# A Reverse Circulation Drill Report on the ALL IN Property submitted as a TECHNICAL REPORT for YMEP Grant 19-058 on the ALL IN Target Evaluation, Hardrock. 

Comprised of following Quartz Claims:
ALL IN 1-72
YE90171-YE90206
YE90267-YE90270
YF47067-YF47070
YD12692-YD12693
YE95418-YE95443

All claims in Dawson Mining District
Owner: Gordon Richards

Location
115P/02
Camp on ALL IN Quartz Claims at UTM 420,220E, 7,009,600N, NAD 83, UTM Zone 8

Field work performed under the supervision of Gordon Richards during the period May 12 to May 28, 2019

Report written by Gordon Richards

December 20, 2019

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## DIGITAL COPIES:

Report in PDF, Geochem results as xlsx and pdf Files, Tables 4 \& 5 as xls Files, and all Figures as PNG, JPG,PDF and BMP Files.

## INTRODUCTION.

The general area of the ALL IN claims was previously prospected with the aid of YMEP grants awarded to G Richards in 2016, 2017, and 2018. The property is located on a gently eastward sloping hillside three to six km west of the Klondyke Highway 25 km south of Stewart Crossing within NTS map sheet 115P02. Access was made along an access trail built in 2018 from the Klondyke Highway.

The geology of the area has been described on Canadian Geoscience Map 7 of southwestern McQuesten and parts of northern Carmacks by Ryan, J.J., Colpron, M., and Hayward, N., 2010. Figure 3. The area is shown on that map to be underlain by volcaniclastic cover rocks of the Early Mississippian aged Reid Lakes Batholith Complex, that contains a weakly Kspar-porphyritic, mediumgrained granite to quartz monzonite intruding its own volcanic pile. However, it is believed that the claims are underlain mainly by the batholith with some volcanic cover rocks in the west portion of the claims. A few unaltered outcrops and angular rubble of andesite and dacite occur in the east portion of the claims. Angular cobbles and a boulder of chloritized granodiorite were found in a pit at the camp in the centre of the claims. Granodiorite float was the predominant rock type found at RGS sample sites bracketing the claims. However, 2018 and 2019 drilling results, known outcrops, distribution of angular granitic float, and a reinterpretation of previous MMI soil geochemical results support the belief that a graben containing volcanic cover rocks occurs within the granitic batholith coincident with the main Cu-Au soil anomaly. Loess, about 25 cm thick, blankets most slopes. The claims lie entirely within Reid Ice Age glaciated terrain immediately adjacent to pre-Reid Ice Age glaciated terrain to the west.

The McQuesten aeromagnetic survey by Kiss, F., and Cryle, M., 2009 is available as Geoscience Data Repository through Natural Resources Canada. Tilt and horizontal derivative maps were useful in showing where magnetitic susceptibility is low and was used to provide prospecting targets in 2016 and 2017. The main geochemical target has a striking similarity in shape and size with a pronounced low of the horizontal derivative aeromagnetic map.

Regional Geochemical Data (RGS) is also published, readily available and provides geochemical data for numerous elements of stream sediments collected throughout the area including three creeks draining the general area of the claims. The RGS samples were collected in 1986 (OF 1650) and re-analyzed in 2011 using more sophisticated analytical techniques and released in Open File 2012-09. Geochemical data from 278 selected samples that are lying only within the pre-Reid glaciated area within Yukon Tanana Terrain on NTS 115P were used to recalculate thresholds for $70^{\text {th }}, 80^{\text {th }}, 90^{\text {th }}, 95^{\text {th }}$ and $98^{\text {th }}$ percentiles for a number of elements. It was believed that this data would provide a more representative data-set on which to evaluate exploration potential for the area. The claims lie immediately east of the area of recalculated thresholds within Reid Ice Age glaciation so these thresholds were used in evaluating this area. Recalculated threshold values provided anomalous results for $\mathrm{Cu}, \mathrm{Mo}, \mathrm{Ag}$ and other elements with high ( $70 \%$ tile to $98 \%$ tile) threshold values from one creek draining the claim area (RGS 3287) and one creek down-ice from the claim area (RGS 3388).

There is no known previous mineral exploration activity anywhere on or near the ALL IN claims.

An MMI soil and black spruce twig sampling program was undertaken in 2016 to evaluate the area drained by creeks with the anomalous RGS results. The ALL IN 1-36 claims were staked June 11 and recorded June 15, 2017 to cover known anomalous zones and their extensions identified from the 2016 work. A second MMI soil and black spruce twig sampling prospecting program was undertaken on the claims June 24 to 30, 2017. Results of this work was applied as representation work to the ALL IN 1-36 claims. The ALL IN 37-46 claims were staked and recorded August 22, 2017. The ALL IN 47-72 claims were staked May 16, 2019 and recorded May 17, 2019.

Results of the previous field work were successful in defining a pronounced multi-element anomalous zone in the MMI soil results that measures 1000 m wide by 2000 m long and coincides remarkably well in size and shape with the aeromagnetic horizontal derivative low. The large geochemically anomalous zone is defined by anomalous Cu and Au with centrally positioned zones of anomalous Mo and Ag. Many other elements form strong anomalous zones supportive of the
above patterns. The geochemical signature is interpreted to be indicative of underlying porphyry mineralization.

A second less well-defined zone of anomalous metal values occurs west of the above zone and appears to be another porphyry target that is partially overlain by volcaniclastic cover rocks of the Reid Lakes Complex.

In 2018 a track mounted Morooka MST 1100 equipped with an auger drill was used in an attempt to collect rock fragment samples from bedrock lying beneath overburden over the main geochemically anomalous zone to determine the cause of the geochemical anomalies. Results of the 2018 work were disappointing. Nine six-inch diameter holes were drilled to a 40 -foot depth or less without encountering bedrock except for the most westerly drill hole that encountered strongly chloritized bedrock or broken bedrock with some till in the bottom fifteen feet of the hole. All holes encountered till and in some holes sand all with very few boulders or cobbles.

In 2019 a track mounted reverse circulation drill was used to drill three holes. Holes 19-2 and 19-3 failed to reach bedrock at a depth of 140 feet. Hole 191 reached dacite bedrock at 110 feet and stayed in dacite to the bottom of the hole at 385 feet. No significant mineralization was encountered.

Because monzogranite outcrop was encountered in hole 18-9 and was not encountered in hole 19-2 to a depth of 385 feet it is possible that the dacite lies within a graben structure as shown on Figures 3 to 10. The dacite contains high Mg and Mn as seen in the assay results. High Mg and Mn values in the MMI soils probably are indicative of underlying dacite. The patterns of high Mg and Mn in the MMI soil samples coincide with the high Cu and Au values. The high Mg and Mn patterns are believed to be caused by the dacite underlying the till. The high $\mathrm{Cu}, \mathrm{Au}, \mathrm{Mo}$, and Ag patterns are believed to be caused by porphyry mineralization underlying the dacite.

The anomalous Cu and Au patterns may be offset along the bounding faults of the graben possibly without overlying dacite and should be sought by additional MMI soil sampling on the projection of these faults.

## HISTORY.

There is no record of any exploration work ever having been conducted on the claims or anywhere within several km of the claims prior to 2016 both in the field and in government Minfile records. There were a few old helipads found in 2017 that appear related to the fighting of a forest fire about 20 years ago. One chainsaw-cut clearing occurs beside the creek cutting across the claims 500 m north of the 2016/2017 camp and could have been a water pump station for fighting the fire. The main forest fire burn occurs north and west of the claims and extends for many km to the north. A 500 m diameter satellitic fire burn occurs in the north central portion of the claims.

Work in 2016 by the writer and funded by YMEP located two strong geochemically anomalous multi-element patterns in MMI soil samples measuring about 800 m in diameter and open to the north in the southeast zone and 1500 m wide east-west and open to the south in the northeast zone. Work in 2017 was designed to find the limits for these anomalies and search for additional ones. Previous work funded by YMIP and YMEP over the past six years by the writer and his assistant, Jeff Mieras, within the Reid Lakes Batholith has been successful in defining about ten geochemical targets with similar porphyry signatures based on results of MMI soil samples and to a lesser degree black spruce twig samples.

Results of the 2017 field work were successful in defining a pronounced multi-element anomalous zone in the MMI soil results that measures 1000 m wide by 2000 m long and coincides remarkably well in size and shape with an aeromagnetic horizontal derivative low. The large geochemically anomalous zone is defined by anomalous Cu and Au with centrally positioned zones of anomalous Mo and Ag. Many other elements form strong anomalous zones supportive of the above patterns. The geochemical signature is interpreted to be indicative of underlying porphyry mineralization.

In 2018 an auger drill program was undertaken to sample rock chips from bedrock beneath the main geochemically anomalous target but failed to reach bedrock beneath the anomalous patterns. One hole, 18-9, encountered highly chloritized granitic bedrock at a depth of 25 to 40 feet well outside the anomalous Cu-Au patterns. In 2019 a reverse circulation drill was used to drill to deeper
depths in order to test bedrock for mineralization beneath the anomalous $\mathrm{Cu}-\mathrm{Au}$ zones. Only one of three holes was successful in drilling through overburden into bedrock. Bedrock was not the monzogranite expected but overlying dacite of the Reid Lakes Complex. The dacite was intersected in hole 19-1 from 110 to 385 feet. No significant mineralization was encountered although $1 / 2$ to $5 \%$ disseminated and fracture-controlled pyrite was observed from 185 to 315 feet.

The work described in this report was funded largely by YMEP grants 16056, 17-002, 18-004, and 19-058 awarded to Gord Richards. Additional costs were paid for by Richards.

## CLAIMS.

Table 1 is a list of all claims forming the property. The claims lie in the Dawson Mining District. The Registered Owner is Gordon G Richards.

Table 1. Claim Status

| Claim Name | Grant No. | Expiry Date |
| :--- | :--- | :--- |
| ALL IN 1-36 | YE90171-YE90206 | $2027 / 06 / 15$ |
| ALL IN 37-40 | YE90267-YE90270 | $2027 / 08 / 22$ |
| ALL IN 41-44 | YF47067-YF47070 | $2027 / 08 / 22$ |
| ALL IN 45, 46 | YD12692, YD12693 | $2027 / 08 / 22$ |
| ALL IN 47-72 | YE95418-YE95443 | $2025 / 05 / 17$ |

## GEOLOGY.

Bedrock geology is best described on Canadian Geoscience Map 7 of Southwestern McQuesten and Parts of Northern Carmacks by Ryan, J.J., Colpron, M., and Hayward, N., 2010. See Figure 3. The claims occur within the Reid Lakes Batholith, an 80 km long unmetamorphosed Early Mississippian aged batholith that intrudes its own volcanic pile. The claims area is shown on Geoscience Map 7 to be underlain by volcaniclastics of the Reid Lakes Complex. However, work in 2016 and 2017 has shown that the claims area is largely underlain by granodiorite of the Reid Lake Complex with dacite and andesite of the overlying volcaniclastics occurring in the western portion of the claims as shown on Figure 3. Evidence for this reinterpretation of underlying geology includes the location of monzogranite outcrop along a creek 5 km north of the claims where volcaniclastics are indicated
on Map 7, the description of abundant granitic float in nearby RGS sample sites 3388, 3389, and 3287, the occurrence of highly chloritized granitic bedrock in auger hole 18-9, the occurrence of porphyry signatures in the geochemical anomalous patterns, and the occurrence of heavily chloritized with weak limonitic staining of angular boulders and cobbles found in two one-half metre deep soil pits at the field camp in the centre of the claims. However, RC hole 19-1 encountered dacite to a depth of 385 feet beneath 110 feet of till in the centre of the anomalous Cu -Au zones. Patterns of high values of Mg and Mn and perhaps Ni in the MMI soils appear to map the distribution of the dacite coincident with the anomalous Cu-Au patterns. This along with the occurrence of granitic outcrop near surface west of the described patterns and $>385$ depth to granite in hole 191 has been interpreted to indicate a graben beneath the anomalous patterns as shown on the figures. Offset of underlying mineralization may be present along the boundary faults to the graben.

Glaciation is described as Reid in age on several government maps. Reid glaciation began 200,000 years ago and ended about 50,000 years ago. Younger McConnell Glaciation to the east ended about 20,000 years ago. Glaciation immediately west of the claims is pre-Reid in age, which is possibly older than 500,000 years (Jeff Bond, personal communication, 2012

Uppermost soil is an organic soil from almost absent to less than one cm thick on dryer slopes and in excess of 10 cm thick over gentle poorly drained slopes. Loess occurs on all slopes, generally about 20 to 30 cm thick beneath the organic soil. This loess is believed to have formed in late stages of or soon after the end of McConnell Glaciation. A few sub-round to round pebbles occur in the loess and have probably worked themselves up into the loess from underlying till.

Till is commonly found beneath the loess containing well rounded cobbles and smaller rocks of foreign origin. Only in two deeper pits dug at camp were somewhat angular cobbles and boulders found. These were friable intensely chlorite-altered granitic rocks probably part of the Reid Lakes Batholith. Sand dunes occur beneath the loess in some areas.

## PREVIOUS SURVEYS.

Recalculated threshold values of government RGS samples provided anomalous results for $\mathrm{Cu}, \mathrm{Mo}, \mathrm{Ag}$ and other elements with high (70\%tile to $98 \%$ tile) threshold values from one sample (RGS 3287) collected from a creek draining the claim area containing the porphyry target and from one sample (RGS3388) collected from a creek down-ice from the claim area.

During 2016 and 2017 over 400 MMI and black spruce twig samples were collected along lines spaced from 200 m to 400 m apart and with a sample interval of 100 m . Black spruce twig samples proved ineffectual in helping develop the anomalous metal patterns so only the MMI sample results were used to establish the limits of anomalous metals.

The main target defined from this work is a 1000 m wide by 2000 m long zone of consistently anomalous Cu with about $70 \%$ of the samples also anomalous for Au containing a central core of anomalous Mo and Ag as shown on the figures. Strongly anomalous values for $\mathrm{Mg}, \mathrm{Mn}, \mathrm{Ni}$, and U form patterns virtually identical to the pattern for anomalous Cu .

The McQuesten aeromagnetic survey by Kiss, F., and Cryle, M., 2009 is available as Geoscience Data Repository through Natural Resources Canada. Tilt and horizontal derivative maps were useful in showing where magnetitic susceptibility is low and was used to provide prospecting targets in 2016 and 2017. The main Cu and Au geochemical target has a striking similarity in shape with a pronounced low of the horizontal derivative aeromagnetic map. Figure 9.

## 2019 WORK PROGRAM.

## PROGRAM.

Work in 2019 involved the drilling of three reverse circulation holes within the main geochemical target and the collection of $\mathbf{1 4}$ soils across the main geochemical target for analysis by an alternative analytical technique to the MMI soil sampling that has defined the target.

The following is a summary of work done on the claims in May, 2019.
May 12. (Richards flew to Whitehorse.)
May 13. Bought supplies and organized gear and services. (Mieras arrived.)

May 14. Drove to project and set up camp off of Klondyke Highway.
May 15. Staked K1-K6 and ALL IN 47-56.
May 16. Staked ALL IN 57-72.
May 17. (Recorded above claims in Dawson.) Bought food for drill program.
May 18. Cleared trail to drill sites, rebuilt bridge over creek, cleared campsite.
Drill arrived and moved to hole 19-1. Set up drill and camp.
May 19. Drilled casing to 115 feet.
May 20. Drilled to 345 feet and did maintenance work on drill.
May 21. Drilled to 385 feet. Moved to hole 19-2. Cased 50 feet.
May 22. Cased 50 to 140 feet. No bedrock, moved to hole 19-3. Cased 40 ft .
May 23. Drilled casing 40 ft to 140 ft . No bedrock. Moved drill to camp.
May 24. Moved drill and camp to highway. Demobbed drill to Victoria Gold.
May 25. Collected soil samples for ionic leach across ALL IN main target.
May 27. (Recorded drilling work in Dawson.) Drove Whitehorse.
May 28. Sorted samples, camp gear, phones.
Chargeable days: G Richards May 13-16, ½ 17, 18-25, ½ 27, 28. 14 days. 2 days staking, 12 days work

J Mieras May 14-16, ½ 17, 18-25. 11 ½ days. 2 days staking, $9 ½$ days work. Summary: Richards 14 days. Mieras 11 1/2 days. Driller (M Mooney) 7 days. Drillers helper (Luke) 7 days.

## PROCEDURE.

A five-year Permit, LQ00483, was granted to Gordon Richards by YESAB in May 2018 for drilling on the Kryptos and All In Projects.

Subterra Exploration Ltd of Whitehorse, YT was contracted to conduct a reverse circulation drill program. The drill was assembled by Subterra on a 2.5 m wide Nodwell with a Hiab crane. It carried a 650 cfm @ 350 psi compressor capable of drilling to about 700 feet depending on ground conditions, utilizing a true face sampling RC system. A five-foot sample interval was produced into a portable cyclone and collected into five-gallon pails. The 3.5 inch bore hole yielded about 50 lbs of sample which was then poured through a triple tier riffle splitter that split the sample down to $1 / 8^{\text {th }}$ of the volume for shipping to Bureau Veritas in Vancouver for analysis. During the splitting process a fist sized sample
was collected in a kitchen sieve and washed in water to yield clean chips for visual examination. Chips were stored into chip trays for future examination.

Three RC holes were drilled. Hole 19-1 was drilled beside an MMI soil sample with response ratios (multiple of background) of 23 for Cu and 4 for Au near the core of the anomalous pattern of high Mo and Ag values. Hole 19-2 was drilled 300 m south of 19-1 beside an MMI soil sample with response ratios of 21 for Cu and 18 for Au near the core of the anomalous pattern of high Mo and Ag. Hole 19-3 was drilled 600 m east of hole 19-1 near an MMI soil sample with response ratios of 11 for Cu and 14 for Au .

55 rock chip samples from hole 19-1 were assayed at Bureau Veritas Minerals in Vancouver. Samples were prepared using their PRP70-250 method where samples were crushed to $70 \%$ minus 10 mesh and 250 g pulverized to pass through a 250 -mesh screen. A 15 g sample was digested using a modified aqua regia digestion (1:1:1 HNO3:HCl:H2O) and then analyzed using ICP-ES/MS to provide results for 37 elements.

There is no outcrop or angular float, mineralized or unmineralized anywhere within or near the patterns of anomalous MMI samples. 800 m west of the west side of the Cu-Au anomalous zone at the 2016 and 2017 campsite are pits dug in till containing somewhat angular cobbles and boulders of friable intensely chlorite-altered granitic rocks that are probably part of the Reid Lakes Batholith. Nearby, auger hole 18-9 encountered highly chloritized granitic chips from 25 to 40 feet depth that are believed to be from bedrock.

On May 25 Richards and Mieras collected 14 soil samples, N1 to N14, from the same 10 to 20 cm depth used for MMI soil samples. Sample sites are shown on Figures 4 to 9 . They were collected in order to provide another selective leach method to compare results with previous MMI results. Shallow frost prevented collection of till beneath the loess that could be used to provide analysis other than by selective leach.

The samples were submitted for lonic Leach analysis at ALS Labs in North Vancouver using their DRY-23 preparation and ME-MS23 analysis. Samples were air dried and a nominal sample weight of 50 g (net weight, no screening) treated with a static sodium cyanide leach using chelating agents ammonium chloride,
citric acid, and EDTA with the leachant buffered at an alkaline pH of 8.5. Results for 61 elements were provided.

All garbage and refuse from the program were removed from the property and disposed in Dawson City's landfill.

## RESULTS.

The Ionic Leach soil sample results mimic the results for the previous MMI soil samples. Although the sample size is too small to provide a statistically relevant background value for each element the four samples shaded blue on Table 5 occur beyond the main Cu-Au geochemical target and display an obvious difference in values for most elements. Mo and Mn values are the only ones that do not follow the patterns established from the MMI soil samples. However, overall the Ionic Leach results support the results of the previous MMI analysis.

Of the three holes drilled, 19-1 to 19-3, only 19-1 encountered bedrock. Table 3 below provides a description of geology encountered in the three holes.

## Table 3. Drill Logs

Hole 19-1 UTM NAD83 Zone 8 419,595/7,009,520
0-110 ft Till. Clay rich with no boulders and no gravel sections. Pebbles various compositions with quartz making up to $50 \%$ of pebble content locally.

0-40 ft. Wet clay rich content till with 5-10 \% pebbles of various content.
40-65 ft Silt-sand-pebble till
$65-70 \mathrm{ft}$. Clay rich till. $30 \%$ qtz pebbles. $70 \%$ dark round pebbles. All <1/2 cm
70-75 ft. High clay content. 50\% subangular qtz pebbles 50\% subround aphanitic pebbles. All $<1 / 2 \mathrm{~cm}$ $75-80 \mathrm{ft}$. High clay content. 10-30\% of pebbles are subangular to subround white and yellow qtz. Others dark grey fragments. All $<1 / 2 \mathrm{~cm}$.
$80-85 \mathrm{ft}$. Clay rich till with $5 \%$ pebbles. $30-40 \%$ of pebbles are subround to subangular qtz.
$85-90 \mathrm{ft}$. Clay rich till. $20 \%$ of finer pebbles is quartz. Bigger fragments are very fine-grained and dark. Some granitic chips. 90-95 ft. Clay rich till. 5-10\% pebbles are qtz. Many fragments with 3-5\% disseminated pyrite. Bigger pieces are fine-grained, round and dark.
95-100 ft. Silt-clay rich till with more rock chips than all above. $20 \%$ fragments are qtz. No pyrite.
100-105 ft. Clay rich till with $20 \%$ of fragments qtz. Others are dark and aphanitic. Pebbles are round and $<1 \mathrm{~cm}$.
$105-110 \mathrm{ft}$. Clay rich till with $5-10 \%$ of pebbles qtz. One piece with $1 / 2 \%$ pyrite.

110-385 ft Medium grey to greenish grey dacite. Oxidation intense yielding orange dust over first 10 feet, then weak and sporadic until 200 feet. No oxidation present after 200 ft . Driller's comment: there was 18 inches of hard chunky grey dust layer on top of orange dust.

155-160 ft. Limonitic fracture faces present on $20 \%$ of bigger chips.
185-315 ft. $1 / 2$ to $5 \%$ fine disseminated and fracture-controlled pyrite rarely oxidized. Highest pyrite content of 2-5 \% occurs from 225-260 ft. Few chips containing chalcopyrite seen 235245 ft .
315-380 ft. Less than $1 / 2 \%$ pyrite.
335 ft . Dacite became harder (driller's comment) and became darker grey to end of hole.

Hole 19-2 UTM NAD83 Zone 8 419,547/7,009,297
$0-140 \mathrm{ft}$ Till. Clay rich with no boulders and no gravel sections. Pebbles various compositions with quartz making up to $50 \%$ of pebble content locally but generally 5 to $15 \%$.
Hole 19-3 UTM NAD83 Zone 8 419,893/7,009,591
$0-140 \mathrm{ft}$ Till. Clay rich with no boulders and no gravel sections. Pebbles various compositions with quartz making up to $30 \%$ of pebble content locally but generally 15 to $25 \%$.

Table 4, provided in the back of this report, contains the geochemical assays for 55 samples collected from each 5-foot bedrock interval in hole 19-1.

In reading the following interpretation refer to Figure 10 Schematic Crosssection of the Graben. A graben is proposed as shown on Figures 4 to 10 to explain the results of various soil patterns as follows:

1. Mg. Figure 7. The dacite in hole 19-1 contains values of 0.5 to $3 \% \mathrm{Mg}$ and is the likely source of the anomalous MMI soil pattern. Absence of high Mg values much beyond the bounding faults is interpreted to indicate the absence of dacite in these areas. The lonic Leach soil sample results are supportive of the MMI soil pattern.
2. Ti. Figure 8. The dacite contains low Ti values of generally $<0.1 \%$ in hole 191 that fits with low Ti response ratios in MMI soil samples collected over the graben. The quartz monzonite contains ilmenite, a Ti mineral that fits with very high Ti response ratios, up to 81 times background, from samples collected beyond the graben and is interpreted to indicate the existence of quartz monzonite occurring immediately beneath tills in this area. The Ionic Leach soil sample results are supportive of the MMI soil pattern.
3. Cs. Figure 9. Cs shows a similar pattern to Ti of low MMI soil values (response ratios) over the graben and high MMI values beyond the graben. Other rare earth metals and high field strength elements $\mathrm{Ce}, \mathrm{La}, \mathrm{Nb}, \mathrm{Th}, \mathrm{Zr}$, show similar patterns. They are more commonly associated with granitic rocks than volcanic rocks and thus support the proposed graben model.
4. Several other metals display low values over the graben and high values beyond as seen in previously collected and reported MMI soil samples and
in the ionic leach soil samples reported on in this report. These include V , $\mathrm{W}, \mathrm{Fe}, \mathrm{Ta}$, and $\mathrm{Rb} . \mathrm{V}, \mathrm{W}$, Ta associate more with granitic rocks than volcanic rocks and thus would be expected to form the patterns discussed. Also, Rb and Cs (from 3. above) are surrogates for $K$ that has a high content in quartz monzonite of the batholith. Fe is more problematic as it forms $2-3 \%$ in the dacite of hole 19-1 yet yields lower soil values within the graben than outside over quartz monzonite.
5. Cu, Au, Mo, Ag. Figures 4 and 5. The patterns of high Cu and Au over the graben with a central core of anomalous Mo and Ag are best explained by porphyry mineralization occurring beneath the dacite within the graben. The bounding faults may have some lateral movement along them that could have offset portions of the mineralization along strike, possibly with no overlying dacite depending on movement along the faults and subsequent erosion.
Broad patterns seen in rock sample assays from hole 19-1, as shown in Table 4, are higher Au and S contents in the bottom half of the hole. This corresponds to the higher pyrite content in this interval as seen in drill hole log for hole 19-1 in Table 3, and may be indicative of being closer to the underlying quartz monzonite - the target for Cu-Au porphyry mineralization.

## CONCLUSIONS.

Results of the drill program failed to provide any direct evidence that would explain the cause of the main $\mathrm{Cu}-\mathrm{Au}-\mathrm{Mo}-\mathrm{Ag}$ soil geochemical anomalous zones. A graben has been proposed to explain the soil sample geochemical patterns. The graben has been filled to some degree with dacite of the Reid Lakes Complex as intersected in hole 19-1, that is believed to overlie Cu-Au-Mo-Ag porphyry mineralization.

## RECOMMENDATIONS.

It is recommended that a single diamond drill hole be drilled beside RC hole 19-1 in order to penetrate beneath the dacite and test the underlying quartz monzonite for porphyry mineralization.

## STATEMENT OF QUALIFICATIONS.

I, Gordon G Richards, with business address at 6410 Holly Park Drive, B.C., V4K 4W6, do hereby certify that:

1. I am a practising geologist holding a B.A.Sc. (1968) in Geology from The University of British Columbia, and an M.A.Sc. (1974) in Geology from The University of British Columbia.
2. I have been practicing my profession as a geologist for over 40 years. I have work experience in western areas of the United States, Alaska, Canada, Mexico and Africa.
3. I have based this report on my own field work and supervision of the reverse circulation drilling by Subterra Exploration Ltd and assistant Jeff Mieras during the period of May 12 to 28, 2019 and on the results generated by that field work.

Respectfully submitted,




EARLY JURASSIC
Aishihik suite: granodiorite to monzogranite ( $\pm$ quartz monzonite and quartz monzodiorite); commonly K-feldspar porphyritic and hornblende-bearing; common biotite $\pm$ chlorite alteration with secondary epidote; prominent magmatic epidote; intrudes Stikinia and Yukon Tanana terranes; generally underformed but locally foliated plutons and/or dykes.

## PERMIAN

## Metaplutonic and metavolcanic rocks of the Klondike arc

| Pgsc | Sulphur Creek suite: quartz and K-feldspar porphyritic to augen monzogranite <br> strain varies from moderately foliated to gneissic (including porphyroclastic <br> straight gneiss); biotite bearing; locally is the protolith to felsic Klondike Schist. |
| :---: | :--- |
|  | Klondike Schist (PK1, PK2) |
| PK2 | Metafelsite, commonly porphyritic or augen-textured; possibly derived from <br> felsic volcanic rocks or hypabyssal intrusions; locally derived from <br> equigranular to augen monzogranite; locally exhibits decussate amphiboles <br> pseudomorphed to chlorite-biotite; local coarse porphyroblastic garnet. |
|  | Intermediate to mafic, light-green, pyrite-chlorite schist; commonly <br> exhibits a pitted surface indicative of coarse pyrite cubes having weathered <br> out; primary volcanic textures locally preserved. |

## EARLY MISSISSIPPIAN

Reid Lakes complex (MgbrL, MgrL, MqRL, MvRL)

MgRL
Reid Lake batholith: polyphase; undeformed to weakly foliated monzogranite, granodiorite and quartz monzonite; typically biotite-bearing and exhibiting abundant blebby to porphyritic smokey quartz; fresh magmatic hornblende and K-feldspar phenocrysts common in eastern extent; slightly foliated adjacent to Willow Lake fault; easily confused with undeformed post-Triassic intrusions.

## LATE DEVONIAN - EARLY MISSISSIPPIAN

Moderately to strongly foliated (orthogneissic) plutonic rocks
Simpson Range suite (Mgsr, MisR, MagSR)
Monzogranite to granodiorite; equigranular; pink to orange; generally biotite-bearing (after hornblende?); homogeneous to layered.

| MisR | $\begin{array}{l}\text { Intermediate to mafic granitoid (to } \\ \text { colour; homogeneous to layered. }\end{array}$ |
| :---: | :--- |

Metavolcanic and metasedimentary rocks
Finlayson Assemblage? (DMF1, DMF2)

DMF2
Greenstone - greenschist facies metabasite; chlorite-actinolite schist; preserves relict volcanic and volcaniclastic textures when viewed perpendicular to the stretching lineation; commonly medium green; possibly lower grade equivalent of the garnet-amphibolites assigned to the Snowcap Assemblage.

DMF1
Carbonaceous quartzite to mica-quartz schist; black to white quartzite, with schist and garnet schist interlayers; and rare black phyllite; possibly equivalent to Nasina formation, or simply a carbonaceous member of the Snowcap assemblage.

## LATE DEVONIAN AND OLDER

Snowcap assemblage (PDS1, PDS2, PDS3)
Amphibolite schist to garnet-amphibolite; metabasite; usually garnet-horneblende-plagioclase or horneblende-plagioclase, with local chorite-biotite; probably derived from mafic volcanic to volcaniclastic rocks; some layers that are internally homogeneous may be mafic sills; more intermediate varieties can have rosettes of decussate, larger hornblende.
Quartzite to quartz-mica schist; banded to massive, grey to white in colour; locally conglomeratic; commonly contains beds of micaceous quartz arenite; clastic in origin; quartz-muscovite-biotite schist is possibly derived from siliceous siltstone; commonly finely interlayered with garnet-metapelite.
Table 1. Legend for Figure 3 taken from: Ryan,J.J., Colpron, M., and Hayward, N., 2010. Geology, southwestern McQuesten and parts of northern Carmacks, Yukon; Geological Survey of Canada, Canadian Geoscience Map 7 (preliminary version), scale 1:125,000.



- 2017 Camp
$\qquad$
$\qquad$
1 K
. 2019 Reverse Circ Drill Holes * 2018 Auger Drill Holes - MMI Soil Sample Locations -Ionic Leach Soil Sample Locations
 Access Trail from Klondyke Highway
... Limit of MMI Soils with Cu of $>5$ Response Ratio
- Limit of MMI Soils with Mo of >5 Response Ratio * . 18-9 . $\begin{array}{ll}\circ & \text { " } \because \because, 18-8\end{array}$家 168
Figure 6. Target Area and Sample Locations. Geochemical response of ionic samples fall into two groups colour coded grey and blue. Refer to text. lonic leach soil sample results mimic MMI soil results. Fault lines depict proposed graben containing dacite overlying porphyry mineralization within adjacent unmineralized monzogranite of the Reid Lakes Batholith. Ni MMI soil response ratios are
 locations are also provided.


- 2019 Reverse Circ Drill Holes * 2018 Auger Drill Holes - MMI Soil Sample Locations -Ionic Leach Soil Sample Locations

 $\cdots$ Access Trail from Klondyke Highway
... Limit of MMI Soils with Cu of $>5$ Response Ratio
- Limit of MMI Soils with Mo of >5 Response Ratio
- 28-9 bedrock $20-40$ foot depth * chloritized intrusive rock
$\rightarrow \because, \quad 18-8$
2016 \&
2017 Camp
chloritized intrusive boulders in pits at camp.

RGS 3287
$\square$ Cu70,Mo80 As84,Sb98,Bi70 recalsulated thresholds as \%tile

Figure 8. Target Area and Sample Locations. Geochemical response of ionic samples fall into two groups colour coded grey and blue. Refer to text. lonic leach soil sample results mimic MMI soil results. Fault lines depict proposed graben containing dacite overlying porphyry mineralization within adjacent unmineralized monzogranite of the Reid Lakes Batholith. Ti MMI soil response ratios are provided. 2018 auger <40 ft depth and 2019 reverse circ hole- locations are also provided.



Soil Response High Ti, V, W, Fe

Low $\mathrm{Cu}, \mathrm{Mo}_{0}, \mathrm{Au}, \mathrm{Ag}$
$\mathrm{Mg}, \mathrm{Mn}$
$18-9$
Soil Response

$$
T_{a}, R b, C S+R E E
$$



Soil Response High Ti, V,w, Fe $T a, R b, C s+R E E$
Low $\mathrm{Cu}, \mathrm{Mo}, \mathrm{Au}, \mathrm{Ag}$ $\mathrm{Mg}, \mathrm{Mn}$

Figure 10. Cross section looking North across proposed graben showing different soil geochemical responses. High $\mathrm{Mn} \& \mathrm{Mg}$ in dacite and high $\mathrm{Cu}-\mathrm{Au}-\mathrm{Mo}-\mathrm{Ag}$ in underlying qtz monzonite are reflected in high values in soils. Low $\mathrm{Ti}, \mathrm{V}, \mathrm{W}, \mathrm{Fe}, \mathrm{Ta}, \mathrm{Rb}, \mathrm{Cs}$, and other REE values occur in soils across the graben. Beyond the graben above responses are reversed.

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Canada

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

## CERTIFICATE OF ANALYSIS

## WHI19000031.1

## CLIENT JOB INFORMATION

| Project: | ALL IN |
| :--- | :--- |
| Shipment ID: |  |
| P.O. Number |  |
| Number of Samples: | 55 |

Number of Samples: 55

## SAMPLE DISPOSAL

RTRN-PLP
RTRN-RJT
Return After 90 days
Return After 60 days

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

| Procedure | Number of <br> Samples | Code Description | Test <br> Wgt $\mathbf{( g )}$ | Report <br> Status |
| :--- | :--- | :--- | :--- | :--- |
| PRP70-250 | 55 | Crush, split and pulverize 250 g rock to 200 mesh |  | Lab |
| AQ200 | 55 | 1:1:1 Aqua Regia digestion ICP-MS analysis | 0.5 | Completed | WHI | VAN |
| :--- |
| SLBHP |

## 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:
Richards, Gordon
6410 Holly Park Drive
Delta British Columbia V4K 4W6
Canada

CC:

apply to samples as submitted
${ }_{u * *}^{\text {All }}$ astesults are considered the confidential property of the client. Bureau Veritas assumes the liabilities for an analytical result could not be provided due to unusually high levels of interference from other elements.

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Project:
Report Date: June 14, 2019

CERTIFICATE OF ANALYSIS
Page:
2 of 3
Part: 1 of 2

|  | Method <br> Analyte <br> Unit <br> MDL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 |
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|  |  | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | Cd | Sb | Bi | V | Ca |  |
|  |  | kg | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | \% | \% |
|  |  | 0.01 | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.001 |
| 1478862 | Reverse | 2.70 | 1.6 | 37.1 | 2.5 | 42 | <0.1 | 19.8 | 5.8 | 715 | 2.04 | 5.3 | 5.6 | 4.2 | 50 | <0.1 | 0.6 | <0.1 | 14 | 0.76 | 0.034 |
| 1478863 | Reverse | 2.08 | 1.2 | 27.8 | 2.3 | 41 | <0.1 | 19.3 | 19.2 | 592 | 1.98 | 5.6 | 1.1 | 5.4 | 57 | <0.1 | 0.7 | <0.1 | 11 | 0.29 | 0.029 |
| 1478864 | Reverse | 2.17 | 1.1 | 36.6 | 5.0 | 41 | 0.1 | 21.1 | 7.1 | 601 | 1.97 | 6.0 | 5.7 | 4.5 | 43 | 0.1 | 0.5 | <0.1 | 11 | 0.21 | 0.025 |
| 1478810 | Reverse | 3.92 | 3.3 | 112.8 | 30.2 | 47 | 0.3 | 18.5 | 4.4 | 479 | 2.42 | 2.9 | 2.6 | 4.0 | 18 | 0.3 | 2.2 | 0.4 | 16 | 0.17 | 0.036 |
| 1478811 | Reverse | 1.93 | 2.2 | 59.8 | 3.8 | 33 | <0.1 | 10.4 | 2.2 | 447 | 1.92 | 5.2 | <0.5 | 3.6 | 21 | 0.1 | 0.7 | 0.3 | 10 | 0.12 | 0.027 |
| 1478812 | Reverse | 3.02 | 2.0 | 62.2 | 3.5 | 46 | 0.1 | 23.5 | 9.0 | 758 | 1.96 | 10.0 | 1.1 | 4.0 | 12 | 0.2 | 0.5 | 0.2 | 11 | 0.09 | 0.026 |
| 1478813 | Reverse | 2.02 | 0.8 | 61.8 | 2.5 | 66 | 0.1 | 44.1 | 18.6 | 1716 | 2.20 | 13.5 | <0.5 | 4.2 | 7 | 0.1 | 0.3 | 0.1 | 11 | 0.09 | 0.033 |
| 1478814 | Reverse | 3.24 | 0.9 | 59.8 | 7.2 | 59 | 0.2 | 34.7 | 14.3 | 1849 | 2.15 | 9.1 | <0.5 | 3.9 | 6 | 0.2 | 0.2 | 0.2 | 12 | 0.08 | 0.026 |
| 1478815 | Reverse | 2.80 | 1.3 | 72.0 | 9.6 | 60 | 0.2 | 29.7 | 15.1 | 1479 | 2.14 | 18.4 | <0.5 | 4.0 | 12 | <0.1 | 0.3 | 0.2 | 13 | 0.08 | 0.017 |
| 1478816 | Reverse | 2.41 | 1.7 | 56.1 | 9.4 | 67 | 0.2 | 31.2 | 19.5 | 1534 | 2.35 | 12.4 | <0.5 | 4.1 | 26 | 0.3 | 0.4 | 0.3 | 12 | 0.08 | 0.018 |
| 1478817 | Reverse | 2.45 | 1.3 | 59.3 | 7.4 | 73 | 0.2 | 35.1 | 13.6 | 2186 | 2.41 | 10.2 | <0.5 | 4.6 | 12 | 0.2 | 0.5 | 0.2 | 13 | 0.12 | 0.023 |
| 1478818 | Reverse | 2.14 | 1.6 | 49.0 | 2.1 | 57 | <0.1 | 32.3 | 14.3 | 1372 | 2.04 | 15.0 | <0.5 | 4.5 | 8 | 0.1 | 0.4 | 0.1 | 10 | 0.08 | 0.019 |
| 1478819 | Reverse | 2.04 | 2.2 | 56.5 | 1.6 | 60 | <0.1 | 30.3 | 14.5 | 936 | 2.16 | 6.2 | 2.0 | 4.9 | 8 | 0.2 | 0.8 | 0.2 | 10 | 0.11 | 0.026 |
| 1478820 | Reverse | 2.39 | 4.0 | 73.7 | 6.3 | 95 | 0.2 | 54.3 | 21.3 | 1601 | 3.12 | 12.4 | 6.5 | 4.8 | 8 | 0.2 | 1.2 | 0.6 | 20 | 0.13 | 0.029 |
| 1478821 | Reverse | 2.18 | 2.6 | 70.2 | 5.6 | 74 | 0.1 | 40.9 | 18.1 | 1011 | 2.99 | 8.2 | 1.6 | 5.1 | 10 | 0.1 | 0.7 | 0.4 | 21 | 0.22 | 0.047 |
| 1478822 | Reverse | 1.52 | 1.3 | 40.5 | 5.2 | 88 | <0.1 | 47.2 | 28.9 | 1856 | 5.42 | 12.1 | 2.4 | 2.2 | 82 | 0.4 | 0.2 | <0.1 | 75 | 2.66 | 0.067 |
| 1478823 | Reverse | 2.81 | 1.1 | 43.1 | 20.7 | 85 | 0.1 | 51.2 | 23.4 | 1211 | 5.21 | 18.9 | <0.5 | 1.7 | 114 | <0.1 | 0.3 | <0.1 | 99 | 2.81 | 0.069 |
| 1478824 | Reverse | 2.84 | 1.5 | 36.1 | 26.9 | 77 | 0.1 | 38.7 | 25.3 | 1384 | 4.79 | 25.6 | 1.7 | 1.6 | 140 | 0.2 | 0.4 | <0.1 | 104 | 4.15 | 0.066 |
| 1478825 | Reverse | 3.16 | 1.4 | 64.3 | 3.3 | 106 | <0.1 | 77.1 | 31.7 | 2067 | 4.63 | 24.9 | <0.5 | 3.3 | 94 | 0.1 | 0.7 | 0.1 | 64 | 2.50 | 0.058 |
| 1478826 | Reverse | 2.17 | 2.3 | 77.8 | 6.1 | 58 | 0.1 | 26.4 | 9.9 | 609 | 2.54 | 8.2 | 0.9 | 5.5 | 22 | <0.1 | 0.8 | 0.4 | 24 | 0.32 | 0.064 |
| 1478827 | Reverse | 3.61 | 1.8 | 65.8 | 16.7 | 81 | 0.1 | 24.8 | 9.2 | 430 | 2.21 | 3.8 | <0.5 | 4.8 | 17 | 1.3 | 1.9 | 0.3 | 18 | 0.16 | 0.058 |
| 1478828 | Reverse | 1.52 | 3.1 | 54.3 | 5.3 | 64 | <0.1 | 51.2 | 12.1 | 723 | 2.12 | 145.2 | 2.9 | 4.2 | 17 | 0.7 | 0.7 | 0.2 | 28 | 0.42 | 0.122 |
| 1478829 | Reverse | 2.23 | 2.3 | 68.1 | 4.8 | 69 | 0.1 | 43.6 | 11.9 | 809 | 2.89 | 8.2 | <0.5 | 5.5 | 28 | 0.1 | 0.3 | 0.3 | 28 | 0.80 | 0.077 |
| 1478830 | Reverse | 3.16 | 2.5 | 37.6 | 1.6 | 49 | <0.1 | 27.0 | 6.4 | 515 | 2.12 | 4.4 | <0.5 | 5.1 | 32 | <0.1 | 0.3 | 0.1 | 17 | 0.60 | 0.044 |
| 1478831 | Reverse | 3.16 | 1.5 | 65.2 | 2.0 | 42 | <0.1 | 32.4 | 10.2 | 486 | 2.26 | 3.1 | <0.5 | 5.4 | 34 | <0.1 | 0.3 | 0.2 | 17 | 0.61 | 0.047 |
| 1478832 | Reverse | 2.29 | 1.8 | 53.4 | 1.9 | 42 | <0.1 | 32.2 | 8.7 | 564 | 2.28 | 4.3 | <0.5 | 5.0 | 38 | <0.1 | 0.3 | 0.2 | 20 | 0.69 | 0.043 |
| 1478833 | Reverse | 3.07 | 1.2 | 63.1 | 1.7 | 40 | <0.1 | 32.8 | 10.8 | 612 | 2.38 | 8.2 | <0.5 | 5.3 | 31 | <0.1 | 0.9 | 0.2 | 18 | 0.77 | 0.045 |
| 1478834 | Reverse | 3.27 | 2.1 | 60.7 | 1.8 | 40 | <0.1 | 32.7 | 9.8 | 524 | 2.39 | 7.0 | 0.9 | 5.4 | 24 | <0.1 | 0.6 | 0.3 | 18 | 0.59 | 0.045 |
| 1478835 | Reverse | 2.06 | 1.5 | 63.5 | 2.1 | 39 | <0.1 | 30.9 | 10.1 | 514 | 2.36 | 6.3 | <0.5 | 5.1 | 31 | 0.1 | 0.6 | 0.3 | 19 | 0.69 | 0.052 |
| 1478836 | Reverse | 3.07 | 6.4 | 73.8 | 5.5 | 59 | 0.1 | 32.0 | 11.0 | 665 | 2.97 | 3.9 | 4.0 | 5.6 | 33 | 0.1 | 0.7 | 1.4 | 27 | 0.83 | 0.044 |

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2 of 3
Part: 2 of 2

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|  | Method <br> Analyte <br> Unit <br> MDL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | AQ200 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | Cd | Sb | Bi | V | Ca |  |
|  |  | $\mathrm{kg}$ | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | \% | \% |
|  |  | 0.01 | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.001 |
| 1478837 | Reverse | 3.13 | 2.7 | 73.2 | 4.0 | 50 | 0.1 | 32.7 | 10.8 | 578 | 3.00 | 9.4 | <0.5 | 6.4 | 27 | <0.1 | 0.4 | 0.7 | 24 | 0.67 | 0.043 |
| 1478838 | Reverse | 2.02 | 4.1 | 91.5 | 10.8 | 57 | 0.2 | 44.2 | 14.4 | 498 | 3.49 | 16.1 | 8.2 | 7.2 | 33 | 0.2 | 0.5 | 1.0 | 33 | 0.65 | 0.055 |
| 1478839 | Reverse | 1.95 | 4.9 | 76.2 | 8.5 | 77 | 0.1 | 37.9 | 10.6 | 576 | 3.27 | 12.9 | 3.7 | 7.2 | 38 | 0.2 | 0.5 | 0.5 | 33 | 0.88 | 0.054 |
| 1478840 | Reverse | 3.10 | 5.8 | 61.2 | 17.7 | 56 | 0.2 | 37.8 | 10.4 | 555 | 2.83 | 10.1 | 4.0 | 6.6 | 66 | 0.1 | 0.7 | 0.6 | 27 | 1.15 | 0.053 |
| 1478841 | Reverse | 2.07 | 3.3 | 69.7 | 23.0 | 60 | 0.3 | 40.0 | 10.4 | 565 | 2.81 | 4.4 | 3.8 | 5.5 | 61 | <0.1 | 0.9 | 1.0 | 31 | 1.26 | 0.072 |
| 1478842 | Reverse | 2.36 | 1.8 | 54.2 | 3.8 | 58 | <0.1 | 35.9 | 7.9 | 427 | 2.28 | 2.6 | 1.5 | 5.4 | 37 | <0.1 | 0.5 | 0.2 | 29 | 0.72 | 0.101 |
| 1478843 | Reverse | 1.37 | 1.9 | 58.0 | 7.8 | 70 | 0.1 | 37.0 | 10.4 | 566 | 2.65 | 5.7 | 3.8 | 5.6 | 50 | <0.1 | 0.6 | 0.3 | 32 | 1.03 | 0.058 |
| 1478844 | Reverse | 1.73 | 3.7 | 98.6 | 22.7 | 79 | 0.2 | 51.0 | 13.4 | 657 | 3.08 | 6.7 | 8.7 | 6.1 | 61 | 0.1 | 2.1 | 0.6 | 30 | 1.34 | 0.064 |
| 1478845 | Reverse | 1.50 | 6.1 | 84.3 | 32.8 | 93 | 0.2 | 52.8 | 12.0 | 535 | 2.86 | 98.7 | 4.6 | 6.4 | 31 | 0.5 | 18.5 | 0.4 | 30 | 0.66 | 0.082 |
| 1478846 | Reverse | 1.74 | 4.1 | 59.3 | 9.4 | 69 | <0.1 | 37.9 | 10.5 | 685 | 2.32 | 9.2 | 2.4 | 5.2 | 26 | <0.1 | 2.8 | 0.2 | 25 | 0.57 | 0.041 |
| 1478847 | Reverse | 1.74 | 4.9 | 99.4 | 25.2 | 67 | 0.1 | 31.7 | 12.5 | 1003 | 2.40 | 147.2 | 4.8 | 5.1 | 57 | <0.1 | 8.8 | 0.2 | 19 | 0.95 | 0.043 |
| 1478848 | Reverse | 1.67 | 6.2 | 291.7 | 187.4 | 169 | 0.3 | 44.2 | 11.9 | 1056 | 2.64 | 12.6 | 4.3 | 5.3 | 81 | 1.2 | 2.9 | 1.1 | 27 | 2.10 | 0.041 |
| 1478849 | Reverse | 1.93 | 3.1 | 95.1 | 158.8 | 58 | 0.1 | 30.9 | 9.3 | 813 | 2.42 | 4.1 | 2.8 | 4.9 | 80 | 0.1 | 1.5 | 0.2 | 21 | 1.19 | 0.050 |
| 1478850 | Reverse | 2.42 | 1.8 | 43.9 | 18.2 | 72 | <0.1 | 23.0 | 8.1 | 638 | 2.23 | 5.0 | 3.2 | 4.7 | 96 | 0.2 | 0.6 | 0.1 | 18 | 0.66 | 0.063 |
| 1478851 | Reverse | 1.64 | 1.4 | 56.0 | 6.4 | 65 | <0.1 | 26.0 | 10.8 | 717 | 2.62 | 8.7 | 2.3 | 5.0 | 35 | <0.1 | 0.9 | 0.1 | 18 | 0.53 | 0.066 |
| 1478852 | Reverse | 2.74 | 1.4 | 52.6 | 4.0 | 46 | <0.1 | 23.5 | 8.9 | 598 | 2.19 | 4.2 | 1.8 | 5.1 | 37 | <0.1 | 0.6 | 0.1 | 13 | 0.31 | 0.048 |
| 1478853 | Reverse | 2.48 | 1.2 | 49.4 | 7.5 | 66 | <0.1 | 25.6 | 10.2 | 552 | 2.18 | 6.3 | 2.4 | 5.7 | 38 | 0.2 | 0.7 | 0.2 | 14 | 0.35 | 0.070 |
| 1478854 | Reverse | 2.39 | 1.1 | 82.7 | 399.4 | 99 | 0.1 | 23.8 | 9.2 | 559 | 2.10 | 5.2 | 2.9 | 5.1 | 46 | 0.4 | 0.8 | 0.2 | 14 | 1.90 | 0.061 |
| 1478855 | Reverse | 2.47 | 1.2 | 65.9 | 17.3 | 89 | <0.1 | 24.3 | 11.8 | 650 | 2.77 | 7.3 | 1.0 | 5.1 | 20 | 0.1 | 0.3 | 0.2 | 20 | 0.38 | 0.074 |
| 1478856 | Reverse | 2.54 | 1.0 | 36.5 | 6.1 | 72 | <0.1 | 21.6 | 7.8 | 518 | 2.14 | 3.6 | 0.6 | 5.1 | 22 | 0.1 | 0.3 | <0.1 | 13 | 0.25 | 0.042 |
| 1478857 | Reverse | 1.60 | 1.3 | 50.7 | 7.5 | 66 | <0.1 | 23.1 | 10.0 | 647 | 2.34 | 17.0 | 1.7 | 4.5 | 66 | 0.2 | 1.2 | 0.2 | 18 | 0.55 | 0.060 |
| 1478858 | Reverse | 1.29 | 1.3 | 55.1 | 3.3 | 48 | <0.1 | 23.9 | 9.6 | 533 | 2.20 | 9.4 | <0.5 | 5.5 | 98 | <0.1 | 1.3 | 0.1 | 13 | 0.45 | 0.063 |
| 1478859 | Reverse | 2.66 | 1.0 | 45.1 | 2.8 | 47 | 0.1 | 24.2 | 8.0 | 513 | 2.14 | 7.1 | 0.6 | 5.6 | 50 | <0.1 | 0.5 | 0.1 | 13 | 0.27 | 0.026 |
| 1478860 | Reverse | 2.18 | 1.1 | 39.9 | 2.7 | 48 | <0.1 | 22.7 | 11.5 | 541 | 2.21 | 19.9 | 0.5 | 5.4 | 52 | <0.1 | 1.9 | 0.1 | 12 | 0.55 | 0.048 |
| 1478861 | Reverse | 2.04 | 0.8 | 43.6 | 5.8 | 64 | 0.1 | 26.9 | 14.8 | 922 | 3.19 | 13.6 | 1.5 | 3.8 | 113 | <0.1 | 1.2 | 0.2 | 52 | 2.14 | 0.059 |

# Client: Richards, Gordon 

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Project:
Report Date:

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | Analyte |  |  | Mg | Ba | Ti | B | AI | Na | K | w | Hg | Sc | TI | S | Ga | Se | Te |
|  | Unit | ppm | ppm | \% | ppm | \% | ppm | \% | \% | \% | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm |
|  | MDL | 1 | 1 | 0.01 | 1 | 0.001 | 20 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 |
| 1478837 | Reverse | 22 | 30 | 1.09 | 263 | 0.004 | <20 | 1.57 | 0.011 | 0.18 | 0.3 | <0.01 | 1.6 | <0.1 | 0.90 | 4 | 0.8 | <0.2 |
| 1478838 | Reverse | 21 | 36 | 1.15 | 195 | 0.004 | <20 | 1.50 | 0.020 | 0.14 | 0.4 | $<0.01$ | 2.0 | <0.1 | 1.68 | 4 | 1.3 | 0.3 |
| 1478839 | Reverse | 21 | 33 | 1.46 | 206 | 0.003 | <20 | 1.78 | 0.010 | 0.17 | 0.5 | <0.01 | 2.0 | <0.1 | 1.19 | 5 | 1.0 | 0.2 |
| 1478840 | Reverse | 18 | 29 | 1.19 | 234 | 0.003 | <20 | 1.53 | 0.010 | 0.19 | 0.4 | $<0.01$ | 1.7 | <0.1 | 1.01 | 4 | 1.2 | <0.2 |
| 1478841 | Reverse | 17 | 30 | 1.13 | 192 | 0.003 | <20 | 1.51 | 0.006 | 0.15 | 0.2 | <0.01 | 1.5 | <0.1 | 0.81 | 4 | <0.5 | <0.2 |
| 1478842 | Reverse | 17 | 31 | 1.04 | 192 | 0.003 | <20 | 1.36 | 0.007 | 0.16 | 0.3 | $<0.01$ | 1.5 | <0.1 | 0.40 | 3 | <0.5 | <0.2 |
| 1478843 | Reverse | 17 | 29 | 1.12 | 211 | 0.003 | <20 | 1.46 | 0.006 | 0.13 | 0.4 | <0.01 | 1.7 | <0.1 | 0.61 | 4 | 0.9 | <0.2 |
| 1478844 | Reverse | 16 | 25 | 1.04 | 241 | 0.003 | <20 | 1.42 | 0.006 | 0.18 | 0.4 | $<0.01$ | 1.4 | <0.1 | 1.20 | 4 | 1.9 | $<0.2$ |
| 1478845 | Reverse | 20 | 28 | 0.94 | 222 | 0.003 | <20 | 1.28 | 0.004 | 0.18 | 0.5 | $<0.01$ | 1.5 | <0.1 | 0.98 | 3 | 0.9 | <0.2 |
| 1478846 | Reverse | 17 | 21 | 0.99 | 215 | 0.003 | <20 | 1.32 | 0.006 | 0.16 | 0.2 | $<0.01$ | 1.5 | <0.1 | 0.44 | 4 | <0.5 | $<0.2$ |
| 1478847 | Reverse | 15 | 24 | 0.91 | 336 | 0.003 | <20 | 1.27 | 0.007 | 0.17 | 0.2 | 0.02 | 1.5 | <0.1 | 0.53 | 3 | <0.5 | <0.2 |
| 1478848 | Reverse | 14 | 24 | 1.02 | 215 | 0.003 | <20 | 1.43 | 0.006 | 0.17 | 0.2 | 0.01 | 1.5 | <0.1 | 0.59 | 4 | 1.8 | 0.5 |
| 1478849 | Reverse | 16 | 27 | 1.00 | 244 | 0.003 | <20 | 1.36 | 0.007 | 0.14 | 0.3 | <0.01 | 1.7 | <0.1 | 0.36 | 4 | 1.5 | <0.2 |
| 1478850 | Reverse | 16 | 27 | 0.98 | 278 | 0.003 | <20 | 1.34 | 0.008 | 0.12 | 0.5 | $<0.01$ | 1.5 | <0.1 | 0.24 | 4 | <0.5 | $<0.2$ |
| 1478851 | Reverse | 17 | 25 | 0.96 | 204 | 0.005 | <20 | 1.40 | 0.007 | 0.16 | 0.5 | $<0.01$ | 1.5 | <0.1 | 0.41 | 4 | <0.5 | $<0.2$ |
| 1478852 | Reverse | 17 | 22 | 0.79 | 204 | 0.018 | $<20$ | 1.20 | 0.006 | 0.16 | 0.7 | <0.01 | 1.3 | <0.1 | 0.26 | 3 | <0.5 | $<0.2$ |
| 1478853 | Reverse | 20 | 23 | 0.79 | 217 | 0.016 | <20 | 1.22 | 0.007 | 0.16 | 0.5 | $<0.01$ | 1.4 | <0.1 | 0.28 | 3 | <0.5 | $<0.2$ |
| 1478854 | Reverse | 17 | 23 | 0.75 | 195 | 0.018 | $<20$ | 1.14 | 0.006 | 0.15 | 0.9 | <0.01 | 1.3 | <0.1 | 0.25 | 3 | 1.6 | $<0.2$ |
| 1478855 | Reverse | 18 | 26 | 0.99 | 168 | 0.028 | <20 | 1.48 | 0.007 | 0.15 | 0.7 | <0.01 | 1.5 | <0.1 | 0.30 | 4 | <0.5 | <0.2 |
| 1478856 | Reverse | 17 | 22 | 0.84 | 187 | 0.017 | $<20$ | 1.26 | 0.006 | 0.16 | 0.3 | $<0.01$ | 1.5 | <0.1 | 0.08 | 3 | <0.5 | $<0.2$ |
| 1478857 | Reverse | 16 | 25 | 0.91 | 195 | 0.018 | $<20$ | 1.33 | 0.006 | 0.14 | 0.6 | <0.01 | 1.3 | <0.1 | 0.17 | 3 | <0.5 | $<0.2$ |
| 1478858 | Reverse | 18 | 22 | 0.76 | 210 | 0.019 | 24 | 1.19 | 0.009 | 0.14 | 2.6 | $<0.01$ | 0.9 | <0.1 | 0.20 | 3 | <0.5 | $<0.2$ |
| 1478859 | Reverse | 17 | 22 | 0.79 | 199 | 0.045 | <20 | 1.24 | 0.006 | 0.19 | 0.6 | <0.01 | 1.2 | <0.1 | 0.11 | 3 | <0.5 | $<0.2$ |
| 1478860 | Reverse | 18 | 22 | 0.73 | 216 | 0.046 | 22 | 1.19 | 0.009 | 0.17 | 5.7 | $<0.01$ | 0.9 | <0.1 | 0.21 | 3 | <0.5 | $<0.2$ |
| 1478861 | Reverse | 13 | 65 | 1.60 | 152 | 0.063 | $<20$ | 1.94 | 0.010 | 0.12 | 0.3 | <0.01 | 5.1 | <0.1 | 0.25 | 5 | <0.5 | <0.2 |

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Page
1 of 1
Part: 1 of 2

QUALITY CONTROL REPORT
WHI19000031.1

|  | Method <br> Analyte <br> Unit <br> MDL | WGHT Wgt kg 0.01 | $\begin{array}{r} \text { AQ200 } \\ \text { Mo } \\ \text { ppm } \\ 0.1 \\ \hline \end{array}$ | AQ200 <br> Cu <br> ppm <br> 0.1 | $\begin{array}{r} \text { AQ200 } \\ \mathrm{Pb} \\ \mathrm{ppm} \\ 0.1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{Zn} \\ \mathrm{ppm} \\ 1 \\ \hline \end{array}$ | AQ200 <br> Ag <br> ppm <br> 0.1 | AQ200 <br> Ni <br> ppm <br> 0.1 | $\begin{array}{r} \text { AQ200 } \\ \text { Co } \\ \text { ppm } \\ 0.1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{Mn} \\ \mathrm{ppm} \\ 1 \\ \hline \end{array}$ | $\begin{array}{r} \hline \text { AQ200 } \\ \text { Fe } \\ \% \\ 0.01 \\ \hline \end{array}$ | AQ200 <br> As <br> ppm <br> 0.5 | AQ200 Au ppb 0.5 | $\begin{array}{r} \text { AQ200 } \\ \text { Th } \\ \text { ppm } \\ 0.1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{Sr} \\ \mathrm{ppm} \\ 1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \text { Cd } \\ \text { ppm } \\ 0.1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{Sb} \\ \mathrm{ppm} \\ 0.1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{Bi} \\ \mathrm{ppm} \\ 0.1 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{V} \\ \mathrm{ppm} \\ 1 \end{array}$ | $\begin{array}{r} \hline \text { AQ200 } \\ \text { Ca } \\ \% \\ 0.01 \\ \hline \end{array}$ | $\begin{array}{r} \text { AQ200 } \\ \mathrm{P} \\ \% \\ 0.001 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pulp Duplicates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1478830 | Reverse Circ | 3.16 | 2.5 | 37.6 | 1.6 | 49 | <0.1 | 27.0 | 6.4 | 515 | 2.12 | 4.4 | <0.5 | 5.1 | 32 | <0.1 | 0.3 | 0.1 | 17 | 0.60 | 0.044 |
| REP 1478830 | QC |  | 2.3 | 37.2 | 1.4 | 49 | <0.1 | 27.3 | 6.3 | 512 | 2.09 | 3.2 | <0.5 | 5.2 | 30 | <0.1 | 0.2 | 0.1 | 17 | 0.60 | 0.043 |
| REP 1478857 | QC |  | 1.5 | 55.1 | 7.1 | 72 | <0.1 | 25.5 | 11.3 | 695 | 2.56 | 17.8 | <0.5 | 4.9 | 71 | <0.1 | 1.3 | 0.2 | 19 | 0.64 | 0.064 |
| Core Reject Duplicates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1478823 | Reverse Circ | 2.81 | 1.1 | 43.1 | 20.7 | 85 | 0.1 | 51.2 | 23.4 | 1211 | 5.21 | 18.9 | <0.5 | 1.7 | 114 | <0.1 | 0.3 | <0.1 | 99 | 2.81 | 0.069 |
| DUP 1478823 | QC |  | 0.8 | 44.6 | 20.4 | 81 | 0.1 | 48.1 | 23.5 | 1211 | 5.19 | 19.2 | <0.5 | 1.8 | 114 | <0.1 | 0.3 | <0.1 | 99 | 2.79 | 0.064 |
| 1478857 | Reverse Circ | 1.60 | 1.3 | 50.7 | 7.5 | 66 | <0.1 | 23.1 | 10.0 | 647 | 2.34 | 17.0 | 1.7 | 4.5 | 66 | 0.2 | 1.2 | 0.2 | 18 | 0.55 | 0.060 |
| DUP 1478857 | QC |  | 1.3 | 51.6 | 6.6 | 67 | <0.1 | 23.8 | 9.9 | 640 | 2.42 | 14.3 | <0.5 | 4.6 | 63 | <0.1 | 1.1 | 0.1 | 18 | 0.59 | 0.068 |
| Reference Materials |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD BVGEO01 | Standard |  | 10.3 | 4579.2 | 190.0 | 1790 | 2.5 | 160.9 | 23.9 | 723 | 3.73 | 121.1 | 220.2 | 15.0 | 58 | 6.3 | 2.3 | 25.3 | 75 | 1.33 | 0.073 |
| STD DS11 | Standard |  | 14.8 | 143.4 | 132.0 | 345 | 1.6 | 84.0 | 13.0 | 1023 | 3.11 | 46.8 | 48.0 | 7.4 | 66 | 2.0 | 6.6 | 11.3 | 50 | 1.11 | 0.068 |
| STD DS11 | Standard |  | 15.5 | 155.9 | 142.0 | 355 | 1.7 | 79.5 | 13.8 | 1017 | 3.20 | 45.2 | 106.6 | 7.3 | 66 | 2.6 | 7.4 | 12.1 | 48 | 1.07 | 0.070 |
| STD OREAS262 | Standard |  | 0.6 | 110.4 | 54.3 | 144 | 0.5 | 62.6 | 26.5 | 597 | 3.23 | 36.8 | 67.4 | 9.0 | 35 | 0.7 | 2.8 | 1.0 | 23 | 3.07 | 0.038 |
| STD OREAS262 | Standard |  | 0.8 | 119.3 | 58.8 | 153 | 0.5 | 66.3 | 28.2 | 526 | 3.36 | 36.7 | 63.5 | 9.7 | 37 | 0.6 | 2.3 | 1.0 | 22 | 3.20 | 0.036 |
| STD OREAS262 | Standard |  | 0.7 | 117.4 | 57.3 | 149 | 0.5 | 66.8 | 28.2 | 553 | 3.29 | 37.4 | 55.5 | 9.0 | 34 | 0.7 | 2.5 | 1.0 | 22 | 3.03 | 0.039 |
| STD BVGEO01 Expected |  |  | 11.2 | 4502 | 187 | 1712 | 2.53 | 163 | 25 | 706 | 3.7 | 121 | 214 | 13.6 | 55 | 6.25 | 2.2 | 24.3 | 73 | 1.3219 | 0.0727 |
| STD DS11 Expected |  |  | 13.9 | 149 | 138 | 345 | 1.71 | 77.7 | 14.2 | 1055 | 3.1 | 42.8 | 79 | 7.65 | 67.3 | 2.37 | 7.2 | 12.2 | 50 | 1.063 | 0.0701 |
| STD OREAS262 Expected |  |  | 0.68 | 118 | 56 | 154 | 0.45 | 62 | 26.9 | 530 | 3.284 | 35.8 | 65 | 9.33 | 36 | 0.61 | 3.39 | 1.03 | 22.5 | 2.98 | 0.04 |
| BLK | Blank |  | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | <0.01 | <0.5 | <0.5 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | $<0.01$ | <0.001 |
| BLK | Blank |  | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | $<0.01$ | <0.5 | <0.5 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | $<0.01$ | <0.001 |
| BLK | Blank |  | <0.1 | <0.1 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | $<0.01$ | <0.5 | <0.5 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <1 | $<0.01$ | <0.001 |
| Prep Wash |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ROCK-WHI | Prep Blank |  | 0.4 | 1.7 | 1.1 | 25 | <0.1 | 0.6 | 3.1 | 468 | 1.77 | 1.3 | <0.5 | 2.1 | 20 | <0.1 | 0.2 | <0.1 | 24 | 0.55 | 0.042 |
| ROCK-WHI | Prep Blank |  | 0.9 | 2.2 | 1.4 | 28 | <0.1 | 0.7 | 3.3 | 520 | 1.80 | 1.4 | 4.7 | 2.2 | 20 | 0.2 | <0.1 | <0.1 | 25 | 0.95 | 0.041 |

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|  |  |  |  |  |  | AQ200 |  | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 | AQ200 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Analyte | La | Cr | Mg | Ba | Ti | B | AI | Na | K | w | Hg | Sc | TI | S | Ga | Se | Te |
|  | Unit | ppm | ppm | \% | ppm | \% | ppm | \% | \% | \% | ppm | ppm | ppm | ppm | \% | ppm | ppm | pm |
|  | MDL | 1 | 1 | 0.01 | 1 | 0.001 | 20 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 |
| Pulp Duplicates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1478830 | Reverse Circ | 19 | 27 | 0.77 | 446 | 0.004 | <20 | 1.18 | 0.011 | 0.18 | 0.4 | 0.02 | 1.2 | <0.1 | 0.47 | 3 | <0.5 | <0.2 |
| REP 1478830 | QC | 18 | 27 | 0.76 | 430 | 0.004 | <20 | 1.17 | 0.011 | 0.18 | 0.3 | <0.01 | 1.4 | <0.1 | 0.45 | 3 | 0.8 | <0.2 |
| REP 1478857 | QC | 17 | 27 | 0.98 | 205 | 0.019 | <20 | 1.44 | 0.006 | 0.15 | 0.7 | <0.01 | 1.5 | <0.1 | 0.20 | 4 | <0.5 | <0.2 |
| Core Reject Duplicates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1478823 | Reverse Circ | 10 | 109 | 3.12 | 201 | 0.166 | <20 | 3.85 | 0.014 | 0.08 | 0.2 | 0.02 | 7.9 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| DUP 1478823 | QC | 10 | 107 | 3.09 | 212 | 0.170 | <20 | 3.83 | 0.013 | 0.08 | 0.2 | 0.02 | 7.0 | <0.1 | <0.05 | 7 | <0.5 | <0.2 |
| 1478857 | Reverse Circ | 16 | 25 | 0.91 | 195 | 0.018 | <20 | 1.33 | 0.006 | 0.14 | 0.6 | <0.01 | 1.3 | <0.1 | 0.17 | 3 | <0.5 | $<0.2$ |
| DUP 1478857 | QC | 16 | 25 | 0.93 | 199 | 0.019 | <20 | 1.37 | 0.007 | 0.15 | 0.6 | <0.01 | 1.4 | <0.1 | 0.17 | 4 | <0.5 | <0.2 |
| Reference Materials |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD BVGEO01 | Standard | 26 | 163 | 1.29 | 324 | 0.241 | <20 | 2.32 | 0.194 | 0.89 | 4.0 | 0.09 | 5.8 | 0.5 | 0.70 | 7 | 4.4 | 1.0 |
| STD DS11 | Standard | 18 | 59 | 0.88 | 430 | 0.096 | <20 | 1.22 | 0.074 | 0.40 | 2.6 | 0.25 | 3.0 | 4.9 | 0.29 | 5 | 2.6 | 4.9 |
| STD DS11 | Standard | 17 | 61 | 0.86 | 431 | 0.087 | 36 | 1.14 | 0.070 | 0.41 | 3.0 | 0.40 | 2.9 | 5.1 | 0.29 | 5 | 2.6 | 4.4 |
| STD OREAS262 | Standard | 17 | 44 | 1.16 | 245 | 0.003 | <20 | 1.35 | 0.068 | 0.33 | <0.1 | 0.15 | 3.4 | 0.5 | 0.27 | 4 | <0.5 | $<0.2$ |
| STD OREAS262 | Standard | 18 | 45 | 1.21 | 258 | 0.004 | <20 | 1.33 | 0.070 | 0.33 | 0.1 | 0.17 | 3.5 | 0.5 | 0.27 | 4 | <0.5 | <0.2 |
| STD OREAS262 | Standard | 15 | 44 | 1.19 | 253 | 0.003 | 28 | 1.33 | 0.068 | 0.31 | 0.1 | 0.15 | 3.0 | 0.4 | 0.26 | 4 | 0.9 | 0.2 |
| STD BVGEO01 Expected |  | 25.9 | 171 | 1.3175 | 340 | 0.2128 | 6.7 | 2.2628 | 0.1924 | 0.8669 | 3.5 | 0.1 | 5.97 | 0.62 | 0.6739 | 7.65 | 5.09 | 1.1 |
| STD DS11 Expected |  | 18.6 | 61.5 | 0.85 | 417 | 0.0976 |  | 1.129 | 0.0694 | 0.4 | 2.9 | 0.26 | 3.1 | 4.9 | 0.2835 | 4.7 | 2.2 | 4.56 |
| STD OREAS262 Expected |  | 15.9 | 41.7 | 1.17 | 248 | 0.003 |  | 1.204 | 0.071 | 0.312 | 0.13 | 0.17 | 3.24 | 0.47 | 0.253 | 3.73 | 0.4 | 0.23 |
| BLK | Blank | <1 | <1 | $<0.01$ | <1 | <0.001 | <20 | <0.01 | <0.001 | $<0.01$ | <0.1 | $<0.01$ | <0.1 | <0.1 | <0.05 | <1 | <0.5 | <0.2 |
| BLK | Blank | <1 | <1 | $<0.01$ | <1 | <0.001 | <20 | $<0.01$ | <0.001 | $<0.01$ | <0.1 | $<0.01$ | <0.1 | <0.1 | <0.05 | <1 | <0.5 | <0.2 |
| BLK | Blank | <1 | <1 | $<0.01$ | <1 | <0.001 | <20 | <0.01 | <0.001 | $<0.01$ | <0.1 | <0.01 | <0.1 | <0.1 | <0.05 | <1 | <0.5 | <0.2 |
| Prep Wash |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ROCK-WHI | Prep Blank | 6 | 2 | 0.42 | 50 | 0.072 | <20 | 0.93 | 0.075 | 0.09 | <0.1 | 0.03 | 2.8 | <0.1 | <0.05 | 3 | <0.5 | $<0.2$ |
| ROCK-WHI | Prep Blank | 6 | 1 | 0.44 | 46 | 0.078 | <20 | 0.82 | 0.061 | 0.07 | 0.2 | 0.04 | 2.7 | <0.1 | <0.05 | 3 | <0.5 | <0.2 |

