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## Assessment Report On the

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Cascade Claim Group Describing the

2017 Soil Sampling Program

105M 10

Latitude 63.6567N, Longitude 134.6954E

In the

Mayo Mining District

Yukon Territory

By

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## **1.0 Introduction**

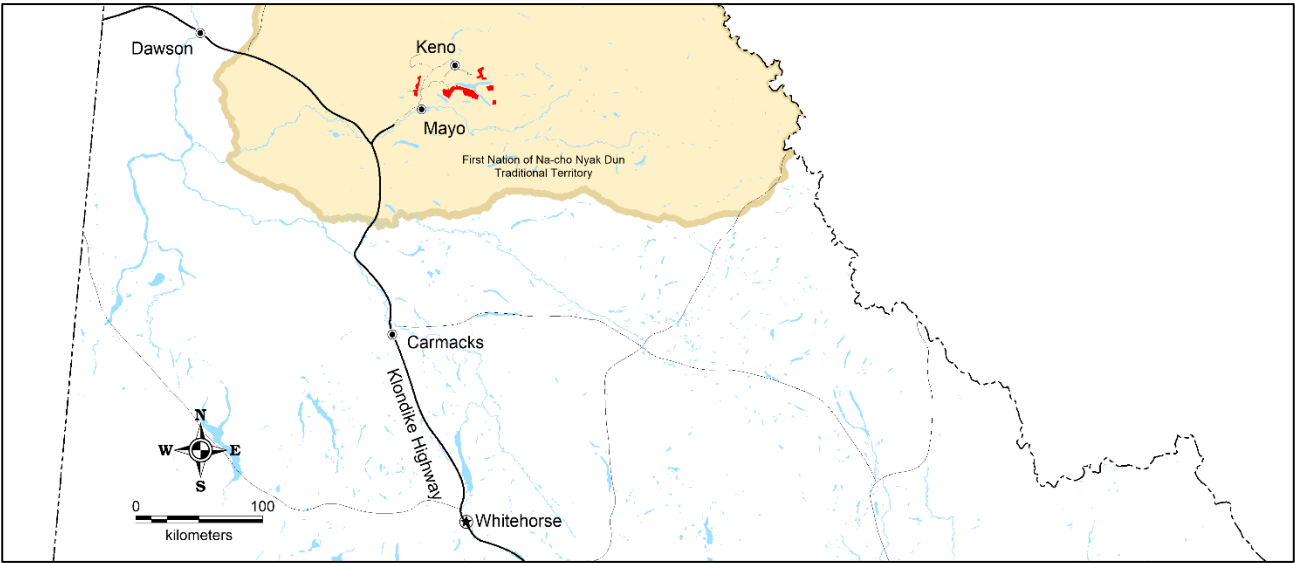
Mayo Lake Minerals Inc. (MLM) owns five claim groups situated around Mayo Lake in the Yukon Territory: Anderson-Davidson, Carlin-Roop, Cascade, Edmonton, and Trail-Minto claim groups (Figure 1). The claim groups are the apparent source for extensive historical placer gold operations which indicate nearby bedrock gold sources. Early 20<sup>th</sup> century placer mining led to the discovery of the Keno Hill Mining Camp located about 20 km north of Mayo Lake. The camp has produced over 200 million ounces of silver from veins cutting Mississippian quartzite and schist. This district is in the northeastern portion of the Tintina Gold Belt, a 2100 km long zone of gold and silver deposits extending across central Alaska and Yukon. Nearby deposits include intrusion related gold Dublin Gulch (6.4Moz Au), Red Mountain (1.3Moz Au) and Marge VMS (Au, Ag, Cu, Pb, and Zn).

This report describes a soil sampling program completed on the Cascade Claim Group (Property) during June 2017. The program was focused on refining a gold target that had been identified by earlier soil sampling. During the program, MLM personnel collected 87 soil samples in the northwest quadrant of the Property. Parts of this report, where appropriate, are taken verbatim from Sutherland and Rampton 2012.

Samples were processed by Bureau Veritas Commodities Canada Ltd. (Bureau Veritas) in Whitehorse and analyzed by Bureau Veritas in Vancouver B.C. using ICP-MS following an Aqua Regia digestion (ICP-MS).

## 2.0 Location and Access

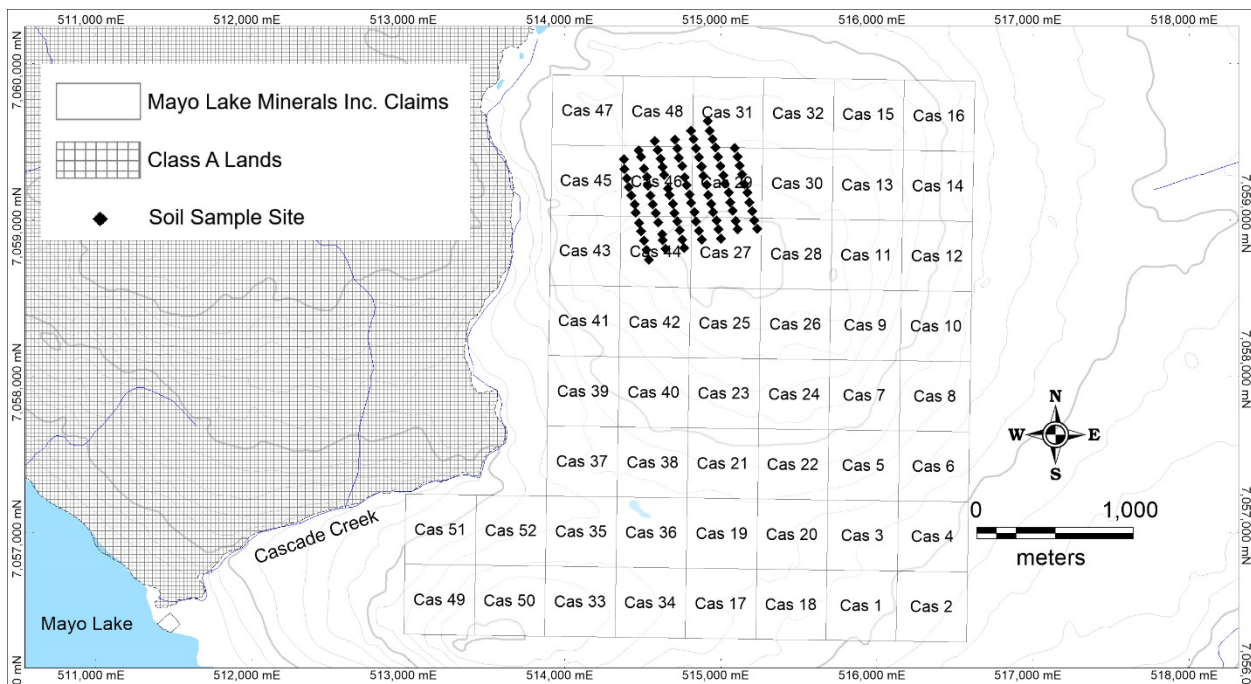
The Cascade Claim Group consists of 52 claims. The total area of the Property is 17.2 sq. km. It is located 17km kilometers east of Keno in the Yukon on NTS map sheet 105M/15. The claims are registered in the Mayo Mining district under the name of Mayo Lake Minerals Inc. and are listed in Table 1 below. Their location shown on Figures 1 and 2.



Access to the Property is currently provided by helicopter. There is an old placer road that runs south of the Property to Mayo Lake and which could be used for winter access if equipment were barged from the landing at the Mayo Dam to the Property. The boat launch at the Mayo Dam connects to the Silver Trail which connects with the Yukon's paved or chip-sealed highway network (Figure 1).

**Table 1 Claims in the Cascade Claim group**

GRANT NUMB	CLAIM LABEL	Expiry Date	DISTRICT	CLAIM GROUP
YD132391-YD132392	Cas 51-Cas 52	20180719	Mayo	Cascade
YE45801-YE45822	Cas 1-Cas 22	20180719	Mayo	Cascade
YE45823-YE45848	Cas 23-Cas 48	20190719	Mayo	Cascade
YE45849-YE45850	Cas 49-Cas 50	20180719	Mayo	Cascade



**Figure 2: Location of MLM's claims showing the location of 2017 sampling**

### 3.0 Previous Work

The earliest regional mapping in the Mayo Lake area was undertaken by H.S Bostock in 1947. Early work by Bostock was followed from 1952 to 1965 by numerous workers who published geological maps; these included L.H Green et.al (1972), R.W Boyle (1964), and E.D Kindle (1962) with contributions by C.F Gleeson (Boyle 1964). Mapping was reinitiated in the early 1992 by J.A Hunt et al. (1996), D.C. Murphy et al. (1996) and C.F Roots (1997); in addition to fieldwork they

integrated numerous geological publications dating from 1920 to 1996. Roots' work resulted in a regional map at 1:250,000 scale (Roots 1997). Surficial mapping was undertaken by Hughes (1983) in 1964 and 1979 and more recently by Bond (1999).

Operation Keno headed by Dr. C.F. Gleeson of The Geological Survey of Canada (GSC) was completed in 1968 (Gleeson et al 1965-1968, Gleeson 1980a, Gleeson 1980b). It centered on Keno Hill, north of the Property, and consisted of stream sediment, water, heavy-mineral and litho-geochemistry programs. Notably creeks draining in to Mayo Lake were sampled, yielding numerous arsenic, antimony and gold in heavy mineral concentrate anomalies. The area within, and adjacent to, the Property were sampled during a stream sediment program by the GSC in 1986-87 (Hornbrook 1987) with a low sampling density that yielded few anomalies.

There is evidence for historic placer mining on most of the tributaries to Mayo Lake and the Mayo River. Modern placer mining has been restricted to Ledge, Steep, and Anderson creeks. Currently only Duncan, Lightning and Granite creeks, north of Mayo Lake are being worked; however, placer claims in good standing remain on most of the creeks in the area.

The GSC carried out two geophysical programs in the Mayo Lake area; the first at 1207m line spacings in 1968 and a second at 2000m line spacings in 1990. These surveys are corroborated by similar results obtained by MLM's much higher resolution geophysical program. These surveys delineate the Robert Service Thrust (RST) and several major lineations that likely represent thrust sheet imbrications or lithological marker horizons.

MLM had an airborne geophysical survey flown over the Property between February and March 2012 by Precision GeoSurveys Inc. that saw the acquisition of high quality magnetic data. The Property was flown using a Bell 206 BIII jet ranger at 150 meter spacing. The average survey flight was 32 meters above ground. The survey data acquisition specifications and coordinates for the different claim groups can be found in Rampton and Sutherland (2012 a, b, c, d and e). The surveys delineated magnetic lineations and anomalies that were interpreted as faults and alteration.

In 2012 MLM followed up with a ridge and spur type reconnaissance soil sampling program. This program delineated several gold in soil anomalies, which determined MLM's 2017 program.

## 4.0 Geomorphology

The Property lies along the southern slope of the Fork Plateau between Cascade and Nelson creeks (Figure 1). Nelson and Cascade creeks both drain into the Nelson (southern) arm of Mayo Lake. Valleys containing Mayo and Janet lakes and the Stewart River are broad and U-shaped due to glacier ice being funneled down them from east to west during Pleistocene glaciations. Most tributaries to the large valleys are narrow and confined by moderate to steep slopes. Uplands generally have moderate slopes. Streams draining the property are all part of the Yukon River watershed.

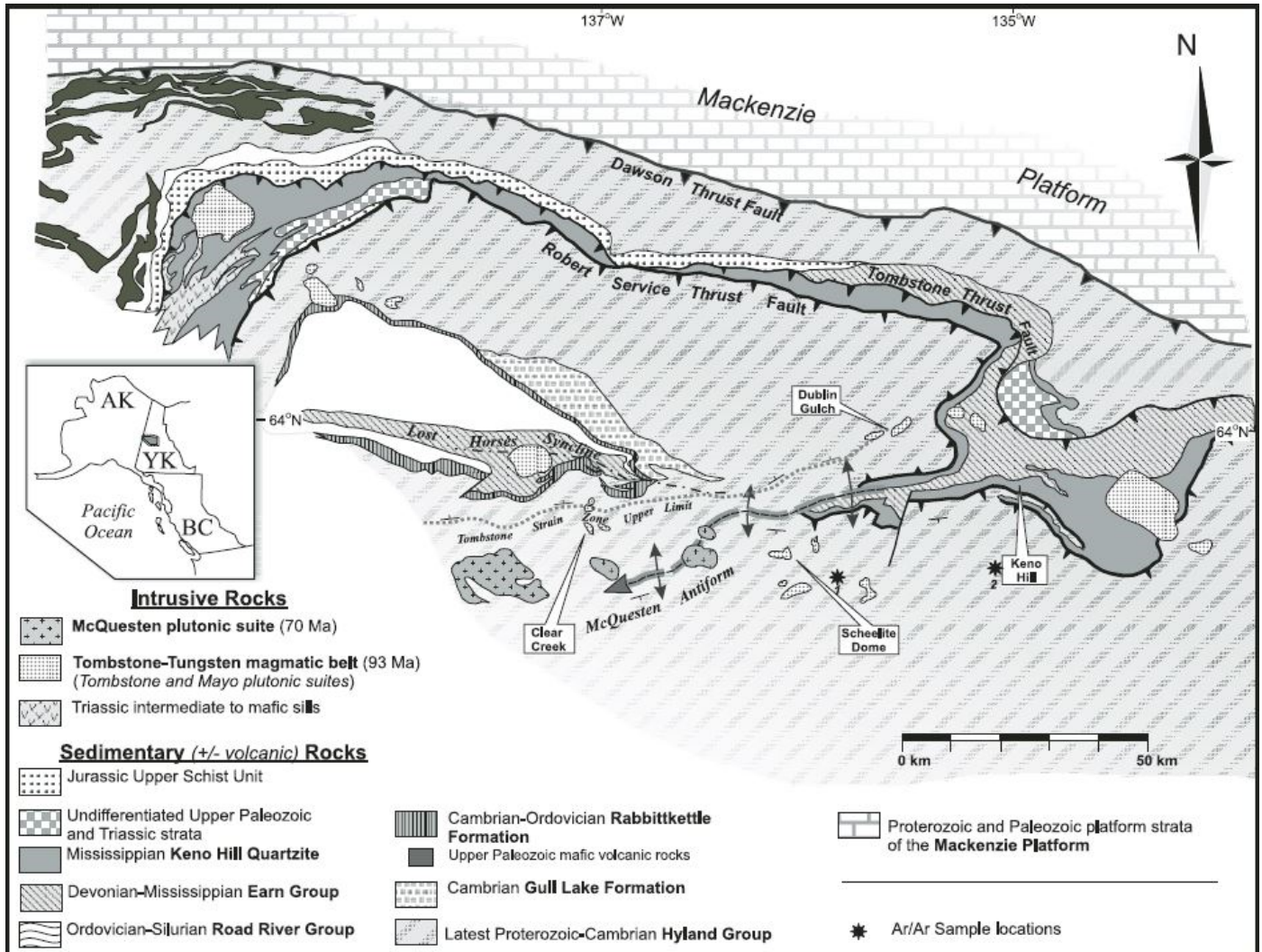
The Property has been subjected to multiple glaciations (Hughes 1983). The youngest Pleistocene glaciation, the McConnell Glaciation, was confined to the trunk valleys occupied by Mayo, Janet and Williamson lakes (Bond 1999). These valleys were filled with fast flowing ice that scoured their bottoms and sides. The upper limit of the McConnell Glaciation is at times marked by lateral moraines and kame terraces along the sides of these valleys. The McConnell Glaciation covered the highest point on the Property; the ice was probably cold-based and transport of rock and debris was minimal as evidenced by landforms. Uplands above the McConnell glacial limit were covered by glacial ice during the earlier Reid Glaciation. Some uplands are mapped as a mixture of colluvium and till. Some patches of colluvium and alluvial benches at higher elevations may be representative of the Reid and older glaciations.

Outcrop is uncommon on the Property, generally 5-10% of the area. The outcrop distribution is weighted heavily towards steep slopes and highlands. Soil development is immature. Permafrost is likely pervasive on plateaus and north facing slopes, but discontinuous on south facing slopes and at high elevations.

Vegetation is predominantly black spruce with willow and alder understorey. Lowlands, north facing slopes and plateaus below the treeline exhibit a thick cover of organic matter, moss and Labrador tea. South facing slopes are similarly vegetated, but also include balsam and poplar groves.

## 5.0 Regional Geology and Mineralization

The Property is located within the Selwyn Basin of the Tintina Gold Belt. Simplified regional geology as shown on Figure 3 depicts Upper Proterozoic to Lower Cambrian Hyland Group stratigraphy in contact with Paleozoic metasedimentary units of the Ern Group and Keno Hill Quartzite (KHQ) along the Robert Service Thrust (RST). Mid-Triassic mafic sills and greenstones are common within the Keno Hill Quartzite and Ern Group, but are rarely encountered in other units. All stratigraphic units have been intruded by the Mid-Cretaceous age Tombstone Plutonic Suite, which host several known gold deposits, including those at Dublin Gulch, which hosts open pit proven and probable reserve of 2.46 million ounces of gold at a grade of 0.67g/t. The 100km<sup>2</sup> Roop Lakes Stock, east of the Keno Hill Camp, is the largest member of the Tombstone Plutonic



Suite and probably drove hydrothermal circulation leading to the mineralization at Keno Hill, as referenced by Roots (1997).

The dominant structural features in the area are a pair of imbricated thrust sheets; the RST and the Tombstone Thrust Sheet (TTS) have over 150km of combined NE directed transport of rock masses. The RST Sheet itself contains many internal thrusts that are commonly difficult to distinguish due to subsequent intense folding of faults and contacts and a strong penetrative structural fabric imparted by the later underlying TTS; the area deformed during this event is often referred to as the Tombstone Strain Zone. Intense folding is especially evident in units immediately around Keno Hill. Large open folds, the McQueston Antiform (E-W) and Mayo Lake Antiform (NW-SE), and several inferred brittle faults were developed after the major thrusting events (Roots 1997). A significant WNW geophysical lineation, which parallels the south shore of Mayo Lake, appears to be a regional fault possibly demarcating segments within the RST Sheet.

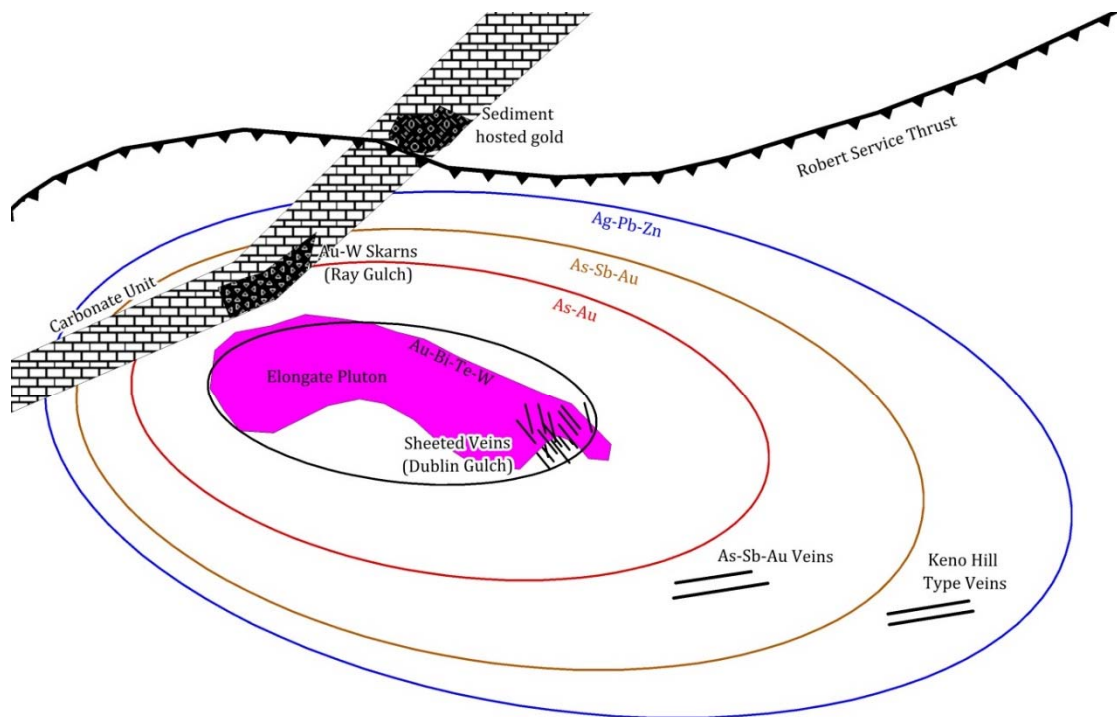
Mineralization within the Tintina Gold Belt is primarily the result of intrusion related gold systems; these large epizonal systems result in variable deposits that on the surface may appear unrelated. The most distal mineralization associated with these felsic intrusives are polymetallic Ag-Pb-Zn veins similar to the locally developed Keno Hill Type veins. This mineralization represents the furthest extent of hydrothermal influence related to these intrusions and may occur many kilometers from the source stock. Consensus is that Keno Hill Type Veins (KHTV) are the product of hydrothermal circulation in reactivated structures driven by the emplacement of the Roop Lakes Stock, up to twenty kilometers away. These veins are generally within the KHQ, but are inferred to cut through the RST and continue into the overlying Hyland Group. Abundant narrow Cretaceous dykes (Murphy 1997) related to the Tombstone Suite in the vicinity of Keno Hill could be an alternate hydrothermal engine or fluid source there. In addition to Ag, Pb and Zn, other vectors for KHTV include Ba and Cu and in some cases Sb, Fe and Ca. At intermediate distances from source plutons, As-Sb-Au veins develop and have been the subject of minor exploration around Van Cleaves Hill, west of Mayo Lake.

Proximal mineralization associated with Tombstone intrusives are sheeted gold veins or stockworks within the rim or immediately adjacent to Tombstone Suite plutons. Intrusion related mineralization itself is generally (i) enriched in Au-Bi-Te, possibly W; (i) depleted in base metals and (iii) situated in tensional zones of the stock.

Where hydrothermal circulation contacts carbonate lithologies skarnification is common, such as at the Ray Gulch tungsten skarn near Dublin Gulch. These skarns are generally high in Au-W-Cu-Zn. Skarnification of rocks surrounding Tombstone suite intrusions will result in hydrothermal signatures different from those illustrated in Figure 4.

A proximal relationship to crustal scale features appears to be common among deposits in the Tintina Gold Belt. Carlin-type, sediment hosted disseminated gold mineralization is almost exclusively developed proximal to crustal scale faults such as the RST, possibly independent of any intrusive unit. Carlin-type mineralization could be present in any carbonate units within the strata on the Property and would likely show Au-As-Hg-Sb signatures.

The Keno Hill silver camp has produced over two hundred million ounces of silver since 1921. Productive veins occur in the KHQ and underlying Lower Schist. Although faults with associated mineralization (“mineralized faults”) are believed to cut through the RST and continue into the Hyland Group, no significant silver mineralization has been discovered above the RST. Ore shoots within the veins typically consist of galena, sphalerite and tetrahedrite with siderite or quartz gangue. The mineralized faults trend northeast and dip steeply to the southeast with left lateral



offsets ranging from a few metres to over a hundred metres (Boyle 1965). Cross faults offsetting the mineralized faults trend perpendicular to them and dip 20° to 30° to the southwest.

Several major gold occurrences are located within 75 km of the Property; Dublin Gulch, Gold(Scheelite) Dome and Plateau all within Hyland Group metasedimentary rocks and the the Rau Project within carbonates near the margin of the Mackenzie Platform. Sheeted veins related to the Tombstone Plutonic Suite contain most of the gold at Dublin Gulch. The most advanced project is the Eagle Deposit where a definitive feasibility study has been completed and development has begun; it hosts an open pit proven and probable reserve containing 2.46 million ounces of gold at a grade of 0.67g/t. The Plateau Project is targeting an orogenic vein system and Gold Dome appears to be skarn mineralization related to the Tombstone Suite intrusion there. The Rau Project on a 100km long trend marked by skarn and carlin type mineralization.

## **6.0 Property Geology**

The Cascade Claim Group is underlain by Hyland Group metasediments of Yusezyu Formation and by KHQ intruded by Triassic greenstones as noted in Bostock 1947 and from personal observation. It is likely that the Robert Service Thrust (RST) cuts the property though it's exact location is poorly constrained. Government mapping is sparse and mostly interpretive; it is probable that the exposed KHQ at the Fork Plateau north of the Property (Figure 5) extends onto the Property.

### **6.1 Stratigraphy**

The Hyland Group, which is locally mapped as the Yusezyu Formation, consists of compositionally layered medium to coarse-grained micaceous quartzose phyllite; muscovite-chlorite gritty phyllite; green and grey impure quartzite; metaconglomerate (Roots 1997). Locally metasediments are comprised of interbedded variably quartzose arenaceous schists and commonly carbonates.

The KHQ which is comprised of massive to well foliated lineated quartzite with lesser phyllitic quartzite, chloritic and carbonaceous phyllite (Roots 1997). Locally the KHQ and intruding greenstone sills are strongly metamorphosed and difficult to distinguish from Hyland Group rocks.

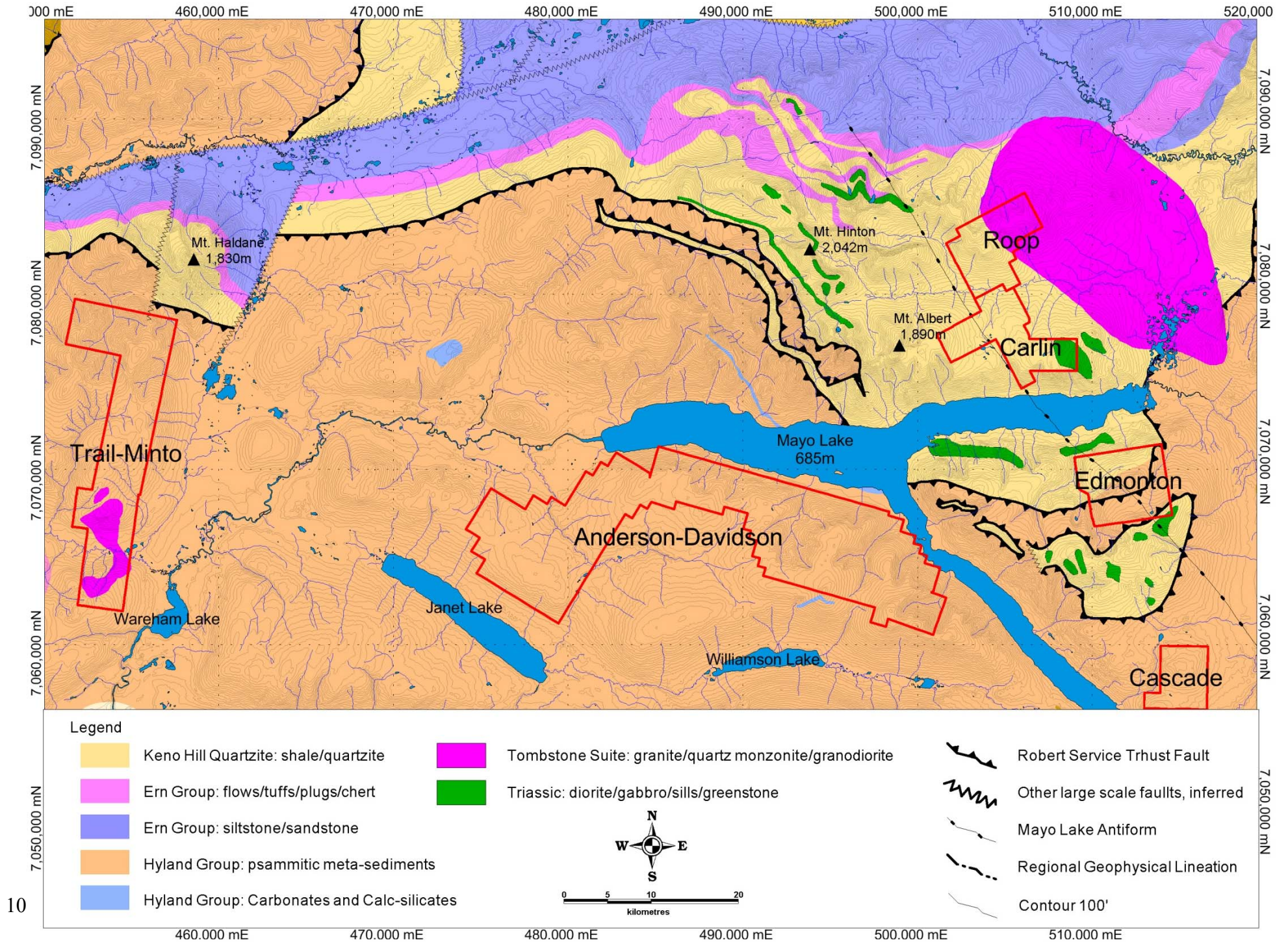


Figure 5: Geology of Mayo Lake showing MLM's claim groups.

## **6.2 Intrusions**

Triassic sills of greenstone and gabbroic composition are common on the Property. Locally they are dark green to black, fine to medium grained and strongly foliated. These greenstones are common throughout the Keno Hill Camp though generally less strained than those observed on the Property. The main mineral assemblage consists of amphibole, chlorite and plagioclase. Sills are common in the Keno Hill Quartzite and Ern Group, but are also known within the Hyland group.

Cretaceous Tombstone Suite intrusions are possible on the Property. These are described as buff to grey weathering dykes, sills and small plugs with aplitic or granitic textures. Some of these bodies are locally quartz and feldspar phyrlic and mineralized with disseminated arsenopyrite (Becker 2000).

## **6.3 Structure**

Deformation on the Property is similar to other areas of the Tombstone Strain zone, including a strong penetrative fabric and intense large-scale deformation (Roots 1997). Broad post-metamorphic folding is also present and is indicated by variable foliation dips. Foliation is generally shallow dipping southwest to southeast. Boudinaged quartz +/-carbonate veins are common within the Hyland Group and generally parallel to foliation. These veins likely predate the development of the Tombstone Strain Zone. It is probable that the RST cuts southwest through the Property. The relative thickness of the RST, shallow dip, and modification by the later Tombstone event makes distinguishing the exact trace of the RST difficult.

## **6.4 Mineralization**

The Property is a prospective host to a variety of deposit styles related to the complex Mesozoic and Cenozoic metamorphic, plutonic and volcanic history associated with the formation of the northern Canadian Cordilleran orogeny. The most attractive of these are:

- Polymetallic veins; mainly Keno Hill Type, which are typically high in silver, lead and zinc and are related to the intrusion of the Tombstone Plutonic Suite and constitute the main ore at Keno Hill.

- Intrusion related gold; such as Dublin Gulch and Fort Knox. These deposits are related to post-orogenic, mid-Cretaceous Tombstone Suite stocks that intruded Selwyn Basin sedimentary rocks.
- Orogenic gold veins; formed after peak metamorphism of the Yukon-Tanana Terrane; their erosion likely contributed to the Klondike placer deposits also prospects within the eastern Tombstone Plutonic Belt. These are narrow, high-grade deposits; the nearby Plateau Project and 3 Aces Project are in similar rocks of the Tombstone Plutonic Belt. They could be high grade, epithermal or mesothermal, structural end-members of the intrusion related gold model rather than typical orogenic veins.
- Skarns; similar to the Ray Gulch Tungsten Skarn at Dublin Gulch and a small skarn southeast of the Roop Lakes Stock.

## **7.0 Exploration**

### **7.1 Soil Sampling**

The Property was visited on July 1<sup>st</sup>, 2017, during which a group of samplers and geologists collected 87 soil samples including three field duplicates from seven separate lines. Samples were collected at 60m spacing along lines with 120m spacing between lines.

Soil sampling was undertaken by a MLM geologist, and a geologist and technician from Geovector project management from Ottawa, Ontario under contract:

Tyrell Sutherland      Senior geologist (MLM)

Ian Stokes      Geologist (Geovector Project Management)

Jim Harris      Sampling technician (Geovector Project Management)

At each sample site the soil and overburden is penetrated by an auger until the C horizon is reached. The next 10-15cms of soil is sampled and placed into a labeled paper sample bag. In areas where C horizon was sparse or nonexistent or frozen, B horizon was collected. Sample sites were located using the Garmin GPS Map 62s and recorded in a field book and sample book. An identification ticket containing the sample number is attached at each sample location. Samplers collected a duplicate sample every 33 samples. Sample data was entered into a database upon returning to camp at the end of each day.

## 8.0 Observations and Results

Soil sample site locations can be found in Appendix B; geochemical plots for selected elements can be found in Appendix C; and sample analysis can be found in Appendix D. Lab duplicates and field duplicates indicate that sample analysis is representative and of good quality.

### 8.1 Cascade Soil Grid Results

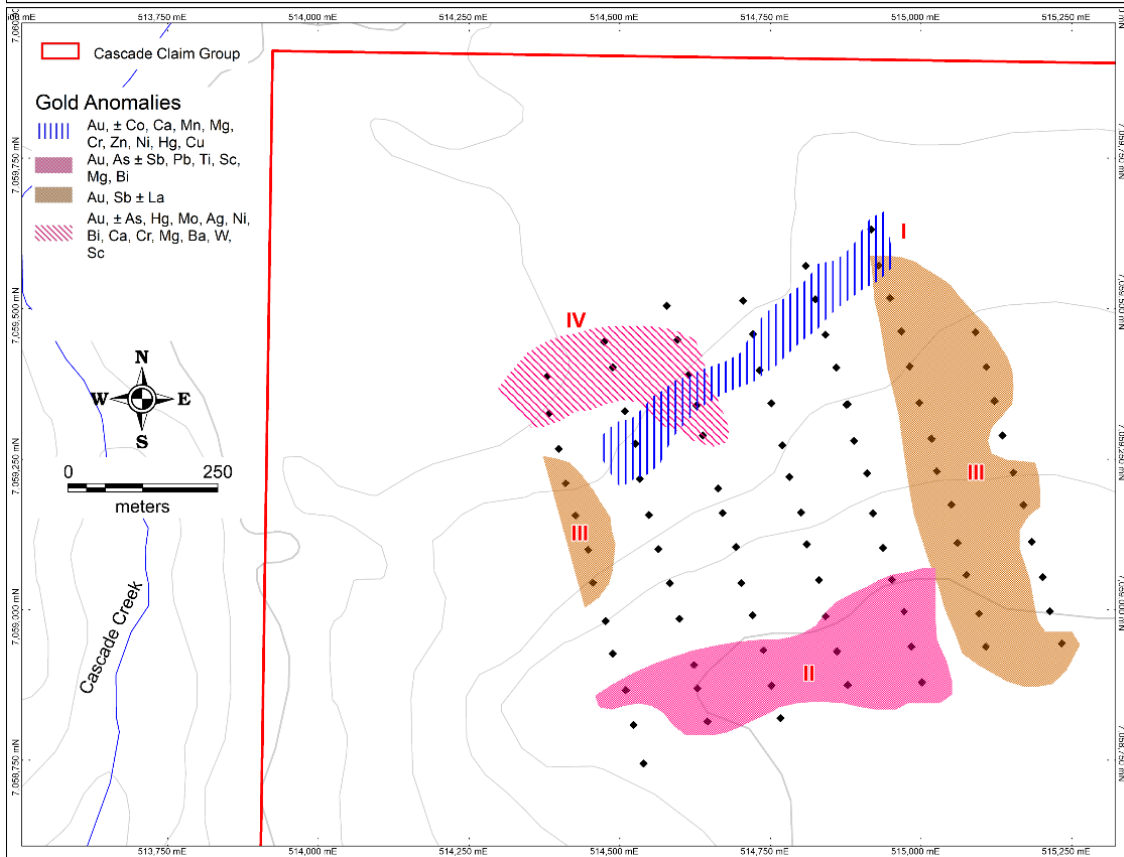
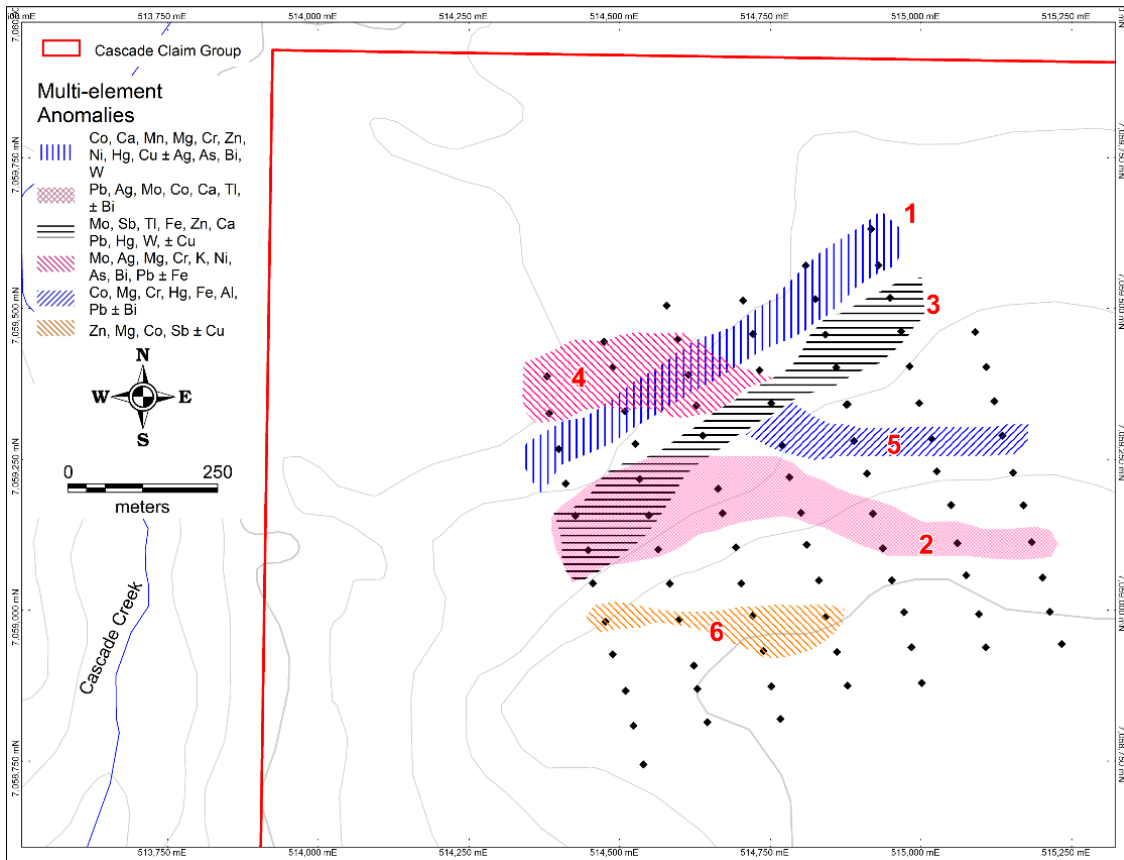
Review of the geochemical plots in Appendix C indicate several elemental associations are present within the soil grid. These are generally linear though they do appear ovoid where some of these anomalies intersect. These anomalies are illustrated in figure 5A and listed here:

1. Co, Ca, Mn, Mg, Cr, Zn, Ni, Hg, Cu  $\pm$  Ag, As, Bi, W
2. Pb, Ag, Mo, Co, Ca, Tl,  $\pm$  Bi
3. Mo, Sb, Tl, Fe, Zn, Ca Pb, Hg, W,  $\pm$  Cu
4. Mo, As, Ag, Mg, Cr, K, Ni, Bi, Pb  $\pm$  Fe
5. Co, Mg, Cr, Hg, Fe, Al, Pb  $\pm$  Bi
6. Zn, Mg, Co, Sb  $\pm$  Cu

There are five areas with anomalous and elevated gold, they are illustrated in figure 5B and listed here with any elements that are elevated coincidentally. Gold anomalies for the most part appear to be independent of multi-element anomalies except for anomaly I.

- I. Au,  $\pm$  Co, Ca, Mn, Mg, Cr, Zn, Ni, Hg, Cu
- II. Au, As  $\pm$  Sb, Pb, Ti, Sc, Mg, Bi
- III. Au, Sb  $\pm$  La
- IV. Au,  $\pm$  As, Hg, Mo, Ag, Ni, Bi, Ca, Cr, Mg, Ba, W, Sc

Antimony is the only element that appears consistently with gold within this grid (Figure 6). A strong depletion in As that cuts through the grid parallel to multi-element anomalies 1 and 3 (Figures 5 and 6) but off-set to the south. Where multi-element anomalies intersect they appear to get larger and distinguishing distinct anomalies become difficult.



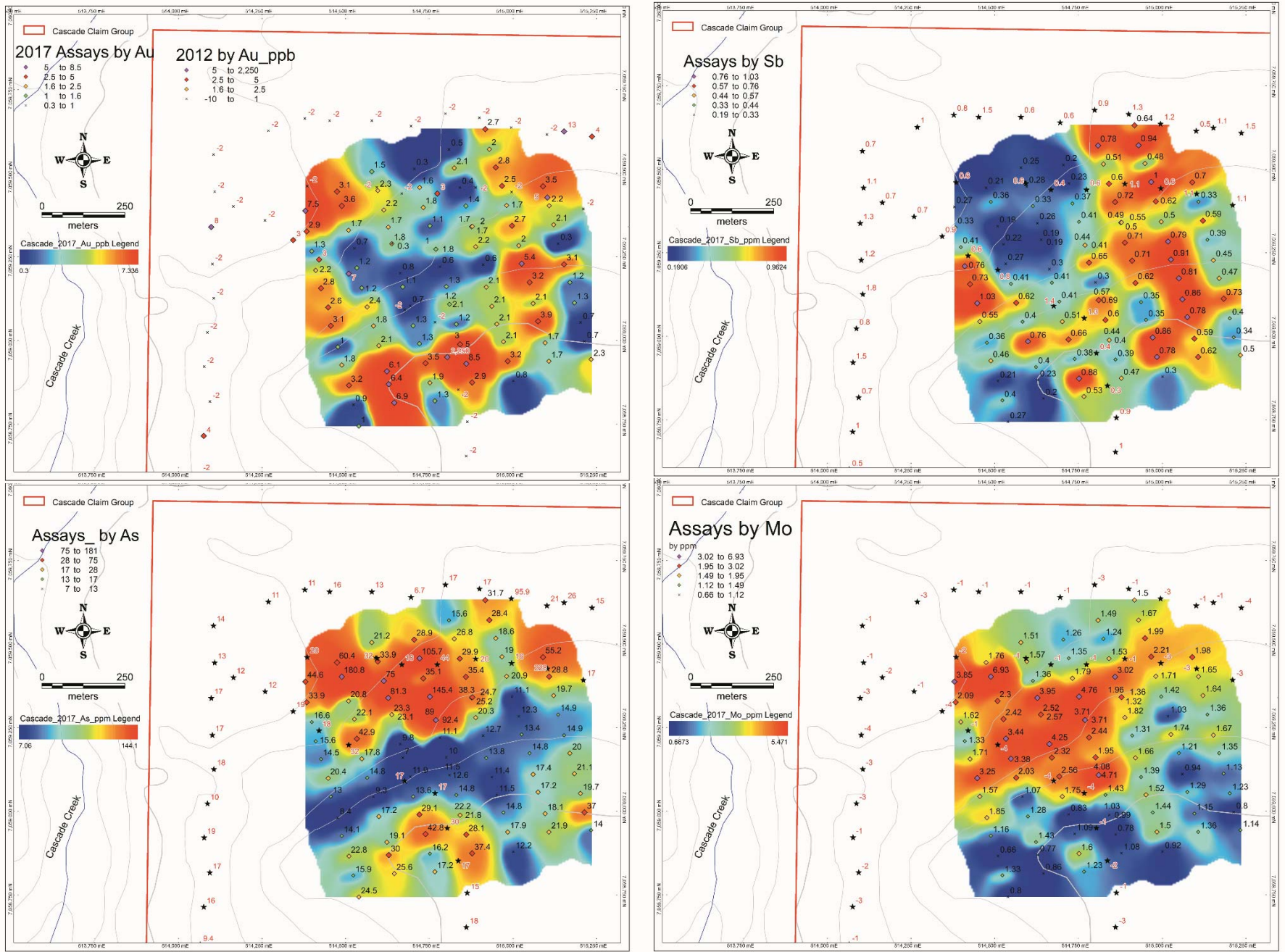


Figure 7: Gridded soil values for Au, Sb, As, and Mo; locations of 2012 reconnaissance soil samples indicated by stars with values labelled in red.

## 9.0 Discussion

### 9.1 Soil Grid Discussion

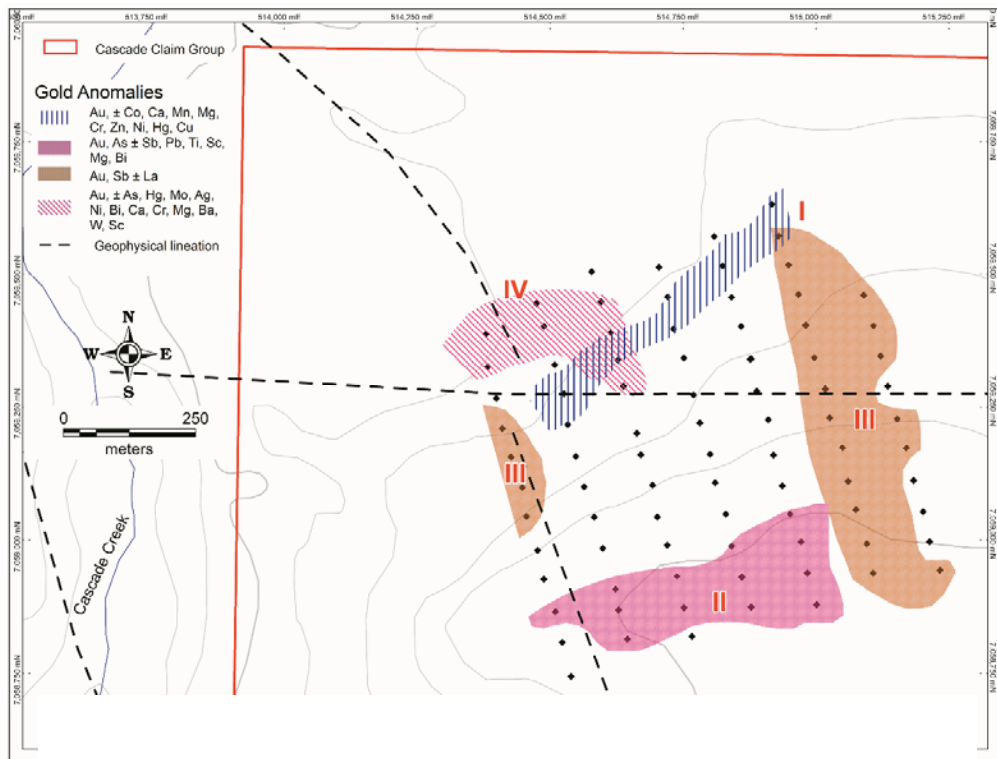
The linearity and orientation of multi-element anomalies are such that they could suggest potential glacial dispersion. However, upon close examination of topography it is apparent that glacial deposits are restricted to areas north of the grid and that glacial transport in this location was minimal due to the glaciers being cold based at this higher elevation. Additionally, these multi-element anomalies are reflected by bedrock structures indicated by aeromagnetics Figure 8. It is possible that the linear nature of the anomalies reflects a complex reactivation of deep seated bedrock structures resulting in multiple closely spaced but distinct surface structures. Multi element anomaly 1 (Figure 8A) follows the trend however it could also be related to Mn oxides precipitated in meandering creek sediments, a meandering creek follows the base of the slope in this area, as the anomaly 1 strongly correlated with Mn.

Mo anomalies appear prominent in many of the multi-element anomalies suggesting a felsic intrusive source may be located at depth. The base metal and Ca signatures suggest potential skarn mineralization, which is complimentary to the felsic intrusion at depth hypothesis.

Gold anomaly I follows multi-element anomaly 1. The rest of the gold anomalies do not appear to coincide with the other multi-element anomalies indicating that gold anomalies are along structures unrelated to the potential plumbing source responsible for the multi-element anomalies listed above. The exception, gold anomaly IV, which does imply an felsic intrusive or skarn type provenance (see associated Mo, Bi, As, Pb, W, Ni, Zn, K anomalies). It coincides with multi-element anomaly 4, also potentially indicating intrusion related mineralization. Gold anomalies II and III have no apparent multi-element anomalies though they are moderately elevated in As, and Sb, suggesting an intrusion related or orogenic type gold provenance.

The absolute value of most gold anomalies is quite low with the exception of the 2,250ppm Au analysis within the bounds of gold anomaly II. Graphite within the bedrock in both the Hyland Group and KHQ is well known to have a significant effect on analysis involving partial digestions. This matrix effect from graphite interferences could have both minimized and nullified the gold analysis from the current program, but would have little or no effect on in the initial INAA analysis

completed in 2012. This may explain the absolute change in the intensity of anomalies between 2012 and 2017. The full extent of the effect of graphite on the samples can only be assessed by reanalysis using fire assay fusion.



## **9.2 Property**

The Property is most likely to host deposits related to the felsic Tombstone Plutonic Suite. In many cases these intrusions may not be visible; dykes or plugs smaller than several square kilometers are commonly not mapped or not included in regional scale maps. Small intrusions or apophyses may still successfully host or drive mineralization; small exposures could also be indicative of larger unroofed stocks. Economic deposits related to these stocks can be quite varied depending on proximity, host lithology, level of emplacement and regional structures; an idealized model for deposits relating to these intrusions is represented in Figure 3. Orogenic vein type deposits with mineralization from deep seated fluids delivered via the Robert Service thrust are also possible. Orogenic veins can occur in a variety of crustal depths which will control the character of mineralization which in some cases will overlap considerably with textures and geochemical signatures of intrusion related deposits. Skarn deposits related to metasomatic fluids interacting with carbonate lithologies are also possible though would likely occur with stronger W anomalies. Distinguishing the nature of mineralization based on the current soil results is not possible.

## **10.0 Conclusion**

Results to date from the MLM's sampling programs and earlier silt and soil sampling, geophysics and placer operations provide strong evidence that a significant source of gold mineralization is present on the Property. The grid soil sampling program has identified gold in soil anomalies that may reflect intrusion related or structurally controlled gold mineralization.

It would appear that major mineralization, has not been previously recognized because of poor exposure. More robust soil sampling and trenching techniques may be needed to better delineate drill targets though current methods appear effective in well drained areas with moderate to steep slopes.

Some difficulties remain in obtaining relevant samples from a variety of overburden types. Gold in soil values may be modified or masked by alluvial reworking, graphite in matrix or permafrost especially in lower lying areas with gentle or negligible slopes.

## **10.1 Recommended Exploration**

Further work in those parts of the Property showing prospectivity from geophysical and geochemical investigations are warranted.

Following grid sampling in unsampled areas adjacent to gold anomalies on the present Cascade Grid, sampling at closer intervals within and adjacent to the defined gold anomalies is warranted to define trench and/or drill targets. Where overburden drainage or permafrost hampers the regular sampling of relevant overburden, it may be necessary to utilize a small mechanized hammer type drill for soil sampling. Detailed mapping and prospecting is warranted in and around all gold in soil anomalies. Prior to any further work, the samples from within and adjacent to the gold anomalies should be re-analyzed for gold by fire assay to deal with the graphite interference.

Future investigations should involve trenching in areas of shallow overburden or percussion drilling of the bedrock interface at 0.5 to 1.0m spacings in lieu of trenching in areas of impermeable permafrost and alluvial sediments is also recommended for delineating drill collar locations.

Grid sampling with samples spaced at 60m to 120m intervals is also recommended on those untested areas of the Property where the geophysics and previous reconnaissance soil sampling suggest some potential.

## 11.0 References

Becker, T.C. 2000

Assessment Report 094179 on the Black Property, Black Creek, Mayo Mining District, Yukon Territory for Archer, Cathro & Associates (1981) Limited (October, 2000).

Bond, J.D. 1999

Glacial limits and ice-flow map, Mayo area, central Yukon (1:250,000 scale); Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-13.

Bostock, H.S. 1947

Mayo, Yukon Territory; Geological Survey of Canada, Map 890A.

Boyle, R.W. 1964

Geology Keno Hill-Galena Hill Area, Yukon Territory, Geological Survey of Canada; Map 1147A.

Boyle, R.W. 1965

Geology, geochemistry and origin of the lead-zinc-silver deposits of the Keno Hill-Galena Hill Area, Yukon Territory; Geological Survey of Canada, Bulletin 11.

Carrell, W. 2004

Report of 2004 field activities funded under YMIP Grant #04-034, Mayo Lake focused regional program, Mayo, Yukon Energy, Mines & Resources Library, Whitehorse Yukon territory.

Gleeson, C.F. and Boyle, R.W. 1980a

Minor and trace element distribution in the heavy minerals of the rivers and streams of the Keno Hill District, Yukon Territory; Geological Survey of Canada, Paper 76-31.

Gleeson, C.F. and Boyle, R.W. 1980b

1 The litho-geochemistry of the Keno Hill District Yukon Territory; Geological Survey of Canada, Paper 77-31.

Gleeson, C.F. et al. (9 Maps) 1965

(Ag, As, B, Cu, Ni, Pb, Sb, W and Sn, Zn) content of stream and spring sediments, Keno Hill area, Yukon Territory; Geological Survey of Canada, Maps 45-50, 52-53, 56-1965.

Gleeson, C.F. and Boyle, R.W. 1972

1 Gold in heavy mineral concentrates of stream sediments, Keno Hill Area, Yukon Territory; Geological Survey of Canada, Paper 71-51.

Goldfarb, R., Hart, C., Miller, M., Miller, L., Farmer, G.L. and Groves, D. 2000

The Tintina Gold Belt - A Global Perspective *in* the Tintina Gold Belt: Concepts, Exploration and Discoveries; Special Volume 2, British Columbia and Yukon Chamber of Mines Cordilleran Roundup, January 2000.

- Green, L.H. 1971  
Geology of Mayo Lake, Scougale Creek and McQuesten Lake map areas, Yukon Territory (105M/IS, 1060/2, 106 D/3); Geological Survey of Canada, Memoir 357,72 p.
- Green, L H; Roddick, J A. 1972  
Geology of Mayo Lake, Yukon Territory; Geological Survey of Canada, "A" Series Map 1284A.
- Hart, C.J.R., McCoy, D.T., Goldfarb, R.J., Smith, M., Roberts, P., Hulstein, R., Bakke, A.A. and Bundtzen, T.K. 2002 Geology, exploration and discovery in the Tintina Gold Province, Alaska and Yukon *in* Marsh, E.E., Goldfarb, R.J. and Day, W.C. (eds.), *Integrated Methods for Discovery; Global Exploration in the Twenty-First Century*; Society of Economic Geologists, Special Publication Vol. 9, p. 241–274.
- Hughes, O.L. 1983  
Surficial geology and geomorphology, Mount Edwards, Yukon Territory; Geological Survey of Canada, Map5-1982 (1:100,000).
- Hunt, J.A., Murphy, D.C., Roots, C.F., and Poole, W.H., 1996  
Geological map of Mt. Haldane area, Yukon (105M/13); Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Map 1996-4, scale 1:50 000.
- Kindle, E.D. 1962  
Geology Keno Hill, Yukon Territory; Geological Survey of Canada, Map 1105A.
- Lebarge, W.P., Bond, J.D. and Hein, F.J. 2002  
Placer gold deposits of the Mayo Area, Central Yukon; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 13, p.209.
- Lee, W.K. 1966  
Arivaca Explorations Limited, Mayo Lake Area, Yukon Assessment Report # 017476; Yukon Energy, Mines & Resources Library.
- Lynch, G. 2006  
Sediment-hosted disseminated gold occurrence, northeast Mayo Lake area *in* Yukon Exploration and Geology 2005, D.S. Emond, G.D. Bradshaw, L.L. Lewis and L.H. Weston (eds.), Yukon Geological Survey, pp. 327-339.
- Mair, J.L., Hart, C.J.R., Stephens, J.R., 2006  
Deformation history of the northwestern Selwyn Basin, Yukon, Canada: Implications for orogen evolution and mid-Cretaceous magmatism, *GSA Bulletin*; v. 118; no. 3/4; p. 304–323; doi: 10.1130/B25763
- McIntyre, J.F. 1966  
Arivaca Explorations Limited, Mayo Lake Area, Yukon, Assessment report # 017476, Yukon Energy, Mines & Resources Library.
- Miles, W., Saltus, R., Haywood, N. and Oneschuck, D. In press

Alaska and Yukon regional geophysical compilation project: Residual total magnetic field (1:1,100,000); GSC Open File X.

Murphy, D.C. and Roots, C.F. 1996

Geological map of Keno Hill area, Yukon (105M/14); Exploration and Geological Services Division, Indian and Northern Affairs Canada, Map 1996-1, scale 1:50 000.

Murphy, D.C. 1997

Geology of the McQuesten River region, Northern McQuesten and Mayo Map areas, Yukon Territory (105P/14, 15, 16; 105M/B, 14); Exploration and Geological Services Division, Indian and Northern Affairs Canada; Bulletin 6, p. 122.

Rampton, V.N. and Sutherland, T.B. 2012a

Mayo Lake Minerals Inc. assessment report on the Anderson Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012b

Mayo Lake Minerals Inc. assessment report on the Carlin Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012c

Mayo Lake Minerals Inc. assessment report on the Davidson Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012d

Mayo Lake Minerals Inc. assessment report on the Edmonton Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2012e

Mayo Lake Minerals Inc. assessment report on the Trail-Minto Claim Group;:Geophysical Survey; Yukon Energy, Mines & Resources Library, Whitehorse Yukon.

Rampton, V.N. and Sutherland, T.B. 2013a

Mayo Lake Minerals Inc. Assessment report on the Anderson Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013b

Mayo Lake Minerals Inc. Assessment report on the Carlin Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013c

Mayo Lake Minerals Inc. Assessment report on the Davidson Claim Group 2012: Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy, Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013d  
Mayo Lake Minerals Inc. Assessment report on the Edmonton Claim Group 2012:  
Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy,  
Mines & Resources Library.

Rampton, V.N. and Sutherland, T.B. 2013e  
Mayo Lake Minerals Inc. Assessment report on the Trail-Minto Claim Group 2012:  
Geophysical Interpretation and Geochemical Surveys and Interpretation; Yukon Energy,  
Mines & Resources Library.

Sutherland, T.B. Rampton, V.N., 2015, Mayo Lake Minerals Inc. Assessment Report On the  
Roop Claim Group Describing an 2014 Geochemical Surveys and Interpretation, Yukon Energy,  
Mines & Resources Library.

Roots, C. F. 1997  
Geology of the Mayo Map Area, Yukon Territory (105M); Exploration and Geological Services  
Division, Yukon, Indian and Northern Affairs Canada, Bulletin 7, 82 p.

## Appendix A

### Statement of Qualifications

Tyrell Sutherland M.Sc., P.Geo.

Mayo Lake Minerals Inc.

P.O. Box 158, 107 Falldown Lane

Carp, Ontario. K0A 1L0

Tel: (613) 884-8332; E-mail: [tyrell.sutherland@outlook.com](mailto:tyrell.sutherland@outlook.com)

I, T.B. Sutherland, M.Sc., do hereby certify that

- I am Vice-President of exploration of Mayo Lake Minerals Inc.
- I graduated with a B.Sc. Honors Specialization Geology, from the University of Ottawa in 2009. In addition, I have obtained an M.Sc in Geology from Queens University in 2016.
- I am a member in good standing of the Association of Professional Geoscientists of Ontario.
- I have worked as a geologist for approximately 10 years, specifically in mineral exploration, in Canada, Australia, Jamaica and China.
- I fulfill the requirements of a "qualified person" for the purposes of N.I. 43-101.
- To the best of my knowledge all data used in the preparation of the technical report titled "Assessment Report on the Cascade Claim Group Describing the 2017 Soil Sampling Program" is correct and of good quality. The technical information contained within the report was collected under my supervision and I was primarily responsible for its interpretation.
- Certain statements concerning the interpretations and discussion of the data maybe considered forward looking statements in that although conceived from the data as recorded to the best of my knowledge may prove in need of variation or changed to reflect changes or updates to the data.

Dated the 8<sup>th</sup> day of January 2018



---

Tyrell Brodie Sutherland

## Appendix B

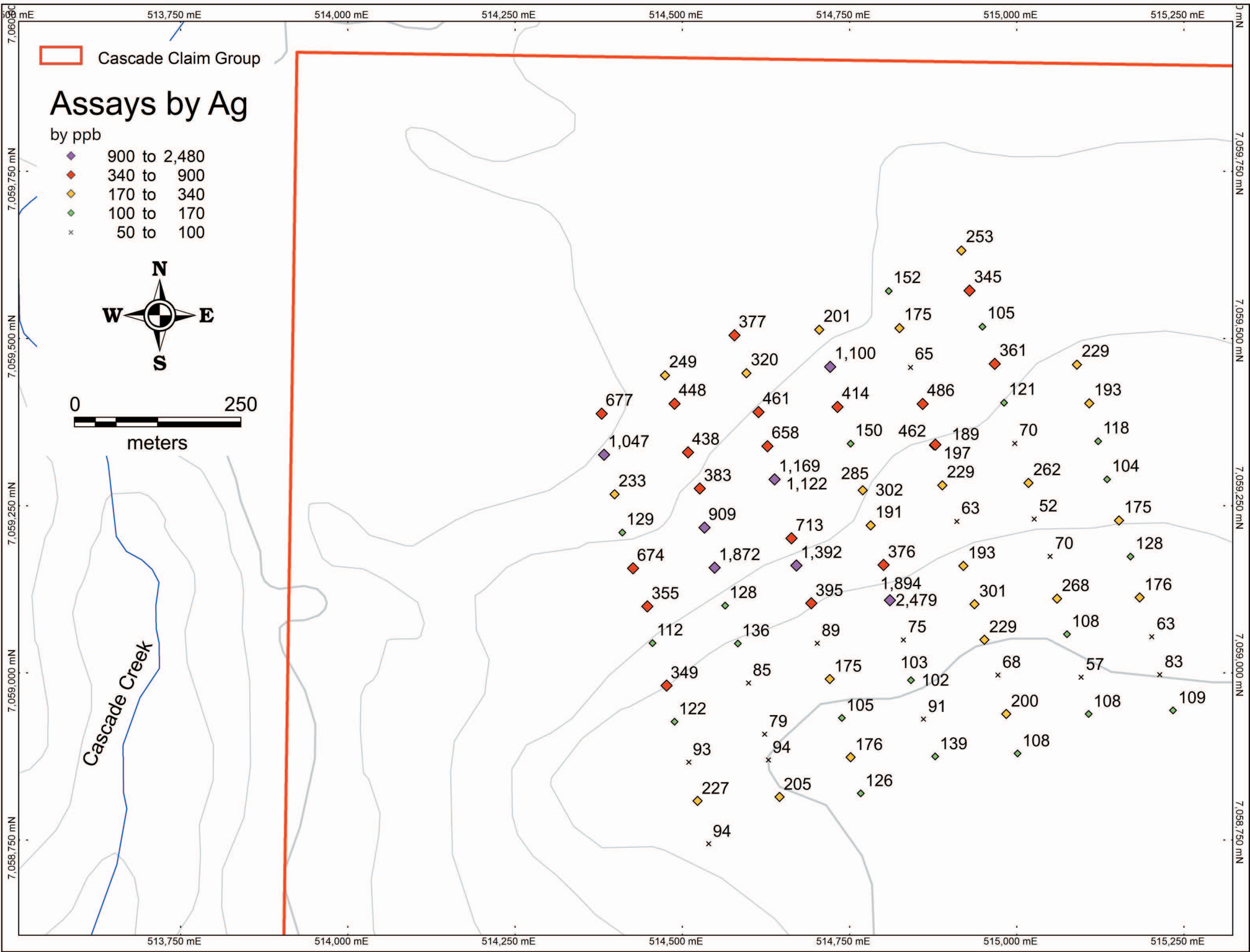
### Soil Sample Site Locations

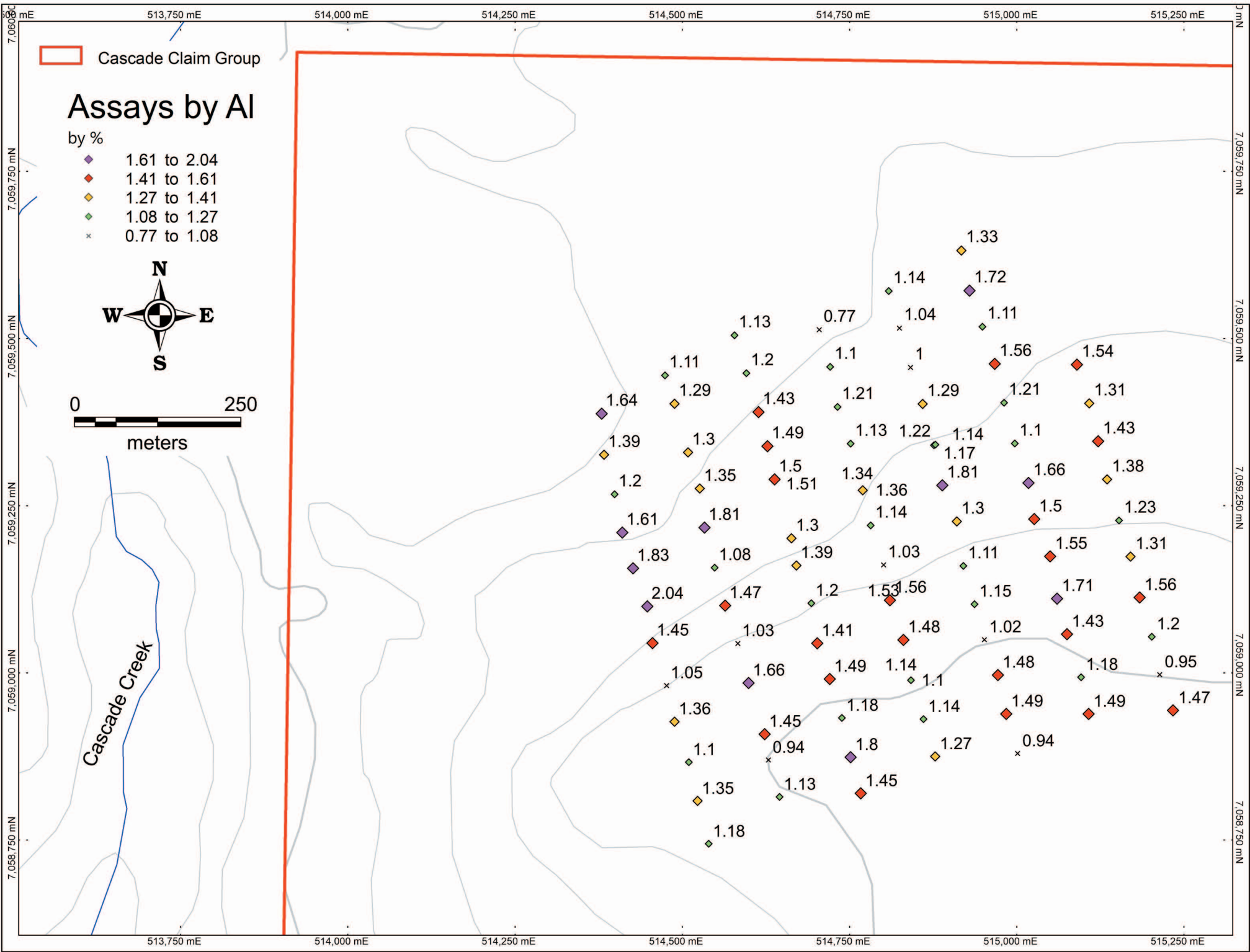
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1544148	Soil	514876.4	7059340
1544148	REP	514876.4	7059340
1544149	Field Duplicate	514878.2	7059341
1544150	Soil	514859.2	7059402
1544151	Soil	514841.1	7059457
1544152	Soil	514824.6	7059516
1544153	Soil	514808.6	7059571
1544154	Soil	514917.2	7059632
1544155	Soil	514929.4	7059572
1544156	Soil	514948.7	7059518
1544157	Soil	514967.2	7059462
1544158	Soil	514981	7059404
1544159	Soil	514997	7059343
1544160	Soil	515017.5	7059284
1544161	Soil	515050	7059174
1544162	Soil	515060.4	7059111
1544163	Soil	515075.2	7059058
1544164	Soil	515096.1	7058993
1544165	Soil	515107.4	7058938
1544166	Soil	515001.2	7058879
1544167	Soil	514984.2	7058939
1544168	Soil	514971.7	7058997
1544169	Soil	514951.7	7059050
1544170	Soil	514936.9	7059103
1544171	Soil	514920.1	7059160
1544172	Soil	515233.7	7058944
1544173	Soil	515213.6	7058997
1544174	Soil	515201.9	7059054
1544175	Soil	515183.6	7059113
1544176	Soil	515170.1	7059174
1544177	Soil	515153	7059228
1544178	Soil	515134.9	7059289
1544179	Soil	515121.7	7059346
1544180	Soil	515108.2	7059403
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1544240	Soil	514769.6	7059273
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1544241	Soil	514800.9	7059162
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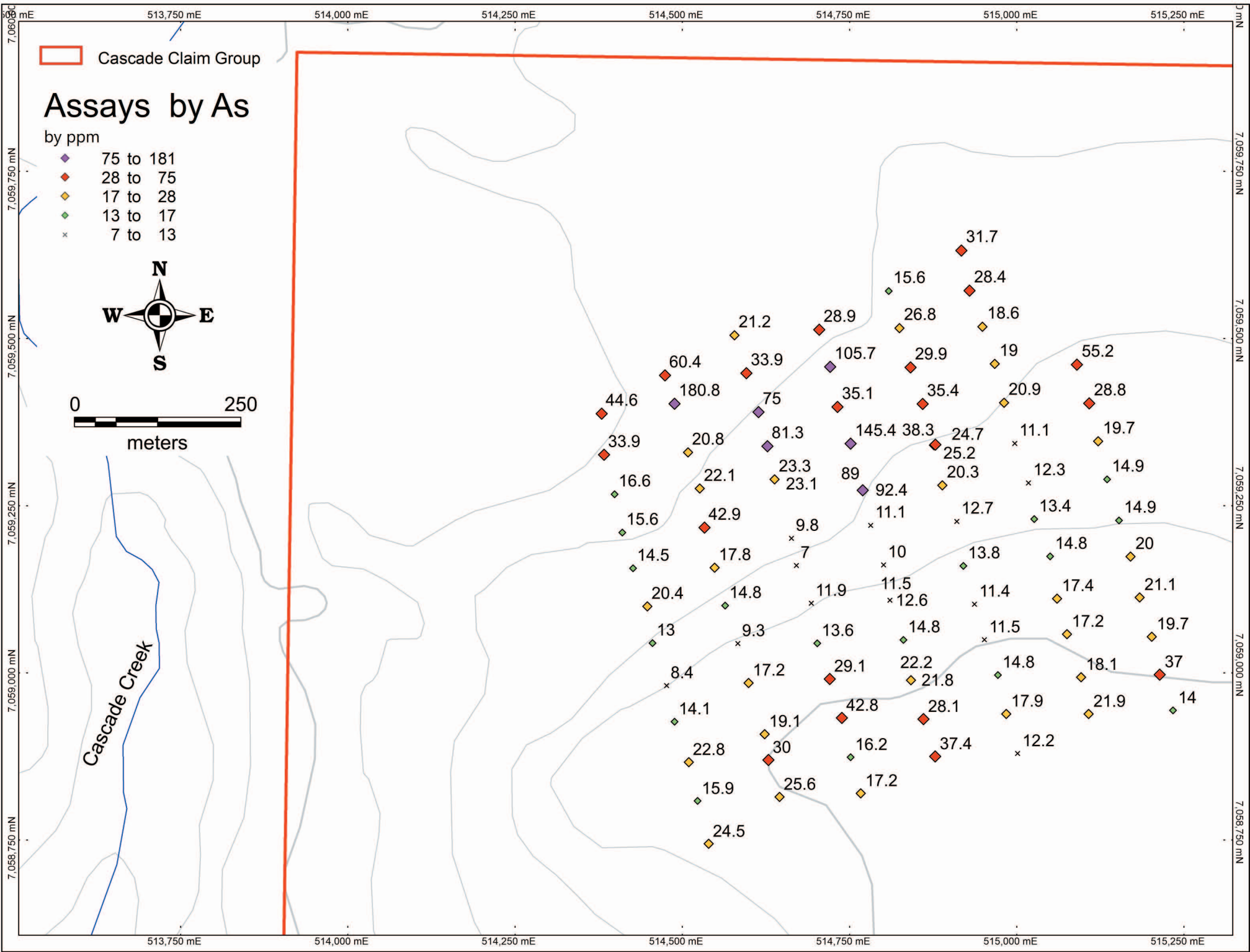
Sample ID	Analyte	Easting	Northing
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1544249	Soil	514596	7059448
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1544251	Soil	514383.2	7059326
1544252	Soil	514426.3	7059156
1544253	Soil	514455.5	7059045
1544254	Soil	514488.4	7058927
1544255	Soil	514522.9	7058808
1544256	Soil	514645.4	7058814
1544257	Soil	514623.2	7058908
1544258	Soil	514564.1	7059101
1544259	Soil	514533.1	7059217
1544260	Soil	514508.5	7059330
1544329	Soil	514721	7059458
1544330	Soil	514751.5	7059343
1544331	Soil	514781.7	7059221
1544332	Soil	514810.4	7059109
1544333	Field Duplicate	514810.4	7059109
1544334	Soil	514842	7058989
1544334	REP	514842	7058989
1544335	Soil	514878.1	7058875
1544336	Soil	514751.7	7058874
1544337	Soil	514720.5	7058991
1544338	Soil	514701.7	7059044
1544339	Soil	514670.5	7059161
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1544341	Soil	514613.9	7059390
1544342	Soil	514577.9	7059505
1544343	Soil	514379.4	7059388
1544344	Soil	514398.7	7059267
1544345	Soil	514410.3	7059210
1544346	Soil	514447.9	7059100
1544347	Soil	514476.5	7058981
1544348	Soil	514509.7	7058866
1544349	Soil	514539.6	7058744
1544350	Soil	514628.8	7058870
1544351	Soil	514599	7058985
1544352	Soil	514583.1	7059044
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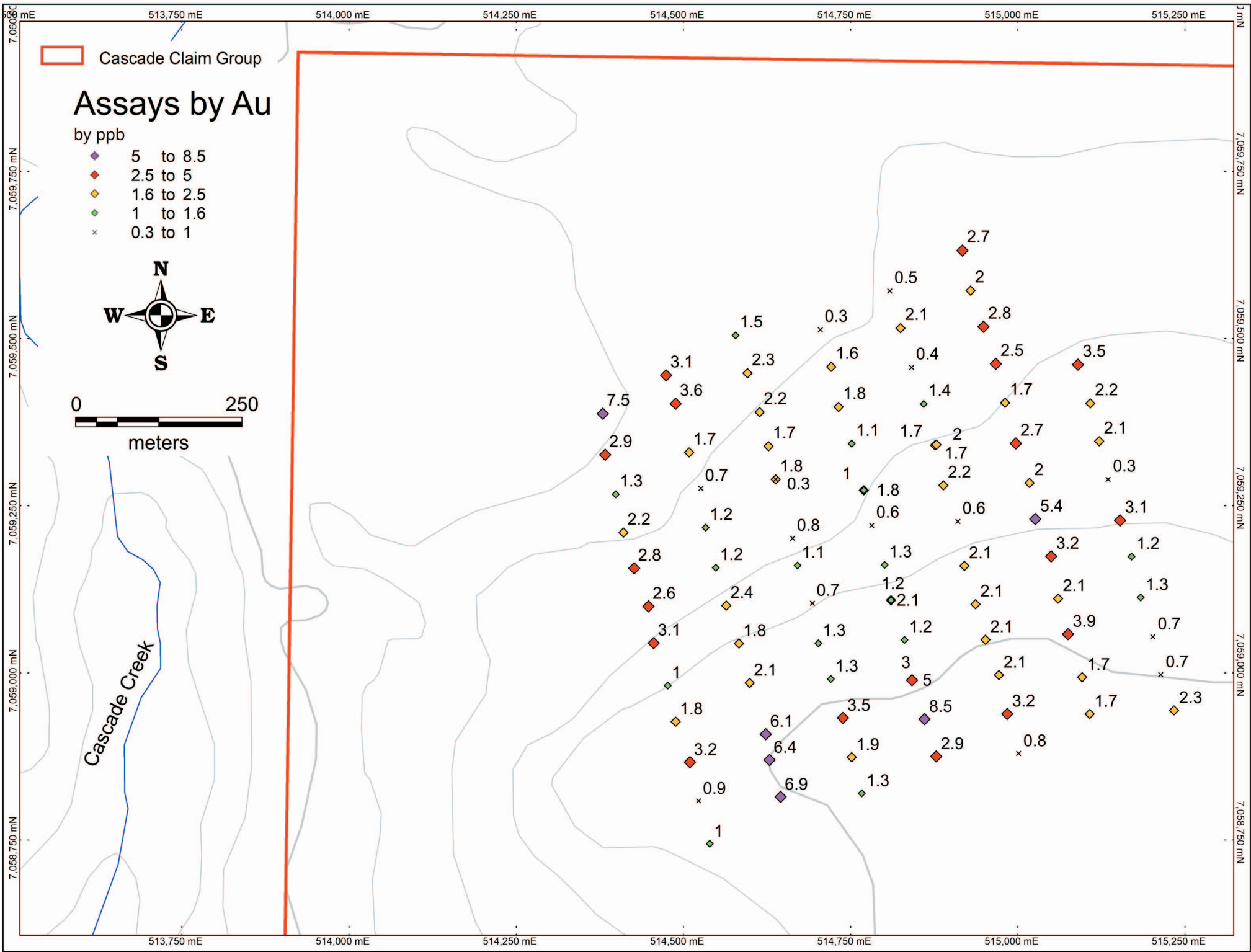
## **Appendix C**

Geochemical plots







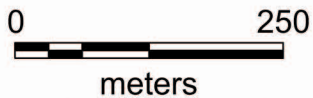


Cascade Claim Group

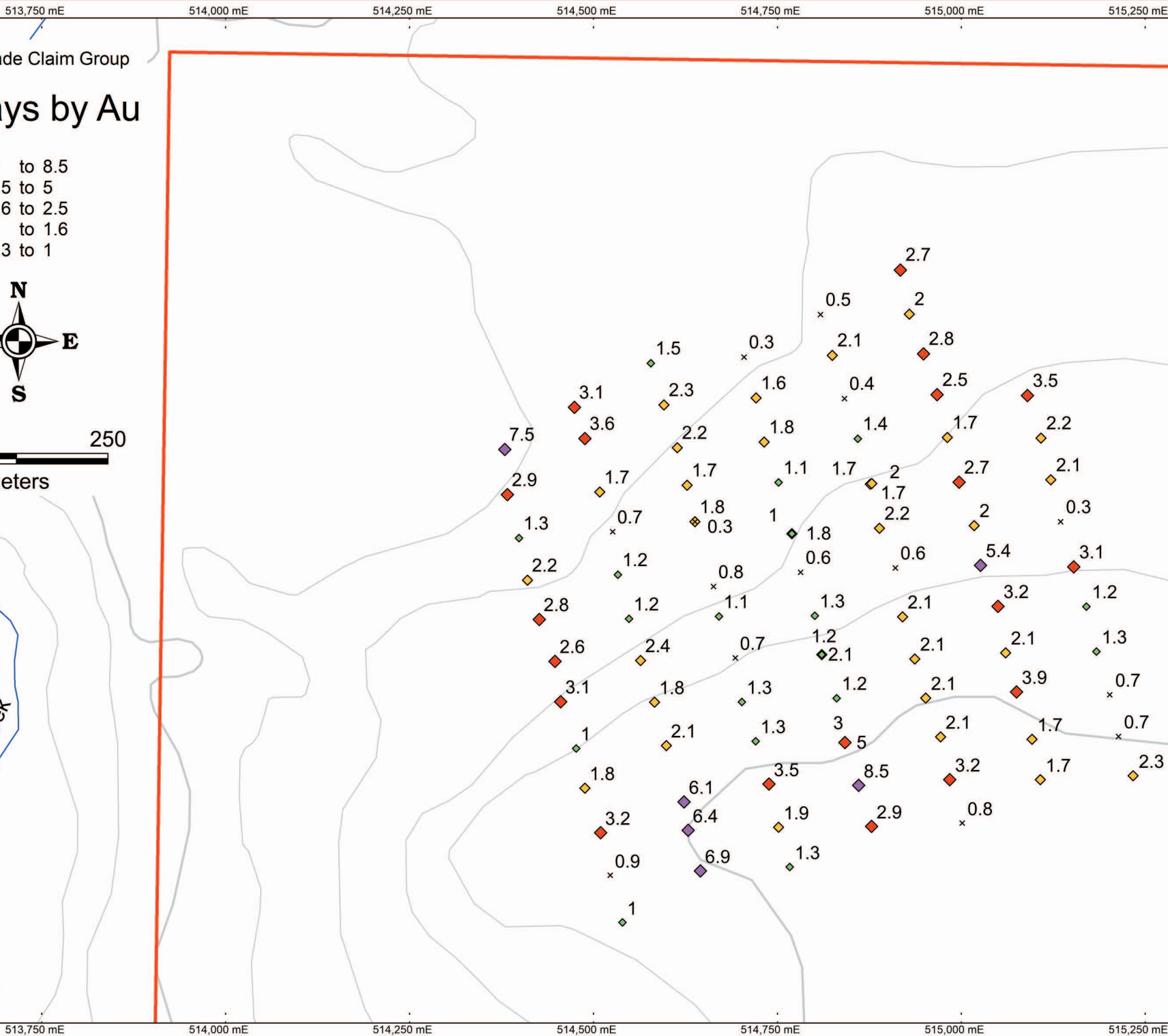
### Assays by Au

by ppb

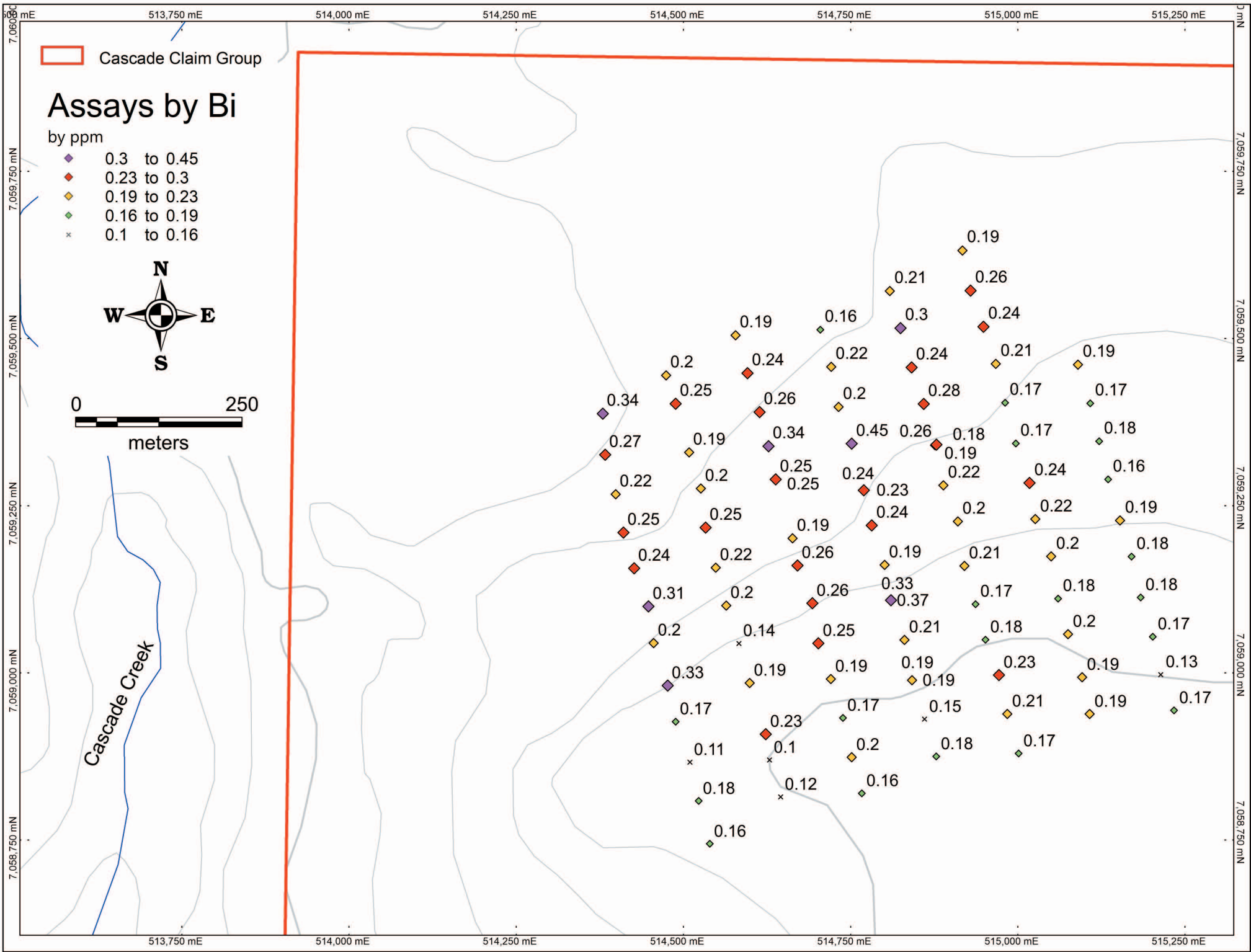
- 5 to 8.5
- 2.5 to 5
- 1.6 to 2.5
- 1 to 1.6
- 0.3 to 1

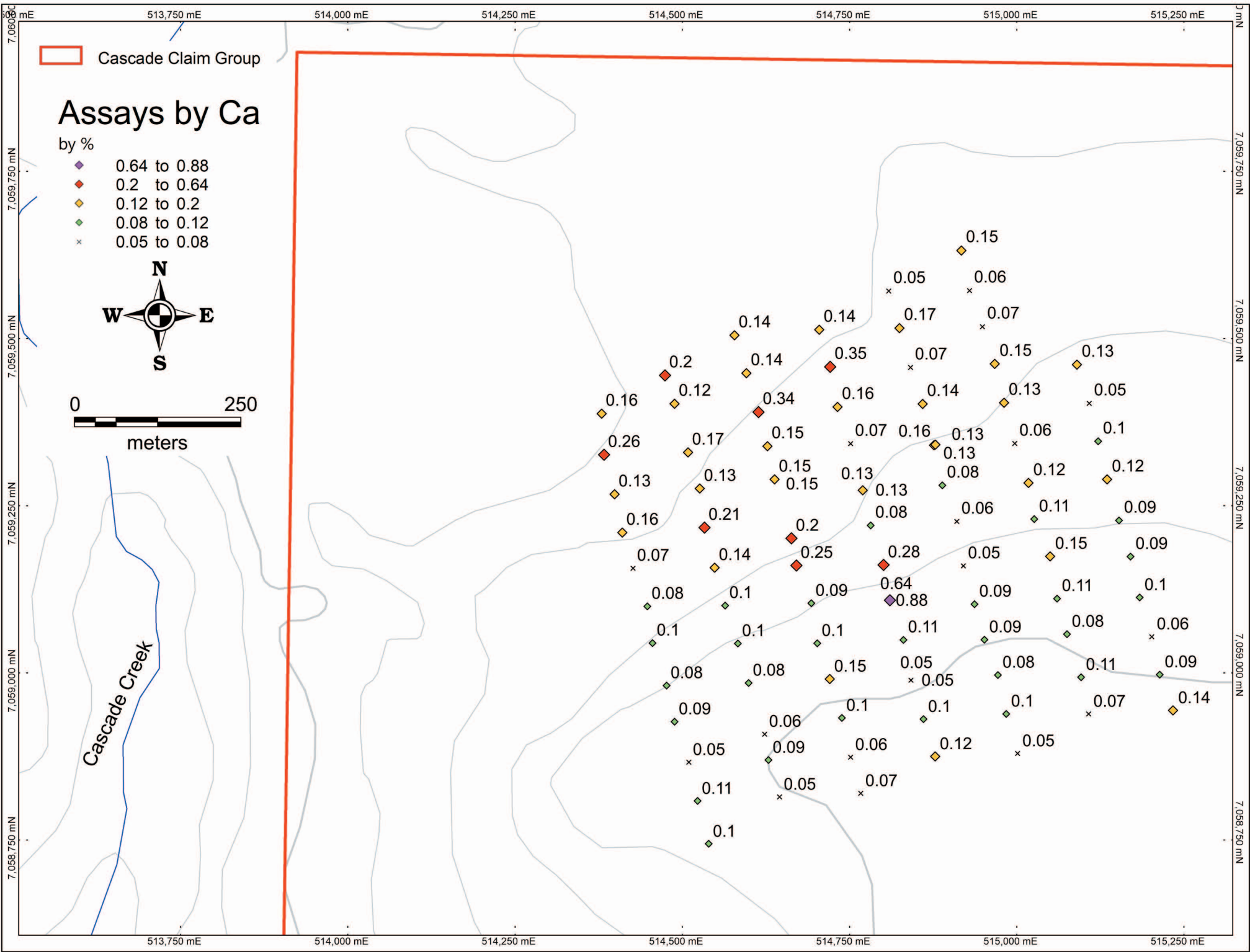


Cascade Creek







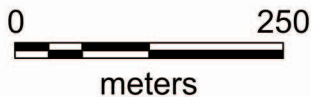


Cascade Claim Group

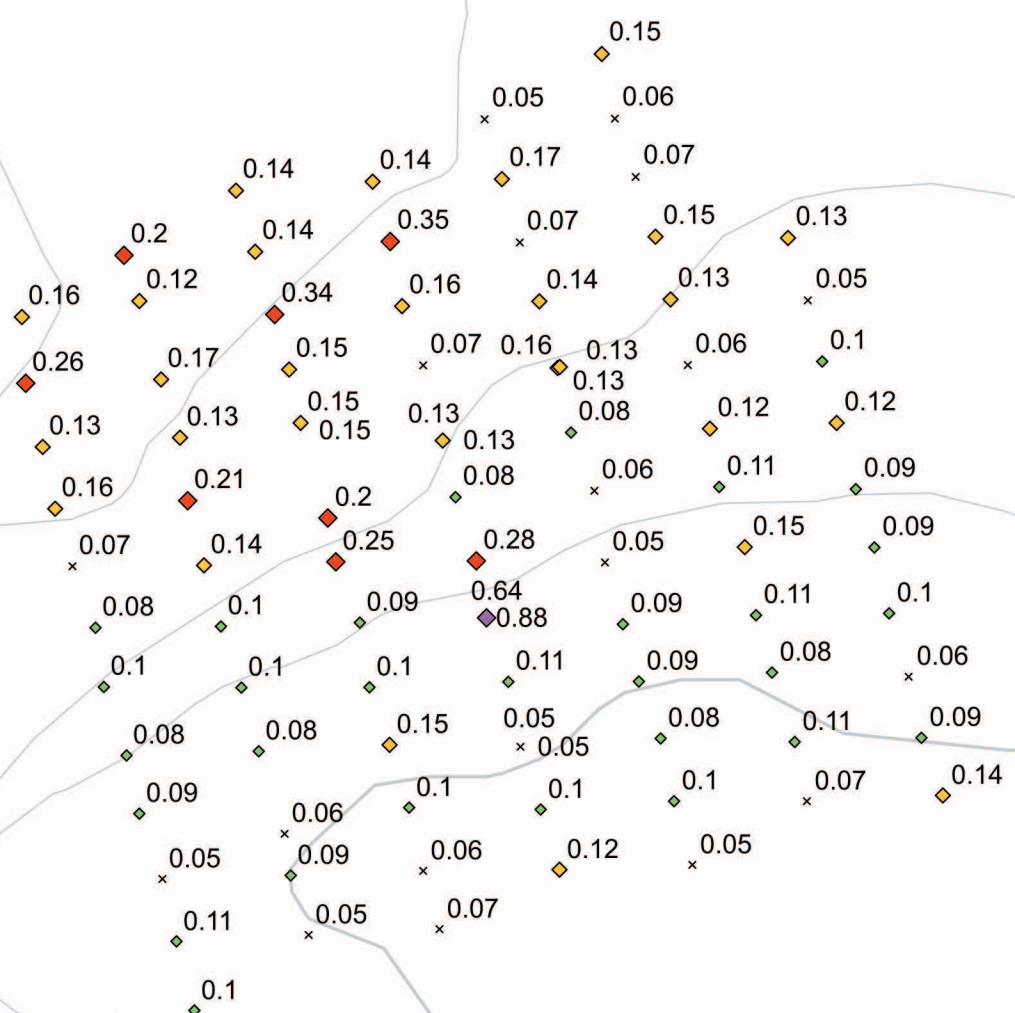
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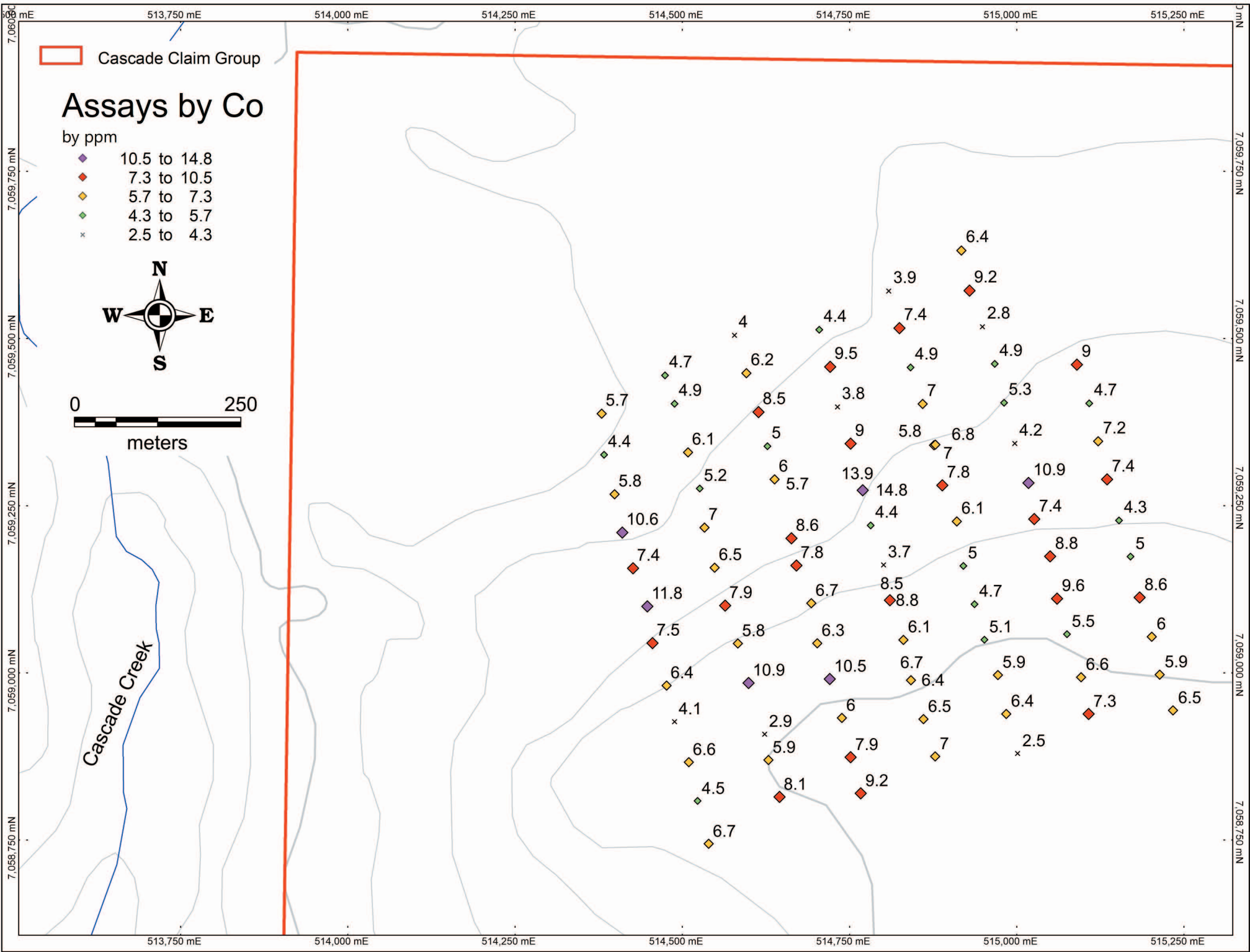
by %

- 0.64 to 0.88
- 0.2 to 0.64
- 0.12 to 0.2
- 0.08 to 0.12
- 0.05 to 0.08

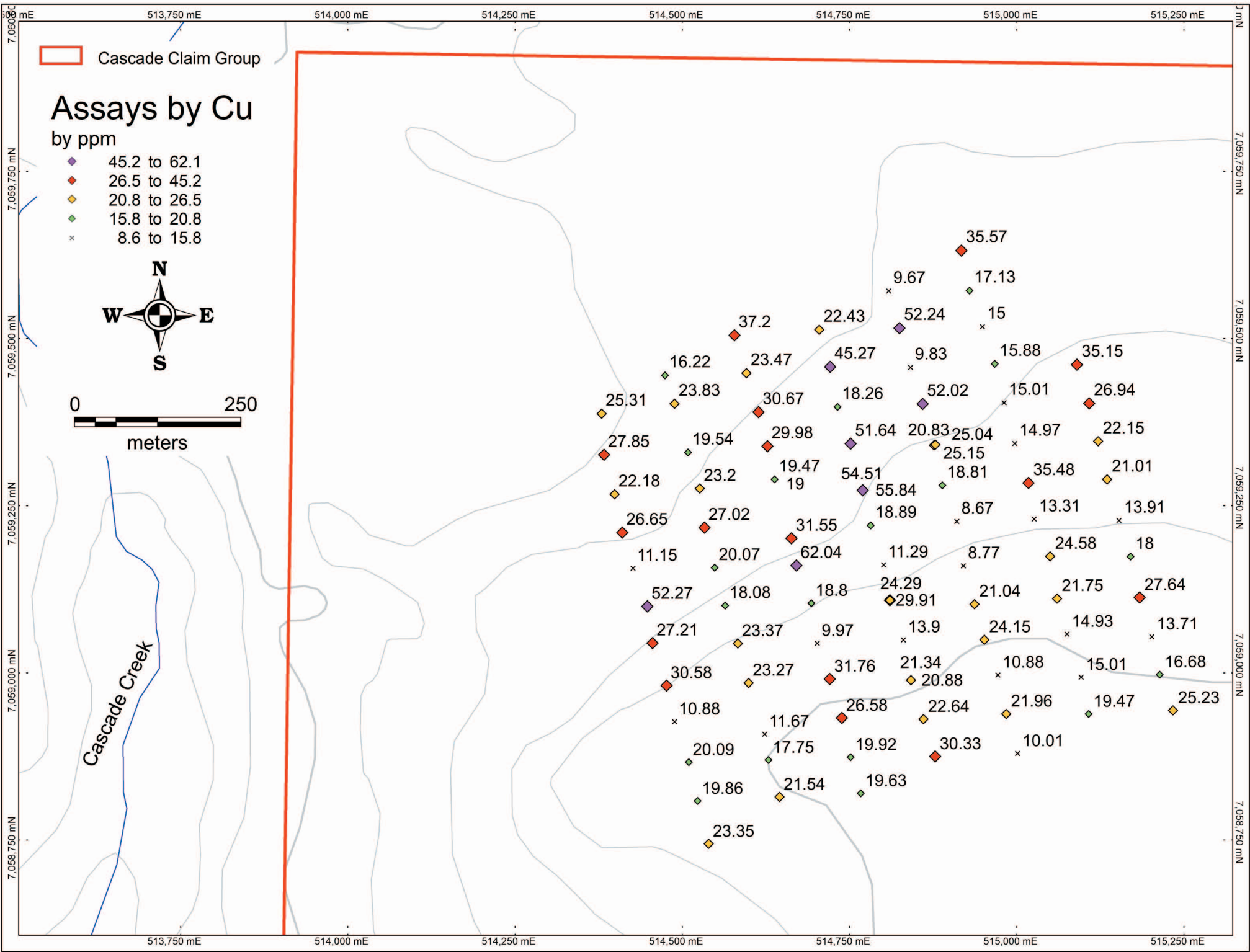


Cascade Creek

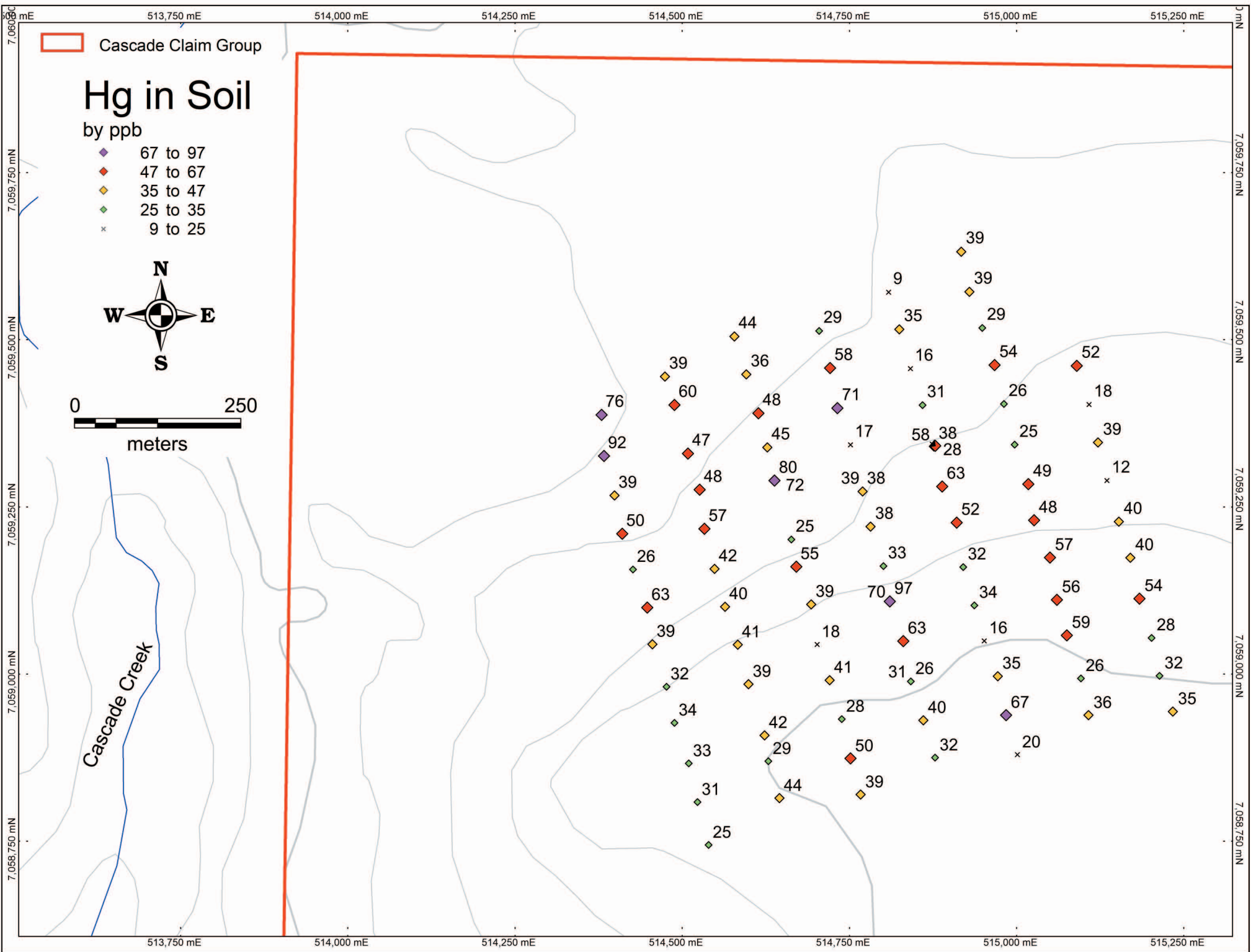










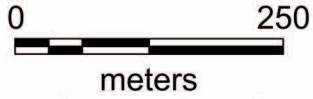


Cascade Claim Group

# Hg in Soil

by ppb

- 67 to 97
- 47 to 67
- 35 to 47
- 25 to 35
- 9 to 25



Cascade Creek

513,750 mE 514,000 mE 514,250 mE 514,500 mE 514,750 mE 515,000 mE 515,250 mE

7,058,750 mN

7,059,000 mN

7,059,250 mN

7,059,500 mN

7,059,750 mN

7,060,000 mN

7,058,750 mN

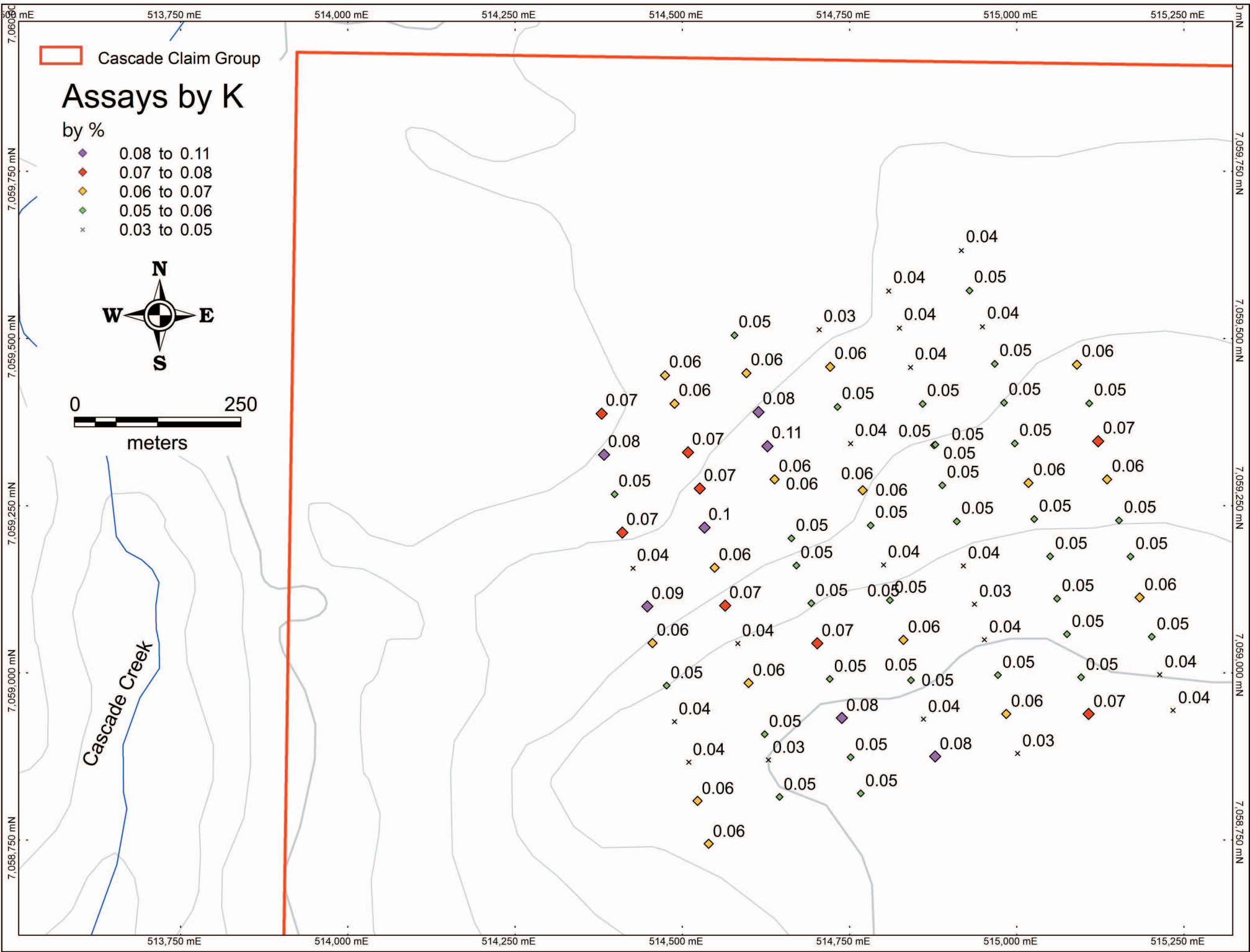
7,059,000 mN

7,059,250 mN

7,059,500 mN

7,059,750 mN

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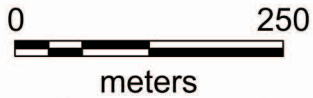


Cascade Claim Group

### Assays by K

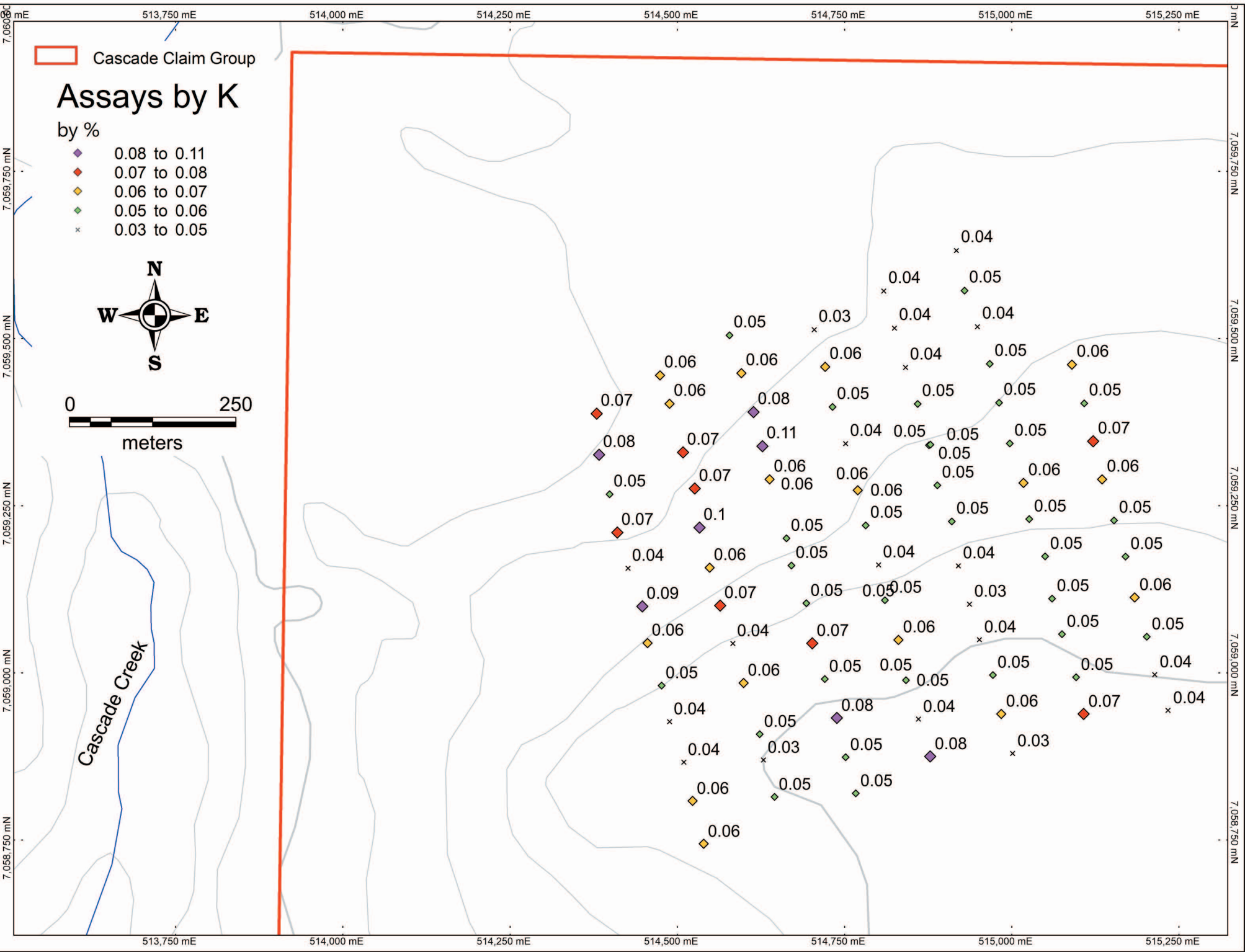
by %

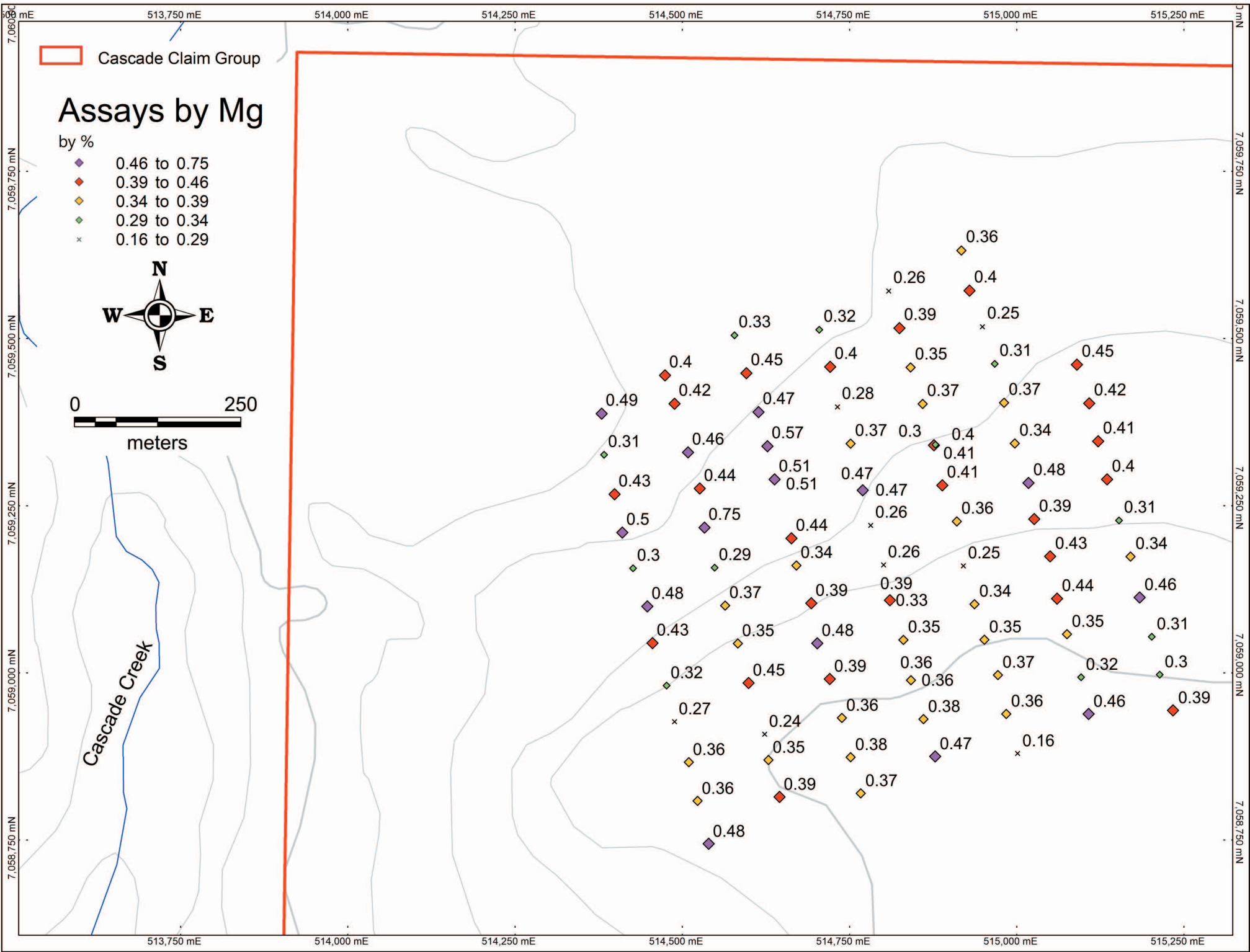
- 0.08 to 0.11
- 0.07 to 0.08
- 0.06 to 0.07
- 0.05 to 0.06
- 0.03 to 0.05

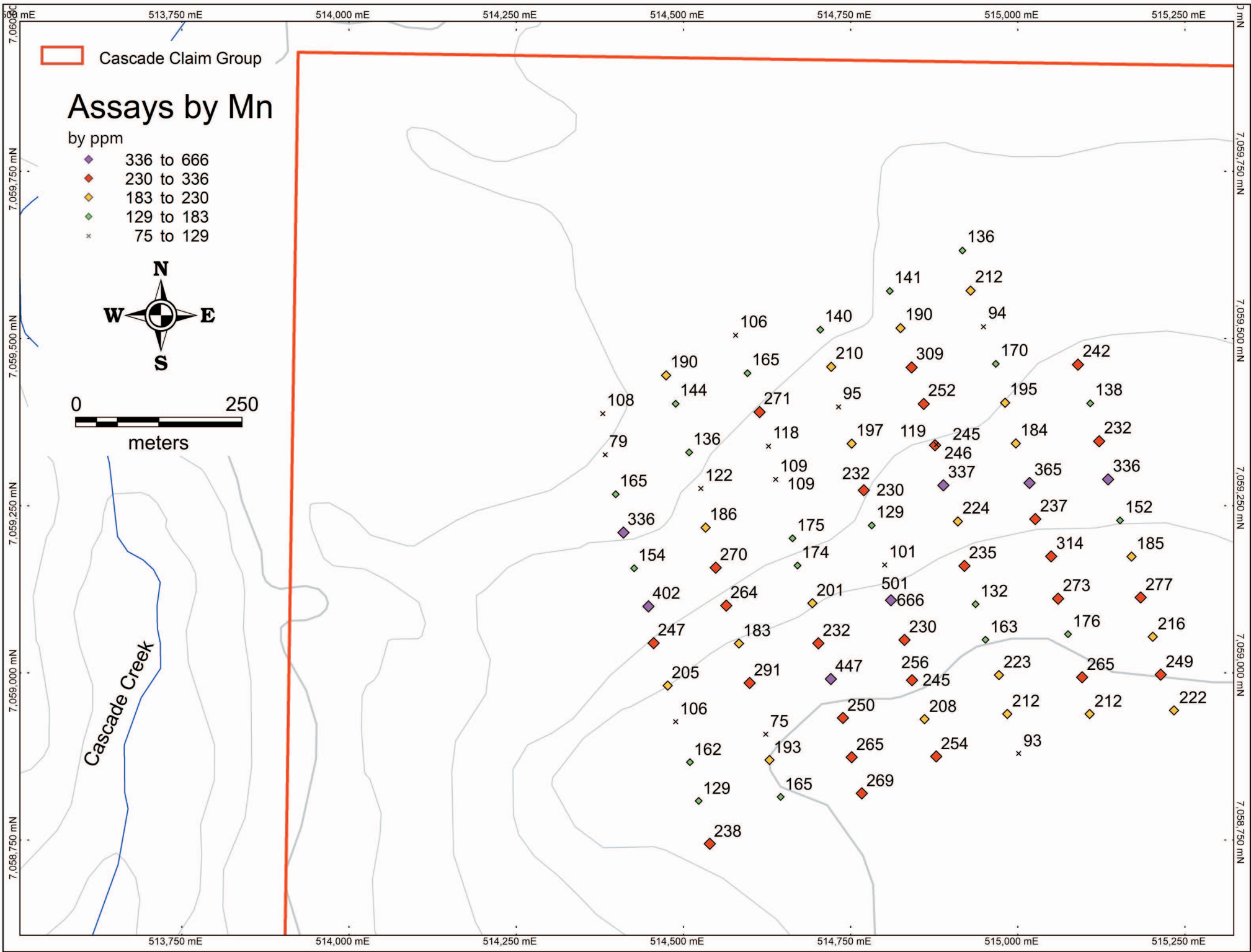


Cascade Creek

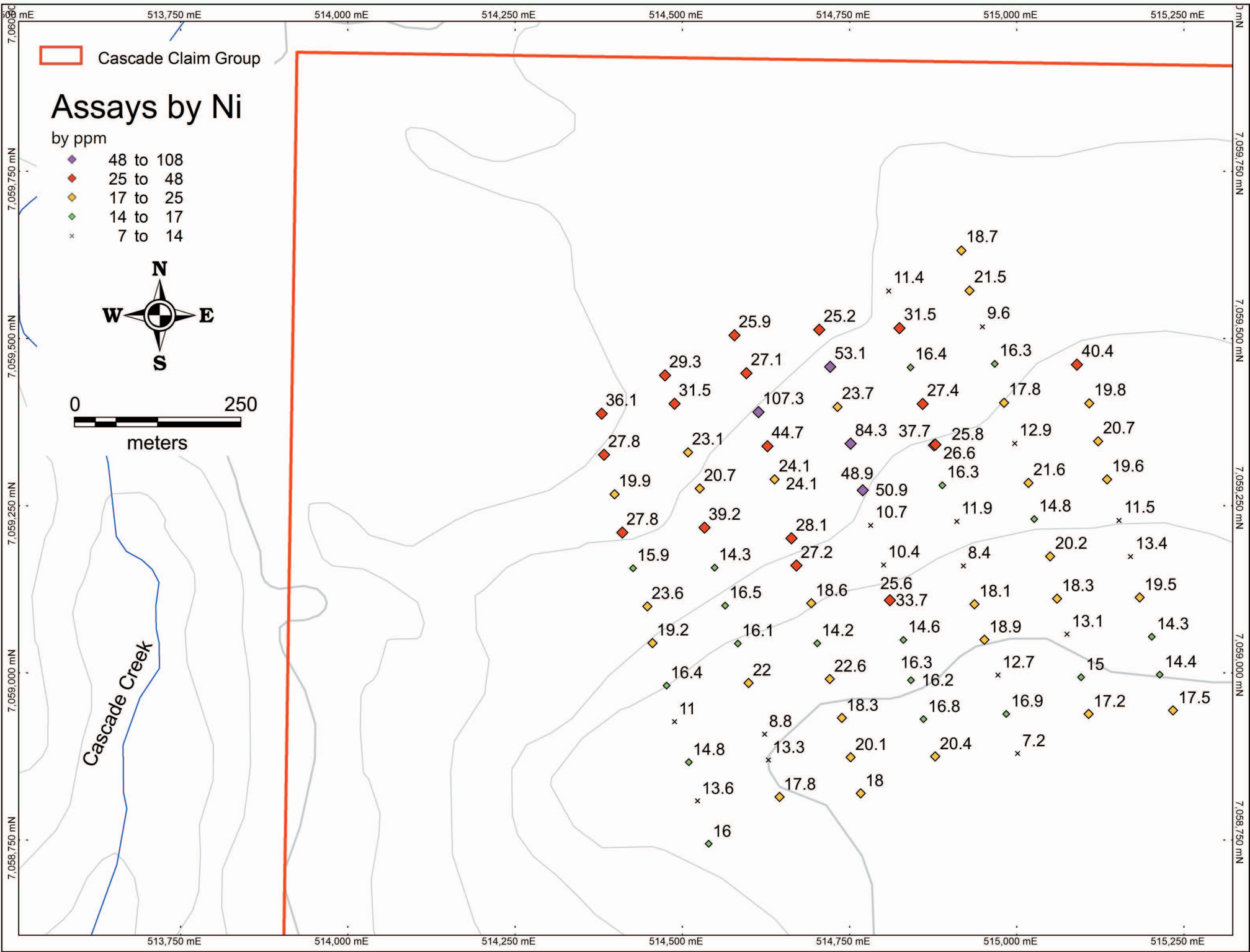
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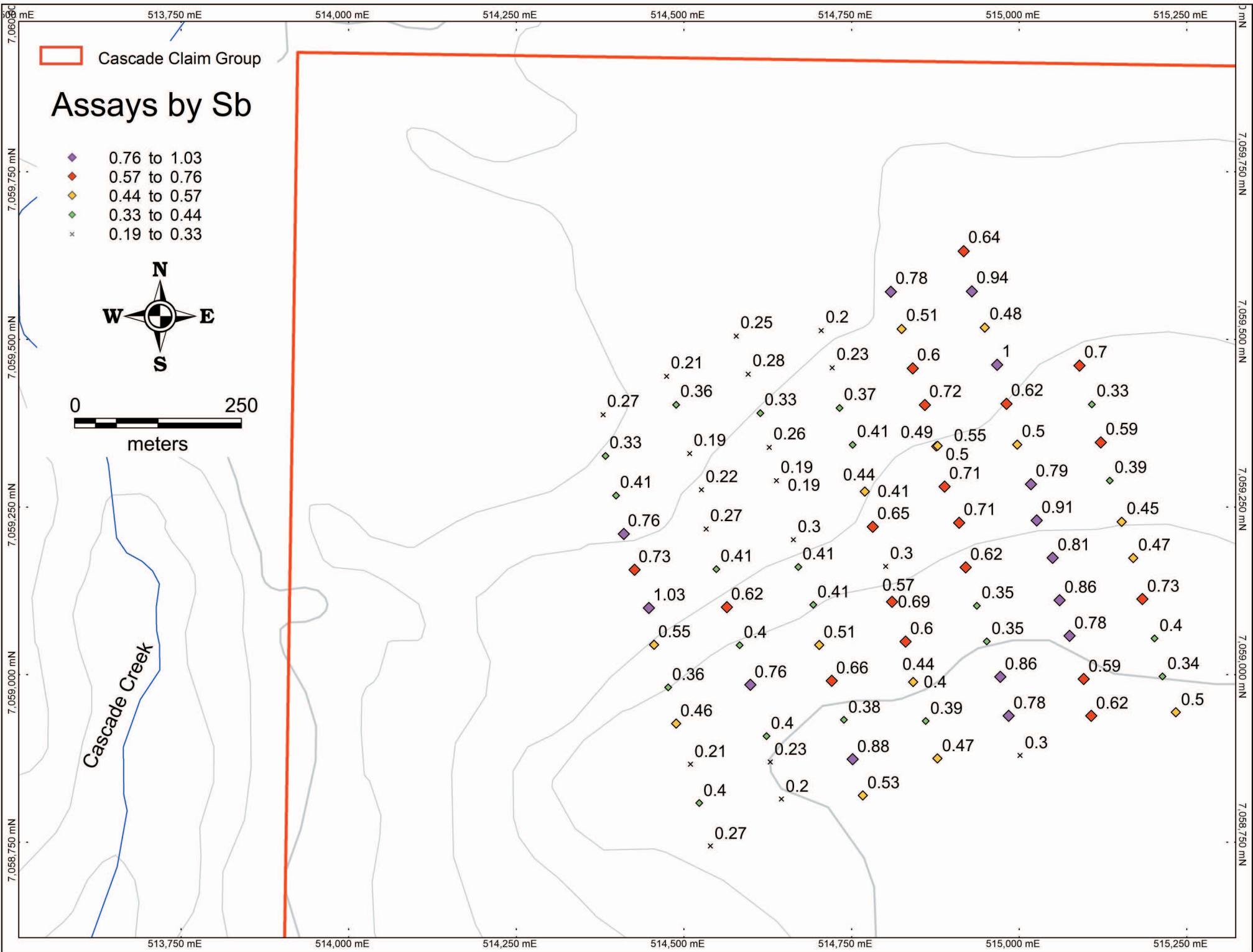


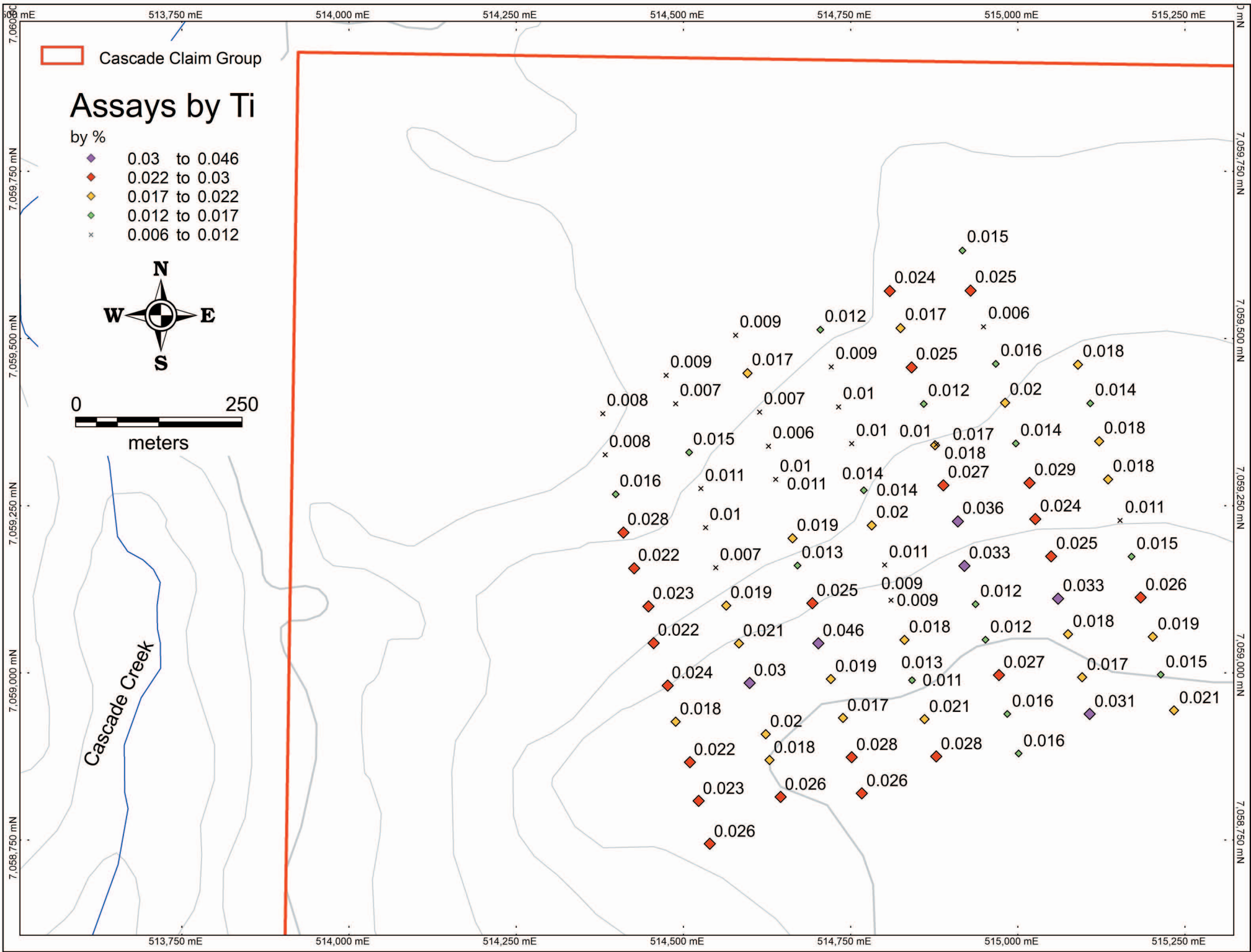




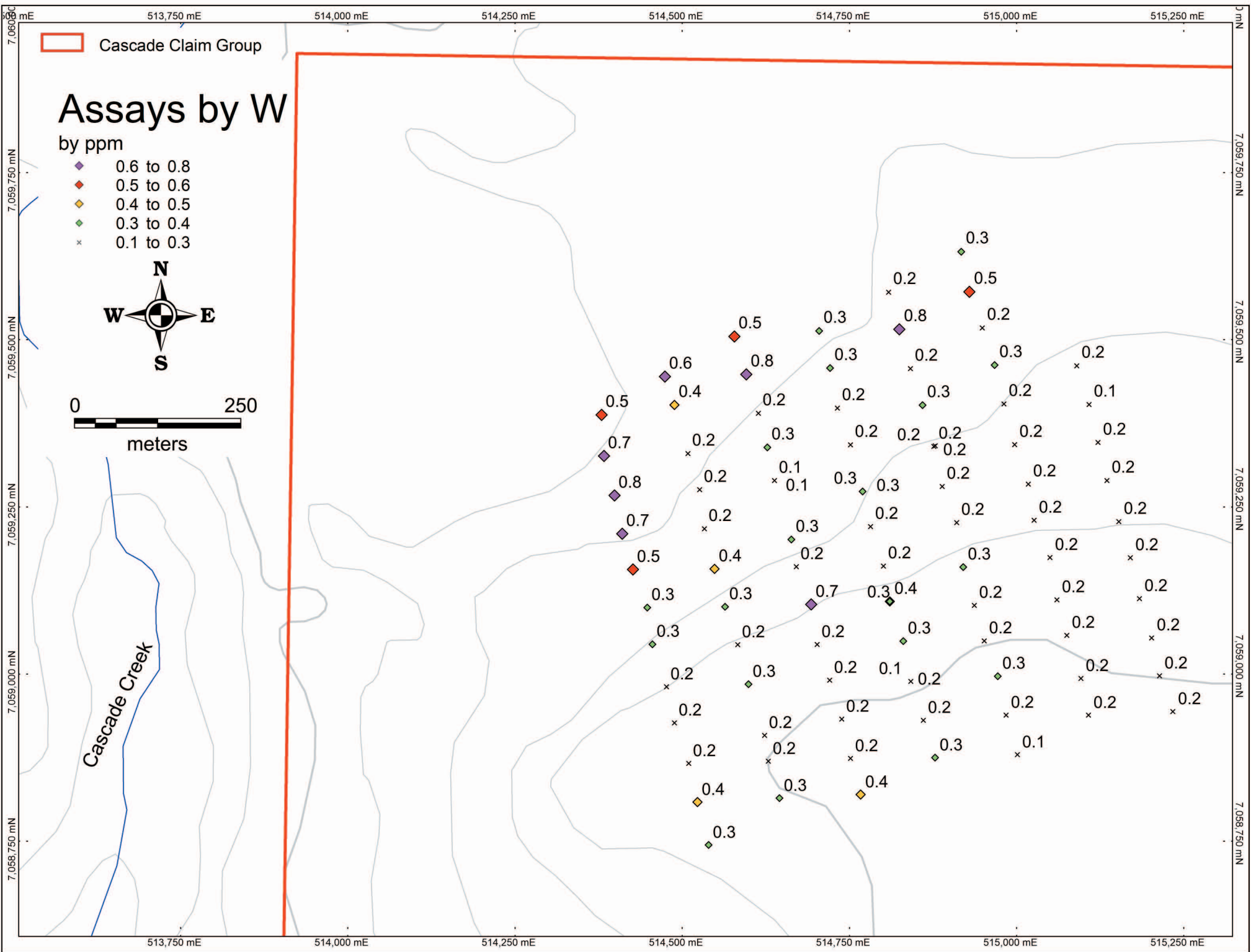










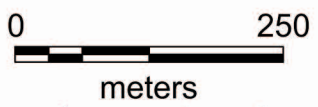


Cascade Claim Group

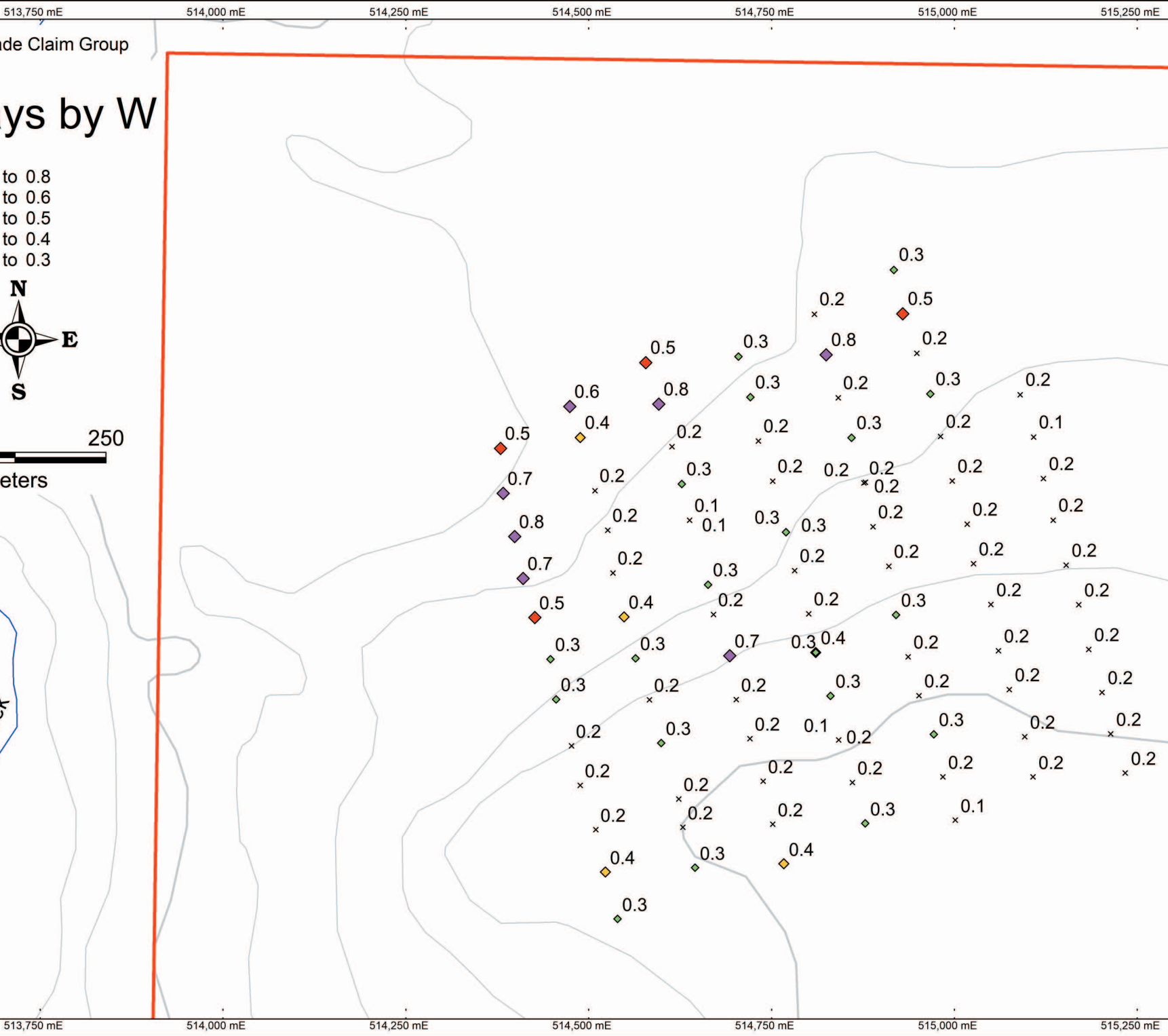
# Assays by W

by ppm

- 0.6 to 0.8
- 0.5 to 0.6
- 0.4 to 0.5
- 0.3 to 0.4
- 0.1 to 0.3



Cascade Creek





## **Appendix D**

### Sample Analysis



**BUREAU VERITAS** MINERAL LABORATORIES  
Canada

[www.bureauveritas.com/um](http://www.bureauveritas.com/um)

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

**Client:** **Mayo Lake Minerals Inc.**  
107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

Submitted By: Tyrell Sutherland/Vern Rampton  
Receiving Lab: Canada-Whitehorse  
Received: July 03, 2017  
Report Date: July 20, 2017  
Page: 1 of 4

# CERTIFICATE OF ANALYSIS

WHI17000211.1

## CLIENT JOB INFORMATION

Project: Cascade  
Shipment ID:  
P.O. Number  
Number of Samples: 88

## SAMPLE DISPOSAL

RTRN-PLP Return After 90 days  
DISP-RJT-SOIL Immediate Disposal of Soil Reject

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


Invoice To: Mayo Lake Minerals Inc.  
107 Falldown Lane  
Carp Ontario K0A 1L0  
Canada

CC:

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Dry at 60C	87	Dry at 60C			WHI
SS80	87	Dry at 60C sieve 100g to -80 mesh			WHI
AQ251	87	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	15	Completed	VAN
SHP01	87	Per sample shipping charges for branch shipments			VAN

## ADDITIONAL COMMENTS

  
JEFFREY CANNON  
Geochemistry Department Supervisor

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



Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

Client: **Mayo Lake Minerals Inc.**

107 Falldown Lane  
Carp Ontario K0A 1L0 Canada

Project: Cascade

Report Date: July 20, 2017

Page: 2 of 4

Part: 1 of 2

# CERTIFICATE OF ANALYSIS

WHI17000211.1

Method Analyte Unit MDL	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	
	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P		
	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%
	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	2	0.01	0.001		
1544145	Soil	1.74	13.31	12.01	64.2	52	14.8	7.4	237	2.53	13.4	1.1	5.4	4.0	11.7	0.11	0.91	0.22	47	0.11	0.068	
1544146	Soil	1.31	8.67	10.86	48.4	63	11.9	6.1	224	2.42	12.7	0.7	0.6	4.8	8.8	0.10	0.71	0.20	44	0.06	0.029	
1544147	Soil	1.82	18.81	11.98	57.8	229	16.3	7.8	337	2.62	20.3	1.1	2.2	7.1	11.1	0.23	0.71	0.22	41	0.08	0.046	
1544148	Soil	1.36	25.04	10.11	56.2	189	25.8	6.8	245	2.14	24.7	1.1	2.0	2.4	14.2	0.19	0.55	0.18	33	0.13	0.054	
1544149	Soil	1.96	20.83	10.80	60.2	462	37.7	5.8	119	1.93	38.3	1.4	1.7	0.4	20.0	0.39	0.49	0.26	39	0.16	0.067	
1544150	Soil	3.02	52.02	13.22	85.7	486	27.4	7.0	252	2.41	35.4	1.3	1.4	0.5	16.1	0.36	0.72	0.28	45	0.14	0.069	
1544151	Soil	1.53	9.83	11.25	65.4	65	16.4	4.9	309	2.43	29.9	0.5	0.4	2.0	9.5	0.39	0.60	0.24	50	0.07	0.050	
1544152	Soil	1.24	52.24	8.86	117.9	175	31.5	7.4	190	2.00	26.8	0.8	2.1	3.2	16.2	0.57	0.51	0.30	33	0.17	0.050	
1544153	Soil	1.49	9.67	10.19	43.5	152	11.4	3.9	141	2.29	15.6	0.5	0.5	3.7	7.2	0.27	0.78	0.21	56	0.05	0.061	
1544154	Soil	1.50	35.57	9.19	62.1	253	18.7	6.4	136	2.14	31.7	1.2	2.7	1.7	14.3	0.26	0.64	0.19	40	0.15	0.064	
1544155	Soil	1.67	17.13	11.65	62.6	345	21.5	9.2	212	2.70	28.4	1.1	2.0	5.6	10.0	0.27	0.94	0.26	53	0.06	0.039	
1544156	Soil	1.99	15.00	12.15	34.2	105	9.6	2.8	94	2.04	18.6	0.9	2.8	0.1	11.1	0.19	0.48	0.24	49	0.07	0.069	
1544157	Soil	2.21	15.88	12.72	64.6	361	16.3	4.9	170	2.80	19.0	1.0	2.5	3.1	18.1	0.18	1.00	0.21	58	0.15	0.061	
1544158	Soil	1.71	15.01	10.14	61.4	121	17.8	5.3	195	2.28	20.9	0.8	1.7	2.4	14.2	0.16	0.62	0.17	35	0.13	0.067	
1544159	Soil	1.42	14.97	8.75	54.8	70	12.9	4.2	184	2.22	11.1	0.7	2.7	2.6	9.4	0.12	0.50	0.17	37	0.06	0.049	
1544160	Soil	1.03	35.48	12.62	59.5	262	21.6	10.9	365	2.59	12.3	1.7	2.0	4.7	15.5	0.15	0.79	0.24	43	0.12	0.067	
1544161	Soil	1.21	24.58	11.32	63.1	70	20.2	8.8	314	2.67	14.8	1.3	3.2	3.3	13.7	0.12	0.81	0.20	47	0.15	0.065	
1544162	Soil	0.94	21.75	11.60	58.0	268	18.3	9.6	273	2.51	17.4	1.3	2.1	6.2	12.3	0.18	0.86	0.18	40	0.11	0.053	
1544163	Soil	1.29	14.93	11.10	48.0	108	13.1	5.5	176	2.39	17.2	1.1	3.9	2.3	10.0	0.08	0.78	0.20	47	0.08	0.053	
1544164	Soil	1.15	15.01	12.11	55.4	57	15.0	6.6	265	2.27	18.1	0.8	1.7	2.4	9.8	0.13	0.59	0.19	33	0.11	0.074	
1544165	Soil	1.36	19.47	11.23	60.1	108	17.2	7.3	212	2.56	21.9	1.0	1.7	4.2	8.8	0.16	0.62	0.19	53	0.07	0.051	
1544166	Soil	0.92	10.01	9.72	27.1	108	7.2	2.5	93	1.50	12.2	0.7	0.8	1.1	7.3	0.08	0.30	0.17	33	0.05	0.056	
1544167	Soil	1.50	21.96	12.73	55.1	200	16.9	6.4	212	2.47	17.9	1.5	3.2	1.0	11.4	0.14	0.78	0.21	44	0.10	0.080	
1544168	Soil	1.44	10.88	12.16	54.7	68	12.7	5.9	223	2.68	14.8	1.0	2.1	4.2	10.3	0.11	0.86	0.23	57	0.08	0.043	
1544169	Soil	1.52	24.15	8.49	58.2	229	18.9	5.1	163	2.10	11.5	0.8	2.1	3.4	16.3	0.25	0.35	0.18	34	0.09	0.064	
1544170	Soil	1.39	21.04	8.95	55.1	301	18.1	4.7	132	2.10	11.4	0.8	2.1	2.9	12.9	0.17	0.35	0.17	35	0.09	0.064	
1544171	Soil	1.66	8.77	9.99	39.1	193	8.4	5.0	235	2.30	13.8	0.7	2.1	4.1	8.1	0.13	0.62	0.21	51	0.05	0.027	
1544172	Soil	1.14	25.23	10.81	47.9	109	17.5	6.5	222	2.35	14.0	1.1	2.3	1.4	11.2	0.05	0.50	0.17	41	0.14	0.084	
1544173	Soil	0.80	16.68	8.54	50.8	83	14.4	5.9	249	1.82	37.0	0.7	0.7	4.1	8.7	0.11	0.34	0.13	23	0.09	0.055	
1544174	Soil	1.23	13.71	10.11	47.0	63	14.3	6.0	216	2.31	19.7	0.6	0.7	4.5	7.4	0.09	0.40	0.17	40	0.06	0.044	



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**Project:** Cascade  
**Report Date:** July 20, 2017

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# CERTIFICATE OF ANALYSIS

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Method	Analyte	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1544145	Soil	17.3	24.4	0.39	160.0	0.024	1	1.50	0.004	0.05	0.2	2.9	0.14	<0.02	48	0.6	0.03	4.3
1544146	Soil	15.5	24.2	0.36	114.6	0.036	<1	1.30	0.004	0.05	0.2	2.6	0.11	<0.02	52	<0.1	0.06	4.3
1544147	Soil	18.1	28.3	0.41	100.7	0.027	2	1.81	0.004	0.05	0.2	2.7	0.11	<0.02	63	0.8	0.03	4.0
1544148	Soil	18.4	26.6	0.40	234.3	0.017	<1	1.14	0.005	0.05	0.2	2.3	0.09	<0.02	38	0.5	0.03	3.1
1544149	Soil	16.6	23.4	0.30	243.9	0.010	<1	1.22	0.005	0.05	0.2	1.1	0.14	0.04	58	2.2	0.03	4.2
1544150	Soil	16.7	25.1	0.37	182.6	0.012	<1	1.29	0.005	0.05	0.3	1.3	0.15	0.02	31	2.3	0.04	3.9
1544151	Soil	14.9	28.7	0.35	83.4	0.025	<1	1.00	0.004	0.04	0.2	1.8	0.10	<0.02	16	0.2	0.03	4.2
1544152	Soil	14.9	32.0	0.39	158.1	0.017	<1	1.04	0.006	0.04	0.8	2.2	0.08	<0.02	35	0.2	0.04	3.0
1544153	Soil	15.2	19.2	0.26	93.3	0.024	<1	1.14	0.003	0.04	0.2	1.9	0.12	<0.02	9	0.2	0.04	4.8
1544154	Soil	16.9	24.1	0.36	159.3	0.015	2	1.33	0.004	0.04	0.3	2.0	0.13	<0.02	39	0.8	0.04	3.9
1544155	Soil	17.0	30.9	0.40	184.6	0.025	<1	1.72	0.004	0.05	0.5	3.5	0.12	<0.02	39	0.5	0.03	4.4
1544156	Soil	13.8	22.8	0.25	107.3	0.006	<1	1.11	0.003	0.04	0.2	0.4	0.15	<0.02	29	0.9	0.04	4.7
1544157	Soil	13.2	24.6	0.31	185.9	0.016	1	1.56	0.003	0.05	0.3	2.3	0.17	<0.02	54	1.1	0.05	4.5
1544158	Soil	15.8	23.8	0.37	108.5	0.020	<1	1.21	0.004	0.05	0.2	1.8	0.09	<0.02	26	0.5	0.03	3.4
1544159	Soil	13.7	22.2	0.34	91.4	0.014	12	1.10	0.003	0.05	0.2	1.8	0.09	<0.02	25	0.8	0.03	3.5
1544160	Soil	23.7	26.7	0.48	198.3	0.029	<1	1.66	0.006	0.06	0.2	4.3	0.13	<0.02	49	0.4	0.04	4.0
1544161	Soil	18.6	25.4	0.43	185.5	0.025	<1	1.55	0.005	0.05	0.2	3.0	0.11	<0.02	57	0.4	0.06	4.0
1544162	Soil	17.8	26.0	0.44	178.0	0.033	<1	1.71	0.005	0.05	0.2	3.3	0.10	<0.02	56	0.4	0.03	4.0
1544163	Soil	15.8	23.8	0.35	122.3	0.018	<1	1.43	0.004	0.05	0.2	2.3	0.13	<0.02	59	0.9	0.04	4.3
1544164	Soil	15.9	20.5	0.32	94.2	0.017	<1	1.18	0.003	0.05	0.2	1.7	0.10	<0.02	26	0.5	0.03	3.7
1544165	Soil	16.7	30.7	0.46	168.0	0.031	<1	1.49	0.004	0.07	0.2	3.4	0.14	<0.02	36	0.2	0.02	4.5
1544166	Soil	17.2	15.1	0.16	117.3	0.016	<1	0.94	0.003	0.03	0.1	1.5	0.12	<0.02	20	0.5	0.04	3.9
1544167	Soil	18.2	24.7	0.36	163.9	0.016	<1	1.49	0.004	0.06	0.2	2.3	0.13	<0.02	67	0.7	0.04	4.2
1544168	Soil	17.6	25.2	0.37	142.0	0.027	<1	1.48	0.004	0.05	0.3	3.0	0.16	<0.02	35	0.5	0.04	5.3
1544169	Soil	15.6	21.4	0.35	87.4	0.012	<1	1.02	0.005	0.04	0.2	1.8	0.07	0.02	16	0.6	0.02	3.2
1544170	Soil	13.4	21.3	0.34	95.1	0.012	5	1.15	0.004	0.03	0.2	1.6	0.07	<0.02	34	0.7	0.05	3.0
1544171	Soil	15.2	19.5	0.25	73.1	0.033	1	1.11	0.003	0.04	0.3	1.9	0.11	<0.02	32	0.3	0.03	4.2
1544172	Soil	15.6	24.4	0.39	149.3	0.021	1	1.47	0.005	0.04	0.2	1.9	0.11	<0.02	35	0.8	<0.02	4.4
1544173	Soil	15.9	16.7	0.30	116.0	0.015	1	0.95	0.004	0.04	0.2	1.6	0.05	<0.02	32	0.3	<0.02	2.4
1544174	Soil	16.0	21.2	0.31	101.5	0.019	<1	1.20	0.004	0.05	0.2	1.9	0.10	<0.02	28	0.3	0.03	3.7



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Project: Cascade

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# CERTIFICATE OF ANALYSIS

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Method Analyte	Unit	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL
1544175	Soil	1.13	27.64	11.18	64.3	176	19.5	8.6	277	2.45	21.1	1.4	1.3	4.8	9.8	0.09	0.73	0.18	44	0.10	0.049
1544176	Soil	1.35	18.00	10.19	62.6	128	13.4	5.0	185	2.27	20.0	1.1	1.2	2.2	10.1	0.11	0.47	0.18	42	0.09	0.077
1544177	Soil	1.67	13.91	10.43	47.4	175	11.5	4.3	152	2.23	14.9	0.9	3.1	0.3	10.9	0.10	0.45	0.19	44	0.09	0.069
1544178	Soil	1.36	21.01	10.80	65.3	104	19.6	7.4	336	2.63	14.9	0.8	0.3	4.7	12.6	0.13	0.39	0.16	36	0.12	0.065
1544179	Soil	1.64	22.15	11.32	63.8	118	20.7	7.2	232	2.52	19.7	1.2	2.1	2.4	12.2	0.14	0.59	0.18	42	0.10	0.066
1544180	Soil	1.65	26.94	10.17	58.9	193	19.8	4.7	138	2.21	28.8	1.2	2.2	5.3	12.5	0.14	0.33	0.17	39	0.05	0.041
1544181	Soil	1.98	35.15	12.05	79.6	229	40.4	9.0	242	2.62	55.2	1.6	3.5	3.4	14.3	0.18	0.70	0.19	43	0.13	0.079
1544238	Soil	1.26	22.43	7.08	58.3	201	25.2	4.4	140	1.50	28.9	1.0	0.3	4.1	13.8	0.35	0.20	0.16	25	0.14	0.053
1544239	Soil	1.79	18.26	11.10	46.8	414	23.7	3.8	95	1.74	35.1	1.2	1.8	0.5	17.3	0.36	0.37	0.20	41	0.16	0.068
1544240	Soil	3.71	55.84	11.82	111.2	302	50.9	14.8	230	2.45	92.4	1.4	1.8	1.8	18.8	1.00	0.41	0.23	43	0.13	0.069
1544241	Soil	1.95	11.29	9.92	41.4	376	10.4	3.7	101	1.77	10.0	0.9	1.3	0.2	23.4	0.24	0.30	0.19	44	0.28	0.067
1544242	Soil	1.43	13.90	13.58	56.2	75	14.6	6.1	230	2.61	14.8	1.1	1.2	1.6	11.4	0.10	0.60	0.21	47	0.11	0.094
1544243	Soil	0.78	22.64	9.41	52.6	91	16.8	6.5	208	2.08	28.1	1.1	8.5	4.4	9.4	0.12	0.39	0.15	32	0.10	0.055
1544244	Soil	1.23	19.63	10.15	48.9	126	18.0	9.2	269	2.17	17.2	0.8	1.3	4.2	8.8	0.15	0.53	0.16	41	0.07	0.041
1544245	Soil	1.09	26.58	10.67	63.8	105	18.3	6.0	250	2.26	42.8	0.9	3.5	5.8	13.9	0.17	0.38	0.17	34	0.10	0.056
1544246	Soil	2.56	18.80	13.19	80.6	395	18.6	6.7	201	2.58	11.9	0.7	0.7	5.1	23.1	0.30	0.41	0.26	55	0.09	0.073
1544247	Soil	4.25	31.55	8.59	106.0	713	28.1	8.6	175	2.47	9.8	1.2	0.8	3.0	21.9	0.29	0.30	0.19	42	0.20	0.086
1544248	Soil	3.95	29.98	12.40	86.0	658	44.7	5.0	118	2.40	81.3	1.5	1.7	3.6	31.5	0.36	0.26	0.34	44	0.15	0.087
1544249	Soil	1.57	23.47	8.92	73.3	320	27.1	6.2	165	2.06	33.9	0.6	2.3	4.4	14.8	0.23	0.28	0.24	34	0.14	0.052
1544250	Soil	1.76	16.22	9.50	59.2	249	29.3	4.7	190	2.01	60.4	0.8	3.1	4.3	18.4	0.21	0.21	0.20	35	0.20	0.055
1544251	Soil	2.09	27.85	14.86	70.7	1047	27.8	4.4	79	2.82	33.9	1.4	2.9	0.8	24.6	0.42	0.33	0.27	33	0.26	0.117
1544252	Soil	1.71	11.15	12.10	55.7	674	15.9	7.4	154	2.71	14.5	0.5	2.8	4.1	7.6	0.69	0.73	0.24	63	0.07	0.036
1544253	Soil	1.57	27.21	9.75	69.2	112	19.2	7.5	247	2.55	13.0	1.4	3.1	5.2	13.7	0.08	0.55	0.20	42	0.10	0.053
1544254	Soil	1.16	10.88	10.14	42.8	122	11.0	4.1	106	2.12	14.1	0.7	1.8	3.0	9.3	0.06	0.46	0.17	45	0.09	0.035
1544255	Soil	1.33	19.86	10.68	57.8	227	13.6	4.5	129	2.02	15.9	1.0	0.9	1.3	10.0	0.10	0.40	0.18	45	0.11	0.073
1544256	Soil	0.86	21.54	7.17	49.3	205	17.8	8.1	165	1.79	25.6	0.7	6.9	4.6	8.2	0.11	0.20	0.12	31	0.05	0.031
1544257	Soil	1.43	11.67	13.62	33.4	79	8.8	2.9	75	2.20	19.1	1.2	6.1	4.5	8.6	0.06	0.40	0.23	55	0.06	0.052
1544258	Soil	2.03	18.08	13.08	62.9	128	16.5	7.9	264	2.61	14.8	1.2	2.4	5.0	13.1	0.17	0.62	0.20	45	0.10	0.069
1544259	Soil	3.44	27.02	12.20	90.8	909	39.2	7.0	186	3.05	42.9	1.1	1.2	4.5	26.5	0.49	0.27	0.25	52	0.21	0.084
1544260	Soil	2.30	19.54	8.71	63.5	438	23.1	6.1	136	1.90	20.8	0.7	1.7	2.3	20.2	0.22	0.19	0.19	41	0.17	0.061



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Method	Analyte	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1544175	Soil	19.5	26.6	0.46	258.4	0.026	2	1.56	0.006	0.06	0.2	3.4	0.11	<0.02	54	0.4	0.03	3.9
1544176	Soil	16.1	23.2	0.34	149.6	0.015	1	1.31	0.004	0.05	0.2	2.2	0.12	<0.02	40	0.6	0.05	3.8
1544177	Soil	14.6	23.1	0.31	162.2	0.011	1	1.23	0.004	0.05	0.2	0.8	0.11	<0.02	40	0.6	0.02	4.2
1544178	Soil	15.4	26.2	0.40	120.2	0.018	<1	1.38	0.005	0.06	0.2	2.0	0.07	<0.02	12	0.9	0.05	3.4
1544179	Soil	16.8	25.6	0.41	190.3	0.018	<1	1.43	0.005	0.07	0.2	2.4	0.11	<0.02	39	0.3	0.05	3.6
1544180	Soil	17.9	28.5	0.42	109.6	0.014	1	1.31	0.004	0.05	0.1	2.3	0.07	<0.02	18	0.6	0.04	3.6
1544181	Soil	17.1	32.5	0.45	172.6	0.018	<1	1.54	0.005	0.06	0.2	2.6	0.12	<0.02	52	0.8	<0.02	3.8
1544238	Soil	13.6	26.0	0.32	122.2	0.012	1	0.77	0.006	0.03	0.3	1.7	0.06	<0.02	29	0.8	<0.02	2.5
1544239	Soil	13.0	23.7	0.28	192.9	0.010	1	1.21	0.005	0.05	0.2	1.2	0.19	0.04	71	3.0	0.04	4.5
1544240	Soil	23.6	44.1	0.47	253.3	0.014	2	1.36	0.006	0.06	0.3	2.3	0.17	0.03	38	1.0	0.04	4.3
1544241	Soil	12.6	19.9	0.26	191.8	0.011	<1	1.03	0.005	0.04	0.2	0.8	0.15	0.03	33	1.8	0.05	4.4
1544242	Soil	16.1	25.0	0.35	131.1	0.018	1	1.48	0.005	0.06	0.3	2.1	0.16	<0.02	63	0.9	0.03	4.4
1544243	Soil	20.0	21.1	0.38	118.0	0.021	<1	1.14	0.005	0.04	0.2	2.3	0.08	<0.02	40	0.4	0.03	3.0
1544244	Soil	13.6	24.6	0.37	167.9	0.026	<1	1.45	0.006	0.05	0.4	2.4	0.12	<0.02	39	0.7	<0.02	3.5
1544245	Soil	19.0	22.1	0.36	265.1	0.017	<1	1.18	0.006	0.08	0.2	2.6	0.09	<0.02	28	0.4	0.05	3.2
1544246	Soil	18.0	29.9	0.39	105.4	0.025	1	1.20	0.008	0.05	0.7	2.0	0.10	0.03	39	1.1	0.07	4.9
1544247	Soil	16.8	29.5	0.44	184.7	0.019	2	1.30	0.007	0.05	0.3	2.1	0.15	0.02	25	2.3	0.04	3.8
1544248	Soil	22.1	67.6	0.57	202.6	0.006	3	1.49	0.009	0.11	0.3	2.4	0.19	0.05	45	2.1	0.07	4.3
1544249	Soil	16.2	33.8	0.45	128.3	0.017	<1	1.20	0.006	0.06	0.8	2.2	0.08	<0.02	36	1.0	0.02	3.6
1544250	Soil	14.8	34.0	0.40	200.0	0.009	<1	1.11	0.005	0.06	0.6	2.1	0.10	0.02	39	1.8	0.04	3.2
1544251	Soil	15.2	32.2	0.31	301.9	0.008	2	1.39	0.008	0.08	0.7	1.6	0.15	0.08	92	1.7	0.03	3.6
1544252	Soil	12.8	26.4	0.30	165.1	0.022	<1	1.83	0.005	0.04	0.5	2.4	0.14	<0.02	26	0.5	0.03	5.2
1544253	Soil	21.7	24.3	0.43	228.8	0.022	<1	1.45	0.006	0.06	0.3	3.0	0.11	<0.02	39	0.4	0.04	4.0
1544254	Soil	14.6	21.0	0.27	180.5	0.018	<1	1.36	0.004	0.04	0.2	1.8	0.14	<0.02	34	0.9	0.03	4.2
1544255	Soil	16.0	24.8	0.36	142.1	0.023	1	1.35	0.004	0.06	0.4	2.1	0.14	<0.02	31	0.8	0.04	4.3
1544256	Soil	14.2	23.4	0.39	131.2	0.026	<1	1.13	0.006	0.05	0.3	2.3	0.08	<0.02	44	0.3	0.03	2.7
1544257	Soil	17.8	23.5	0.24	165.2	0.020	2	1.45	0.004	0.05	0.2	2.8	0.19	<0.02	42	0.8	0.04	5.6
1544258	Soil	17.8	25.2	0.37	250.4	0.019	<1	1.47	0.005	0.07	0.3	3.3	0.13	<0.02	40	0.9	0.05	3.9
1544259	Soil	19.3	71.9	0.75	246.0	0.010	<1	1.81	0.007	0.10	0.2	3.0	0.18	0.04	57	2.6	0.05	4.9
1544260	Soil	15.8	41.0	0.46	188.2	0.015	<1	1.30	0.006	0.07	0.2	2.1	0.14	0.03	47	2.1	0.03	4.2



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Project: Cascade

Report Date: July 20, 2017

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# CERTIFICATE OF ANALYSIS

WHI17000211.1

Method	Analyte	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL
1544329	Soil	1.35	45.27	10.30	84.8	1100	53.1	9.5	210	1.90	105.7	1.6	1.6	3.8	25.8	0.87	0.23	0.22	32	0.35	0.077
1544330	Soil	4.76	51.64	15.36	154.6	150	84.3	9.0	197	3.17	145.4	1.9	1.1	7.3	20.7	0.78	0.41	0.45	41	0.07	0.071
1544331	Soil	2.44	18.89	11.13	43.3	191	10.7	4.4	129	2.01	11.1	0.9	0.6	1.0	11.0	0.24	0.65	0.24	54	0.08	0.040
1544332	Soil	4.71	29.91	15.71	62.9	2479	33.7	8.8	666	2.69	12.6	2.0	2.1	1.6	67.7	0.91	0.69	0.37	48	0.88	0.137
1544333	Soil	4.08	24.29	13.50	61.5	1894	25.6	8.5	501	2.64	11.5	1.7	1.2	2.0	50.9	0.43	0.57	0.33	51	0.64	0.104
1544334	Soil	0.99	20.88	8.26	58.0	102	16.2	6.4	245	2.27	21.8	0.8	5.0	4.0	8.7	0.14	0.40	0.19	32	0.05	0.052
1544335	Soil	1.08	30.33	9.75	63.6	139	20.4	7.0	254	2.31	37.4	0.9	2.9	4.1	14.1	0.13	0.47	0.18	41	0.12	0.062
1544336	Soil	1.60	19.92	12.38	54.5	176	20.1	7.9	265	2.69	16.2	1.1	1.9	5.3	9.0	0.11	0.88	0.20	57	0.06	0.026
1544337	Soil	0.83	31.76	10.80	73.4	175	22.6	10.5	447	2.29	29.1	1.0	1.3	6.0	13.8	0.24	0.66	0.19	30	0.15	0.071
1544338	Soil	1.75	9.97	11.76	57.4	89	14.2	6.3	232	2.77	13.6	0.6	1.3	2.9	11.9	0.09	0.51	0.25	58	0.10	0.066
1544339	Soil	2.32	62.04	10.27	97.5	1392	27.2	7.8	174	2.35	7.0	2.3	1.1	3.1	32.1	1.02	0.41	0.26	39	0.25	0.109
1544340	Soil	2.57	19.00	11.69	76.0	1122	24.1	5.7	109	2.06	23.1	1.0	0.3	0.3	24.7	0.20	0.19	0.25	47	0.15	0.069
1544341	Soil	1.36	30.67	11.12	88.2	461	107.3	8.5	271	2.08	75.0	1.4	2.2	3.5	33.4	1.00	0.33	0.26	37	0.34	0.076
1544342	Soil	1.51	37.20	7.46	55.8	377	25.9	4.0	106	1.57	21.2	0.8	1.5	2.1	16.5	0.30	0.25	0.19	30	0.14	0.047
1544343	Soil	3.85	25.31	13.98	73.1	677	36.1	5.7	108	2.50	44.6	1.0	7.5	1.6	21.0	0.39	0.27	0.34	63	0.16	0.070
1544344	Soil	1.62	22.18	7.82	69.5	233	19.9	5.8	165	2.09	16.6	0.8	1.3	1.6	12.8	0.25	0.41	0.22	41	0.13	0.062
1544345	Soil	1.33	26.65	11.38	82.2	129	27.8	10.6	336	2.65	15.6	1.2	2.2	6.1	16.3	0.18	0.76	0.25	41	0.16	0.059
1544346	Soil	3.25	52.27	13.96	65.2	355	23.6	11.8	402	3.42	20.4	2.2	2.6	9.3	21.2	0.15	1.03	0.31	53	0.08	0.053
1544347	Soil	1.85	30.58	10.36	69.1	349	16.4	6.4	205	2.92	8.4	1.2	1.0	7.0	19.2	0.28	0.36	0.33	33	0.08	0.072
1544348	Soil	0.66	20.09	6.47	44.4	93	14.8	6.6	162	1.70	22.8	0.7	3.2	4.3	7.8	0.12	0.21	0.11	30	0.05	0.022
1544349	Soil	0.80	23.35	7.80	54.6	94	16.0	6.7	238	2.05	24.5	0.7	1.0	5.0	11.9	0.09	0.27	0.16	38	0.10	0.045
1544350	Soil	0.77	17.75	6.27	44.2	94	13.3	5.9	193	1.63	30.0	0.7	6.4	3.9	8.8	0.12	0.23	0.10	27	0.09	0.044
1544351	Soil	1.28	23.27	11.09	62.1	85	22.0	10.9	291	2.69	17.2	1.2	2.1	6.6	11.3	0.14	0.76	0.19	40	0.08	0.051
1544352	Soil	1.07	23.37	7.09	54.5	136	16.1	5.8	183	1.93	9.3	1.0	1.8	5.1	12.3	0.20	0.40	0.14	31	0.10	0.051
1544353	Soil	3.38	20.07	13.05	62.0	1872	14.3	6.5	270	1.86	17.8	0.7	1.2	1.0	23.3	0.47	0.41	0.22	41	0.14	0.083
1544354	Soil	2.42	23.20	9.21	57.4	383	20.7	5.2	122	2.29	22.1	0.9	0.7	1.8	18.0	0.29	0.22	0.20	43	0.13	0.059
1544355	Soil	6.93	23.83	11.39	55.4	448	31.5	4.9	144	4.93	180.8	1.5	3.6	4.0	19.7	0.43	0.36	0.25	50	0.12	0.084
1544356	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.



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**Project:** Cascade  
**Report Date:** July 20, 2017

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# CERTIFICATE OF ANALYSIS

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Method	Analyte	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1544329	Soil	20.9	32.7	0.40	223.8	0.009	<1	1.10	0.006	0.06	0.3	2.6	0.10	0.03	58	3.0	0.04	3.4
1544330	Soil	26.2	28.3	0.37	83.9	0.010	1	1.13	0.005	0.04	0.2	1.8	0.08	0.03	17	3.1	0.10	3.9
1544331	Soil	14.6	19.8	0.26	168.2	0.020	<1	1.14	0.004	0.05	0.2	1.6	0.22	<0.02	38	0.8	0.03	5.3
1544332	Soil	18.9	28.3	0.33	464.2	0.009	2	1.56	0.008	0.05	0.4	2.2	0.20	0.06	97	4.9	0.05	4.7
1544333	Soil	16.9	26.6	0.39	361.4	0.009	2	1.53	0.006	0.05	0.3	2.3	0.16	0.04	70	3.8	0.03	4.8
1544334	Soil	16.9	20.3	0.36	174.9	0.011	2	1.10	0.005	0.05	0.2	2.1	0.08	<0.02	26	0.7	0.06	3.0
1544335	Soil	17.8	28.7	0.47	280.3	0.028	<1	1.27	0.008	0.08	0.3	2.8	0.13	<0.02	32	0.4	0.03	3.8
1544336	Soil	17.5	29.0	0.38	255.2	0.028	2	1.80	0.005	0.05	0.2	3.8	0.16	<0.02	50	0.5	0.03	4.8
1544337	Soil	18.9	20.8	0.39	166.3	0.019	<1	1.49	0.005	0.05	0.2	2.2	0.10	<0.02	41	0.3	0.03	3.4
1544338	Soil	14.9	28.9	0.48	110.1	0.046	<1	1.41	0.006	0.07	0.2	2.1	0.14	<0.02	18	0.2	0.04	6.0
1544339	Soil	28.2	23.9	0.34	278.8	0.013	1	1.39	0.016	0.05	0.2	2.4	0.14	0.07	55	1.9	0.06	3.8
1544340	Soil	14.9	47.4	0.51	196.3	0.011	<1	1.51	0.006	0.06	0.1	1.2	0.26	0.04	72	2.0	0.03	5.0
1544341	Soil	18.1	47.7	0.47	250.1	0.007	1	1.43	0.007	0.08	0.2	2.6	0.13	0.04	48	5.2	0.04	3.9
1544342	Soil	13.9	25.5	0.33	204.8	0.009	<1	1.13	0.005	0.05	0.5	1.9	0.11	0.03	44	2.2	<0.02	3.1
1544343	Soil	15.7	46.1	0.49	248.6	0.008	<1	1.64	0.006	0.07	0.5	2.3	0.19	0.05	76	2.5	0.03	4.9
1544344	Soil	14.2	26.6	0.43	154.8	0.016	<1	1.20	0.005	0.05	0.8	1.7	0.12	<0.02	39	0.5	0.03	3.5
1544345	Soil	21.4	28.1	0.50	269.0	0.028	<1	1.61	0.006	0.07	0.7	3.3	0.12	<0.02	50	0.4	0.03	3.9
1544346	Soil	30.9	34.0	0.48	359.4	0.023	<1	2.04	0.006	0.09	0.3	4.9	0.16	<0.02	63	1.5	0.06	5.1
1544347	Soil	32.2	21.3	0.32	134.5	0.024	<1	1.05	0.034	0.05	0.2	2.3	0.08	0.15	32	1.6	0.06	3.2
1544348	Soil	15.1	21.4	0.36	135.7	0.022	<1	1.10	0.005	0.04	0.2	2.2	0.06	<0.02	33	0.1	0.02	2.7
1544349	Soil	16.2	24.7	0.48	179.3	0.026	<1	1.18	0.007	0.06	0.3	2.5	0.08	<0.02	25	0.3	0.03	3.2
1544350	Soil	13.4	19.3	0.35	92.6	0.018	<1	0.94	0.004	0.03	0.2	1.8	0.05	<0.02	29	0.2	<0.02	2.4
1544351	Soil	21.0	26.0	0.45	154.6	0.030	<1	1.66	0.005	0.06	0.3	3.4	0.10	<0.02	39	0.4	0.04	3.9
1544352	Soil	17.7	20.4	0.35	147.2	0.021	<1	1.03	0.005	0.04	0.2	2.7	0.07	<0.02	41	0.3	0.03	2.7
1544353	Soil	18.0	26.0	0.29	137.3	0.007	<1	1.08	0.005	0.06	0.4	1.6	0.30	0.05	42	1.7	0.04	4.7
1544354	Soil	16.2	40.2	0.44	180.3	0.011	<1	1.35	0.005	0.07	0.2	2.1	0.15	0.02	48	1.9	0.03	4.0
1544355	Soil	19.5	46.6	0.42	193.5	0.007	<1	1.29	0.005	0.06	0.4	2.6	0.11	0.04	60	2.3	0.04	3.7
1544356	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.



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Project: Cascade  
Report Date: July 20, 2017

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# QUALITY CONTROL REPORT

WHI17000211.1

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	2	0.01	0.001	
Pulp Duplicates																					
1544148	Soil	1.36	25.04	10.11	56.2	189	25.8	6.8	245	2.14	24.7	1.1	2.0	2.4	14.2	0.19	0.55	0.18	33	0.13	0.054
REP 1544148	QC	1.32	25.15	10.40	57.3	197	26.6	7.0	246	2.17	25.2	1.2	1.7	2.5	14.2	0.19	0.50	0.19	34	0.13	0.055
1544240	Soil	3.71	55.84	11.82	111.2	302	50.9	14.8	230	2.45	92.4	1.4	1.8	1.8	18.8	1.00	0.41	0.23	43	0.13	0.069
REP 1544240	QC	3.71	54.51	11.95	107.0	285	48.9	13.9	232	2.46	89.0	1.4	1.0	2.0	17.8	1.09	0.44	0.24	44	0.13	0.068
1544334	Soil	0.99	20.88	8.26	58.0	102	16.2	6.4	245	2.27	21.8	0.8	5.0	4.0	8.7	0.14	0.40	0.19	32	0.05	0.052
REP 1544334	QC	1.03	21.34	8.29	59.3	103	16.3	6.7	256	2.31	22.2	0.8	3.0	4.1	8.7	0.13	0.44	0.19	33	0.05	0.053
1544340	Soil	2.57	19.00	11.69	76.0	1122	24.1	5.7	109	2.06	23.1	1.0	0.3	0.3	24.7	0.20	0.19	0.25	47	0.15	0.069
REP 1544340	QC	2.52	19.47	11.81	77.2	1169	24.1	6.0	109	2.04	23.3	1.0	1.8	0.4	25.7	0.17	0.19	0.25	46	0.15	0.066
Reference Materials																					
STD DS10	Standard	15.22	158.08	152.54	370.4	1936	76.2	13.5	877	2.84	45.9	2.8	69.5	8.2	69.0	2.59	8.98	11.70	44	1.12	0.075
STD DS10	Standard	14.48	153.32	156.56	361.9	1960	72.2	12.7	883	2.76	45.2	2.9	73.2	7.6	71.3	2.63	10.43	12.83	43	1.10	0.077
STD DS10	Standard	15.43	156.52	154.07	366.8	1980	76.7	12.4	903	2.85	46.1	2.8	75.7	8.3	71.5	2.75	10.63	12.93	45	1.12	0.076
STD DS10	Standard	14.23	153.92	148.30	376.3	1915	76.1	12.8	928	2.81	46.7	2.6	92.3	7.4	70.2	2.66	9.59	12.19	45	1.09	0.080
STD OXC129	Standard	1.25	26.04	6.04	37.5	11	80.5	20.3	421	3.05	0.6	0.7	201.7	1.8	183.9	<0.01	0.03	<0.02	52	0.72	0.105
STD OXC129	Standard	1.20	27.11	6.33	44.7	15	75.0	19.5	427	3.00	0.4	0.7	210.1	1.9	187.4	0.03	0.04	<0.02	51	0.71	0.103
STD OXC129	Standard	1.25	29.04	6.07	40.3	8	81.6	20.1	443	3.06	0.6	0.7	200.5	1.8	202.2	<0.01	0.04	<0.02	52	0.76	0.098
STD OXC129	Standard	1.32	27.95	6.50	41.8	17	80.0	20.8	435	3.05	0.7	0.7	213.4	1.7	187.3	0.01	0.07	0.06	52	0.64	0.102
STD DS10 Expected		15.1	154.61	150.55	370	2020	74.6	12.9	875	2.7188	46.2	2.59	91.9	7.5	67.1	2.62	9	11.65	43	1.0625	0.0765
STD OXC129 Expected		1.3	28	6.3	42.9	28	79.5	20.3	421	3.065	0.6	0.72	195	1.9		0.03	0.04		51	0.665	0.102
BLK	Blank	<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	<2	<0.01	<0.001
BLK	Blank	<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	<2	<0.01	<0.001
BLK	Blank	<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	<2	<0.01	<0.001
BLK	Blank	<0.01	0.04	<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	<2	<0.01	<0.001



# QUALITY CONTROL REPORT

WHI17000211.1

Method	Analyte	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251	AQ251
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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
Pulp Duplicates																		
1544148	Soil	18.4	26.6	0.40	234.3	0.017	<1	1.14	0.005	0.05	0.2	2.3	0.09	<0.02	38	0.5	0.03	3.1
REP 1544148	QC	18.9	27.3	0.41	236.7	0.018	<1	1.17	0.005	0.05	0.2	2.3	0.09	<0.02	28	0.3	0.05	3.4
1544240	Soil	23.6	44.1	0.47	253.3	0.014	2	1.36	0.006	0.06	0.3	2.3	0.17	0.03	38	1.0	0.04	4.3
REP 1544240	QC	23.6	43.3	0.47	259.2	0.014	1	1.34	0.007	0.06	0.3	2.3	0.15	0.03	39	1.1	0.05	4.0
1544334	Soil	16.9	20.3	0.36	174.9	0.011	2	1.10	0.005	0.05	0.2	2.1	0.08	<0.02	26	0.7	0.06	3.0
REP 1544334	QC	17.6	20.7	0.36	177.6	0.013	<1	1.14	0.004	0.05	0.1	1.9	0.08	<0.02	31	0.8	0.02	3.3
1544340	Soil	14.9	47.4	0.51	196.3	0.011	<1	1.51	0.006	0.06	0.1	1.2	0.26	0.04	72	2.0	0.03	5.0
REP 1544340	QC	14.9	49.0	0.51	191.8	0.010	2	1.50	0.006	0.06	0.1	1.2	0.27	0.04	80	2.0	0.04	5.3
Reference Materials																		
STD DS10	Standard	19.6	57.2	0.80	395.0	0.089	6	1.11	0.072	0.35	3.2	3.2	5.44	0.29	294	2.2	5.15	4.7
STD DS10	Standard	19.2	54.5	0.79	358.3	0.083	7	1.08	0.071	0.34	3.6	2.9	5.33	0.29	272	1.8	5.14	4.5
STD DS10	Standard	18.9	57.2	0.80	389.7	0.088	6	1.11	0.073	0.35	3.6	3.1	5.34	0.28	284	2.4	5.07	4.9
STD DS10	Standard	17.4	56.5	0.79	375.9	0.083	6	1.07	0.072	0.34	3.5	3.0	5.35	0.28	303	2.3	5.17	4.8
STD OXC129	Standard	11.7	52.7	1.55	50.6	0.422	1	1.62	0.598	0.36	<0.1	0.9	0.03	<0.02	<5	<0.1	<0.02	5.4
STD OXC129	Standard	13.0	51.3	1.50	51.2	0.400	<1	1.55	0.586	0.36	<0.1	1.3	0.04	<0.02	<5	<0.1	0.03	5.4
STD OXC129	Standard	12.4	52.6	1.57	52.9	0.407	1	1.62	0.606	0.36	<0.1	0.8	0.03	<0.02	<5	<0.1	<0.02	5.9
STD OXC129	Standard	12.4	53.0	1.56	54.2	0.417	2	1.54	0.583	0.37	0.1	1.0	0.06	<0.02	<5	<0.1	0.03	5.8
STD DS10 Expected		17.5	54.6	0.775	359	0.0817		1.0755	0.067	0.338	3.32	3	5.1	0.29	300	2.3	5.01	4.5
STD OXC129 Expected		13	52	1.545	50	0.4	1	1.58	0.6	0.37	0.08	1.1	0.03					5.6
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
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
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
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

## Appendix E

### Statement of Expenditures

Item	Rate	units	Soil Sampling
Senior Geologist	\$500	1 days	\$500
Sampler Geologist	\$475	1 days	\$475
Sampler technician	\$375	1 days	\$375
Equipment radios, sample bags, augers, gps	\$50	3 days	\$150
vehicle rental	\$200	1 days	\$200
Bedrock Motel rooms	\$115	2 days	\$230
Food	\$66	3 days	\$200
Helicopter	\$1,553	1.6 hours	\$2,484
Assays	\$20.70	87 samples	\$1,888
Mobilization Costs	\$8,060	0.1	\$806
summary report	\$500	1	\$500
<b>Total</b>			<b>\$7,808</b>