.03	1130.7
C0004700m	0.38	44.15	1485.97	180.25	4053.8	9566.79	6963.83	1696.69
C0004700m	0.63	64.28	1022.57	186.22	5708.82	6598.34	11495.88	1541.39
C0004700m	0.41	40.03	681.74	77.94	3763.11	3411.99	6213.96	3916.24

C0004700m	0.41	68.39	1210.85	149.1	5489.55	6031.23	8215	1280.34
C0004700m	0.45	52.69	873.49	121.24	4499.91	4180.04	7095.24	1442.19
C0004700m	0.55	77.69	1072.42	145.48	4915.15	5694.47	9919.91	1567.58
C0004700m	0.52	39.4	903.91	179.63	6048.43	8450.81	10319.71	1525.75

APPENDIX F - DRILL CORE SAMPLES COLLECTED

Hole ID	From (m)	To (m)	Length (m)	Sample ID	Box #
FX07-03	36.8	36.9	0.1	M036	5
FX07-03	78.54	79	0.46	M078	13
FX07-03	79	79.8	0.8	M079	13
FX07-03	81	82.2	1.2	M081	13
FX07-03	82.2	83.4	1.2	M082	13
FX07-03	83.4	84.4	1	M083	13
FX07-03	84.4	85.4	1	M084	13-14
FX07-03	85.4	86.4	1	M085	14
FX07-03	86.4	87.4	1	M086	14
FX07-03	87.4	88.4	1	M087	14
FX07-03	88.4	89.4	1	M088	14
FX07-03	89.4	90.4	1	M089	14-15
FX07-03	90.4	91.4	1	M090	15
FX07-03	91.4	92.4	1	M091	15
FX07-03	92.4	93.4	1	M092	15
FX07-03	93.4	94.5	1.1	M093	15
FX07-03	94.5	95.5	1	M094	15-16
FX07-03	95.5	96.5	1	M095	16
FX07-03	138.2	138.4	0.2	M138	23
FX07-03	184.5	184.7	0.2	M184	31

APPENDIX G - WHOLE ROCK CHEMICAL ANALYSIS OF 28 SAMPLES

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

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

Client: **Bureau Veritas Commodities Canada Ltd.**
11620 Horseshoe Way
Richmond British Columbia V7A 4V5 Canada

Submitted By:	Met Assays
Receiving Lab:	Richmond Metlab
Received:	September 01, 2020
Analysis Start:	September 07, 2020
Report Date:	September 20, 2020
Page:	1 of 2

CERTIFICATE OF ANALYSIS RBC20000188.1

CLIENT JOB INFORMATION

Project:	Kiev
Shipment ID:	
P.O. Number	2002108, 20H0391
Number of Samples:	28

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SLBHP	28	Sorting, labeling and boxing samples received as pulps			RBC
XF701	28	Li2B4O7/LiBO2 fusion, analysis of Bauxite Ores by XRF	0.66	Completed	VAN
TC000-C	28	Total C Analysis by Leco	0.1	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Bureau Veritas Commodities Canada Ltd.
11620 Horseshoe Way
Richmond British Columbia V7A 4V5
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Production Manager

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

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

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

Client: **Bureau Veritas Commodities Canada Ltd.**
11620 Horseshoe Way
Richmond British Columbia V7A 4V5 Canada

Project: Kiev
Report Date: September 20, 2020

CERTIFICATE OF ANALYSIS RBC20000188.1

	Method	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	TC000
	Analyte	LOI	Al2O3	BaO	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SO3	SiO2	TiO2	V2O5	ZnO	ZrO2	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	MDL	-5.1	0.01	0.01	0.01	0.004	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.002	0.002	0.01	0.02
M036	Pulp	9.8	2.24	0.40	2.58	0.031	0.84	0.46	0.23	<0.01	0.06	0.024	2.24	82.72	0.10	0.419	0.433	<0.01	6.34
M078	Pulp	11.3	4.95	0.88	3.89	0.027	1.83	1.19	1.01	<0.01	0.19	0.165	>3.5	72.90	0.24	0.521	0.342	<0.01	6.54
M079	Pulp	11.2	4.80	0.83	3.14	0.024	1.56	1.13	0.69	<0.01	0.20	0.150	>3.5	75.64	0.22	0.534	0.433	<0.01	6.89
M081	Pulp	12.9	5.31	0.95	4.13	0.029	2.11	1.26	0.86	<0.01	0.20	0.228	>3.5	70.03	0.26	0.586	0.457	<0.01	7.74
M082	Pulp	11.8	4.57	0.94	5.26	0.032	1.53	1.09	0.80	<0.01	0.21	0.231	3.42	72.21	0.22	0.382	0.256	<0.01	6.73
M083	Pulp	12.8	4.40	0.85	5.32	0.036	1.41	1.06	0.81	<0.01	0.17	0.154	3.32	72.20	0.21	0.366	0.298	<0.01	7.58
M084	Pulp	13.2	4.43	0.89	6.06	0.032	1.64	1.06	0.60	<0.01	0.18	0.148	>3.5	70.22	0.21	0.383	0.299	<0.01	7.69
M085	Pulp	14.5	4.93	0.91	5.52	0.035	1.59	1.17	0.51	<0.01	0.18	0.182	>3.5	68.72	0.23	0.490	0.338	<0.01	9.06
M086	Pulp	11.9	4.36	0.75	4.74	0.029	1.46	1.02	0.50	<0.01	0.19	0.282	>3.5	73.35	0.21	0.481	0.359	<0.01	7.40
M087	Pulp	13.2	3.98	0.73	5.90	0.028	1.38	0.93	0.41	<0.01	0.16	0.200	3.39	71.15	0.18	0.403	0.235	<0.01	8.01
M088	Pulp	13.9	4.01	0.78	6.80	0.031	1.52	0.92	0.43	<0.01	0.17	0.205	>3.5	70.41	0.18	0.408	0.285	<0.01	8.22
M089	Pulp	12.6	3.88	0.78	5.66	0.029	1.40	0.89	0.47	<0.01	0.17	0.176	3.37	72.32	0.18	0.413	0.272	<0.01	7.70
M090	Pulp	12.5	4.42	0.73	3.77	0.031	1.53	1.02	0.43	<0.01	0.19	0.188	>3.5	74.69	0.20	0.512	0.396	<0.01	8.10
M091	Pulp	14.1	4.39	0.64	3.73	0.031	1.69	1.02	0.43	<0.01	0.18	0.231	>3.5	73.14	0.20	0.532	0.381	<0.01	9.52
M092	Pulp	12.9	4.91	0.78	3.15	0.023	2.20	1.17	0.48	<0.01	0.23	0.282	>3.5	72.94	0.22	0.450	0.257	<0.01	8.34
M093	Pulp	12.6	4.76	0.76	1.70	0.042	1.87	1.14	0.48	<0.01	0.21	0.291	>3.5	75.13	0.22	0.423	0.285	<0.01	9.03
M094	Pulp	12.1	4.41	0.76	1.23	0.045	1.86	1.05	0.50	<0.01	0.19	0.287	>3.5	77.00	0.20	0.340	0.239	<0.01	8.83
M095	Pulp	13.0	4.54	0.80	2.92	0.043	2.24	1.08	0.53	<0.01	0.19	0.371	>3.5	73.65	0.22	0.371	0.283	<0.01	8.83
M138	Pulp	19.2	4.78	0.93	8.32	0.021	1.99	1.17	1.60	<0.01	0.18	0.051	>3.5	60.69	0.25	0.301	0.169	<0.01	11.25
M184	Pulp	15.1	6.65	2.93	3.89	0.019	2.06	1.66	1.31	<0.01	0.22	0.180	>3.5	65.28	0.34	0.100	0.038	<0.01	9.85
C0004432m	Pulp	19.3	3.21	0.33	10.21	0.016	0.86	0.68	6.81	0.03	0.05	0.354	0.49	57.28	0.14	0.377	0.078	<0.01	7.11
C0004556m	Pulp	4.9	3.23	0.26	0.29	0.023	0.98	0.75	0.24	<0.01	0.03	0.122	0.35	88.71	0.15	0.420	0.095	<0.01	2.50
C0004650m	Pulp	5.0	4.26	0.27	0.26	0.022	1.40	0.91	0.28	<0.01	0.03	0.181	0.37	86.99	0.18	0.467	0.082	<0.01	2.25
C0004700m	Pulp	5.7	3.01	0.24	1.41	0.027	1.07	0.71	0.41	<0.01	0.04	0.123	0.45	87.11	0.14	0.406	0.140	<0.01	2.68
C0004701m	Pulp	4.8	3.52	0.24	0.54	0.023	1.30	0.83	0.27	<0.01	0.04	0.106	0.32	87.91	0.17	0.472	0.096	<0.01	2.07
C0004702m	Pulp	7.0	5.53	0.58	1.52	0.022	1.20	1.27	0.37	0.02	0.05	0.839	0.46	81.20	0.24	0.290	0.085	<0.01	3.33
R144m	Pulp	4.7	4.21	0.38	0.58	0.025	1.85	0.99	0.30	<0.01	0.03	0.243	0.32	86.56	0.19	0.346	0.104	<0.01	1.95
R206m	Pulp	6.0	3.54	0.27	0.62	0.022	1.15	0.77	0.32	<0.01	0.06	0.125	0.47	86.57	0.17	0.444	0.159	<0.01	3.15

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

BUREAU VERITAS MINERAL LABORATORIES Canada

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Client: **Bureau Veritas Commodities Canada Ltd.**
11620 Horseshoe Way
Richmond British Columbia V7A 4V5 Canada

Project: Kiev
Report Date: September 20, 2020

QUALITY CONTROL REPORT RBC20000188.1

	Method	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	XF701	TC000
	Analyte	LOI	Al2O3	BaO	CaO	Cr2O3	Fe2O3	K2O	MgO	MnO	Na2O	P2O5	SO3	SiO2	TiO2	V2O5	ZnO	ZrO2	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	MDL	-5.1	0.01	0.01	0.01	0.004	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.002	0.002	0.01	0.02
C0004702m	Pulp	7.0	5.53	0.58	1.52	0.022	1.20	1.27	0.37	0.02	0.05	0.839	0.46	81.20	0.24	0.290	0.085	<0.01	3.33
Pulp Duplicates																			
M087	Pulp	13.2	3.98	0.73	5.90	0.028	1.38	0.93	0.41	<0.01	0.16	0.200	3.39	71.15	0.18	0.403	0.235	<0.01	8.01
REP M087	QC																		8.01
M092	Pulp	12.9	4.91	0.78	3.15	0.023	2.20	1.17	0.48	<0.01	0.23	0.282	>3.5	72.94	0.22	0.450	0.257	<0.01	8.34
REP M092	QC	12.9	4.91	0.79	3.14	0.024	2.21	1.17	0.48	<0.01	0.23	0.284	>3.5	73.01	0.22	0.447	0.257	<0.01	
R206m	Pulp	6.0	3.54	0.27	0.62	0.022	1.15	0.77	0.32	<0.01	0.06	0.125	0.47	86.57	0.17	0.444	0.159	<0.01	3.15
REP R206m	QC	6.0	3.53	0.27	0.63	0.020	1.14	0.78	0.32	<0.01	0.06	0.124	0.50	86.43	0.17	0.442	0.159	<0.01	
Reference Materials																			
STD GBAP-3	Standard	25.9	53.68	<0.01	0.01	0.024	8.32	0.01	0.03	<0.01	0.02	0.041	0.09	9.35	2.13	0.029	<0.002	0.15	
STD GBM309-15	Standard																		0.20
STD GS311-1	Standard																		1.01
STD GS910-4	Standard																		2.62
STD NIST600(D)	Standard	20.5	40.15	0.02	0.23	0.021	17.10	0.22	0.06	0.01	0.03	0.036	0.15	20.33	1.28	0.065	0.003	0.06	
STD NIST698(D)	Standard	27.3	48.27	0.01	0.59	0.077	19.29	<0.01	0.06	0.38	0.04	0.378	0.13	0.64	2.34	0.063	0.029	0.07	
STD GS311-1 Expected																			1.02
STD GS910-4 Expected																			2.65
STD GBM309-15 Expected																			0.22
STD GBAP-3 Expected		25.9	53.7	0.01	0.01	0.0224	8.44	0.0112	0.0383	0.0094	0.018	0.0419	0.087	9.32	2.15	0.0312		0.142	
STD NIST600(D) Expected		20.5	40		0.22	0.024	17	0.23	0.05	0.013	0.022	0.039	0.155	20.3	1.31	0.06	0.003	0.06	
STD NIST698(D) Expected		27.3	48.2		0.62	0.08	19.6	0.01	0.058	0.38		0.37	0.143	0.69	2.38	0.064	0.029	0.061	
BLK	Blank																		<0.02
SI BLK	Blank	0.0	0.32	0.03	0.02	0.004	0.02	<0.01	0.03	<0.01	<0.01	0.003	<0.01	99.64	0.03	<0.002	0.003	<0.01	

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

APPENDIX H - AQUA REGIA, MULTI ACID, & ORGANIC CARBON ANALYSIS OF 6 SAMPLES

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

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

Client: **Bureau Veritas Commodities Canada Ltd.**
11620 Horseshoe Way
Richmond British Columbia V7A 4V5 Canada

Submitted By:	Met Assays
Receiving Lab:	Richmond Metlab
Received:	September 23, 2020
Analysis Start:	September 23, 2020
Report Date:	September 30, 2020
Page:	1 of 2

CERTIFICATE OF ANALYSIS RBC20000188A.1

CLIENT JOB INFORMATION

Project:	None Given
Shipment ID:	
P.O. Number	2002108, 20H0391
Number of Samples:	6

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SLBHP	6	Sorting, labeling and boxing samples received as pulps			RBC
AQ251_EXT	6	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	15	Completed	VAN
MA300	6	4 Acid digestion ICP-ES analysis	0.25	Completed	VAN
TC007	6	Org/C: Total C minus Graphite C & CO2	0.1	Completed	VAN
TC007	6	Org/C: Total C minus Graphite C & CO2	0.1	Completed	VAN

ADDITIONAL COMMENTS

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

Invoice To: Bureau Veritas Commodities Canada Ltd.
11620 Horseshoe Way
Richmond British Columbia V7A 4V5
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Production Manager

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All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

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Project: None Given
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	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
M036	Pulp	5.3	139.4	0.08	205.5	0.028	11	0.45	0.005	0.11	0.2	3.4	0.58	0.55	470	33.0	0.18	3.5	1.20	0.3	0.16
M081	Pulp	4.4	137.2	0.39	47.6	0.084	23	0.93	0.008	0.25	0.4	5.9	0.80	1.62	506	52.0	0.21	5.0	2.23	<0.1	0.33
M087	Pulp	5.4	141.0	0.16	79.5	0.056	15	0.66	0.007	0.18	0.3	6.0	0.48	0.99	324	33.4	0.20	2.8	1.73	0.1	0.23
M091	Pulp	3.9	153.1	0.15	60.4	0.064	18	0.76	0.007	0.22	0.3	5.3	0.55	1.37	532	35.8	0.21	4.2	2.07	<0.1	0.27
M138	Pulp	5.0	96.5	0.85	51.1	0.048	17	0.77	0.008	0.21	0.4	4.1	0.74	1.43	292	19.0	0.16	4.0	1.81	<0.1	0.48
C0004650m	Pulp	19.4	99.3	0.07	757.2	0.008	13	0.73	0.002	0.16	0.2	4.6	0.90	0.04	92	12.9	0.13	3.0	0.85	0.1	0.17

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CERTIFICATE OF ANALYSIS RBC20000188A.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
M036	Pulp	36.08	84.96	17.65	3465.9	1710	128.4	2.1	28	0.50	27.0	10.0	3.1	1.2	271.9	66.08	15.21	0.10	1791	1.75	0.008
M081	Pulp	54.16	151.41	16.50	3764.3	3038	214.6	6.5	71	1.36	54.2	18.0	0.9	2.0	231.9	68.69	36.84	0.16	2586	2.96	0.100
M087	Pulp	35.85	107.28	11.65	1878.1	2328	156.3	5.1	60	0.88	36.4	14.6	1.1	1.9	441.6	40.31	16.76	0.12	1776	4.34	0.089
M091	Pulp	43.99	126.21	13.81	3054.0	2830	194.9	5.9	40	1.08	44.5	20.5	0.4	1.9	272.5	56.26	17.67	0.14	2302	2.46	0.094
M138	Pulp	82.39	77.17	11.96	1329.0	1188	197.9	4.8	75	1.28	35.0	26.8	0.6	2.6	349.6	20.21	8.83	0.14	1217	6.44	0.021
C0004650m	Pulp	54.60	79.89	9.82	651.0	500	93.8	4.7	49	0.90	32.6	8.0	0.5	2.8	43.5	31.56	20.05	0.10	1854	0.17	0.076

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CERTIFICATE OF ANALYSIS RBC20000188A.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	MA300	MA300	MA300	MA300	MA300	MA300	MA300
	Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	Mo	Cu	Pb	Zn	Ag	Ni	Co
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	2	2	5	2	0.5	2	2
M036	Pulp	0.12	9.0	0.7	<0.05	8.3	13.79	5.3	0.03	77	0.7	2.8	<10	<2	40	89	16	3422	1.8	174	<2
M081	Pulp	0.26	18.8	1.9	<0.05	15.6	30.25	7.9	0.03	115	1.4	6.9	<10	3	66	154	22	3698	3.1	253	7
M087	Pulp	0.21	14.0	1.5	<0.05	11.4	32.66	7.8	<0.02	99	1.0	6.4	<10	6	42	109	14	1922	2.3	194	5
M091	Pulp	0.24	17.3	1.7	<0.05	12.5	33.86	5.6	0.05	100	1.3	8.9	<10	5	56	135	11	3104	2.9	243	6
M138	Pulp	0.29	16.7	1.9	<0.05	25.0	26.71	9.1	0.03	51	1.2	11.5	<10	3	95	77	12	1333	1.1	253	5
C0004650m	Pulp	0.09	11.4	0.4	<0.05	9.5	39.36	26.6	0.02	60	0.7	2.3	<10	<2	58	83	11	675	<0.5	104	5

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	Method	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300
	Analyte	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	Al	Na	K
	Unit	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%
	MDL	5	0.01	5	20	2	2	0.4	5	5	2	0.01	0.002	2	2	0.01	1	0.01	0.01	0.01	0.01
M036	Pulp	28	0.58	32	<20	<2	276	60.0	11	<5	2212	1.68	0.009	14	139	0.11	109	0.05	1.09	0.01	0.38
M081	Pulp	72	1.44	62	<20	2	259	64.6	31	<5	3135	2.81	0.096	7	139	0.46	174	0.14	2.69	0.10	1.05
M087	Pulp	59	0.95	39	<20	<2	444	36.3	9	<5	2165	3.83	0.085	14	139	0.22	107	0.09	2.00	0.09	0.78
M091	Pulp	41	1.16	51	<20	<2	297	53.1	11	<5	2861	2.56	0.096	16	195	0.23	111	0.11	2.22	0.09	0.85
M138	Pulp	72	1.32	37	<20	<2	341	18.0	<5	<5	1587	5.49	0.021	7	124	0.88	143	0.12	2.44	0.10	0.98
C0004650m	Pulp	51	0.99	38	<20	2	50	29.4	10	<5	2475	0.17	0.076	18	113	0.14	2278	0.09	2.11	<0.01	0.76

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	Method	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	TC005	TC005
	Analyte	W	Zr	Sn	Y	Nb	Be	Sc	S	C/ORG	C/ORG
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	4	2	2	2	2	1	1	0.1	0.01	0.02
M036	Pulp	<4	21	<2	16	2	2	4	0.7	7.22	7.21
M081	Pulp	<4	43	2	35	5	3	7	1.8	5.43	5.43
M087	Pulp	<4	32	<2	35	3	2	6	1.2	6.73	6.72
M091	Pulp	<4	37	<2	40	4	2	6	1.6	8.78	8.77
M138	Pulp	<4	57	3	30	6	2	4	1.6	9.03	9.02
C0004650m	Pulp	<4	34	<2	41	3	2	6	0.1	2.17	2.15

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Richmond British Columbia V7A 4V5 Canada

Project: None Given
Report Date: September 30, 2020

QUALITY CONTROL REPORT RBC20000188A.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
Pulp Duplicates																					
M087	Pulp	35.85	107.28	11.65	1878.1	2328	156.3	5.1	60	0.88	36.4	14.6	1.1	1.9	441.6	40.31	16.76	0.12	1776	4.34	0.089
REP M087	QC	38.81	111.87	12.30	1950.8	2427	164.3	5.1	61	0.93	37.8	15.9	0.6	2.0	458.2	42.17	17.34	0.12	1825	4.40	0.093
C0004650m	Pulp	54.60	79.89	9.82	651.0	500	93.8	4.7	49	0.90	32.6	8.0	0.5	2.8	43.5	31.56	20.05	0.10	1854	0.17	0.076
REP C0004650m	QC																				
Reference Materials																					
STD DS11	Standard	14.13	147.54	137.79	351.1	1723	76.9	13.2	1031	3.23	44.1	2.7	68.1	8.3	67.0	2.47	8.74	11.74	48	1.05	0.072
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD OREAS25A-4A	Standard																				
STD OREAS262	Standard	0.64	116.73	56.72	152.6	481	62.0	27.3	558	3.48	37.9	1.3	70.2	9.8	36.7	0.70	5.01	1.06	22	2.96	0.041
STD OREAS45E	Standard																				
STD OREAS45E Expected																					
STD OREAS25A-4A Expected																					
STD DS11 Expected		14.6	149	138	345	1710	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701
STD OREAS262 Expected		0.68	118	56	154	450	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98	0.04
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.01	0.03	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	<0.001
BLK	Blank																				

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QUALITY CONTROL REPORT RBC20000188A.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
Pulp Duplicates																					
M087	Pulp	5.4	141.0	0.16	79.5	0.056	15	0.66	0.007	0.18	0.3	6.0	0.48	0.99	324	33.4	0.20	2.8	1.73	0.1	0.23
REP M087	QC	5.9	146.1	0.17	86.0	0.058	17	0.71	0.007	0.19	0.3	6.0	0.53	1.08	341	34.7	0.19	3.0	1.85	0.1	0.27
C0004650m	Pulp	19.4	99.3	0.07	757.2	0.008	13	0.73	0.002	0.16	0.2	4.6	0.90	0.04	92	12.9	0.13	3.0	0.85	0.1	0.17
REP C0004650m	QC																				
Reference Materials																					
STD DS11	Standard	18.1	57.1	0.85	364.1	0.086	8	1.15	0.072	0.40	3.0	3.5	5.02	0.27	282	1.9	4.80	5.2	3.05	<0.1	0.08
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD OREAS25A-4A	Standard																				
STD OREAS262	Standard	16.5	43.3	1.20	256.9	0.003	3	1.31	0.068	0.31	0.2	4.0	0.47	0.26	173	<0.1	0.26	4.2	2.97	<0.1	0.28
STD OREAS45E	Standard																				
STD OREAS45E Expected																					
STD OREAS25A-4A Expected																					
STD DS11 Expected		18.6	61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	3.4	4.9	0.2835	260	2.2	4.56	5.1	2.88	0.08	0.06
STD OREAS262 Expected		15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	3.24	0.47	0.253	170	0.4	0.23	4.1	2.8		0.27
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank																				

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QUALITY CONTROL REPORT RBC20000188A.1

	Method	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	MA300	MA300	MA300	MA300	MA300	MA300	MA300
	Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	Mo	Cu	Pb	Zn	Ag	Ni	Co
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	2	2	5	2	0.5	2	2
Pulp Duplicates																					
M087	Pulp	0.21	14.0	1.5	<0.05	11.4	32.66	7.8	<0.02	99	1.0	6.4	<10	6	42	109	14	1922	2.3	194	5
REP M087	QC	0.21	14.5	1.6	<0.05	12.2	32.75	8.4	<0.02	113	1.1	6.6	<10	6							
C0004650m	Pulp	0.09	11.4	0.4	<0.05	9.5	39.36	26.6	0.02	60	0.7	2.3	<10	<2	58	83	11	675	<0.5	104	5
REP C0004650m	QC																				
Reference Materials																					
STD DS11	Standard	1.73	33.8	1.8	<0.05	3.4	8.23	38.5	0.24	48	0.7	23.8	90	172							
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD OREAS25A-4A	Standard														<2	28	24	44	<0.5	44	7
STD OREAS262	Standard	<0.02	19.8	0.6	<0.05	12.3	11.21	33.9	0.04	<1	1.2	17.8	<10	<2							
STD OREAS45E	Standard														2	775	15	46	<0.5	465	55
STD OREAS45E Expected															2.4	780	18.2	46.7	0.311	454	57
STD OREAS25A-4A Expected															2.41	33.9	25.2	44.4		45.8	7.7
STD DS11 Expected		1.53	33.6	1.8		3.1	7.82	37	0.24	50	0.67	23.3	100	172							
STD OREAS262 Expected			18.6	0.5		11.7	11.2	32	0.033		1.14	17.8									
BLK	Blank														<2	<2	<5	<2	<0.5	<2	<2
BLK	Blank																				
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.1	<0.01	<0.1	<0.02	2	<0.1	<0.1	<10	<2							
BLK	Blank																				

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BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

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

Client: **Bureau Veritas Commodities Canada Ltd.**
11620 Horseshoe Way
Richmond British Columbia V7A 4V5 Canada

Project: None Given
Report Date: September 30, 2020

QUALITY CONTROL REPORT RBC20000188A.1

	Method	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300
	Analyte	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	Al	Na	K
	Unit	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%
	MDL	5	0.01	5	20	2	2	0.4	5	5	2	0.01	0.002	2	2	0.01	1	0.01	0.01	0.01	0.01
Pulp Duplicates																					
M087	Pulp	59	0.95	39	<20	<2	444	36.3	9	<5	2165	3.83	0.085	14	139	0.22	107	0.09	2.00	0.09	0.78
REP M087	QC																				
C0004650m	Pulp	51	0.99	38	<20	2	50	29.4	10	<5	2475	0.17	0.076	18	113	0.14	2278	0.09	2.11	<0.01	0.76
REP C0004650m	QC																				
Reference Materials																					
STD DS11	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD OREAS25A-4A	Standard	467	6.23	12	<20	12	42	<0.4	<5	<5	153	0.27	0.048	19	106	0.31	144	0.84	8.46	0.11	0.49
STD OREAS262	Standard																				
STD OREAS45E	Standard	553	24.60	14	<20	8	15	<0.4	<5	<5	326	0.06	0.035	11	1005	0.15	253	0.52	6.82	0.04	0.35
STD OREAS45E Expected		570	24.12	16.3	2.41	12.9	15.9		1		322	0.065	0.034	11	979	0.156	252	0.559	6.78	0.059	0.324
STD OREAS25A-4A Expected		480	6.6	9.94	2.94	15.8	48.5		0.65		157	0.301	0.048	21.8	115	0.327	147	0.93	8.87	0.131	0.482
STD DS11 Expected																					
STD OREAS262 Expected																					
BLK	Blank	<5	<0.01	<5	<20	<2	<2	<0.4	<5	<5	<2	<0.01	<0.002	<2	<2	<0.01	<1	<0.01	<0.01	<0.01	<0.01
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				

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BUREAU VERITAS MINERAL LABORATORIES Canada

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

Client: **Bureau Veritas Commodities Canada Ltd.**
11620 Horseshoe Way
Richmond British Columbia V7A 4V5 Canada

Project: None Given
Report Date: September 30, 2020

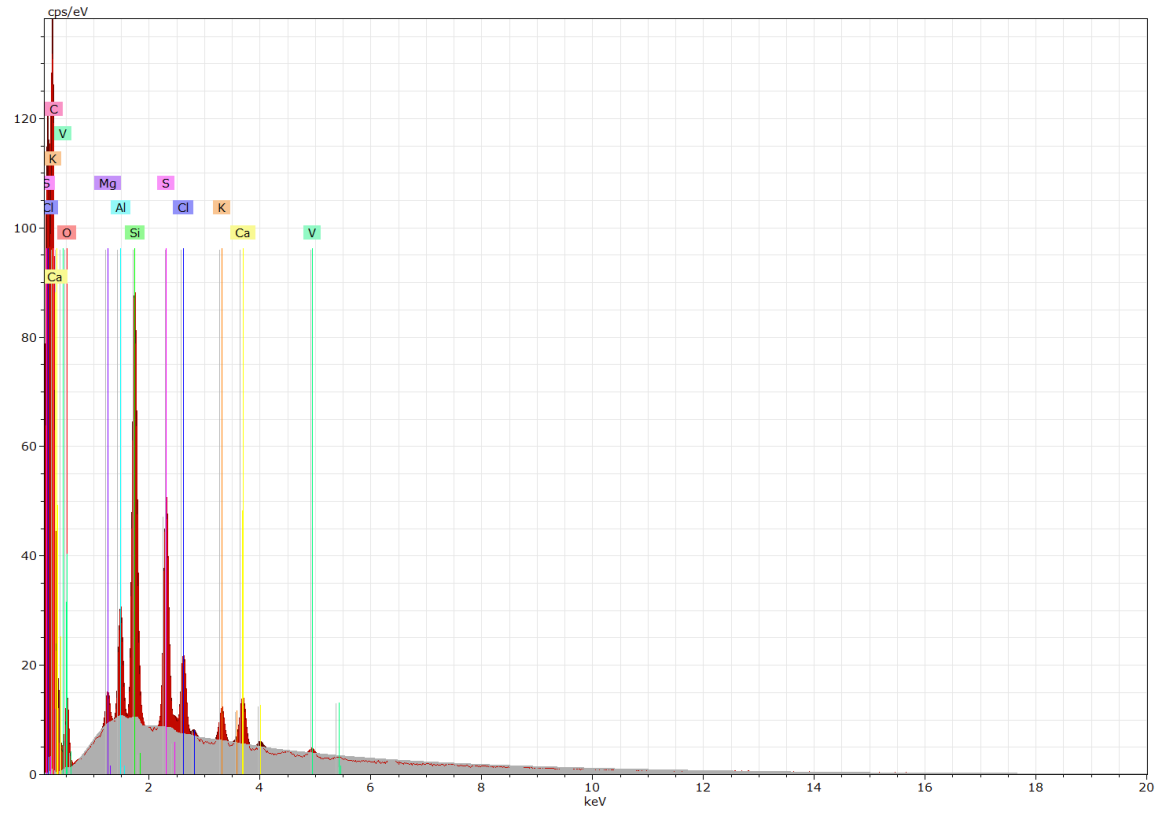
QUALITY CONTROL REPORT RBC20000188A.1

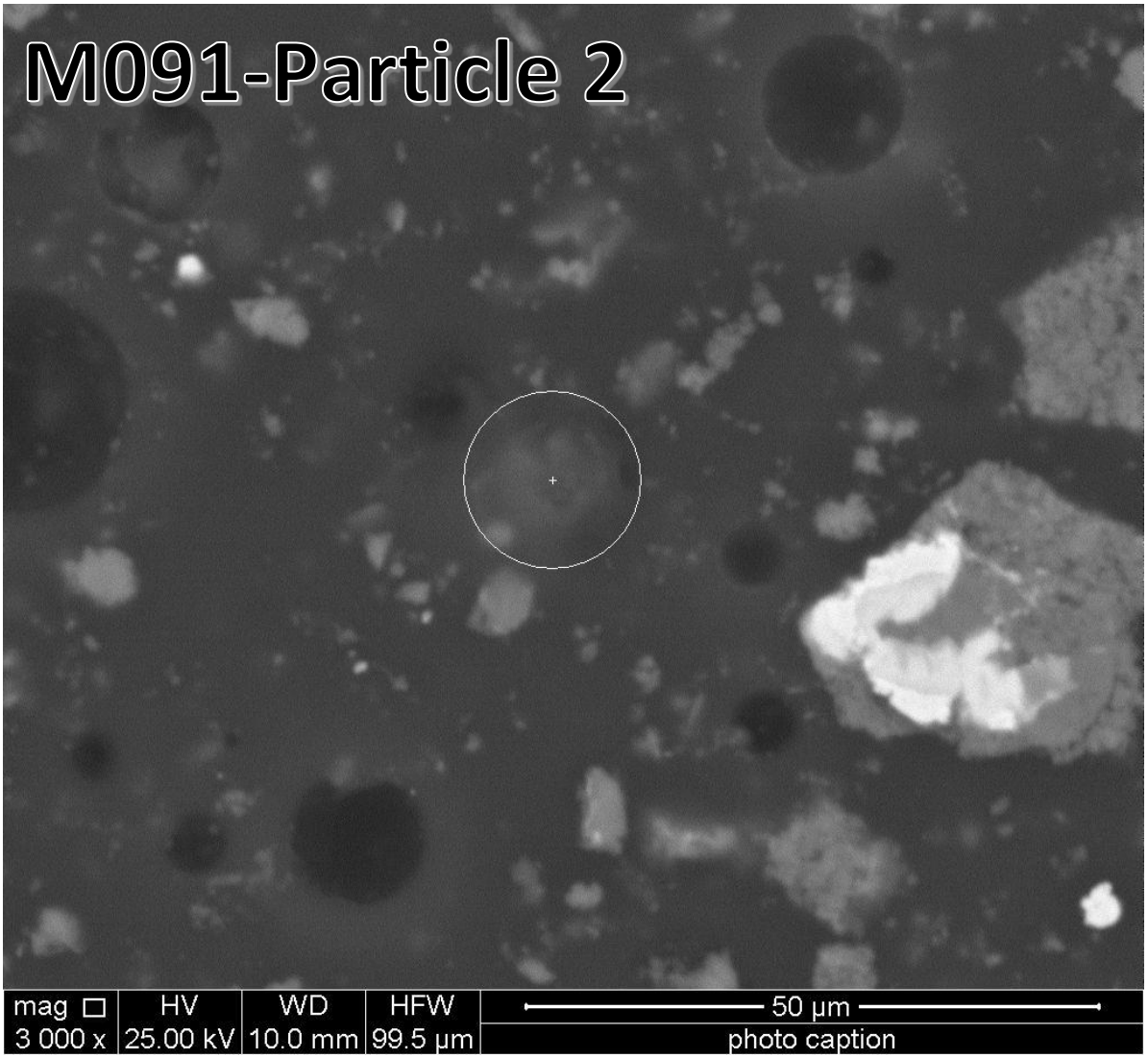
	Method	MA300	MA300	MA300	MA300	MA300	MA300	MA300	MA300	TC005	TC005
	Analyte	W	Zr	Sn	Y	Nb	Be	Sc	S	C/ORG	C/ORG
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	4	2	2	2	2	1	1	0.1	0.01	0.02
Pulp Duplicates											
M087	Pulp	<4	32	<2	35	3	2	6	1.2	6.73	6.72
REP M087	QC										
C0004650m	Pulp	<4	34	<2	41	3	2	6	0.1	2.17	2.15
REP C0004650m	QC										
Reference Materials											
STD DS11	Standard										
STD GGC-10	Standard										
STD GGC-10	Standard										
STD GGC-10	Standard										
STD GGC-10	Standard										
STD OREAS25A-4A	Standard	<4	139	5	10	16	<1	12	<0.1		
STD OREAS262	Standard										
STD OREAS45E	Standard	<4	99	3	8	5	<1	93	<0.1		
STD OREAS45E Expected		1.07	97	1.32	8.28	6.8	0.62	93	0.046		
STD OREAS25A-4A Expected		2	155	4.06	10.5	20.9	0.93	13.7	0.047		
STD DS11 Expected											
STD OREAS262 Expected											
BLK	Blank	<4	<2	<2	<2	<2	<1	<1	<0.1		
BLK	Blank										
BLK	Blank										
BLK	Blank										

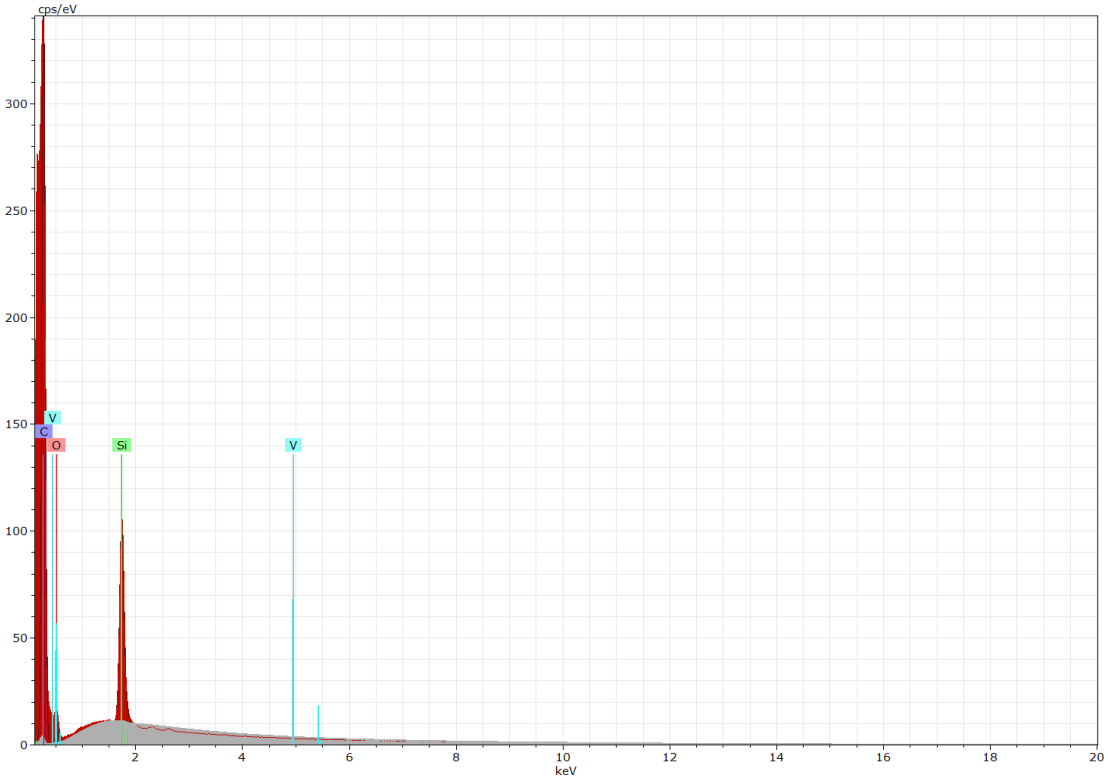
This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

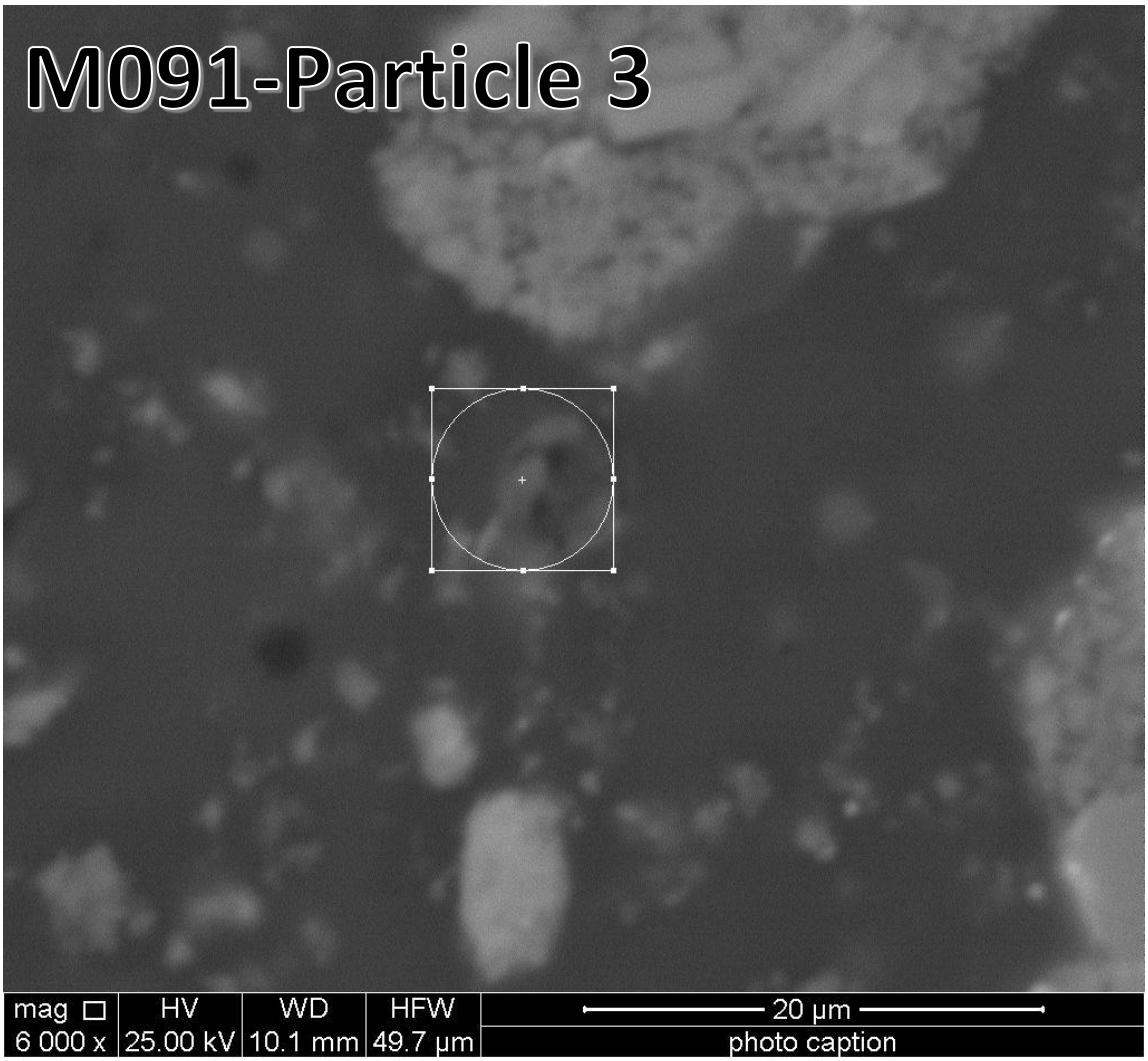
APPENDIX I - SEM IMAGES

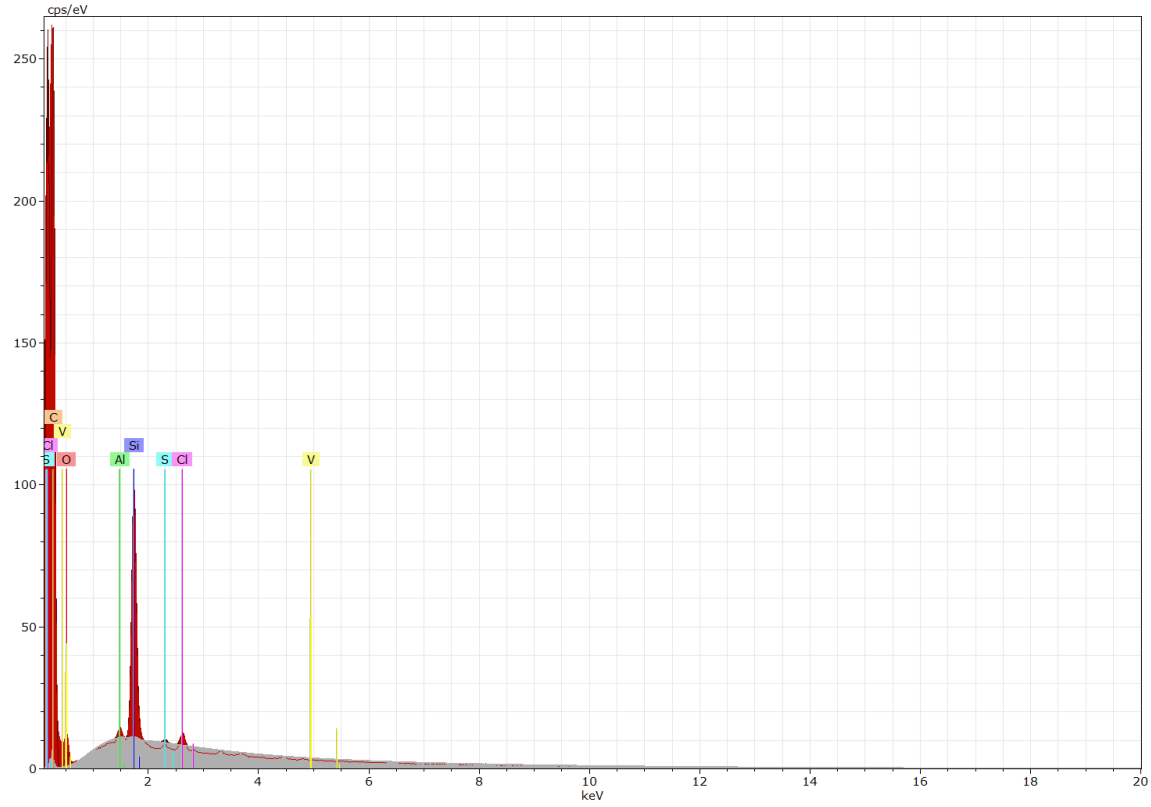

M091-Particle 1
mag
2 800 x
HV
25.00 kV
WD
10.0 mm
HFW
107 µm
50 µm
photo caption

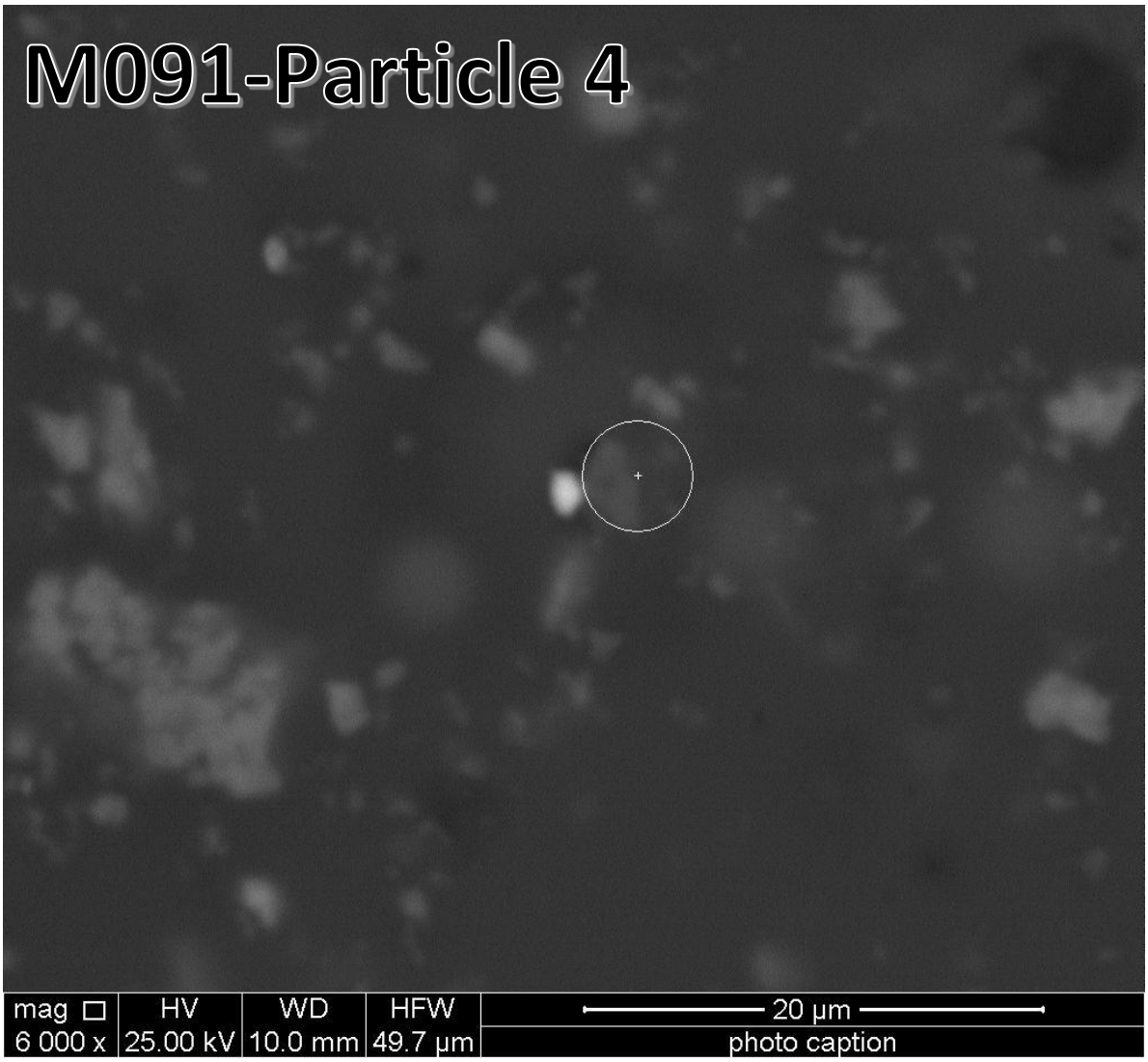

cps/eV
C
V
K
Mg
S
Al
Cl
K
O
Si
Ca
V
Ca
0
20
40
60
80
100
120
2
4
6
8
10
12
14
16
18
20
keV

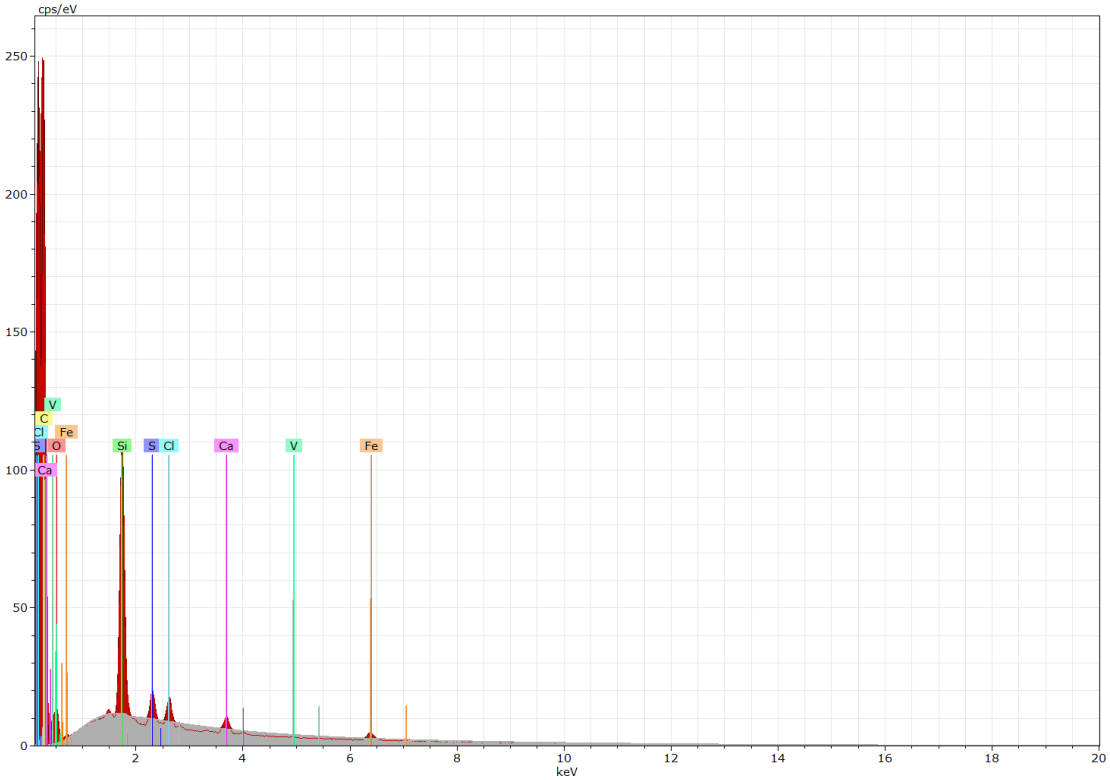

M091-Particle 2
mag
3 000 x
HV
25.00 kV
WD
10.0 mm
HFW
99.5 µm
50 µm
photo caption

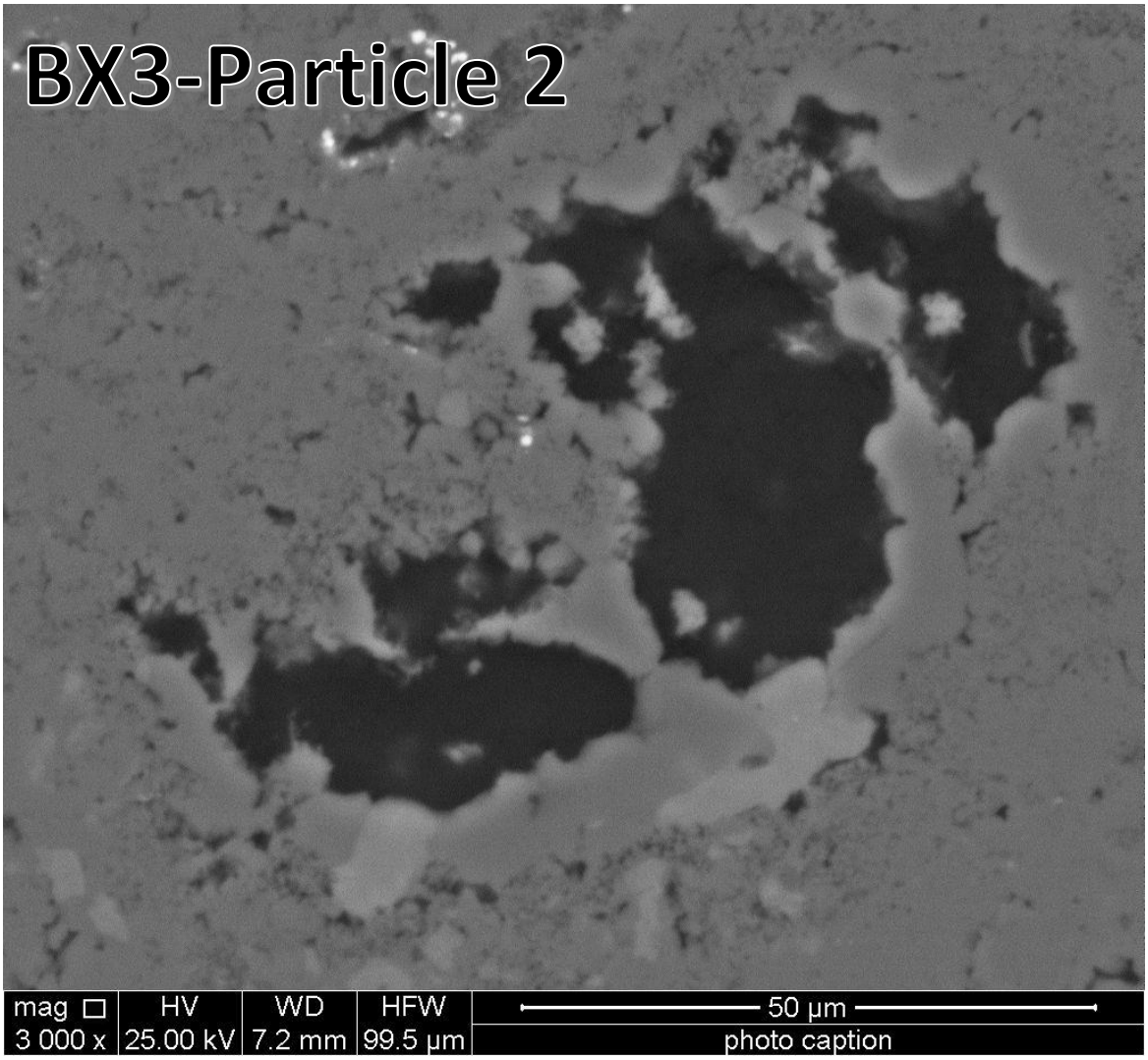

cps/eV
300
250
200
150
100
50
0
V
C
O
Si
V
2
4
6
8
10
12
14
16
18
20
keV

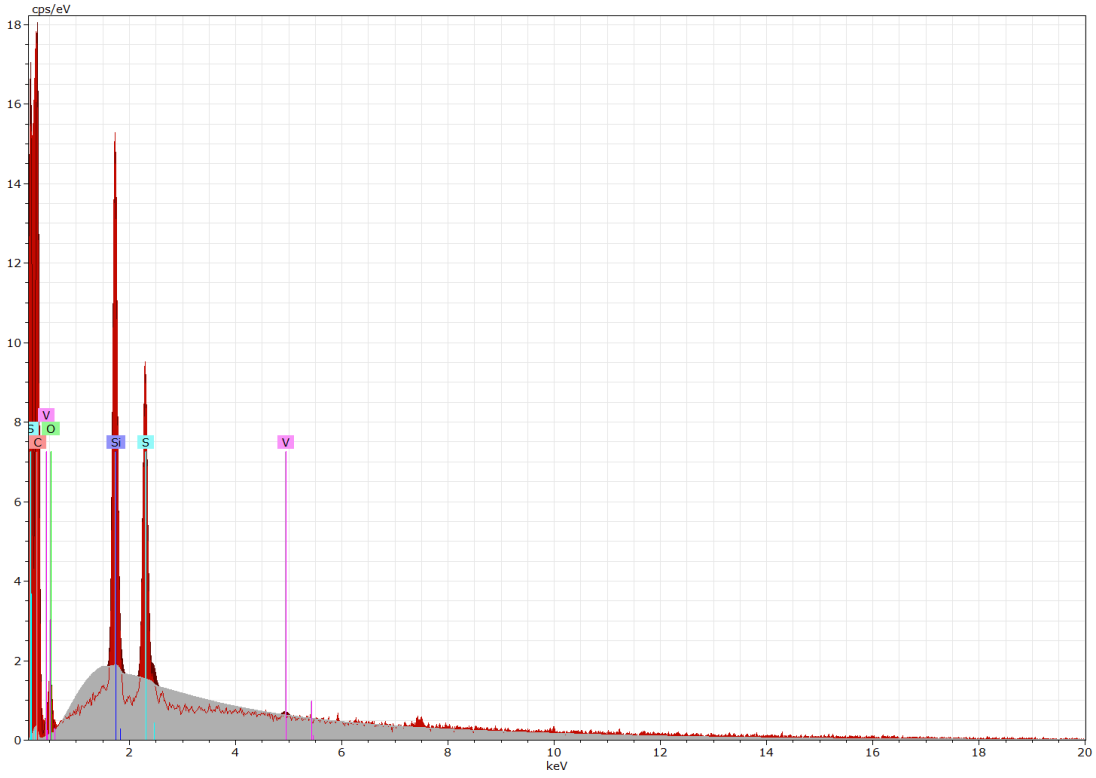

M091-Particle 3
mag
6 000 x
HV
25.00 kV
WD
10.1 mm
HFW
49.7 µm
20 µm
photo caption

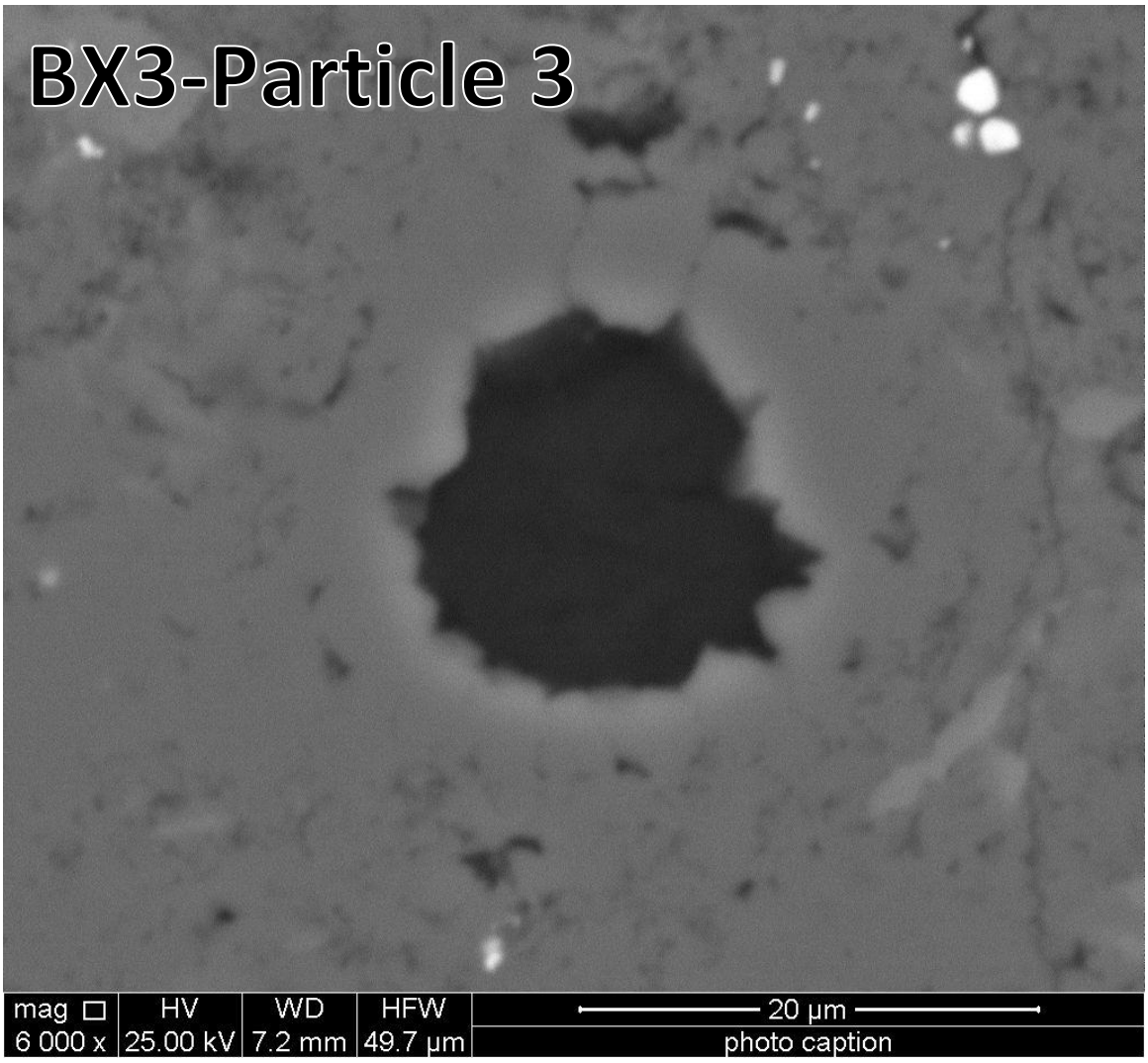

cps/eV
250
200
150
100
50
0
C
V
Cl
O
Al
Si
S
Cl
V
2
4
6
8
10
12
14
16
18
20
keV

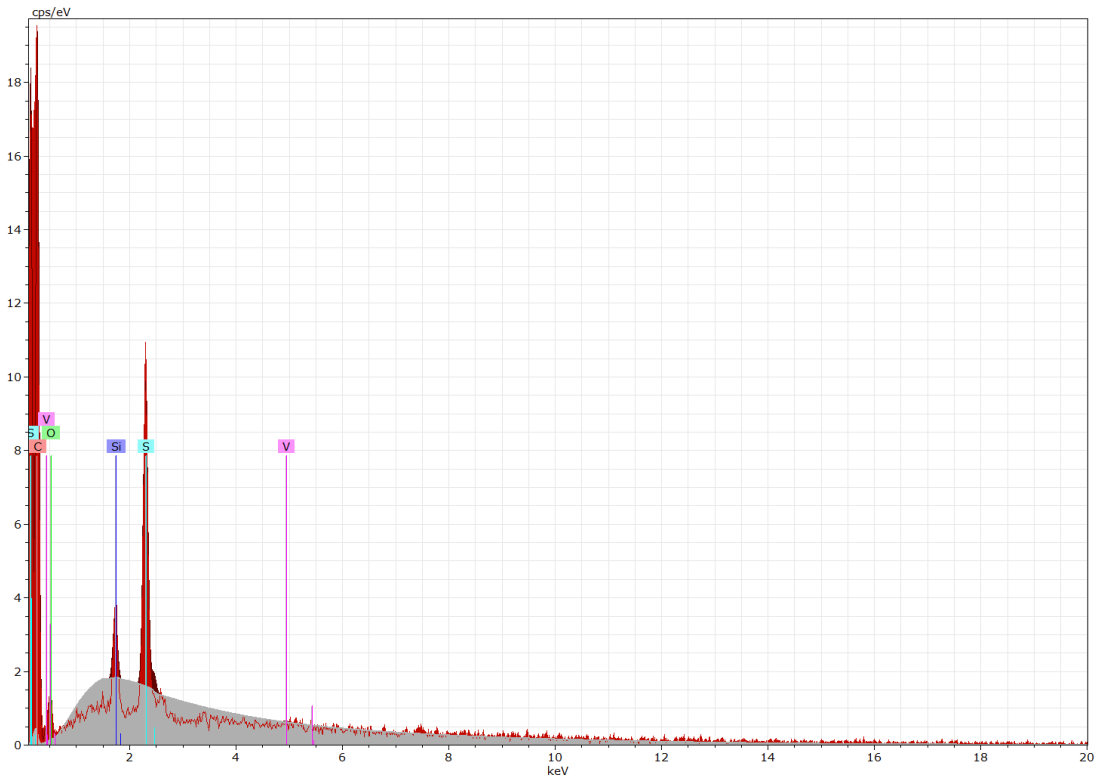

M091-Particle 4
mag
6 000 x
HV
25.00 kV
WD
10.0 mm
HFW
49.7 µm
20 µm
photo caption

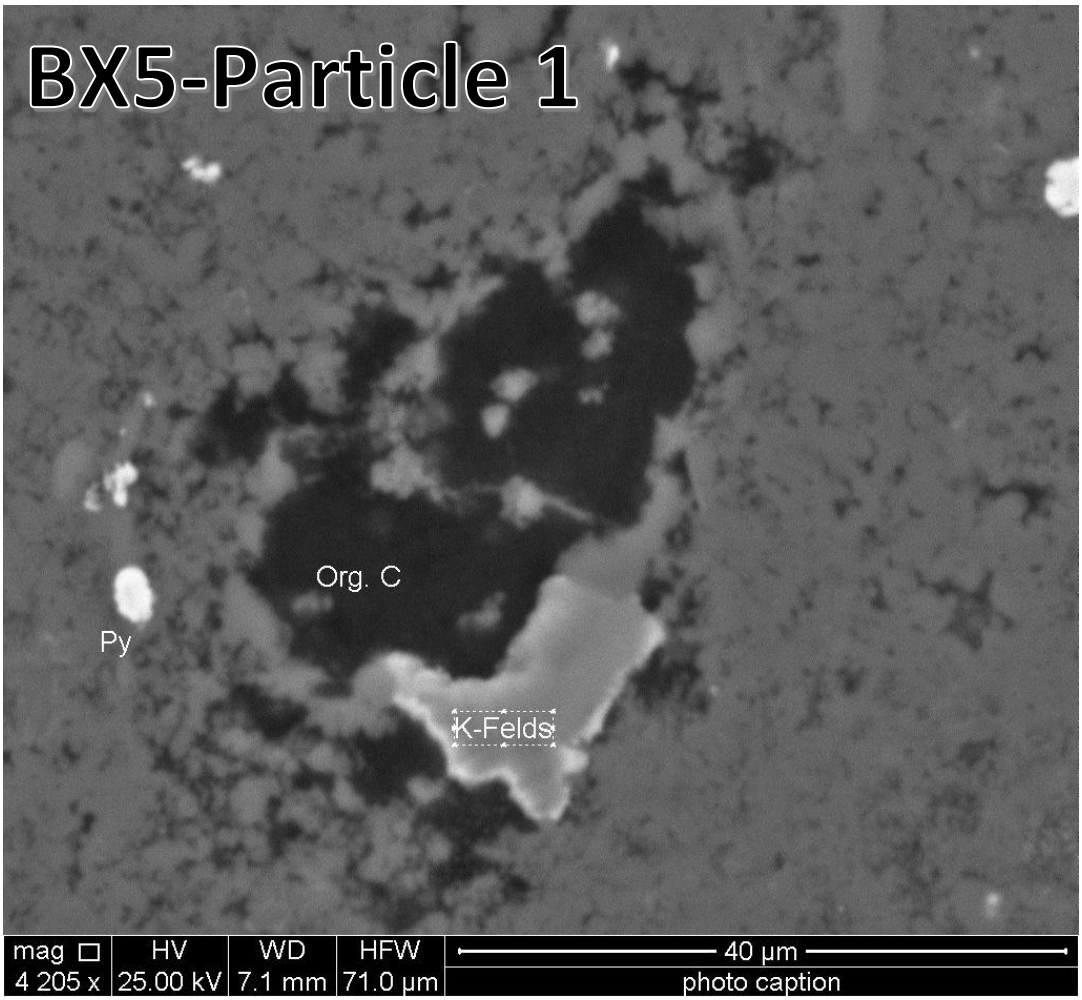

cps/eV
250
200
150
100
50
0
V
C
Cl
Fe
O
Si
S
Cl
Ca
V
Fe
Ca
2
4
6
8
10
12
14
16
18
20
keV

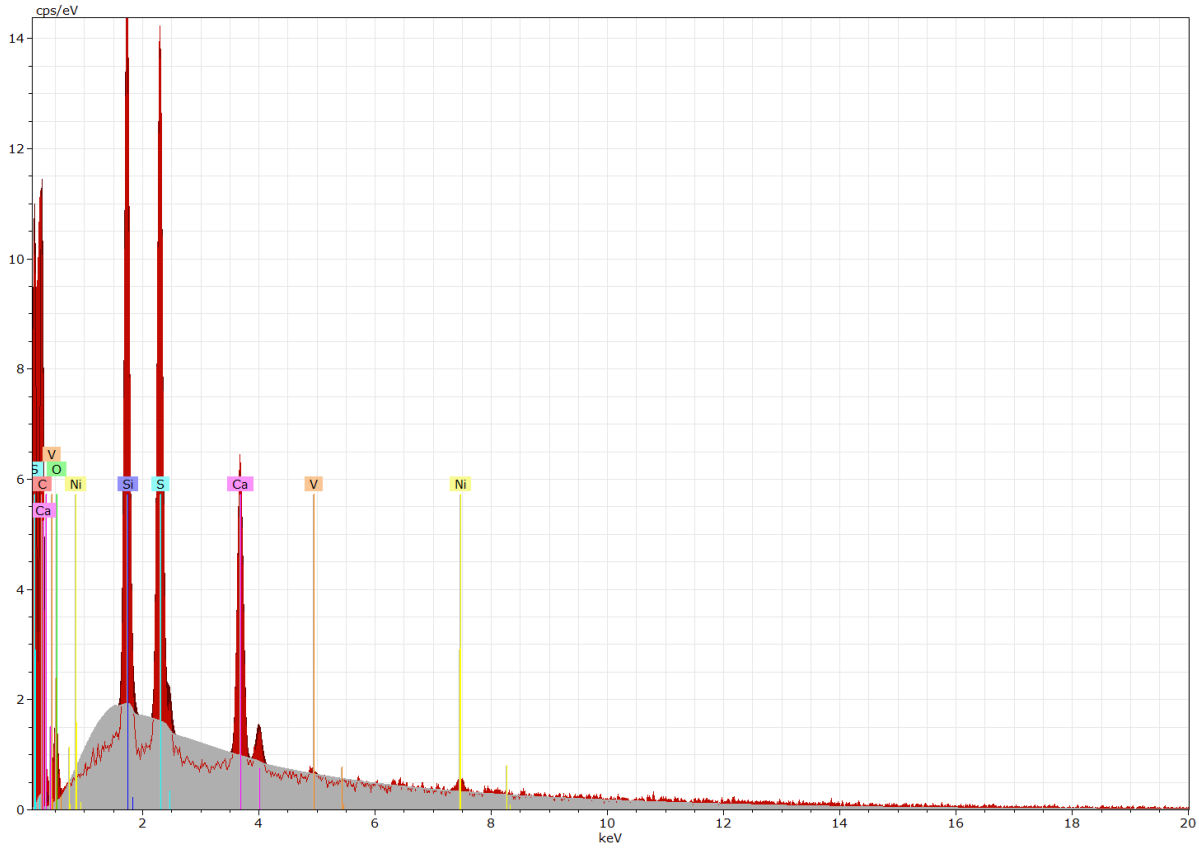

BX3-Particle 2
mag
3 000 x
HV
25.00 kV
WD
7.2 mm
HFW
99.5 µm
50 µm
photo caption

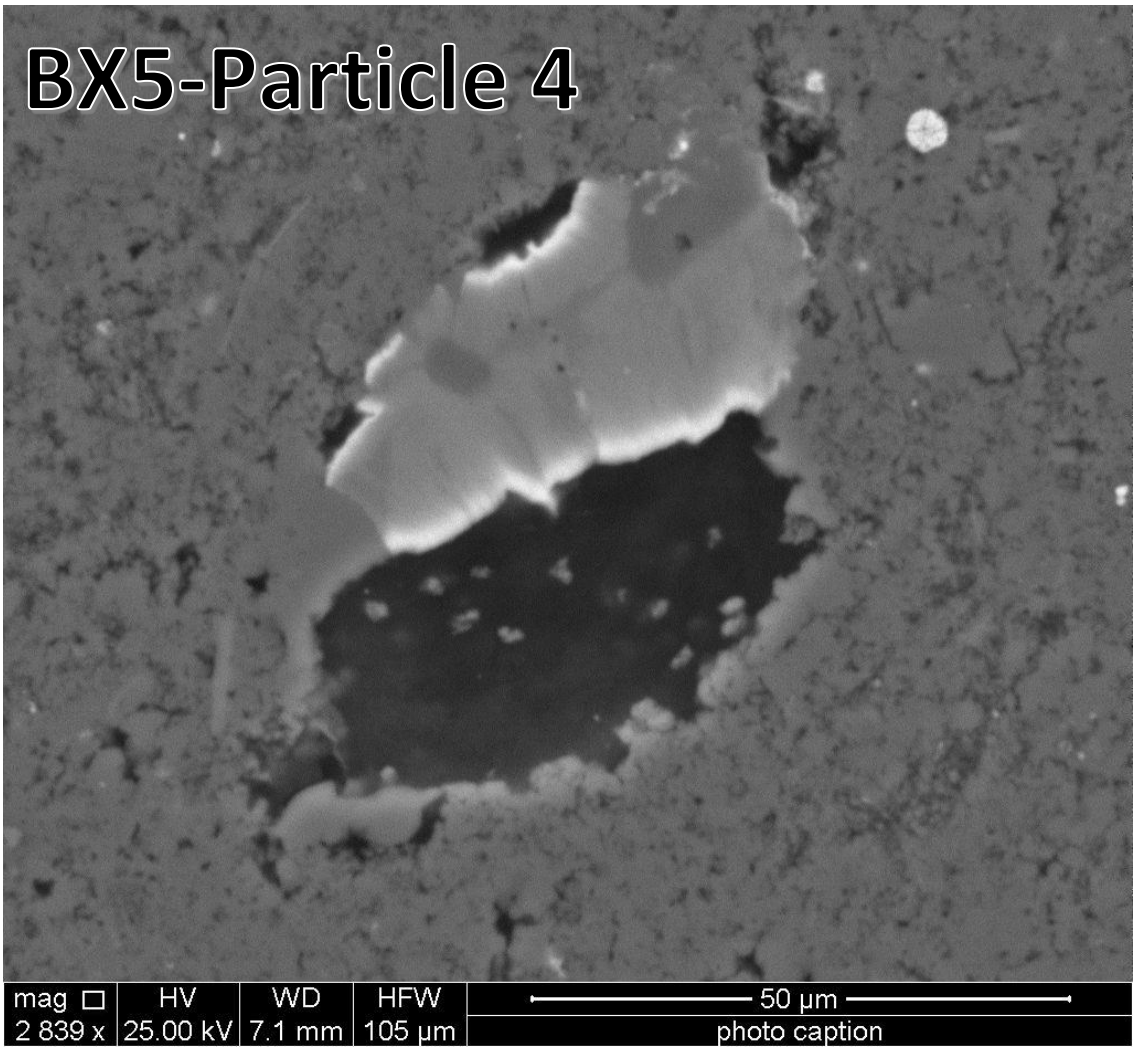

cps/eV
18
16
14
12
10
8
6
4
2
0
V
S
O
C
Si
S
V
2
4
6
8
10
12
14
16
18
20
keV

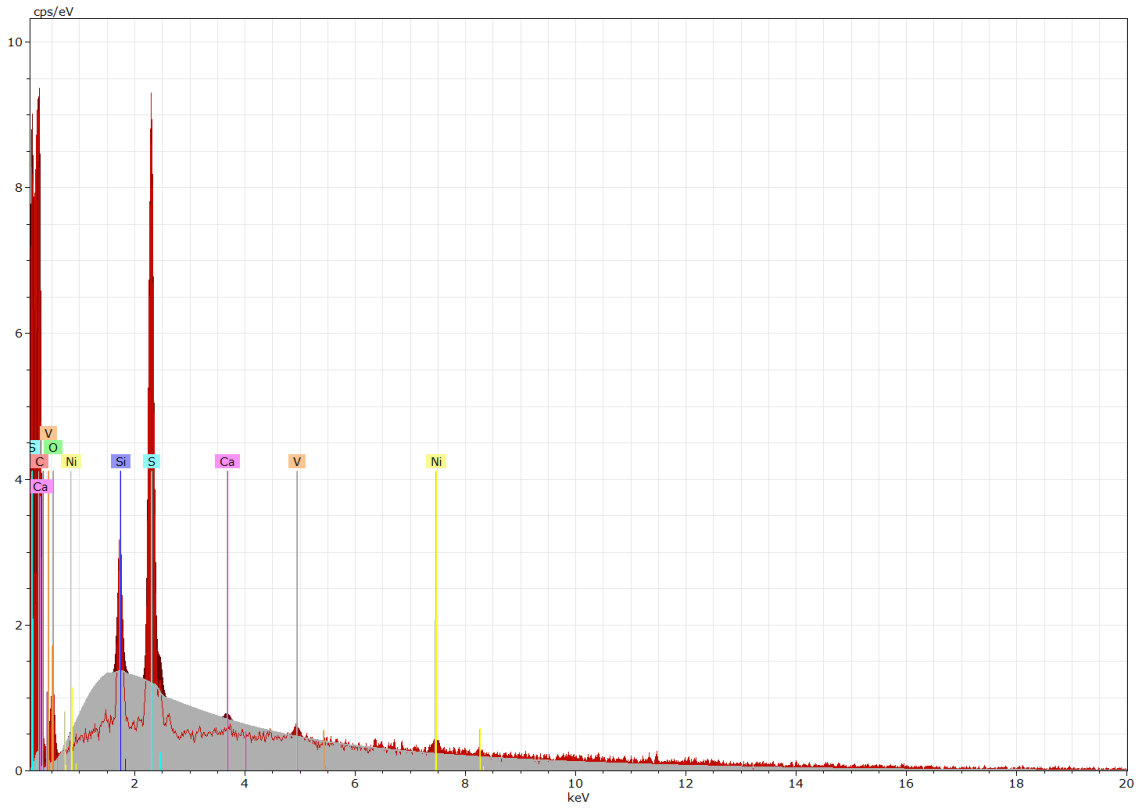

BX3-Particle 3
mag
6 000 x
HV
25.00 kV
WD
7.2 mm
HFW
49.7 µm
20 µm
photo caption


cps/eV
V
O
C
Si
S
V
keV


BX5-Particle 1
Org. C
Py
K-Felds
mag
4 205 x
HV
25.00 kV
WD
7.1 mm
HFW
71.0 µm
40 µm
photo caption


cps/eV
keV
V
O
C
Ni
Si
S
Ca
V
Ni
Ca


BX5-Particle 4
mag
2 839 x
HV
25.00 kV
WD
7.1 mm
HFW
105 µm
50 µm
photo caption


cps/eV
10
8
6
4
2
0
V
O
C
Ni
Si
S
Ca
V
Ni
Ca
2
4
6
8
10
12
14
16
18
20
keV

APPENDIX J - BIOLEACHING RESULTS

BIO CULTURE ADAPTATION

Client: Song Tao Mining
Test: Bio Culture Adaptation
Sample: M091
Assay: 0.28 % V

Date: 7-Jan-21
Project No.: 2002911

Test Description:

-5g M091 sample placed into three 250ml baffled bottom flasks (test 1-3)
-added 100mL of nutrient solution (9K)
-pH adjusted to ~2 with 6M sulphuric acid
-added culture as indicated
-measured initial pH and ORP
-flasks placed on shaker
-monitored ORP as recorded in test data table;
-solution sample for assay when ORP reading >550mV.

Test Data:

Culture tested:	Test 1 Pyrite culture as inn		Test 2 Chalcopyrite culture inn		Test 3 Mesophille* culture inn	
	pH	ORP,mV	pH	ORP,mV	pH	ORP,mV
Initial	1.93	427	1.90	410	1.86	410
After Inoculum	1.85	533	1.84	495		471
Day 2	1.77	482	1.77	450	1.76	424
Day 8	1.58	474	1.54	451	1.54	433
Day 16	1.51	460		442	1.51	431
Day 27		572		449		437
Day 29		595		455		442
Day 30		611		473		476
Day 35		638		478		488
	Day 35 developed culture as inoculum for new 5g sample				** from Australia*	

Test 1				
Sample time, Day	Total volume ml	Assay V, mg/L	Assay V, mg	Recovery*, V%
27	145	4.13	0.60	4.3
29	145	4.36	0.63	4.5
30	150	3.83	0.57	4.1
35	155	3.94	0.61	4.4

BIO CULTURE ADAPTATION

Client: Song Tao Mining
Test: New B1
Sample: M091
Assay: 0.28 % V

Date: 8-Feb-21
Project No.: 2002911

Test Description:

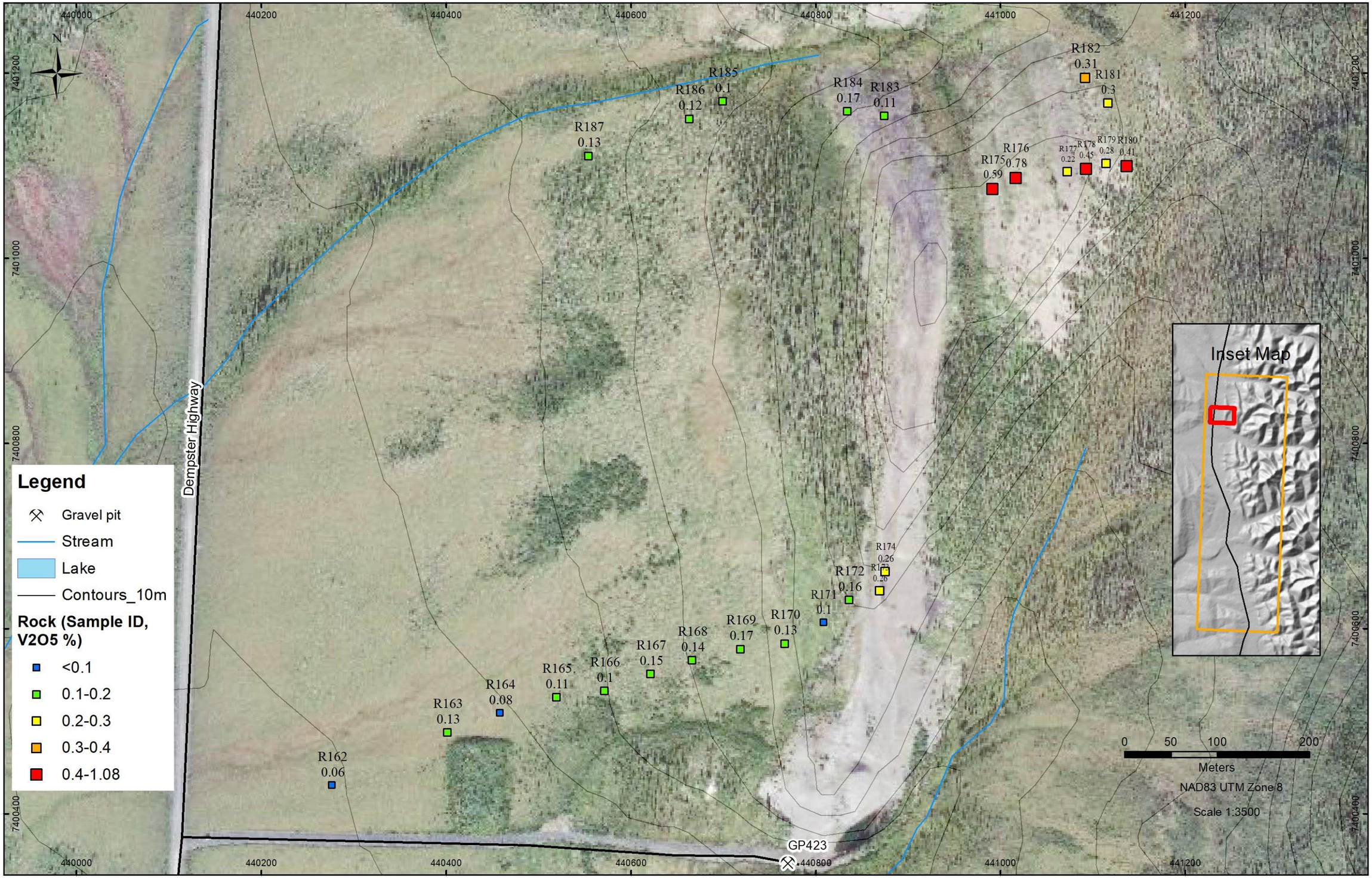
-5g M091 sample placed into the 250ml baffled bottom flask
-added 100mL of nutrient solution (9K)
-pH adjusted to ~2 with 6M sulphuric acid
-added developed culture from Test 1
-measured initial ORP
-flasks placed on shaker
-monitored ORP as recorded in test data table;
-solution sample for assay

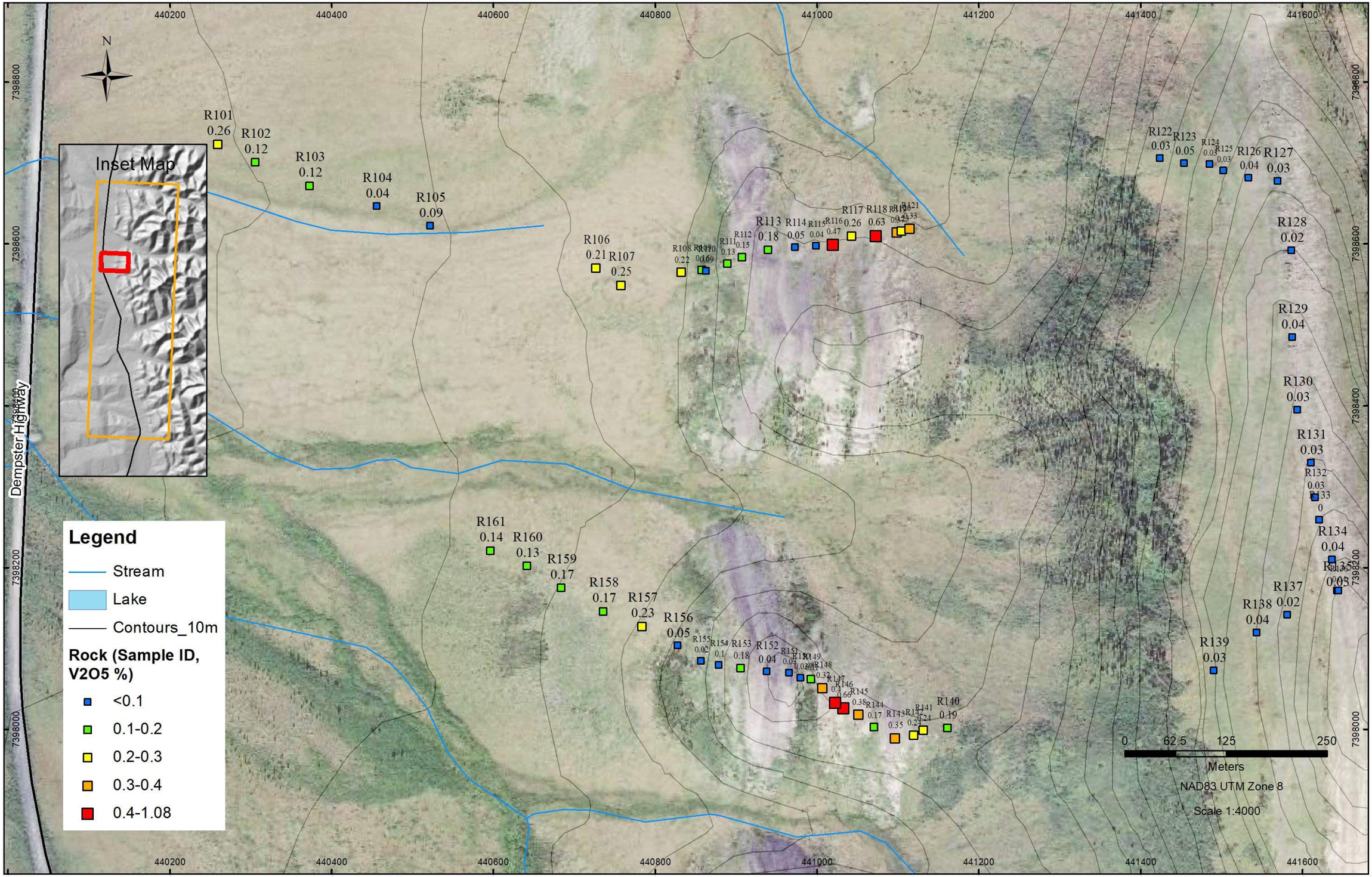
Test Data:

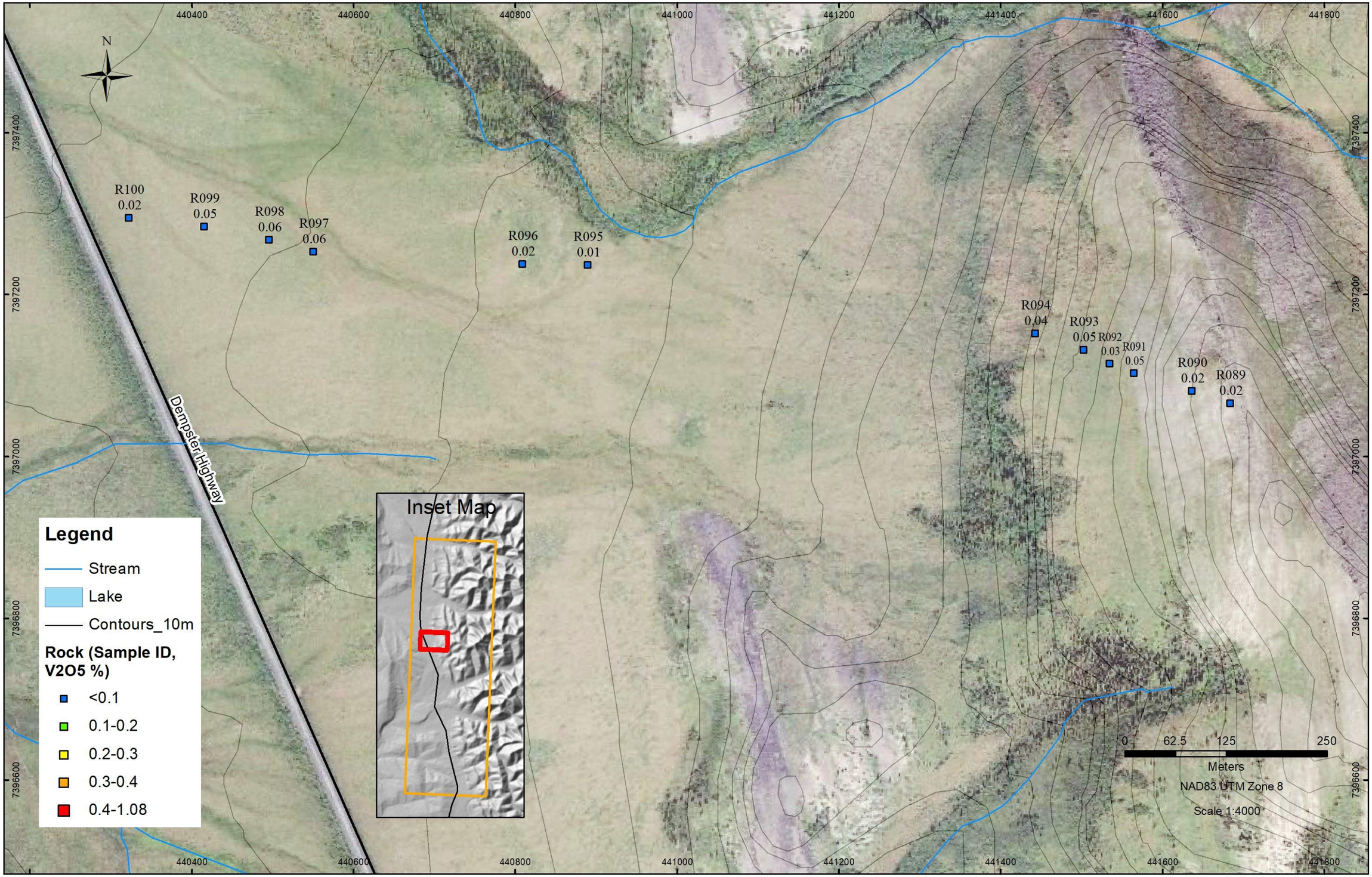
	New B1	
	pH	ORP,mV
Initial		468
Test 1 Inoculum		-
Day 14	1.45	499
Day 15		506
Day 16		522
Day 20		558
Day 27		635
Day 37		636

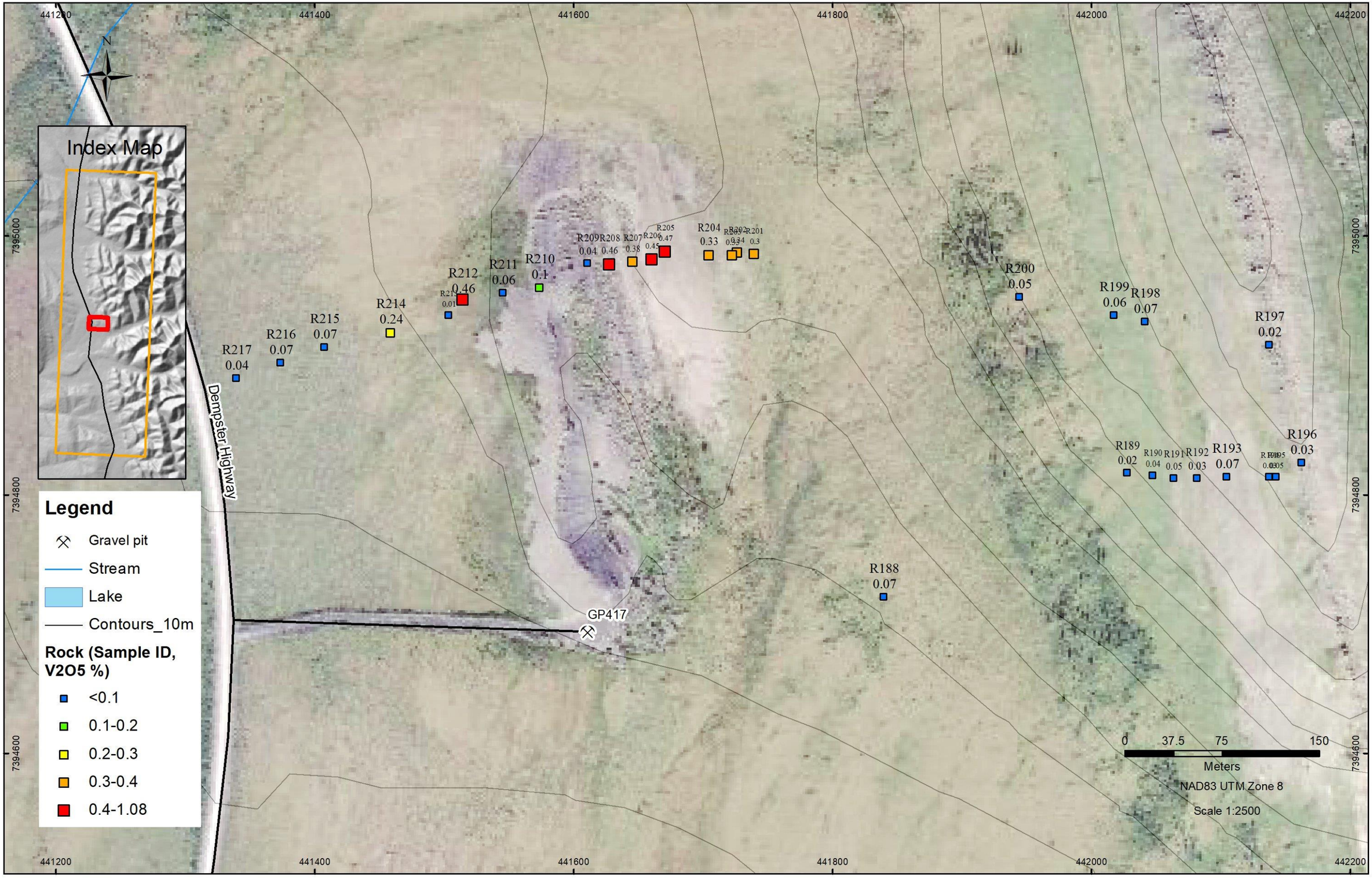
New B1				
Sample time, Day	Total volume ml	Assay V, mg/L	Assay V, mg	Recovery*, V%
20	140	5.72	0.80	5.7
27	140	6.32	0.88	6.3
37	150	4.52	0.74	5.3

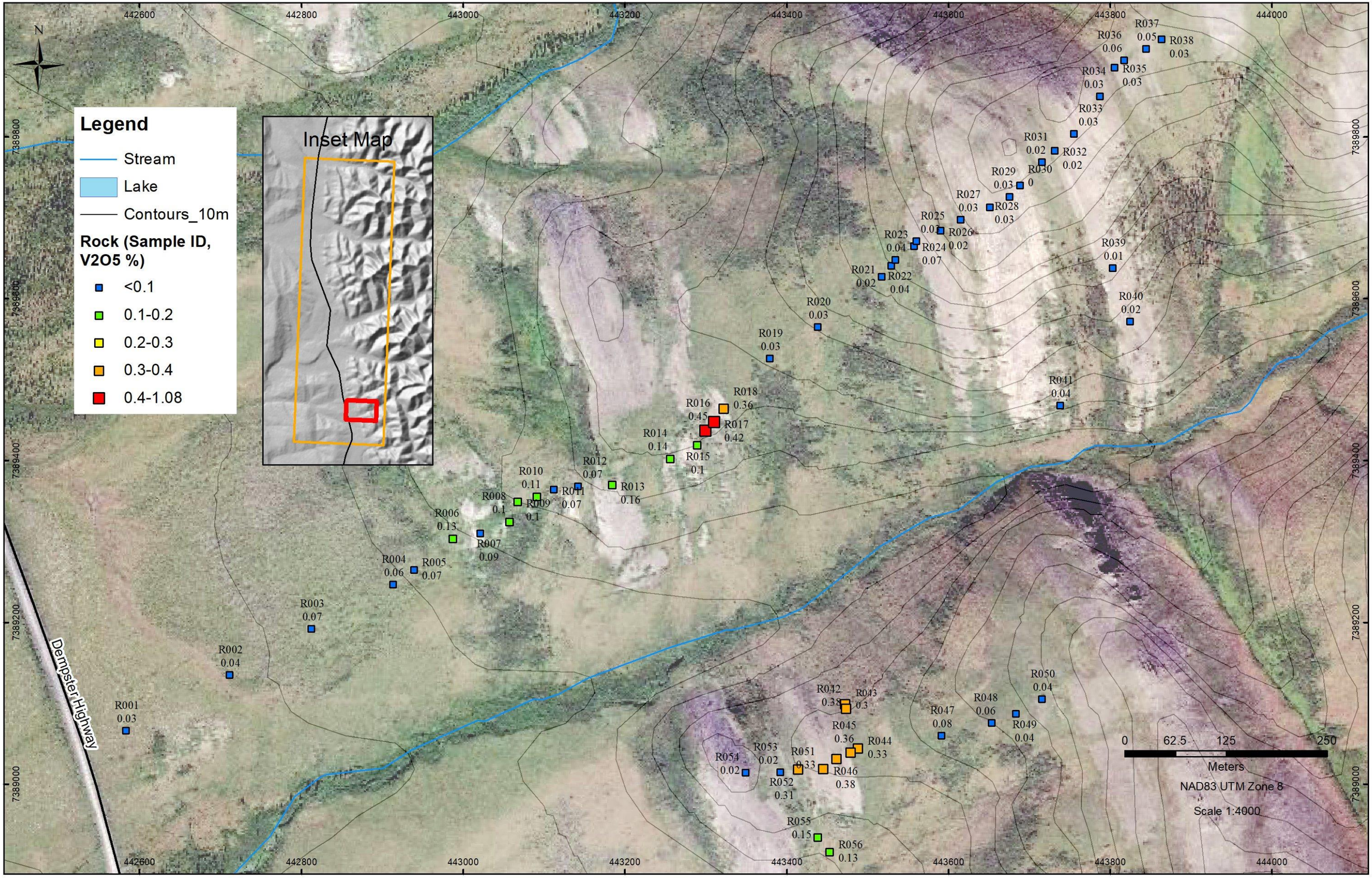
APPENDIX K - PLOTS OF SAMPLE ID & V_2O_5 RESULTS (JULY 15-21, 2020)

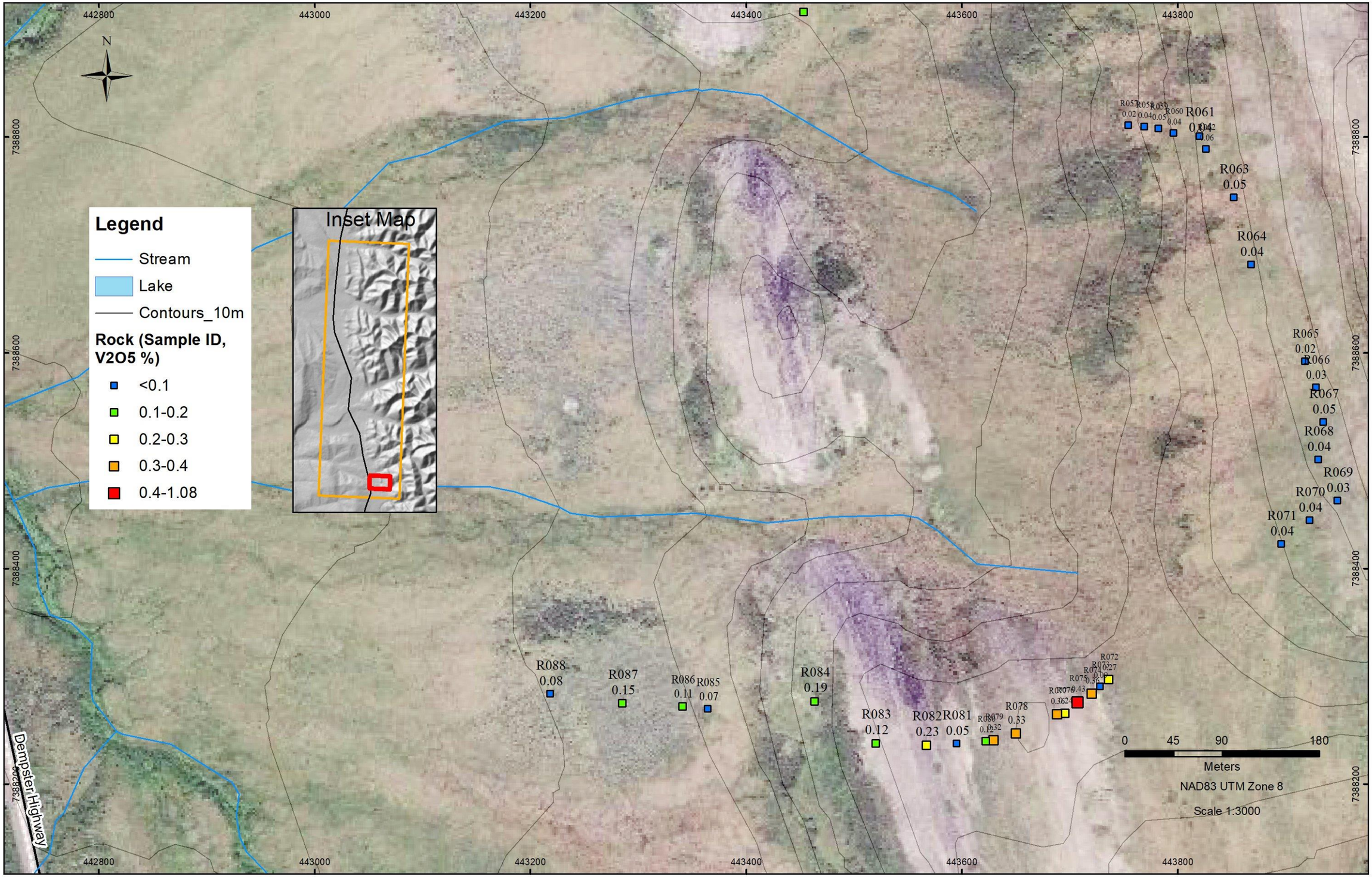

N
440000
440200
440400
440600
440800
441000
441200
7401200
7401000
7400800
7400600
7400400
Dempster Highway
R187
0.13
R186
0.12
R185
0.1
R184
0.17
R183
0.11
R182
0.31
R181
0.3
R175
0.59
R176
0.78
R177
0.22
R178
0.45
R179
0.28
R180
0.41
R162
0.06
R163
0.13
R164
0.08
R165
0.11
R166
0.1
R167
0.15
R168
0.14
R169
0.17
R170
0.13
R171
0.1
R172
0.16
R174
0.26
GP423
Inset Map
Legend
Gravel pit
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0
50
100
200
Meters
NAD83 UTM Zone 8
Scale 1:3500


N
Inset Map
Dempster Highway
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
R101 0.26
R102 0.12
R103 0.12
R104 0.04
R105 0.09
R106 0.21
R107 0.25
R108 0.22
R109 0.09
R110 0.09
R111 0.13
R112 0.15
R113 0.18
R114 0.05
R115 0.04
R116 0.47
R117 0.26
R118 0.63
R119 0.33
R120 0.21
R121 0.33
R122 0.03
R123 0.05
R124 0.03
R125 0.03
R126 0.04
R127 0.03
R128 0.02
R129 0.04
R130 0.03
R131 0.03
R132 0.03
R133 0
R134 0.04
R135 0.03
R136 0.02
R137 0.02
R138 0.04
R139 0.03
R140 0.19
R141 0.24
R142 0.27
R143 0.35
R144 0.17
R145 0.38
R146 0.66
R147 0.4
R148 0.32
R149 0.03
R150 0.03
R151 0.05
R152 0.04
R153 0.18
R154 0.1
R155 0.02
R156 0.05
R157 0.23
R158 0.17
R159 0.17
R160 0.13
R161 0.14
440200
440400
440600
440800
441000
441200
441400
441600
7398800
7398600
7398400
7398200
7398000
0
62.5
125
250
Meters
NAD83 UTM Zone 8
Scale 1:4000

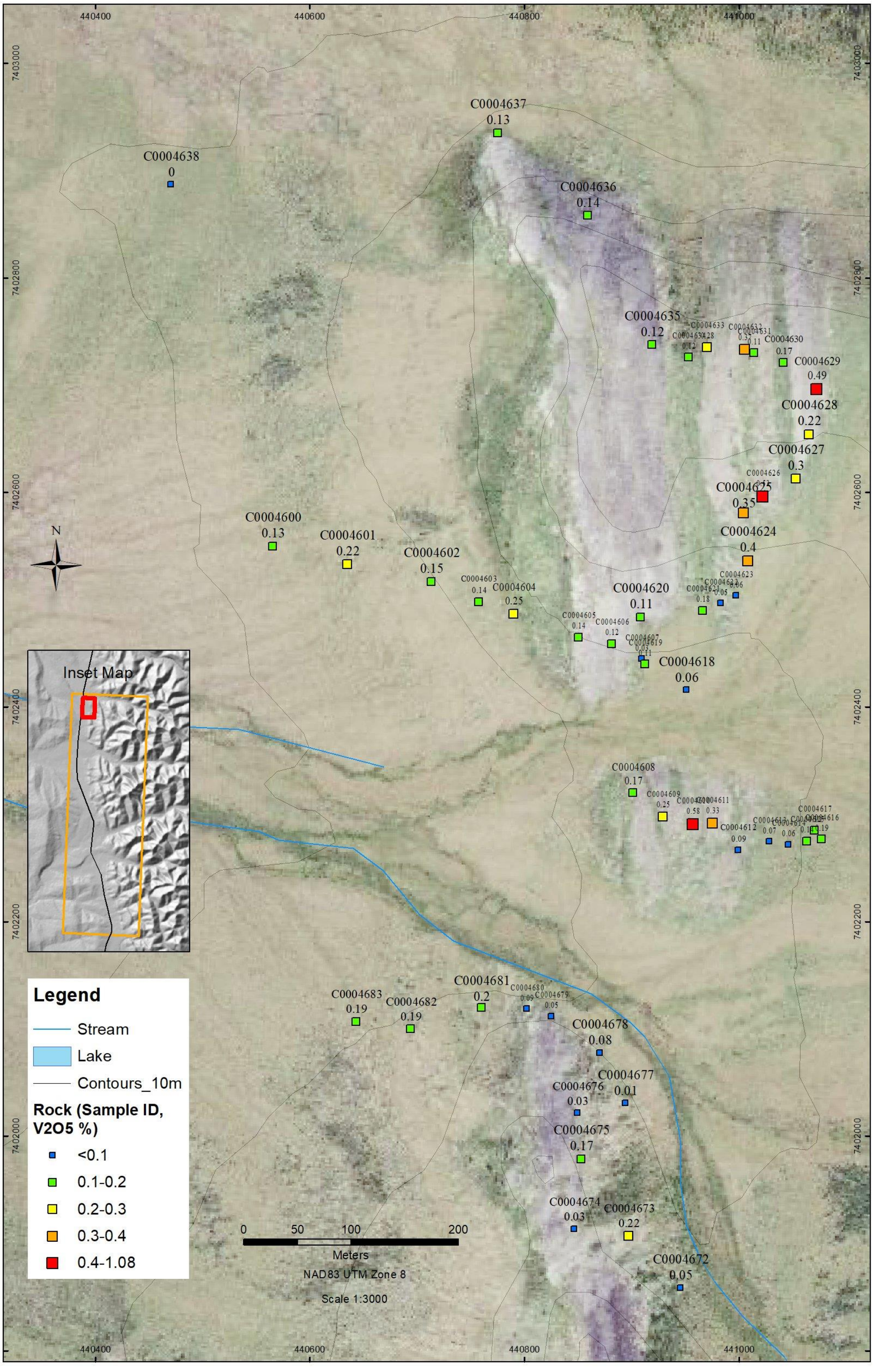

N
440400
440600
440800
441000
441200
441400
441600
441800
7397400
7397200
7397000
7396800
7396600
R100
0.02
R099
0.05
R098
0.06
R097
0.06
R096
0.02
R095
0.01
R094
0.04
R093
0.05
R092
0.03
R091
0.05
R090
0.02
R089
0.02
Dempster Highway
Inset Map
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0
62.5
125
250
Meters
NAD83 UTM Zone 8
Scale 1:4000

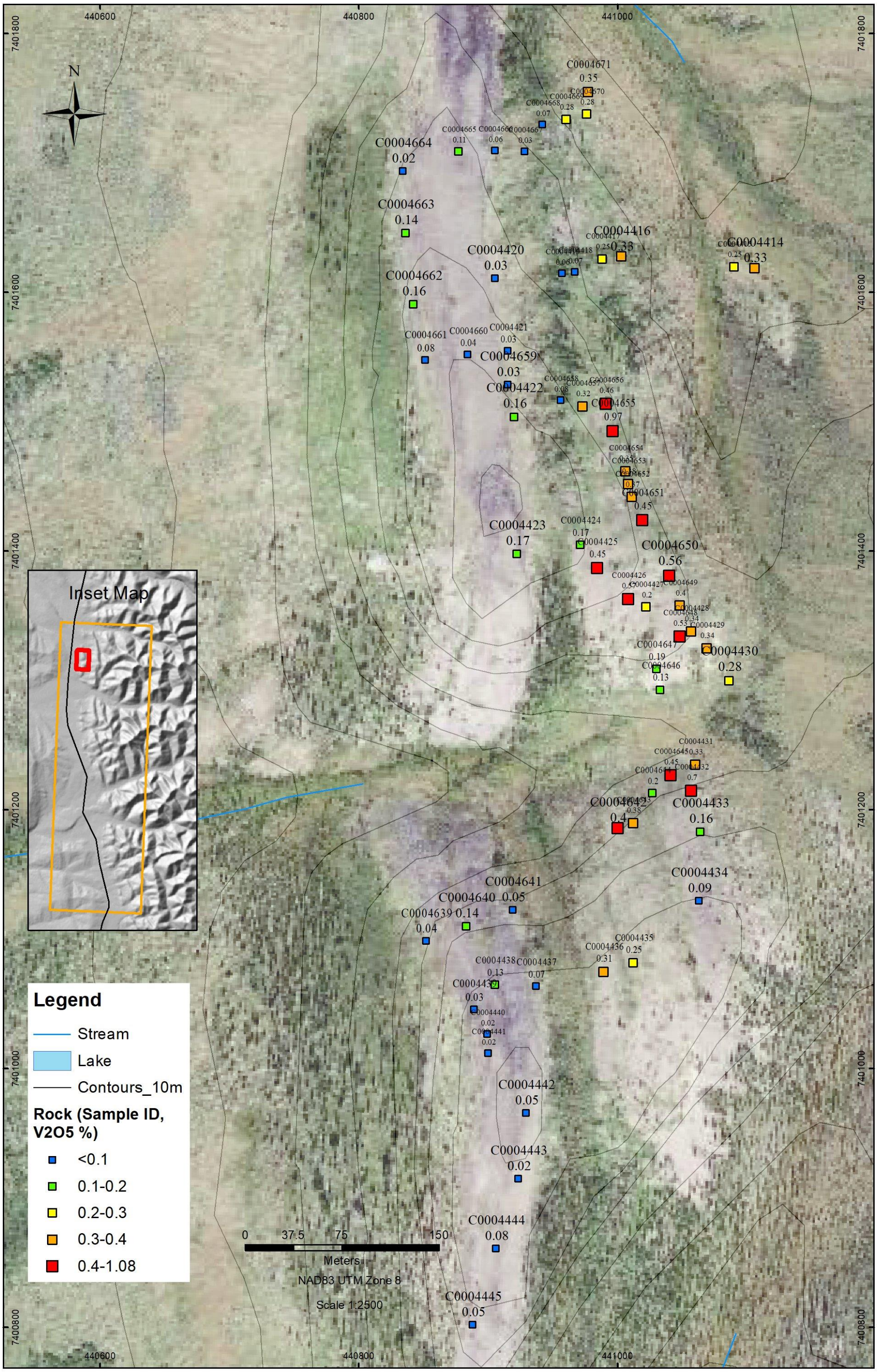

441200
441400
441600
441800
442000
442200
7395000
7394800
7394600
N
Index Map
Dempster Highway
GP417
R188
0.07
R189
0.02
R190
0.04
R191
0.05
R192
0.03
R193
0.07
R196
0.03
R197
0.02
R198
0.07
R199
0.06
R200
0.05
R201
0.3
R204
0.33
R205
0.47
R206
0.45
R207
0.38
R208
0.46
R209
0.04
R210
0.1
R211
0.06
R212
0.46
R214
0.24
R215
0.07
R216
0.07
R217
0.04
Legend
Gravel pit
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0
37.5
75
150
Meters
NAD83 UTM Zone 8
Scale 1:2500

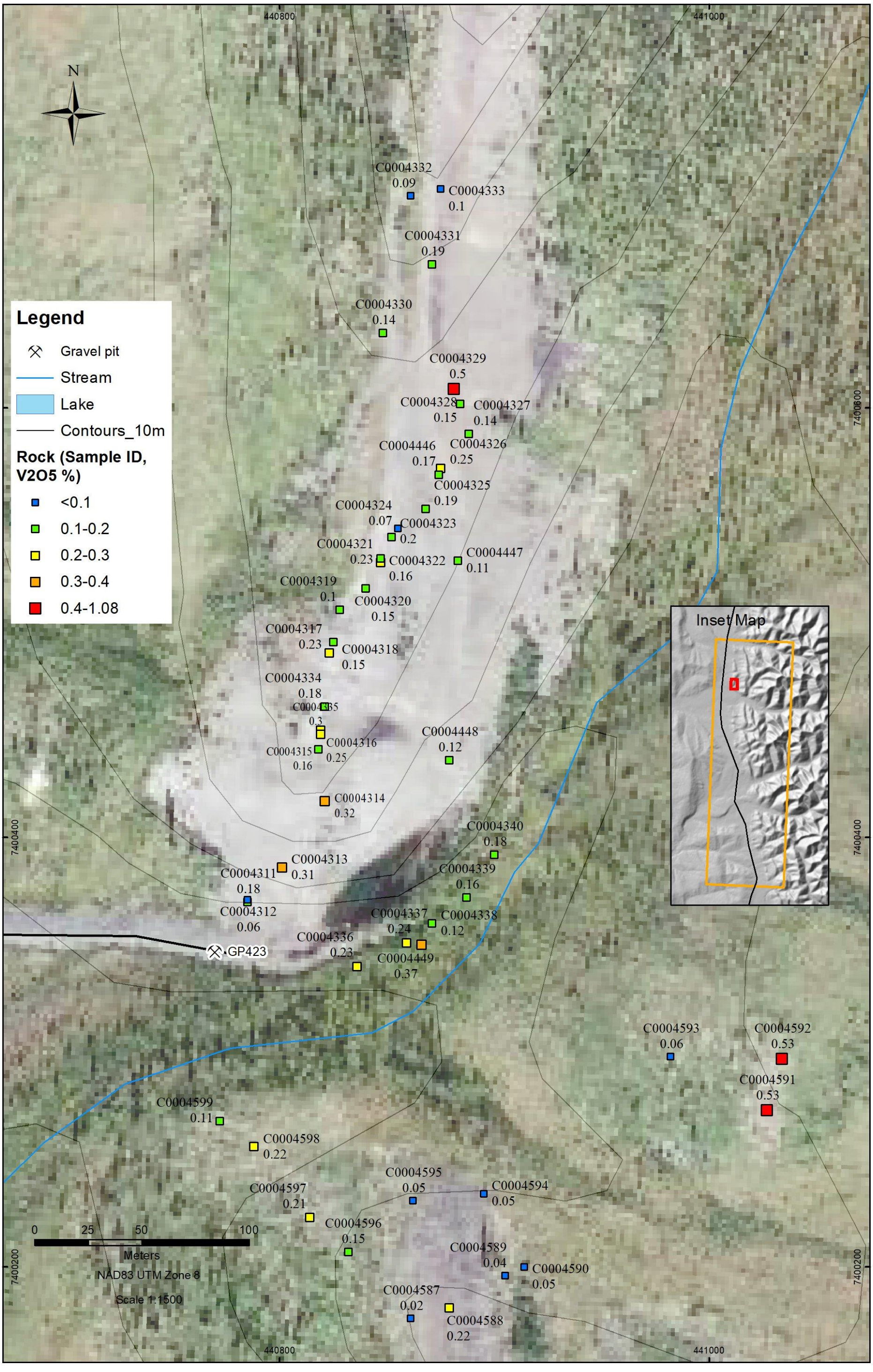

N
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
Inset Map
Dempster Highway
R001 0.03
R002 0.04
R003 0.07
R004 0.06
R005 0.07
R006 0.13
R007 0.09
R008 0.1
R009 0.1
R010 0.11
R011 0.07
R012 0.07
R013 0.16
R014 0.14
R015 0.1
R016 0.45
R017 0.42
R018 0.36
R019 0.03
R020 0.03
R021 0.02
R022 0.04
R023 0.04
R024 0.07
R025 0.03
R026 0.02
R027 0.03
R028 0.03
R029 0.03
R030 0
R031 0.02
R032 0.02
R033 0.03
R034 0.03
R035 0.03
R036 0.06
R037 0.05
R038 0.03
R039 0.01
R040 0.02
R041 0.04
R042 0.38
R043 0.3
R044 0.33
R045 0.36
R046 0.38
R047 0.08
R048 0.06
R049 0.04
R050 0.04
R051 0.33
R052 0.31
R053 0.02
R054 0.02
R055 0.15
R056 0.13
442600
442800
443000
443200
443400
443600
443800
444000
7389800
7389600
7389400
7389200
7389000
0
62.5
125
250
Meters
NAD83 UTM Zone 8
Scale 1:4000

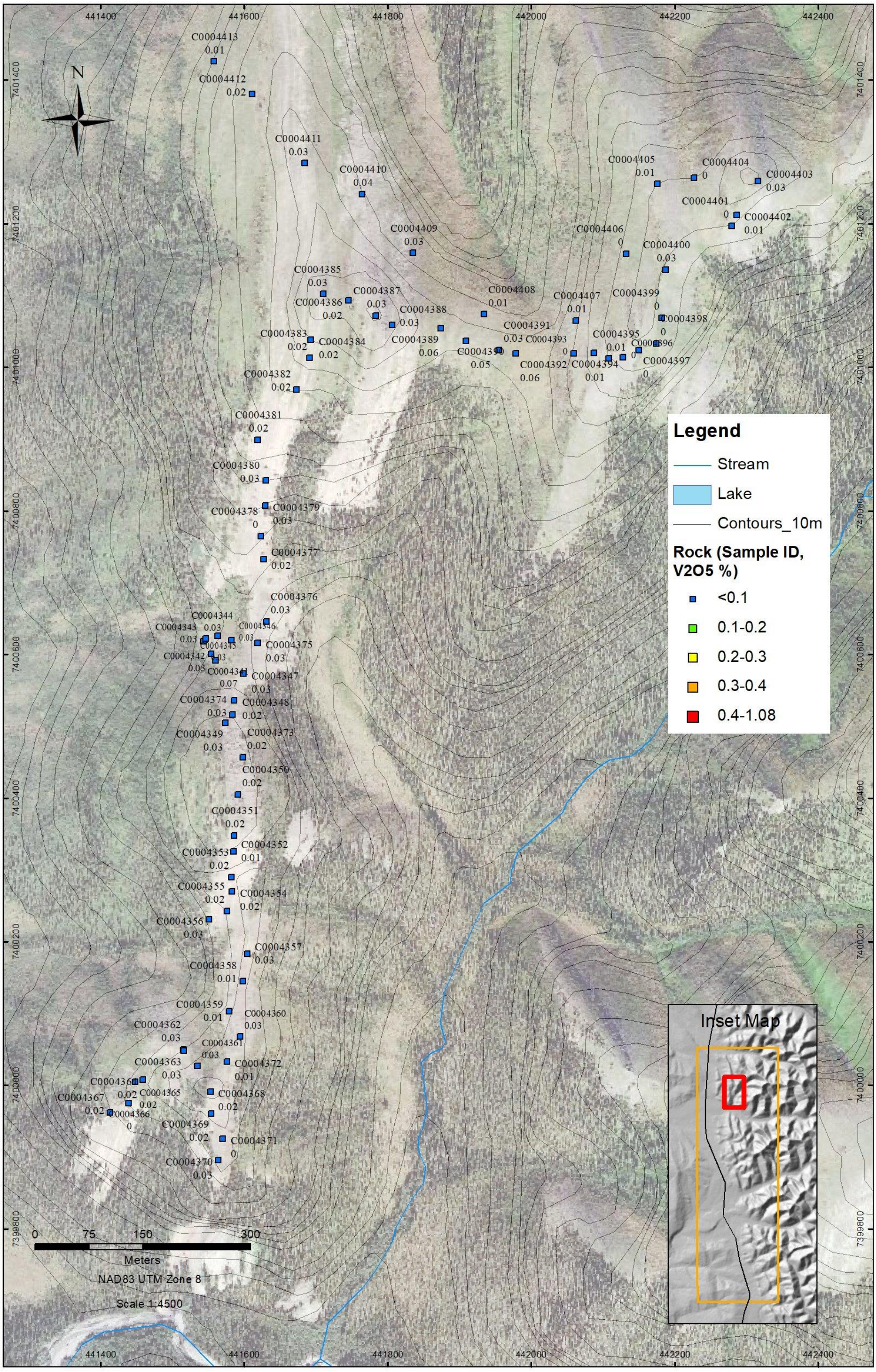

Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
Inset Map
N
442800
443000
443200
443400
443600
443800
7388800
7388600
7388400
7388200
R057 0.02
R058 0.04
R059 0.05
R060 0.04
R061 0.04
R062 0.06
R063 0.05
R064 0.04
R065 0.02
R066 0.03
R067 0.05
R068 0.04
R069 0.03
R070 0.04
R071 0.04
R072
R073
R074
R075
R076
R077
R078 0.33
R079
R080
R081 0.05
R082 0.23
R083 0.12
R084 0.19
R085 0.07
R086 0.11
R087 0.15
R088 0.08
Dempster Highway
0 45 90 180
Meters
NAD83 UTM Zone 8
Scale 1:3000

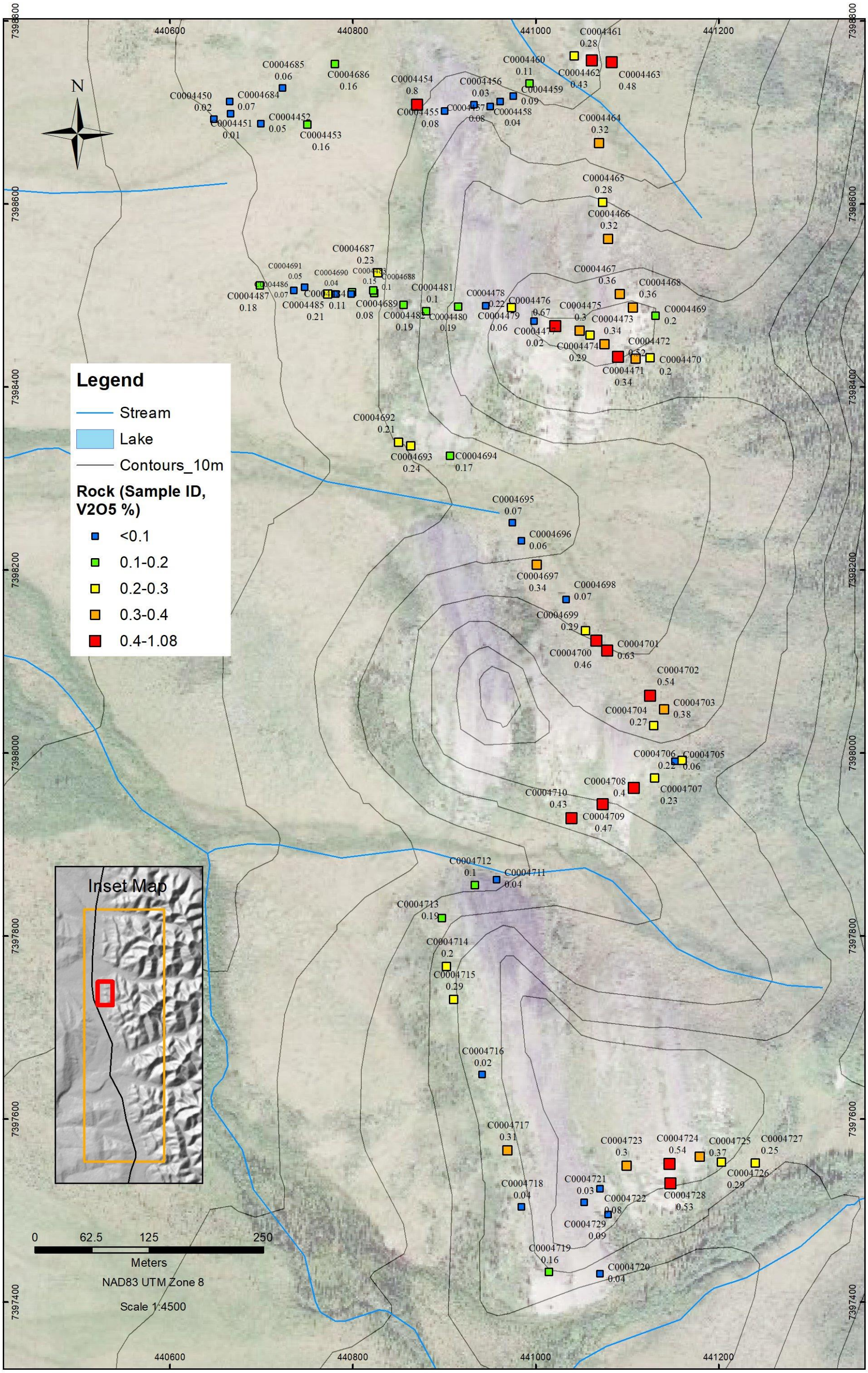
APPENDIX L - PLOTS OF SAMPLE ID & V_2O_5 RESULTS (JULY 23-27, 2020)

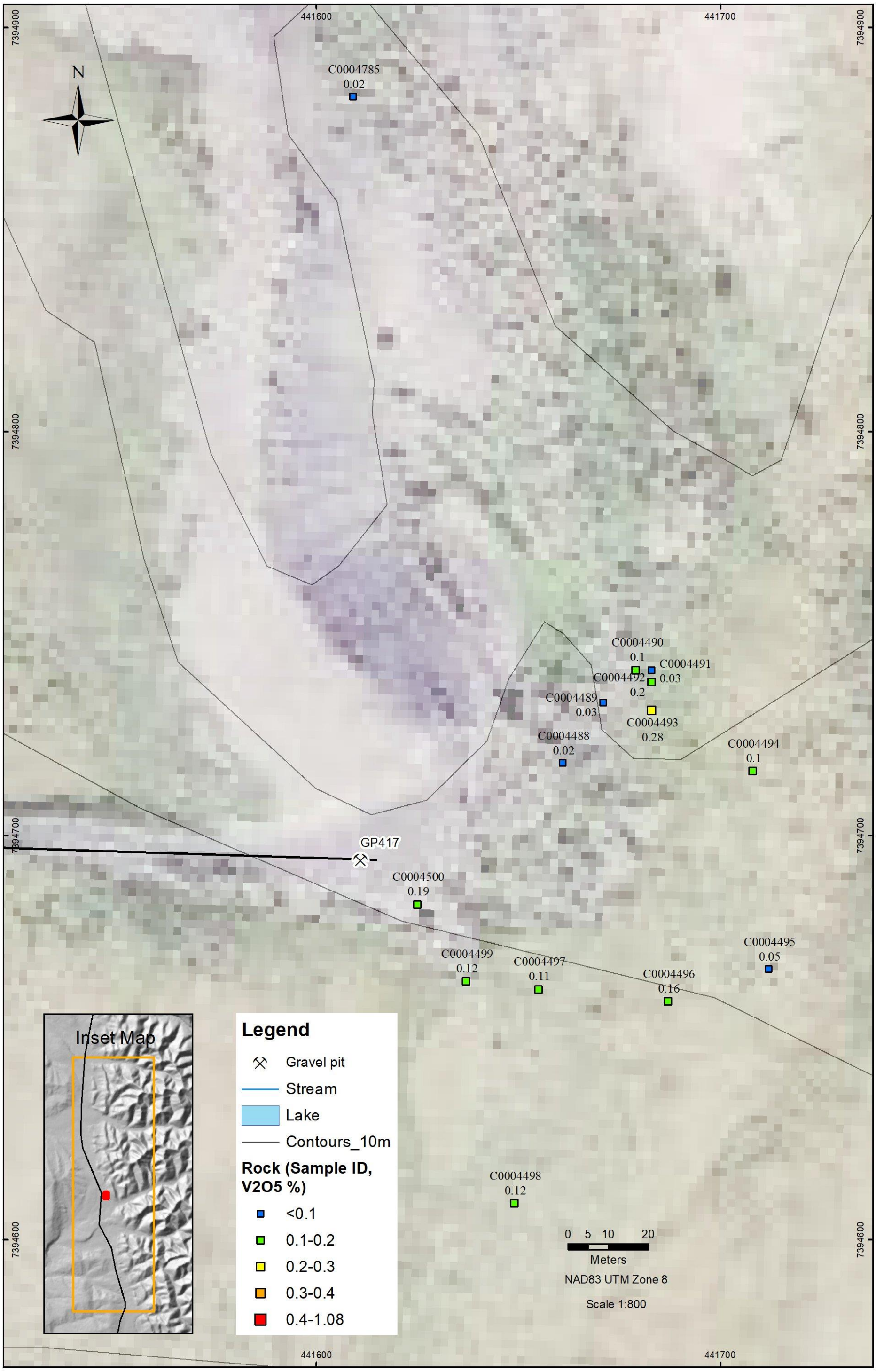

440400
440600
440800
441000
7403000
7402800
7402600
7402400
7402200
7402000
C0004637
0.13
C0004638
0
C0004636
0.14
C0004635
0.12
C0004633
C0004632
C0004631
C0004630
0.17
C0004629
0.49
C0004628
0.22
C0004627
0.3
C0004626
C0004625
0.35
C0004624
0.4
C0004623
C0004622
C0004621
0.18
C0004600
0.13
C0004601
0.22
C0004602
0.15
C0004603
0.14
C0004604
0.25
C0004620
0.11
C0004605
0.14
C0004606
0.12
C0004607
C0004619
C0004618
0.06
N
Inset Map
C0004608
0.17
C0004609
0.25
C0004610
0.58
C0004611
0.33
C0004612
0.09
C0004617
C0004616
C0004614
0.07
0.06
C0004681
0.2
C0004680
0.09
C0004679
0.05
C0004683
0.19
C0004682
0.19
C0004678
0.08
C0004677
0.01
C0004676
0.03
C0004675
0.17
C0004674
0.03
C0004673
0.22
C0004672
0.05
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0
50
100
200
Meters
NAD83 UTM Zone 8
Scale 1:3000


N
440600
440800
441000
7401800
7401600
7401400
7401200
7401000
7400800
Inset Map
C0004671
0.35
C0004670
0.28
C0004669
0.28
C0004668
0.07
C0004665
0.11
C0004666
0.06
C0004667
0.03
C0004664
0.02
C0004663
0.14
C0004662
0.16
C0004661
0.08
C0004660
0.04
C0004421
0.03
C0004659
0.03
C0004422
0.16
C0004658
0.08
C0004657
0.32
C0004656
0.46
C0004655
0.97
C0004654
C0004653
C0004652
C0004651
0.45
C0004424
0.17
C0004423
0.17
C0004425
0.45
C0004650
0.56
C0004426
0.5
C0004427
0.2
C0004649
0.4
C0004428
C0004648
0.34
0.53
C0004429
0.34
C0004647
0.19
C0004646
0.13
C0004430
0.28
C0004417
0.25
C0004416
0.33
C0004418
0.06
0.07
C0004414
0.25
0.33
C0004431
C0004645
0.33
0.45
C0004644
0.2
C0004432
0.7
C0004643
0.38
C0004642
0.4
C0004433
0.16
C0004641
C0004640
0.05
C0004639
0.14
0.04
C0004434
0.09
C0004435
C0004436
0.25
0.31
C0004438
0.13
C0004437
0.07
C0004439
0.03
C0004440
0.02
C0004441
0.02
C0004442
0.05
C0004443
0.02
C0004444
0.08
C0004445
0.05
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0
37.5
75
150
Meters
NAD83 UTM Zone 8
Scale 1:2500


N
440800
441000
7400600
7400400
7400200
Legend
Gravel pit
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
C0004332 0.09
C0004333 0.1
C0004331 0.19
C0004330 0.14
C0004329 0.5
C0004328 0.15
C0004327 0.14
C0004446 0.17
C0004326 0.25
C0004325 0.19
C0004324 0.07
C0004323 0.2
C0004321 0.23
C0004322 0.16
C0004447 0.11
C0004319 0.1
C0004320 0.15
C0004317 0.23
C0004318 0.15
C0004334 0.18
C0004335 0.3
C0004316 0.25
C0004315 0.16
C0004448 0.12
C0004314 0.32
C0004340 0.18
C0004313 0.31
C0004311 0.18
C0004339 0.16
C0004312 0.06
C0004337 0.24
C0004338 0.12
C0004336 0.23
C0004449 0.37
GP423
Inset Map
C0004593 0.06
C0004592 0.53
C0004591 0.53
C0004599 0.11
C0004598 0.22
C0004595 0.05
C0004594 0.05
C0004597 0.21
C0004596 0.15
C0004589 0.04
C0004590 0.05
C0004587 0.02
C0004588 0.22
0 25 50 100
Meters
NAD83 UTM Zone 8
Scale 1:1500


441400
441600
441800
442000
442200
442400
7401400
7401200
7401000
7400800
7400600
7400400
7400200
7400000
7399800
N
C0004413 0.01
C0004412 0.02
C0004411 0.03
C0004410 0.04
C0004409 0.03
C0004385 0.03
C0004386 0.02
C0004387 0.03
C0004388 0.03
C0004389 0.06
C0004390 0.05
C0004391 0.03
C0004392 0.06
C0004393 0
C0004394 0.01
C0004395 0.01
C0004396 0
C0004397 0
C0004398 0
C0004399 0
C0004400 0.03
C0004401 0
C0004402 0.01
C0004403 0.03
C0004404 0
C0004405 0.01
C0004406 0
C0004407 0.01
C0004408 0.01
C0004383 0.02
C0004384 0.02
C0004382 0.02
C0004381 0.02
C0004380 0.03
C0004378 0
C0004379 0.03
C0004377 0.02
C0004376 0.03
C0004344 0.03
C0004343 0.03
C0004346 0.03
C0004345 0.03
C0004342 0.03
C0004341 0.07
C0004375 0.03
C0004347 0.03
C0004374 0.03
C0004348 0.02
C0004349 0.03
C0004373 0.02
C0004350 0.02
C0004351 0.02
C0004352 0.01
C0004353 0.02
C0004355 0.02
C0004354 0.02
C0004356 0.03
C0004357 0.03
C0004358 0.01
C0004359 0.01
C0004360 0.03
C0004362 0.03
C0004361 0.03
C0004363 0.03
C0004372 0.01
C0004364 0.02
C0004365 0.02
C0004367 0.02
C0004366 0
C0004368 0.02
C0004369 0.02
C0004371 0
C0004370 0.03
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
Inset Map
0
75
150
300
Meters
NAD83 UTM Zone 8
Scale 1:4500


N
Legend
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
Inset Map
0
62.5
125
250
Meters
NAD83 UTM Zone 8
Scale 1:4500
440600
440800
441000
441200
7398800
7398600
7398400
7398200
7398000
7397800
7397600
7397400
C0004685 0.06
C0004686 0.16
C0004450 0.02
C0004684 0.07
C0004451 0.01
C0004452 0.05
C0004453 0.16
C0004454 0.8
C0004455 0.08
C0004456 0.03
C0004457 0.08
C0004458 0.04
C0004459 0.09
C0004460 0.11
C0004461 0.28
C0004462 0.43
C0004463 0.48
C0004464 0.32
C0004465 0.28
C0004466 0.32
C0004687 0.23
C0004691 0.05
C0004690 0.04
C0004688 0.1
C0004486 0.07
C0004487 0.18
C0004485 0.21
C0004689 0.08
C0004481 0.1
C0004482 0.19
C0004480 0.19
C0004478 0.22
C0004479 0.06
C0004476 0.67
C0004477 0.02
C0004475 0.3
C0004474 0.29
C0004473 0.34
C0004472 0.52
C0004471 0.34
C0004469 0.2
C0004468 0.36
C0004467 0.36
C0004470 0.2
C0004692 0.21
C0004693 0.24
C0004694 0.17
C0004695 0.07
C0004696 0.06
C0004697 0.34
C0004698 0.07
C0004699 0.29
C0004700 0.46
C0004701 0.63
C0004702 0.54
C0004703 0.38
C0004704 0.27
C0004706 0.22
C0004705 0.06
C0004708 0.4
C0004707 0.23
C0004710 0.43
C0004709 0.47
C0004712 0.1
C0004711 0.04
C0004713 0.19
C0004714 0.2
C0004715 0.29
C0004716 0.02
C0004717 0.31
C0004723 0.3
C0004724 0.54
C0004725 0.37
C0004727 0.25
C0004726 0.29
C0004721 0.03
C0004722 0.08
C0004728 0.53
C0004718 0.04
C0004729 0.09
C0004719 0.16
C0004720 0.04


N
441600
441700
7394900
7394800
7394700
7394600
C0004785
0.02
C0004490
0.1
C0004491
0.03
C0004492
0.2
C0004489
0.03
C0004493
0.28
C0004488
0.02
C0004494
0.1
GP417
C0004500
0.19
C0004499
0.12
C0004497
0.11
C0004496
0.16
C0004495
0.05
C0004498
0.12
Inset Map
Legend
Gravel pit
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0 5 10 20
Meters
NAD83 UTM Zone 8
Scale 1:800

N

441900 442000 442100 442200 442300 442400 442500

7391700 7391600 7391500 7391400

C0004541 0.08
C0004542 0.02
C0004543 0.03
C0004544 0.04
C0004545 0.03
C0004546 0.04
C0004547 0.05
C0004548 0.11
C0004549 0.11
C0004550 0.11
C0004551 0.15
C0004552 0.2
C0004553 0.03
C0004554 0.11
C0004555 0.06
C0004556 0.38
C0004557 0.37
C0004558 0.05
C0004559 0.47
C0004560 1.08
C0004561 0.03
C0004562 0.09
C0004563 0.28
C0004564 0.03
C0004733 0.17
C0004786 0.69
C0004787 0.37
C0004788 0.38
C0004789 0.38
C0004790 0.7

Dempster Highway

Legend

- Stream
- Lake
- Contours_10m

Rock (Sample ID, V2O5 %)

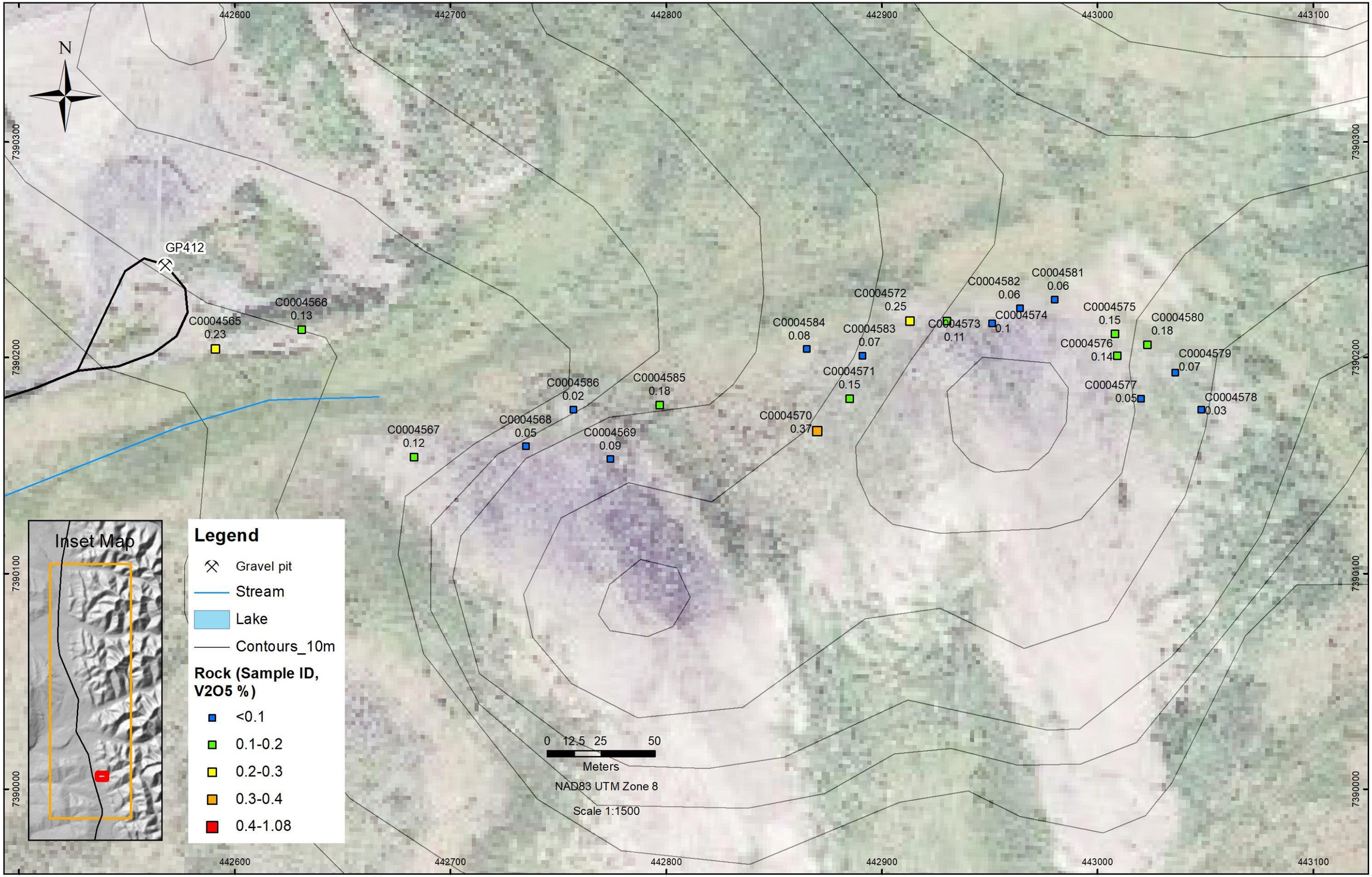
- <0.1
- 0.1-0.2
- 0.2-0.3
- 0.3-0.4
- 0.4-1.08

Inset Map

0 12.5 25 50
Meters

NAD83 UTM Zone 8

Scale 1:1500


N
442600
442700
442800
442900
443000
443100
7390300
7390200
7390100
7390000
GP412
C0004565
0.23
C0004566
0.13
C0004567
0.12
C0004568
0.05
C0004569
0.09
C0004570
0.37
C0004571
0.15
C0004572
0.25
C0004573
0.11
C0004574
0.1
C0004575
0.15
C0004576
0.14
C0004577
0.05
C0004578
0.03
C0004579
0.07
C0004580
0.18
C0004581
0.06
C0004582
0.06
C0004583
0.07
C0004584
0.08
C0004585
0.18
C0004586
0.02
Inset Map
Legend
Gravel pit
Stream
Lake
Contours_10m
Rock (Sample ID, V2O5 %)
<0.1
0.1-0.2
0.2-0.3
0.3-0.4
0.4-1.08
0 12.5 25 50
Meters
NAD83 UTM Zone 8
Scale 1:1500

APPENDIX M - DRONE ORTHOMOSAIC IMAGERY

Drone Imagery
KV01 - KV12

N

440000
440500
441000
441500
7403000
7402500
7402000
7401500
7401000
7400500

Expressway-Highway

GP423

0 125 250
Meters
Scale 1:7,000
NAD83 UTM ZONE 8

Drone Imagery
KV13 - KV18

N

442000
442500
7392500
7392000
7391500
7391000

0 200 400
Meters

Scale 1:5000

NAD83 UTM ZONE 8

Drone Imagery
KV39 - KV58