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**Newmont Corporation**

**Karl Zeemal, Bottonfield Bay, Graff Lake and North  
Shore Project**

**2019 Assessment Report**

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## Introduction

This report summarizes field mapping and diamond drilling work completed on Newmont's Karl Zeemal area claims located in the District of Kenora, Northwestern Ontario. This area incorporates the following targets: Karl Zeemal, Graff Lake, and Bottonfield. These programs occurred over a period from May 19<sup>th</sup>, 2019 to July 21<sup>st</sup>, 2019 and are concisely summarized below. The work was undertaken by staff geologists and other support staff employed at Newmont's Musselwhite Mine with operational support and technical services commissioned from third party specialists and contractor groups.

## Summary

### Lithogeochemical

The 2019 field work on Newmont's Karl Zeemal Claims, southeast of Musselwhite Mine, was conducted over 10 cumulative days through the summer of 2019. Dominantly the work consisted of grassroots style prospecting with some outcrop mapping. Samples of all outcropping bedrock encountered were submitted to Activation laboratories in Thunder Bay Ontario for whole rock analysis by 4-acid ICP-MS as well as analysis for gold by fire assay. Field activities were helicopter supported with crew transportation provided by Wisk Air Helicopters Ltd. of Thunder Bay Ontario. Field crews consisted of two Bayside Geoscience consulting geologists, two Bayside Geoscience consulting geological summer students and one Newmont geologist.

### Diamond Drilling

Diamond drilling related field activities including mobilization, drilling, and demobilization, were conducted daily between May 9<sup>th</sup>, 2019, and July 21<sup>st</sup>, 2019. The work was performed for Newmont Corporation with the objective of confirming delineating and modelling previously identified, near surface, gold bearing sulphide mineralization in synformally folded oxide banded iron formations, as well as new structural targets identified by previously done airborne magnetic surveys.

Drilling services and transportation of workers were provided by Hy-Tech Drilling Ltd of Smithers British Columbia, and transportation of materials were provided by Wisk Air Helicopters of Thunder Bay Ontario.

Two drill rigs were mobilized into the work area utilizing a previously established trail. Drill pads were prepared immediately adjacent to the trail and mine access road. 20 NQ Drill holes, totaling 3957.1m were drilled between May 9<sup>th</sup>, 2019, and July 21<sup>st</sup>, 2019.

An additional three drill rigs were located on the north shore of Opapimiskan Lake. These drills were utilizing wedges to reach the Northern Iron Formation target at depth. A total

of 15 NQ drill holes, totaling 8,502m of retrievable core were drilled between February 11<sup>th</sup>, 2019 and October 9<sup>th</sup>, 2019.

Drill holes are surveyed to the local grid of Newmont's adjacent Musselwhite Mine but converted to UTM for this report.

## Location and Access

The Karl Zeemal claim group and North Shore claim group are located in the District of Kenora, Northwest Ontario. Approximately 76 km South East of Weagamow First Nation, 103 km North of the town of Pickle Lake, 430 km Northwest of Thunder Bay, and 7 km Southeast of Newmont Corporation's Musselwhite Mine.

Access is available through chartered air service to the town of Pickle Lake and a four-Season road extending North to Newmont's Musselwhite Mine. From Musselwhite Mine, the North Shore project is accessed by crossing Opapimiskan Lake via boat or snow machine, season depending, or helicopter.



Figure 1. Location of Karl Zeemal Claims within the province of Ontario.

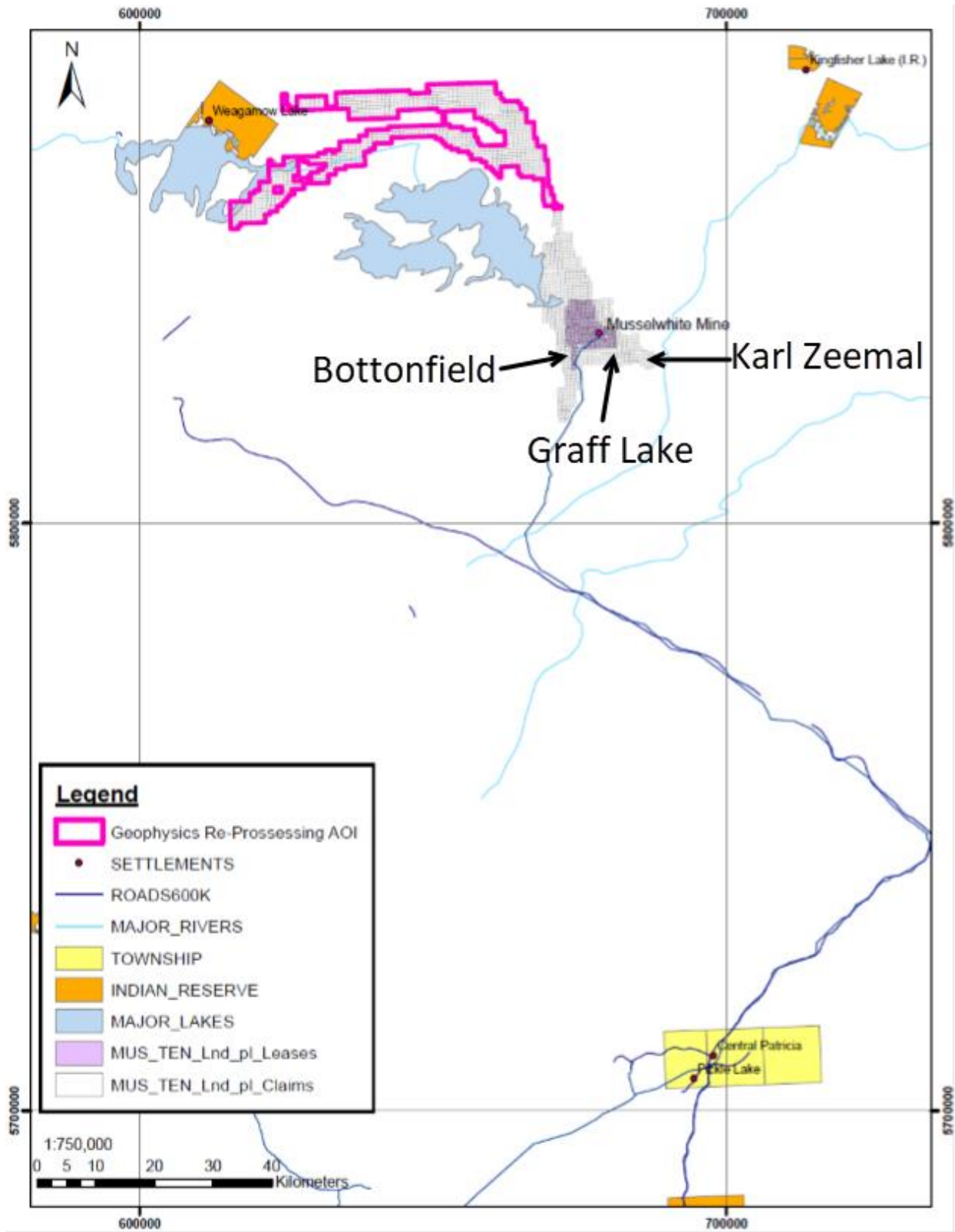


Figure 2. Location of Karl Zeemal claims relative to the town of Pickle Lake, Musselwhite Mine, and Weagamow Lake First Nation location reference in UTM-Nad83 Zone 15N.

## History and Previous Work

1938 – (Satterley 1941) First geological map of the North Caribou Greenstone Belt produced at a scale of 1 inch to 1 Mile (1:63360).

1960 – Geological survey of Canada conducted an airborne magnetometer survey of the North Caribou Greenstone Belt.

1962 – Economic gold mineralization was first identified on the adjacent Musselwhite mining leases by the Musselwhite Brothers in 1962

1963 – The Karl Zeemal property was optioned by Kenpat Mines Ltd. in 1963. The company conducted geological and geophysical surveys.

1962 to 1963 – Inco Limited conducted an 18-hole diamond drill hole program in the area of Zeemal Lake and an additional Eight holes in area of Karl and Markop Lakes.

1973 – The Musselwhite brothers optioned their property to a consortium led by Dome Exploration Ltd. Subsequent exploration activities resulted in the discovery of the “West Anticline Zone” in 1980.

1981 – The Dome Exploration Ltd Consortium. commissioned Aerodat Ltd. to conduct an airborne magnetic and electromagnetic geophysical survey over the area surrounding the Musselwhite deposit.

1984 – Dome Mines Ltd. excavated an exploration decline into the West Anticline Zone and delineated gold deposits totaling approximately 540,000 ounces.

1985 – The Ontario Geological Survey commissioned Aerodat Ltd. to perform an extensive Airborne Magnetic and Electromagnetic survey of the North Caribou Greenstone Belt. Maps 80744 and 80745 cover the Karl Zeemal area.

1986 – Extensive surface drilling by Dome Mines Ltd focused on the East Bay Synform

1986 – in 1986 Santa Maria Resources employed Geocanex Ltd. to perform ground magnetic and electromagnetic surveys over their Zeemal Lake property immediately west of the Karl-Zeemal Claims.

1987 – Geocanex Ltd. conducted surface mapping and diamond drill programs on behalf of Santa Maria Resources Ltd on the Zeemal Lake property.

1988 – Power Explorations Inc. conducted extensive mapping, prospecting, trenching and diamond drilling along the mineralized Karl-Zeemal iron formation.

2005 – Goldcorp Canada Inc. extensive exploration drilling along the mineralized trend identified by Power Explorations Inc. in their 1988 drilling.

2017-2018 – Goldcorp Canada Inc. soil-, litho-, and bio-geochemical sampling program. Detailed exploration drilling along mineralized trends and geochemical anomalies

2018 – Goldcorp Canada Inc. conducted a 32 diamond drill program over the Karl Zeemal target area.

## Physiography and Vegetation

The claim group is dominantly covered by low bogs which are densely forested by black spruce trees rooted in a wet, moss covered, forest floor, and moss-covered meadows which are typically dryer and dominantly vegetated by dense Labrador tea shrubs and sparse, small, black spruce trees. The Northwest end of the claim group is covered by thick glacial-fluvial sand and boulder deposits which are typically forested by well-spaced jack pine and some birch trees. There is a notable ridge of approximately 50 meters relief running NW-SE through the center of the claim group. The elevated ridge is densely forested by mixed species of softwood and hardwood trees including birch, poplar, black spruce, and fir, with a thick undergrowth of Labrador tea. There is approximately 5% bedrock exposure on the claims which dominantly occurs along or proximal to the crest of this ridge.

## Regional Geology

The North Caribou greenstone belt (NCGB) is located on the northern edge of the North Caribou terrane, south of the Island Lake domain. It comprises various volcanic-dominated assemblages formed during two major magmatic phases dated at ca. 2980 and ca. 2870 Ma. Sedimentary-dominated assemblages lie in the core of the NCGB. They are interpreted to have been deposited after 2980 Ma in the northern NCGB, and after 2850 Ma in the southeastern NCGB. The greenstones are intruded by several batholiths emplaced during the two magmatic phases at ca. 2870-2850 Ma and ca. 2750-2690 Ma (Oswald, 2018 and all references therein)

The envelope of the main structural fabric and fold structures is roughly parallel to the contact of the narrow, elongate, two-arc shape of the North Caribou belt. Three major phases of ductile to brittle-ductile deformation have been documented (D1, D2, D3), in addition to minor late structures related to brittle deformation (“D4”). Several regional fault zones separate lithostratigraphic assemblages. The dominant regional structural pattern and main tectonometamorphic phase is related to D2 (Oswald, 2018 and references therein). The rocks



of the North Caribou Greenstone Belt were metamorphosed to amphibolite facies around 2660 Ma (Oswald, 2018 and all references therein)

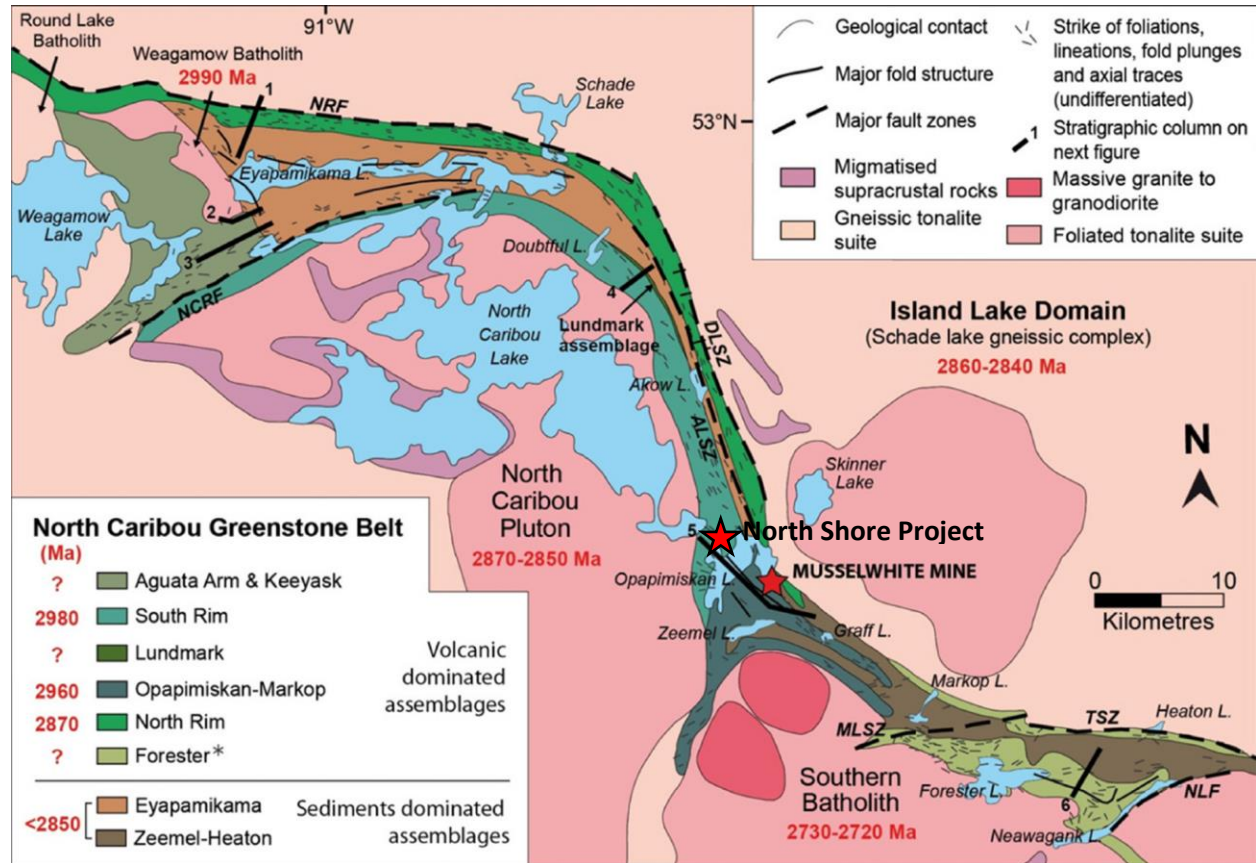


Figure 3. Simplified tectonostratigraphic map of the North Caribou belt modified from Oswald, 2018.

## Local Geology

The Karl Zeemal Prospect consists of linear NW-SE trending group of Opapimiskan-Markop mafic and ultramafic metavolcanic rocks interlayered with two (possibly three) horizons of synformally folded chert-magnetite banded iron formation, typically 1-5m wide. The volcanic sequence comprises pillowed and massive lava flows. Ultramafic komatiites are common, but mafic units dominate most of the stratigraphy. Both limbs of the folded Iron formations outcrop on surface (Figure 4).

The pyrrhotite mineralized intervals known to host significant gold grades are predominantly observed in grunerite altered and silicified intervals of chert-magnetite banded iron formation, and locally, in narrow, pyrrhotite mineralized, shears or hydrothermal breccias axial planar to the folded iron formation and narrow shears along contacts between the iron formations and metavolcanics. The hinge of the folded iron formations is shallow plunging to sub-horizontal and trends NW-SE parallel/sub-parallel with the contact between the Opapimiskan-Markop assemblage and the Zeemal Heaton metasedimentary assemblage.

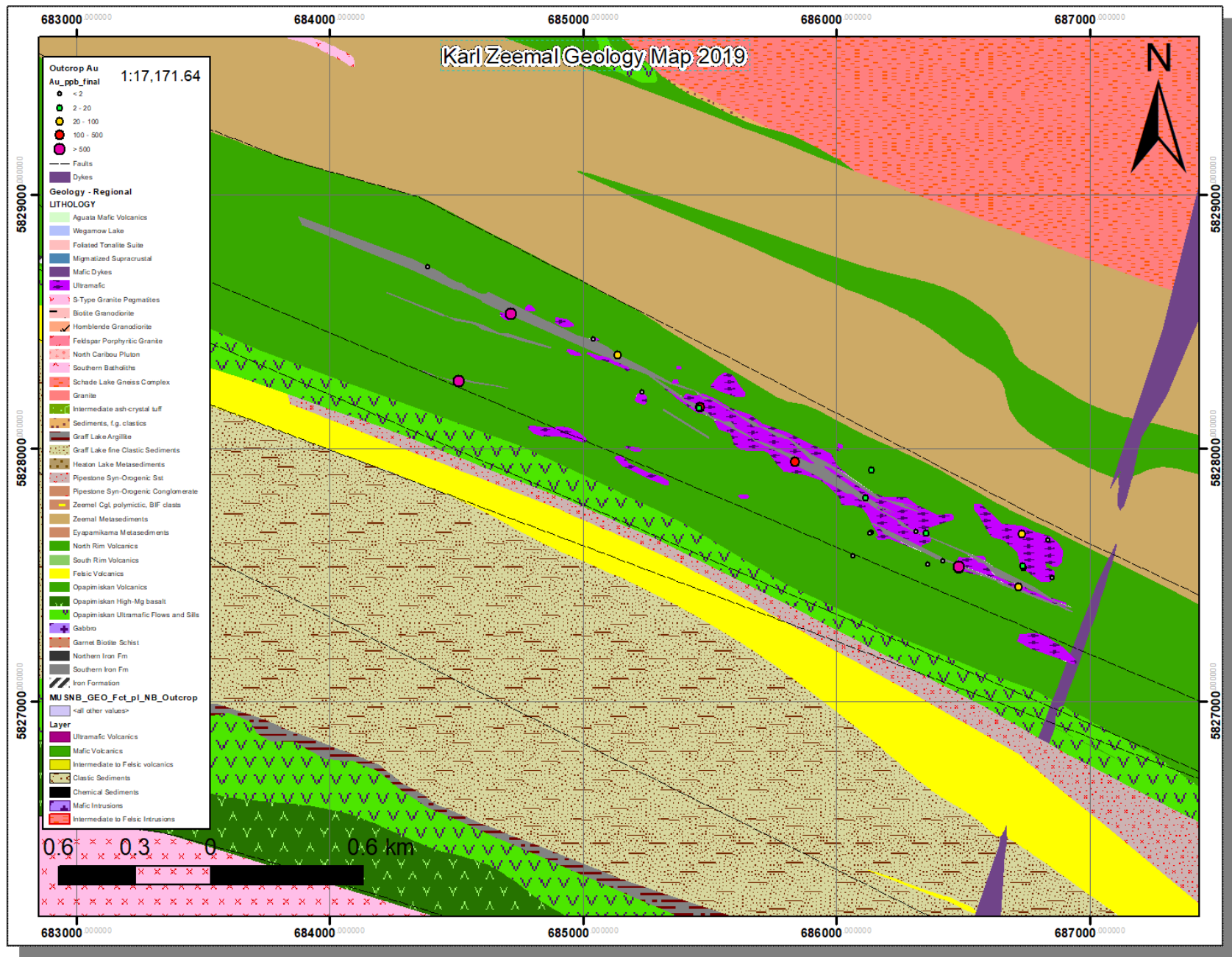


Figure 4. Local Karl-Zeemal Geology, as mapped by Power Explorations Ltd. in 1988 location reference in UTM-Nad83 Zone 15N.



## Lithogeochemical

### Description of Program

The 2019 field work on Newmont Corporation's Karl Zeemal Claims, southeast of Musselwhite Mine, was conducted over 10 cumulative days through the summer of 2019 between May 19th, 2019 to June 19th, 2019. The work consisted of helicopter and conventional vehicle supported, grassroots style prospecting and lithogeochemical sampling. Helicopter transportation services were commissioned from Wisk Air Helicopters of Thunder Bay, Ontario. The objectives were to locate possible exploration targets by using historical data, producing detailed geologic maps, and collecting lithogeochemical samples of prospective outcrops.

Samples of outcropping bedrock encountered were collected and submitted to Activation laboratories in Thunder Bay Ontario for whole rock analysis by 4-acid ICP-MS as well as analysis for gold by fire assay. The work was planned and conducted by 3 geologists from Newmont's Musselwhite Mine, Troy Gallik, Brittany Deley, Mark Jefferies, and two geological consultants and two geology summer students from Bayside Geoscience.

Samples were collected with conventional geological rock and sledgehammers (Figures 5-9). Geotuls were often used to uncover or expand the exposure of outcropping bedrocks a total of 27 bedrock samples were collected or analysis. Field data was collected on Apple iPad mini devices using custom form built in the Esri Survey 123 application.

Locations where significant results were obtained or where significant observations were made were followed up with a final field review by Musselwhite Geologists and Technical Experts from Newmont's corporate geology team.

## Table of Claims

Table 1. Table of claims within Newmont Corporation's Karl Zeemal group on which field work was conducted in 2019.

Claim Number	Claim Type	Claim Status	Date Issued	Date Due	Holder
110987	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
110988	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
145203	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
145204	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
146416	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
164580	Single Cell Mining Claim	Active	2018-04-10	2021-03-11	(100) GOLDCORP CANADA LTD.
174918	Single Cell Mining Claim	Active	2018-04-10	2021-03-11	(100) GOLDCORP CANADA LTD.
182182	Single Cell Mining Claim	Active	2018-04-10	2021-03-11	(100) GOLDCORP CANADA LTD.
193087	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
212535	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
239228	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
259427	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
268514	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
314497	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
327248	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.
327249	Single Cell Mining Claim	Active	2018-04-10	2021-02-11	(100) GOLDCORP CANADA LTD.

Table 2. Number of Litho-Geochemical samples collected by claim.

Claim Number	Number of Litho-geochemical samples taken
<b>110987</b>	1
<b>110988</b>	6
<b>145203</b>	1
<b>145204</b>	0
<b>146416</b>	2
<b>164580</b>	0
<b>174918</b>	1
<b>182182</b>	1
<b>193087</b>	7
<b>212535</b>	1
<b>239228</b>	0
<b>259427</b>	4
<b>268514</b>	1
<b>314497</b>	0
<b>327248</b>	1
<b>327249</b>	1
<b>Total</b>	<b>27</b>

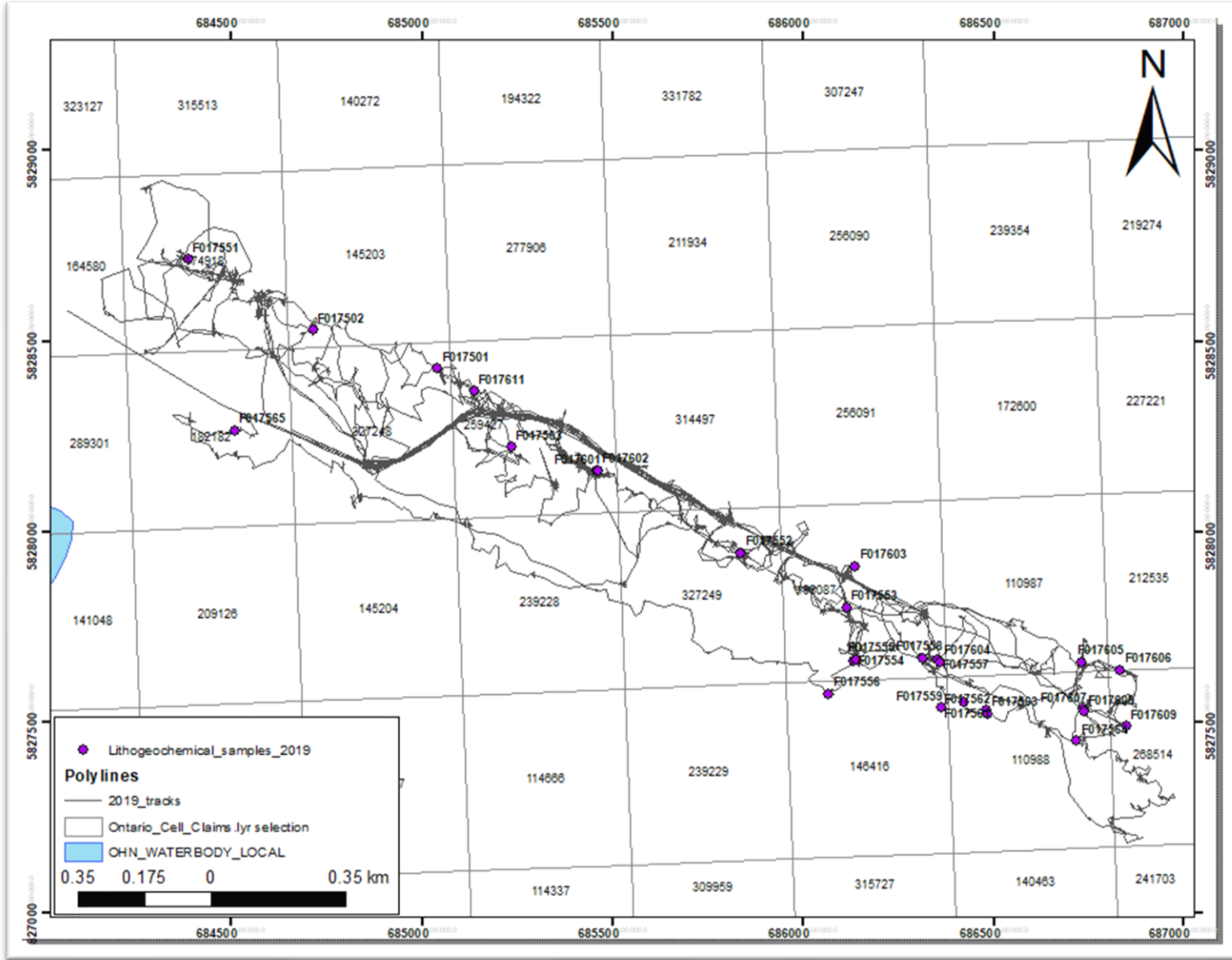


Figure 5. Map of traverses and lithochemical samples collected during 2019 on the Karl Zeemal claims reference in UTM-Nad83 Zone 15N.

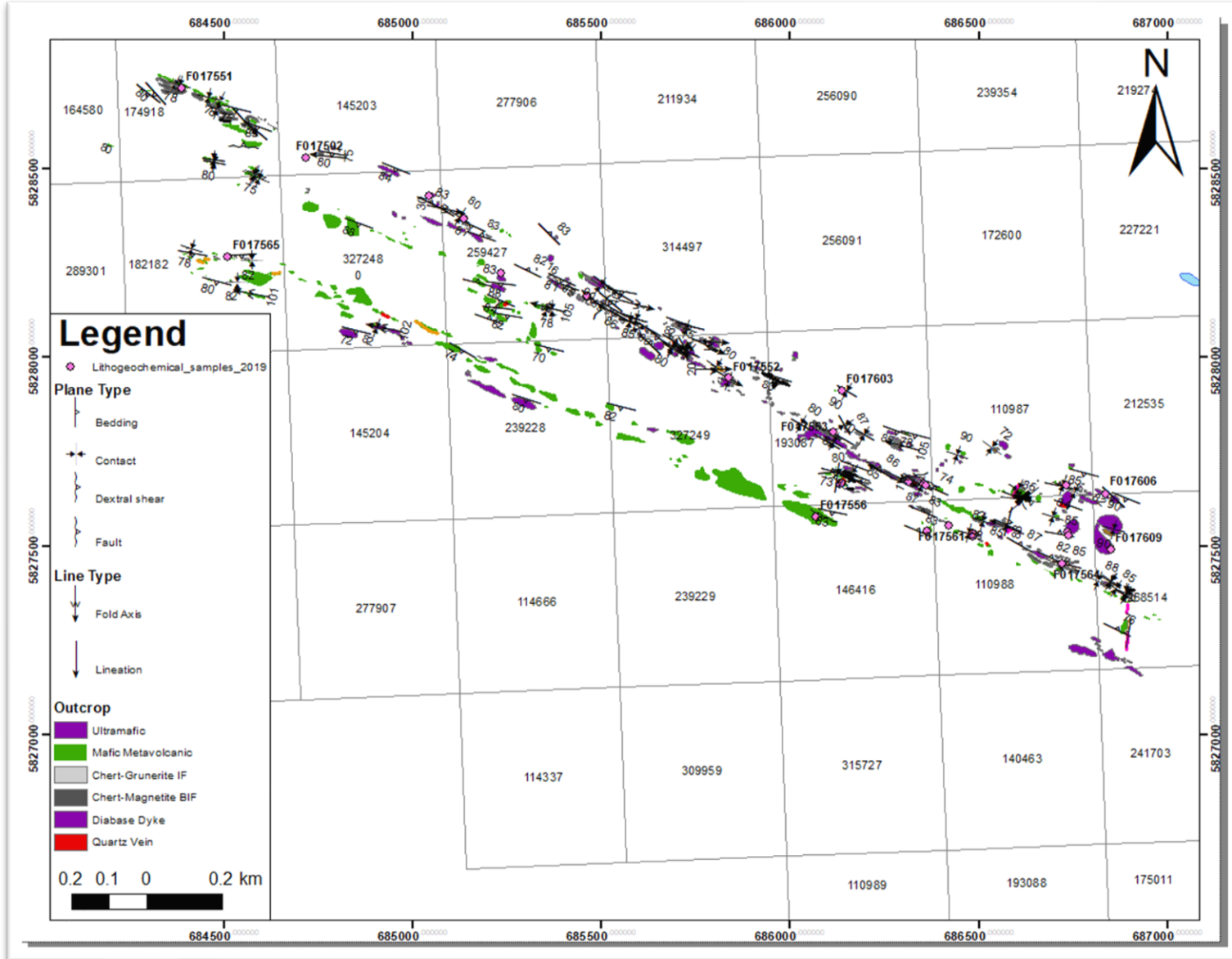


Figure 6. Map of outcrops mapped and lithochemical samples collected during 2019 on the Karl Zeemal claims reference in UTM-Nad83 Zone 15N.

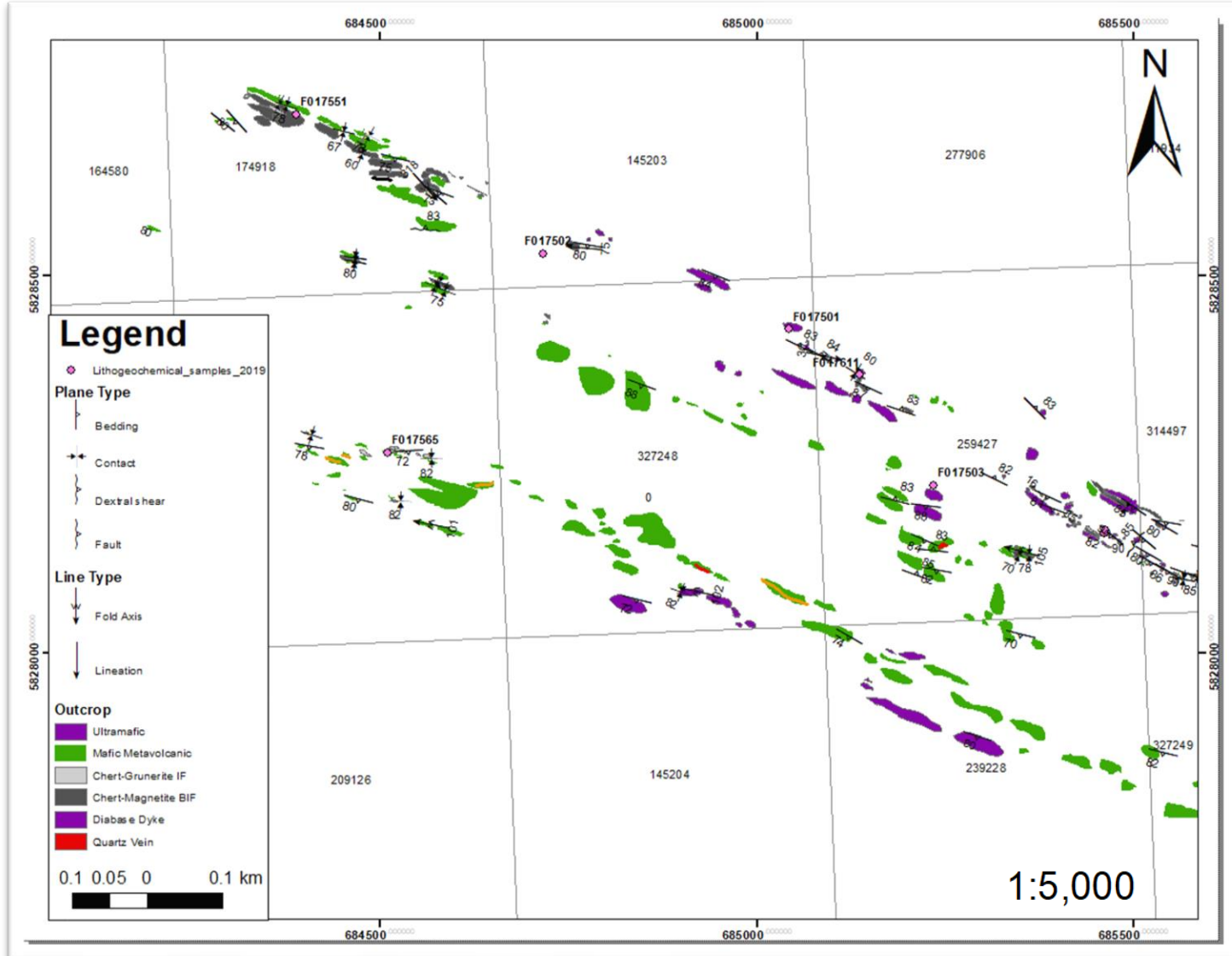


Figure 7. Enhanced map of outcrops mapped and lithogeochemical samples collected during 2019 on the Karl Zeemal claims of the most northwestern area. Reference in UTM 15N Nad83 Zone.

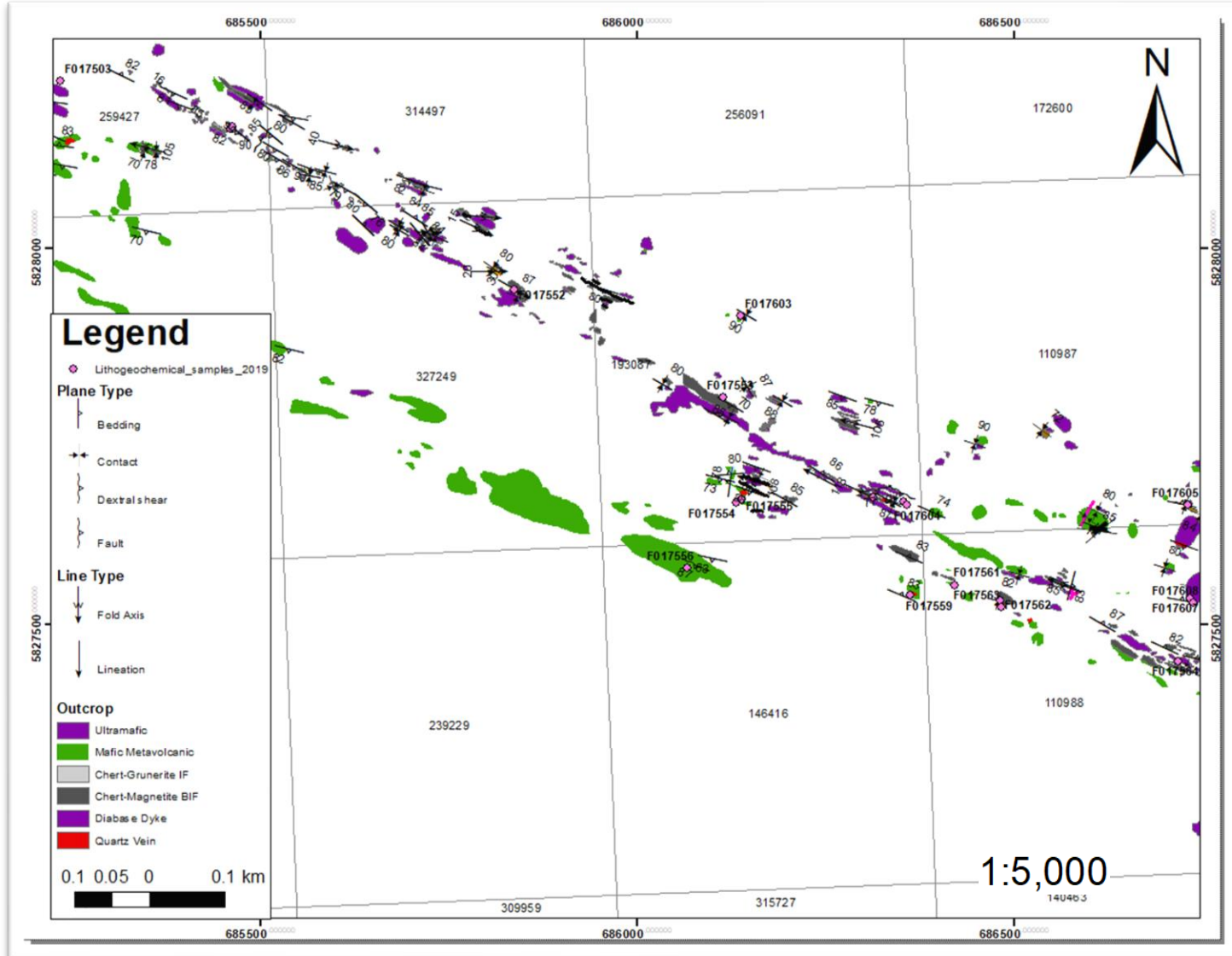


Figure 8. Enhanced map of outcrops mapped and lithochemical samples collected during 2019 on the Karl Zeemal claims of the central area. Reference in UTM-Nad83 Zone 15N.

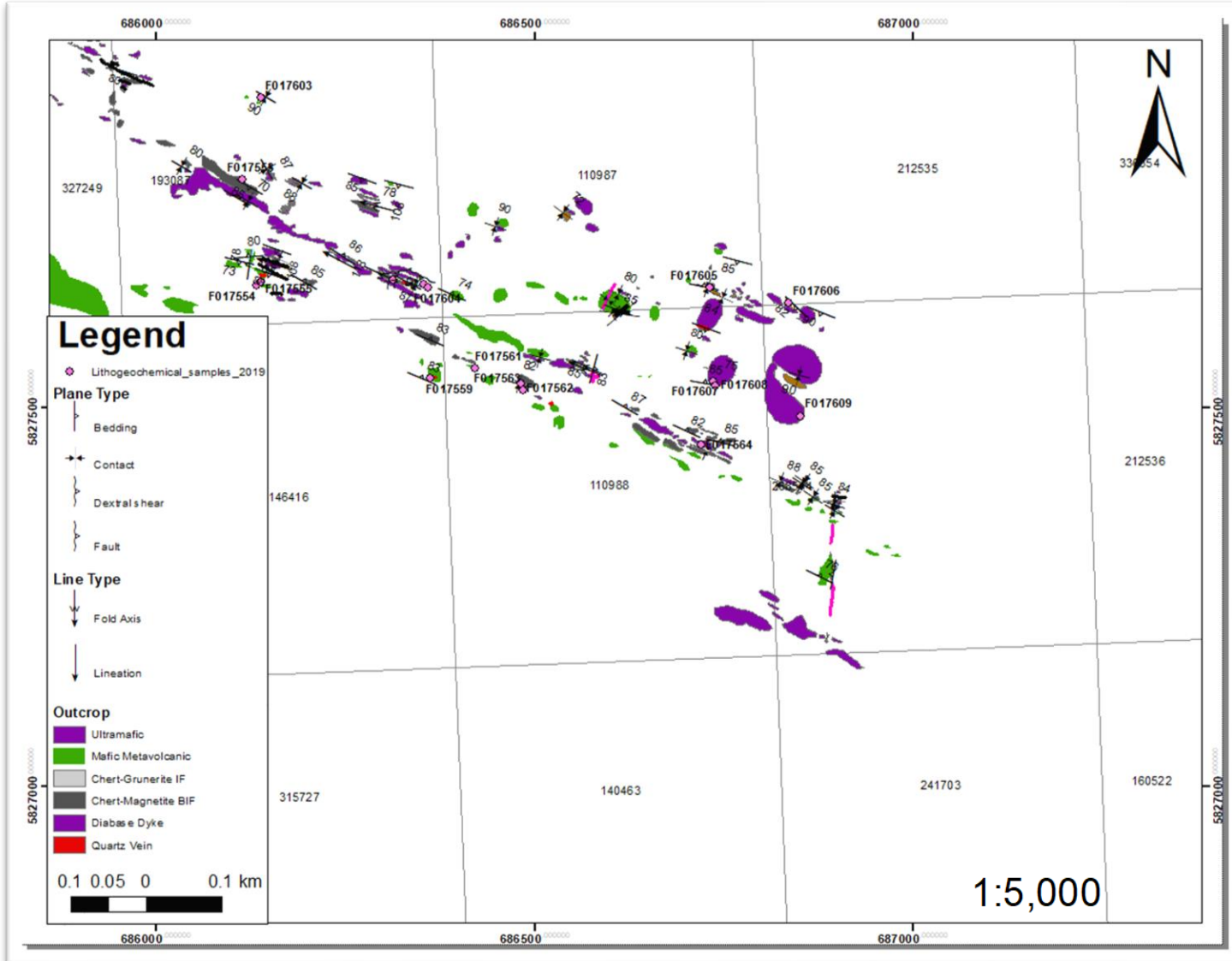


Figure 9. Enhanced map of outcrops mapped and lithogeochemical samples collected during 2019 on the Karl Zeemal claims of the most southeastern area. Reference in UTM-Nad83 Zone 15.



## Diamond Drilling - Bottonfield, Graff Lake, Karl Zeemal Description of Program

The Drilling program was conducted by Hy-Tech Drilling LTD of Smithers, BC on claims 100% owed by Newmont Corporation (legacy Goldcorp Canada Ltd.) on behalf of Newmont Corporation (See Table 3 for list of claims).

The program consisted of mobilization of equipment, preparation of drill pads, drilling and demobilization of equipment. All drill rigs were towed by skidder using the Karl Zeemal trail and short drill roads off main Musselwhite Mine road (Figure 10). Transportation of materials was provided by Wisk Air Helicopters of Thunder Bay, Ontario.

Activities were carried out daily between May 9th, 2019 and July 21st, 2019, totaling 84 working days. The program consisted of two S-5 diamond drill rigs that drilled 20 NQ sized drill holes totaling 3957m and 4154 samples collect for assay (Table 4). Work was conducted under Exploration Permit number PR-17-11171. Project planning, supervision, and downhole surveying was conducted by Newmont Corp. geologists and technicians from Musselwhite Mine.

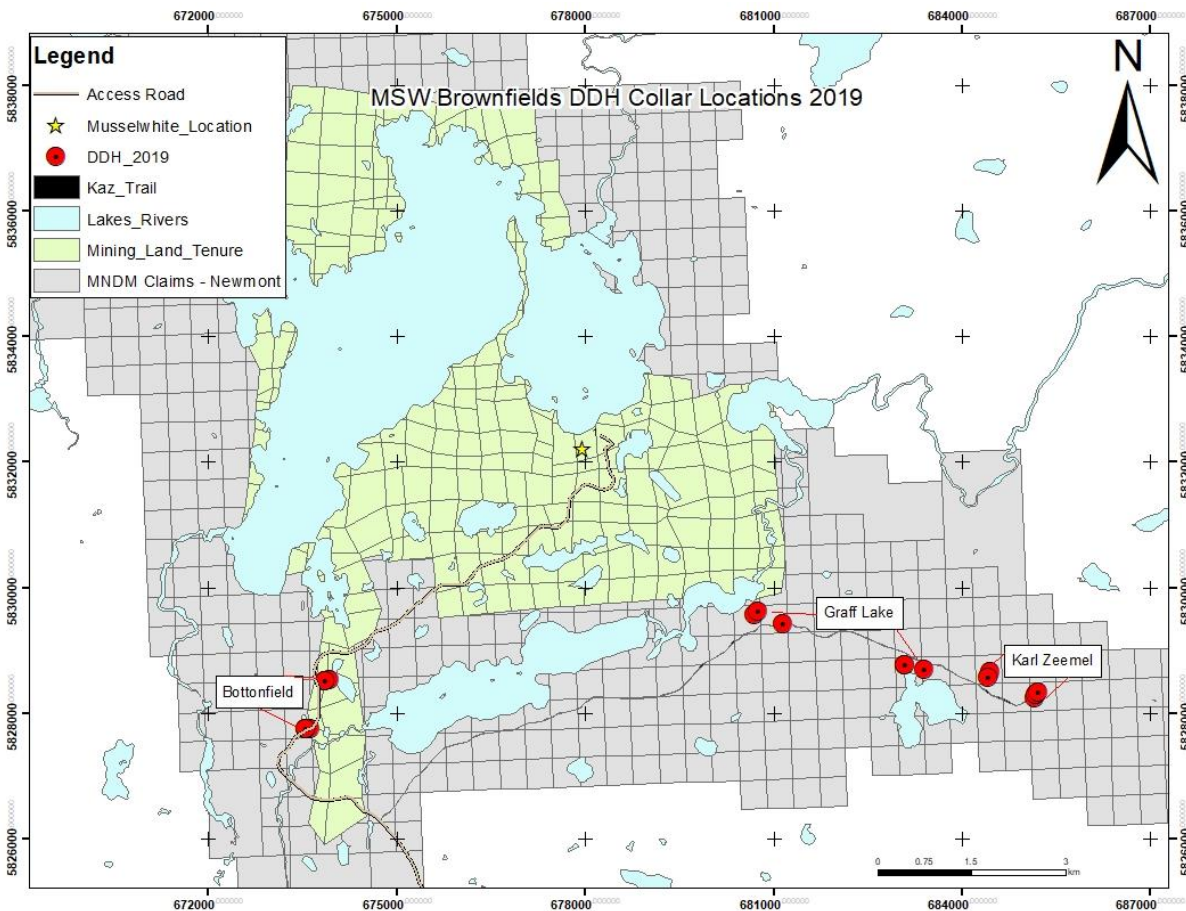


Figure 10. Claim and location map of DDH collars for Bottonfield, Graff Lake, and Karl Zeemal drilling programs.



## Table of Meters and Samples Per Claim

Table 3. Number of meters drilled and lithochemical samples collected on each claim.

Claim Number	Meters Drilled	Samples Collected (Lithochemical)
259427	510	600
174918	393	431
133412	77	66
329699	418	387
153421	179	185
146319	246	297
262237	184	171
128082	313	214
253494	470	431
126733	208	241
246918	959	1131

All drill core was logged and sampled by staff geologist on the Musselwhite mine site. Core was cut in half using core saws. Core cutting was performed by employees of Ojjakoes Community Development Corp. One half of the core was sent for gold analysis and the other half remains in the core farm at Musselwhite mine.

Analytical services were provided by Activation laboratories Ltd. at locations in Dryden and Geraldton, Ontario. 30g pulps of pulverized and homogenized drill core samples were analyzed for gold by fire assay. Reference material was from CDN Resources Laboratories Ltd. and granite was used for blank material. Alternating blank and reference material was inserted every 10 samples for QA/QC. Reference material had gold values of 0.468 g/t, 3.05 g/t, 7.19 g/t and 13.28 g/t. Samples returning over 10ppm Au were reanalyzed with Gravimetric Fire Assay. Reference material would be considered a fail if it were more than 3 standard deviations from the expected value. Blank material would be considered a fail if it were more than 0.5g/t Au. If failed material was encountered, samples were sent for re-assay.

## Table of Drill Hole Collars

Table 4. Collar information, 2019 Regional Drilling Program UTM datum: NAD 1983 Zone 15N.

Drill Hole	UTM East(15N)	UTM North (15N)	Planned Azimuth	Planned Dip	Length	Samples Collected	Samples Assayed
19-BOT-002	673653.2715	5827758.544	83.8	-45	444	516	516
19-BOT-003	673569.5688	5827759.381	83.8	-45	627	752	752
19-BOT-008	673950.5492	5828544.137	85.8	-47	333	223	223
19-BOT-009	673889.6075	5828530.117	85.8	-47	39.1	0	0
19-BOT-010	673888.7058	5828530.259	85.8	-45	411	422	422
19-BOT-011	673569.5688	5827759.381	83.8	-45	96	104	104
19-GRF-001	681177.4437	5829453.432	45.8	-60	321	366	366
19-GRF-002	680726.4683	5829602.433	45.8	-45	186	178	178
19-GRF-003	680770.0106	5829653.819	45.8	-45	102	109	109
19-GRF-004	683117.2955	5828795.526	203.8	-45	27	0	0
19-GRF-005	683117.2955	5828795.526	203.8	-45	33	0	0
19-GRF-006	683427.5916	5828729.991	203.8	-45	435	453	453
19-KAZ-001	685224.8061	5828353.068	203.8	-45	162	193	193
19-KAZ-002	685182.1223	5828273.331	203.8	-45	69	65	65
19-KAZ-003	685218.9848	5828343.696	203.8	-45	144	187	187
19-KAZ-004	685204.2225	5828329.558	203.8	-45	60	75	75
19-KAZ-005	685243.1447	5828370.541	203.8	-45	75	80	80
19-KAZ-007	684451.3576	5828639.612	23.8	-45	171	195	195
19-KAZ-008	684479.6457	5828700.032	23.8	-45	135	144	144
19-KAZ-009	684438.0885	5828606.003	23.8	-45	87	92	92

## Graff Lake Target (GRF)

The Graff Lake target was identified as a possible structural target in a magnetic high zone observed in historic aerial surveys. The Graff Lake target is hypothesized to be discrete structures causing offset in banded iron formation. Trend and frequency of structures are coincident with structures seen at Musselwhite that play a part in gold mineralization (Figure 11). 6 holes were drilled to target the area, only 4 successfully hit iron formation while 2 holes were abandoned due to depth of overburden. Drill hole location can be seen in Figures 12-13.

## Results

Two significant intercepts were seen in two of the Graff Lake drill holes. Table 5 outlines the intercepts and the lithology the gold grade was associated with. The gold grade lines up close to the magnetic anomaly 19-GRF-003 was targeting. There was no anomaly near the gold grade that 19-GRF-006 intercepted but was possibly associated with quartz-carbonate veining seen in the interval.

Table 5. Significant gold assay intercepts for the 2019 Graff Lake drilling program.

Hole ID	From (m)	To (m)	Length (m)	Zone	Lithology	Width (m)	Au g/t
19-GRF-003	34.7	36.7	2	Undefined	Chert-magnetite IF	1.5	4.23
19-GRF-006	215	216	1	Undefined	Mafic volcanic	0.8	2.42

## Bottonfield Bay Target (BOT)

The Bottonfield Bay drilling was following up on 2001 Placer Dome drilling which intersected gold within banded iron formation. The iron formation is a southern extent of the West Limb that is mined at Musselwhite mine coincident with a magnetic high seen in figure 14. 5 holes were drilled adjacent to Placer Dome holes targeting iron formation and 1 hole (19-BOT-011) was targeting a gold bearing quartz vein intersected in 19-BOT-003. 19-BOT-009 was cancelled due to thickness of overburden.

## Results

Table 6 outlines the significant gold intercepts seen in two of the Bottonfield drill holes. The intercepts in 19-BOT-002 were within the chert-magnetite BIF and was associated with a high strain zone recorded. The gold intercepts in 19-BOT-003 were associated with a quartz-carbonate vein within a gabbro host rock, and highly strained chert-magnetite BIF.

Table 6. Significant gold assay intercepts for the 2019 Bottonfield Bay drilling program.

Hole ID	From (m)	To (m)	Length (m)	Zone	Lithology	Width (m)	Au g/t
19-BOT-002	222.1	222.5	0.4	Undefined	Chert-magnetite IF	0.3	5.81
	224.9	225.7	0.8	Undefined	Chert-magnetite IF	0.8	3.21
19-BOT-003	58.2	58.5	0.3	Undefined	Gabbro/Quartz Vein	0.2	7.39
	301.3	303.6	2.3	Undefined	Chert-magnetite IF	1.6	5.45
	311.55	312	0.5	Undefined	Chert-magnetite IF	0.5	3.37

## Karl Zeemal Target (KAZ)

In 2018, a drill program was conducted over the Karl Zeemal target area. The purpose of this program was to assess the economic viability of this area for open pit mining due to the shallow depth of gold host banded iron formation. The 2018 program intercepted gold bearing chert-magnetite banded iron formation along with grunerite altered and silicified chert-magnetite banded iron formation.

The 2019 drill program was designed to continue drilling along strike of banded iron formation. 8 holes were drilled as a fence pattern across magnetic high anomaly associated with the Karl Zeemal area gold bearing iron formation (Figures 17-19).

## Results

The KAZ drilling was successful in intersecting the banded iron formation, but no significant gold grades were intercepted in this drilling program. 19-KAZ-005 was the only hole that did not intercept iron formation.



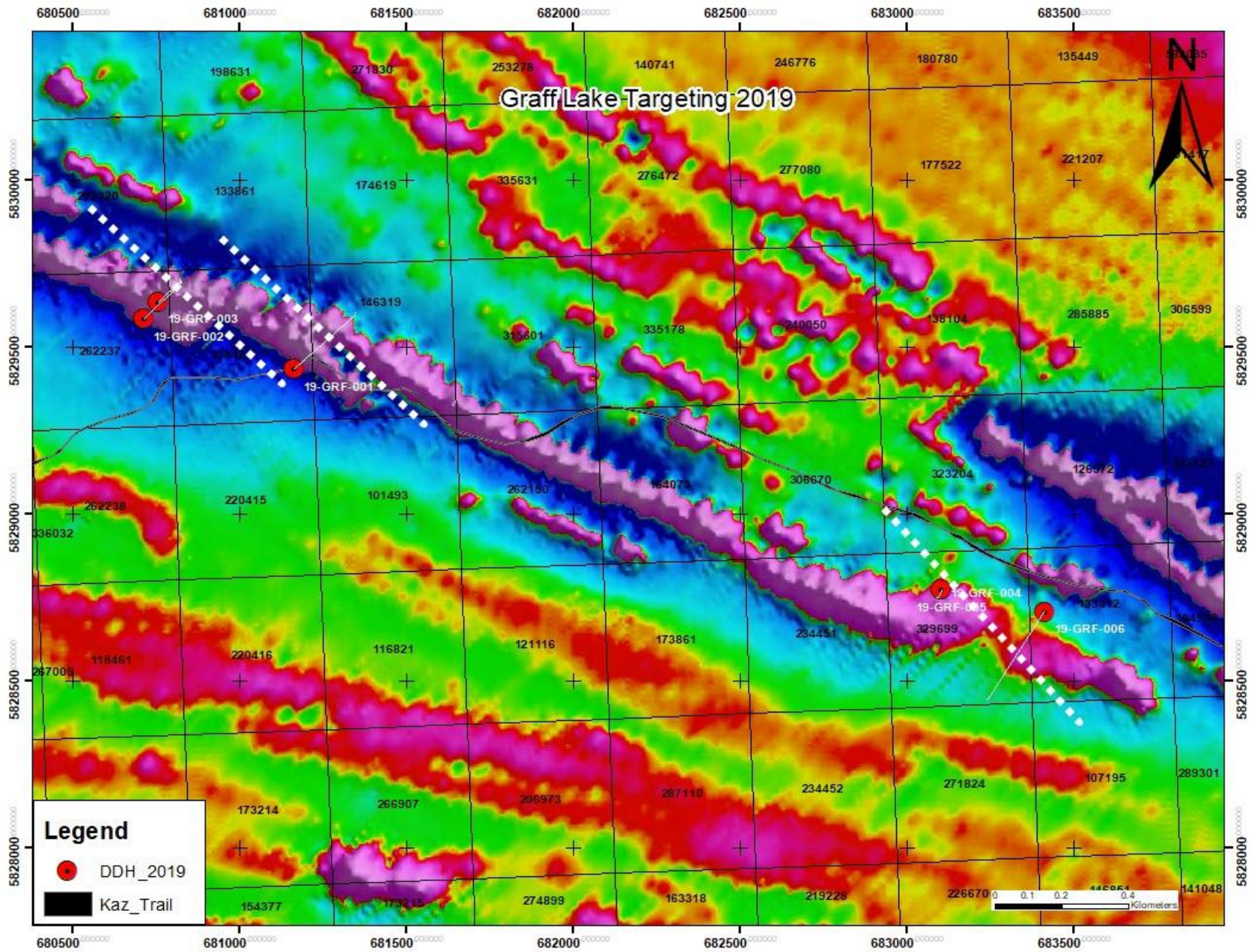


Figure 11. Airborne Magnetic image - IVD showing offset in magnetic high (white dashed lines).



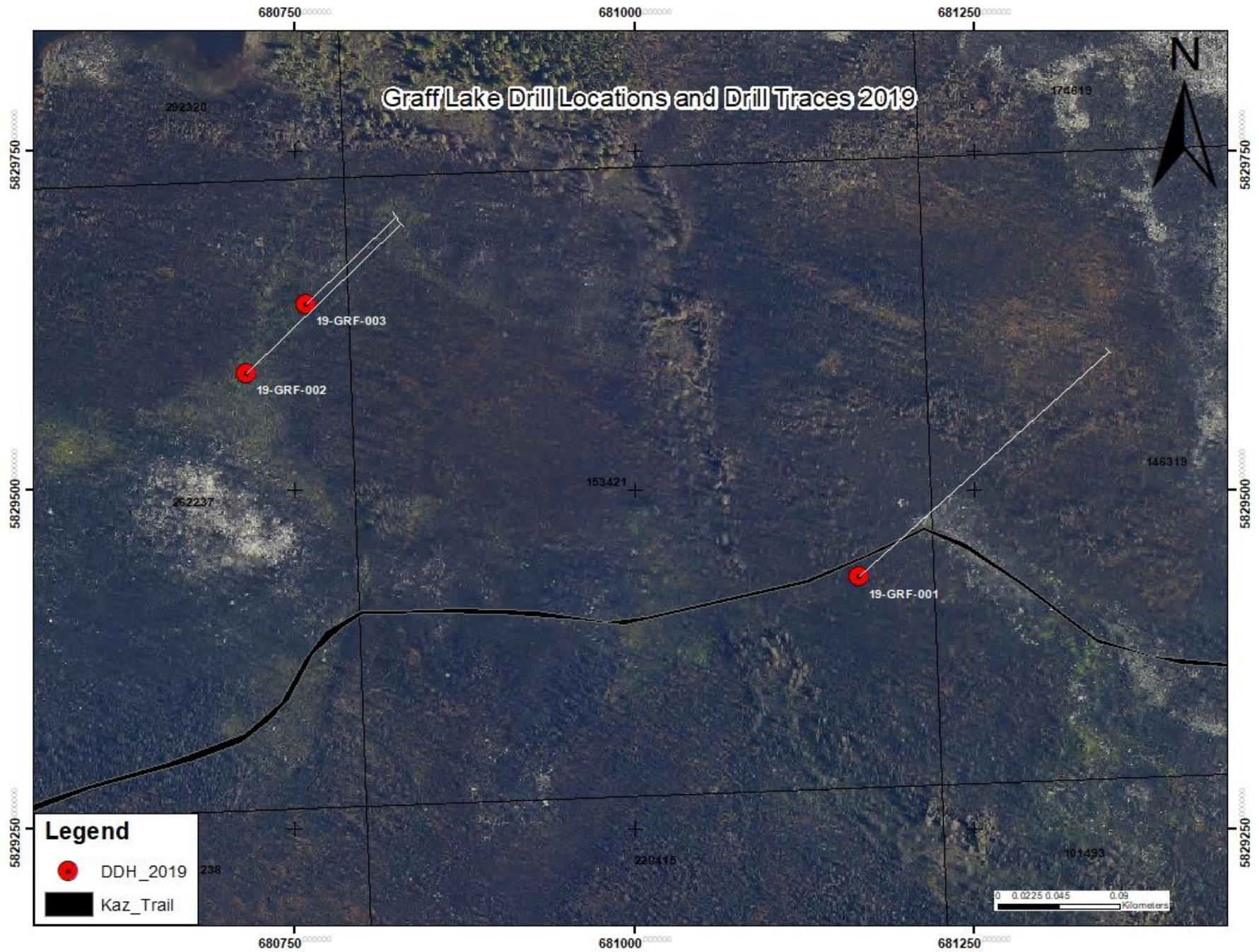


Figure 12. Collar locations for the 2019 Graff Lake drilling program.



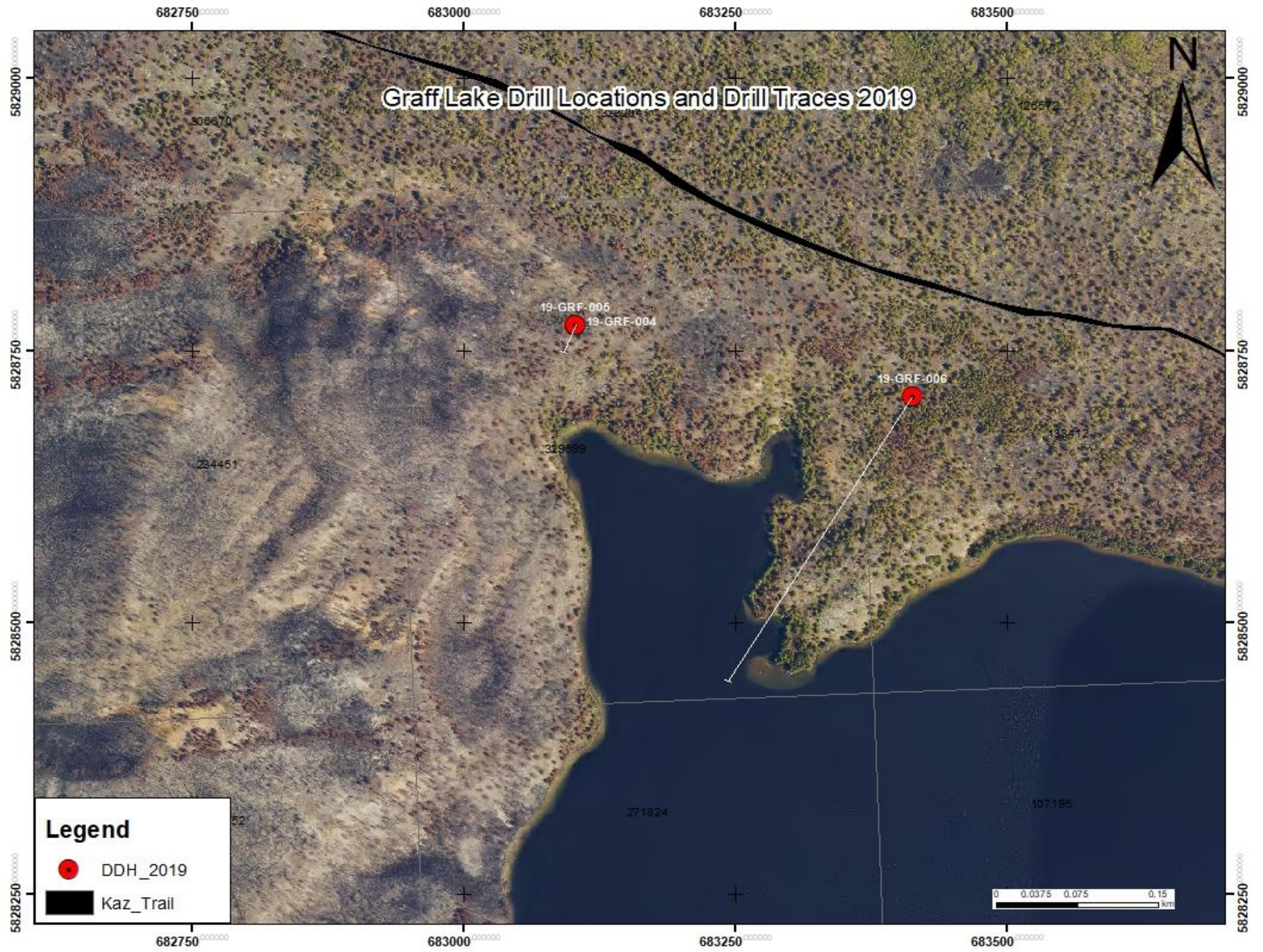


Figure 13. Collar locations for the 2019 Graff Lake drilling program.



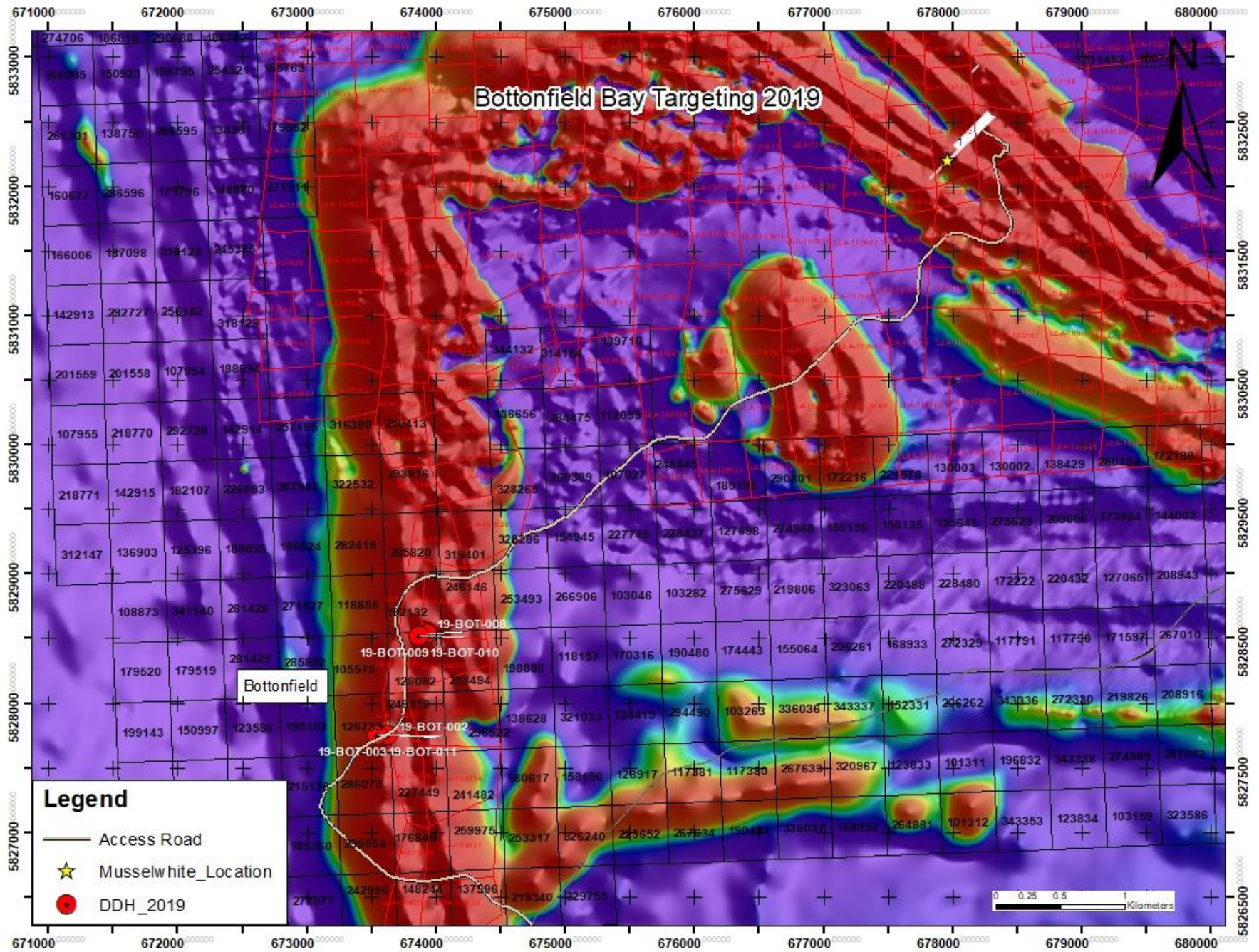


Figure 14. Bottonfield Bay DDH locations relative to Musselwhite Mine. Aerial Magnetic Image RTP.



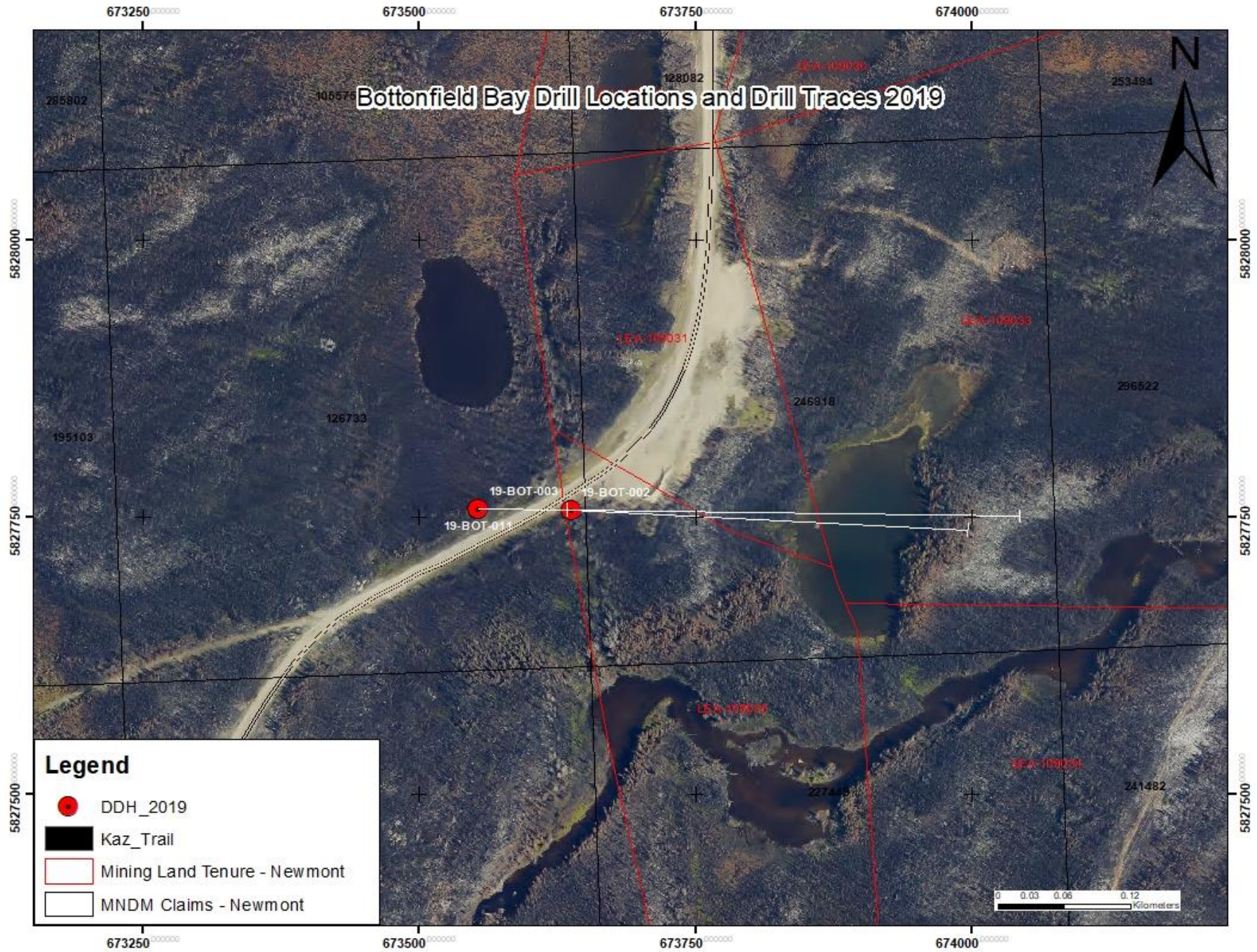


Figure 15. Collar locations for the 2019 Bottonfield Bay drilling program.



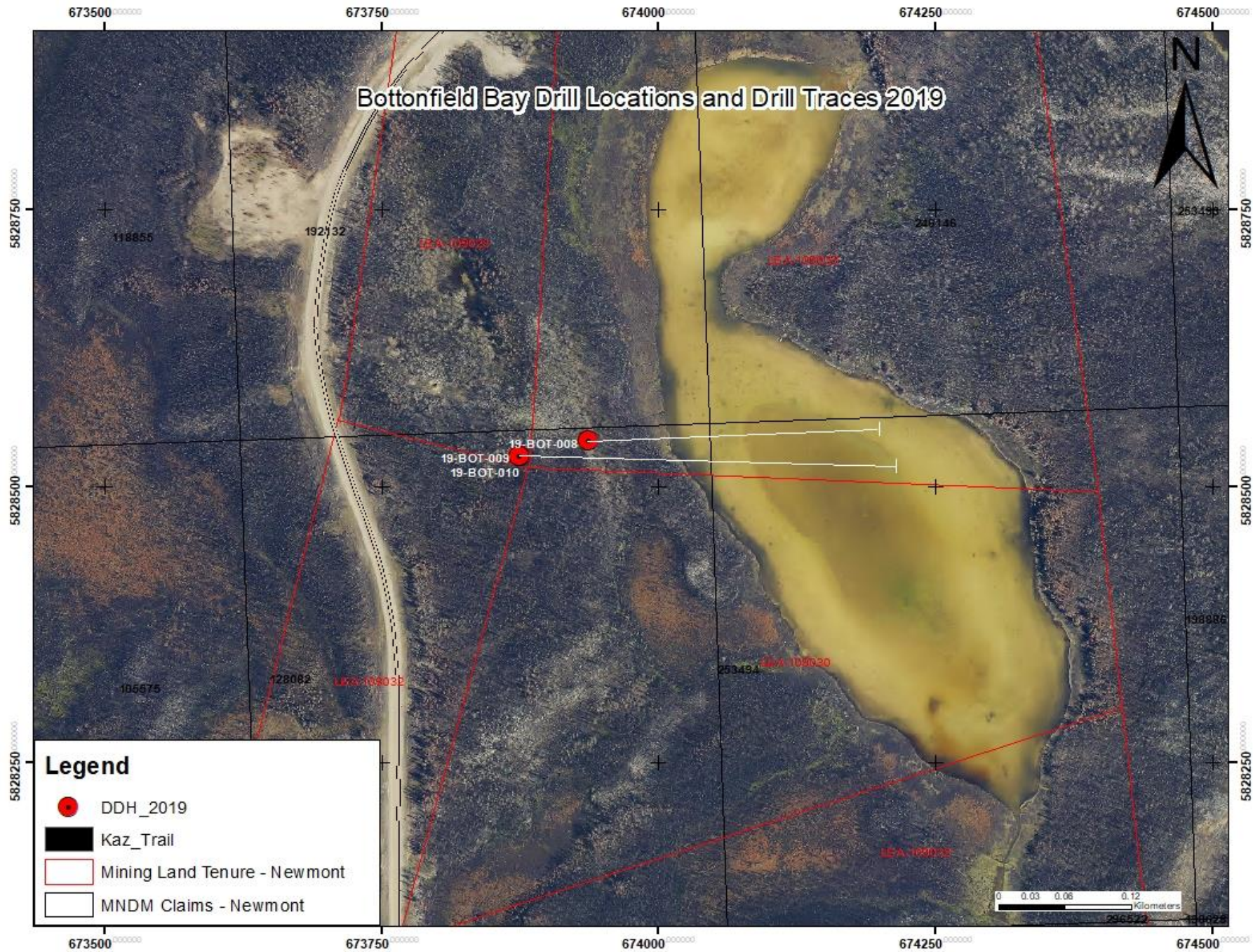


Figure 16. Collar locations for the 2019 Bottonfield Bay drilling program.



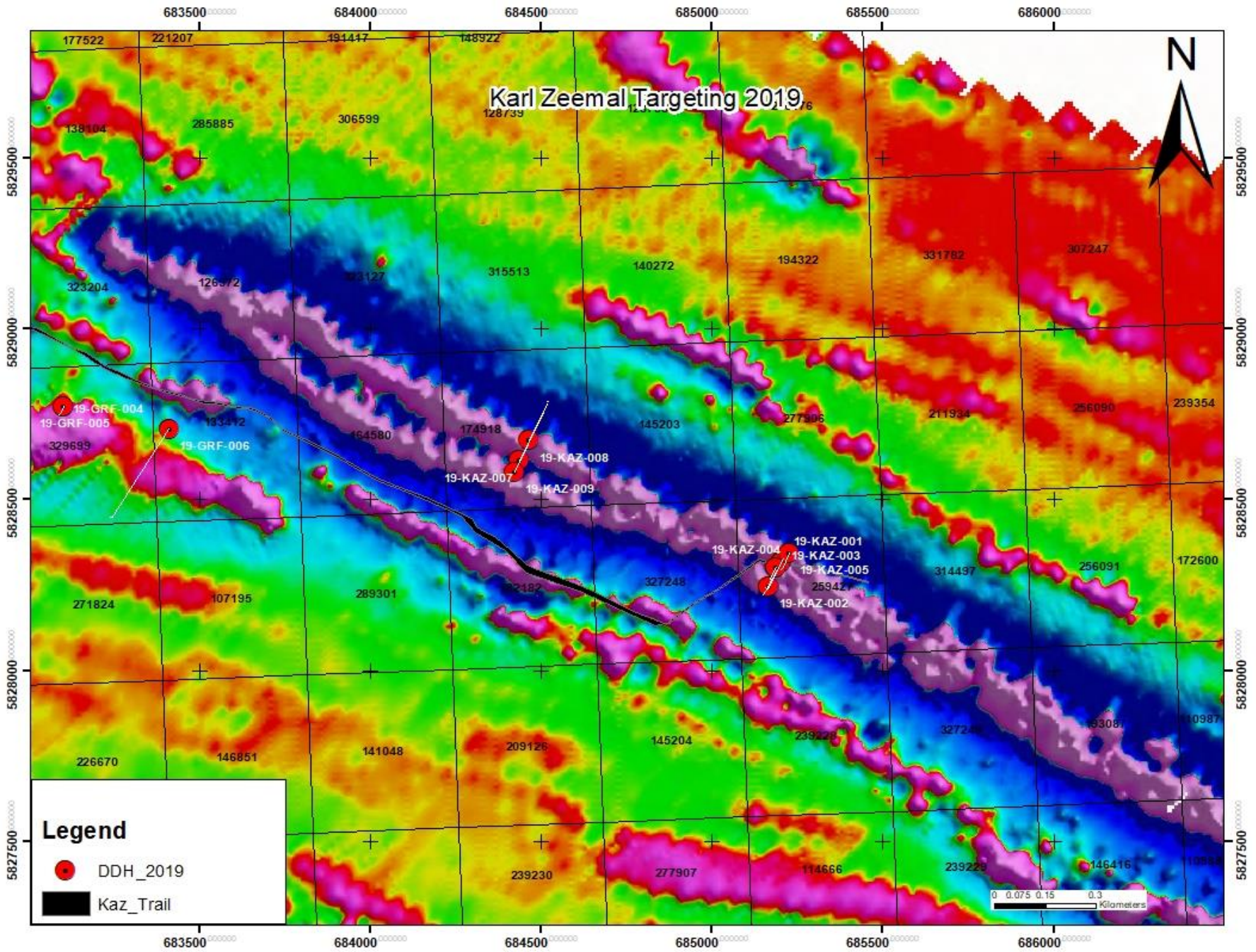


Figure 17. Karl Zeemal DDH Locations. Aerial Magnetic Image - IVD.



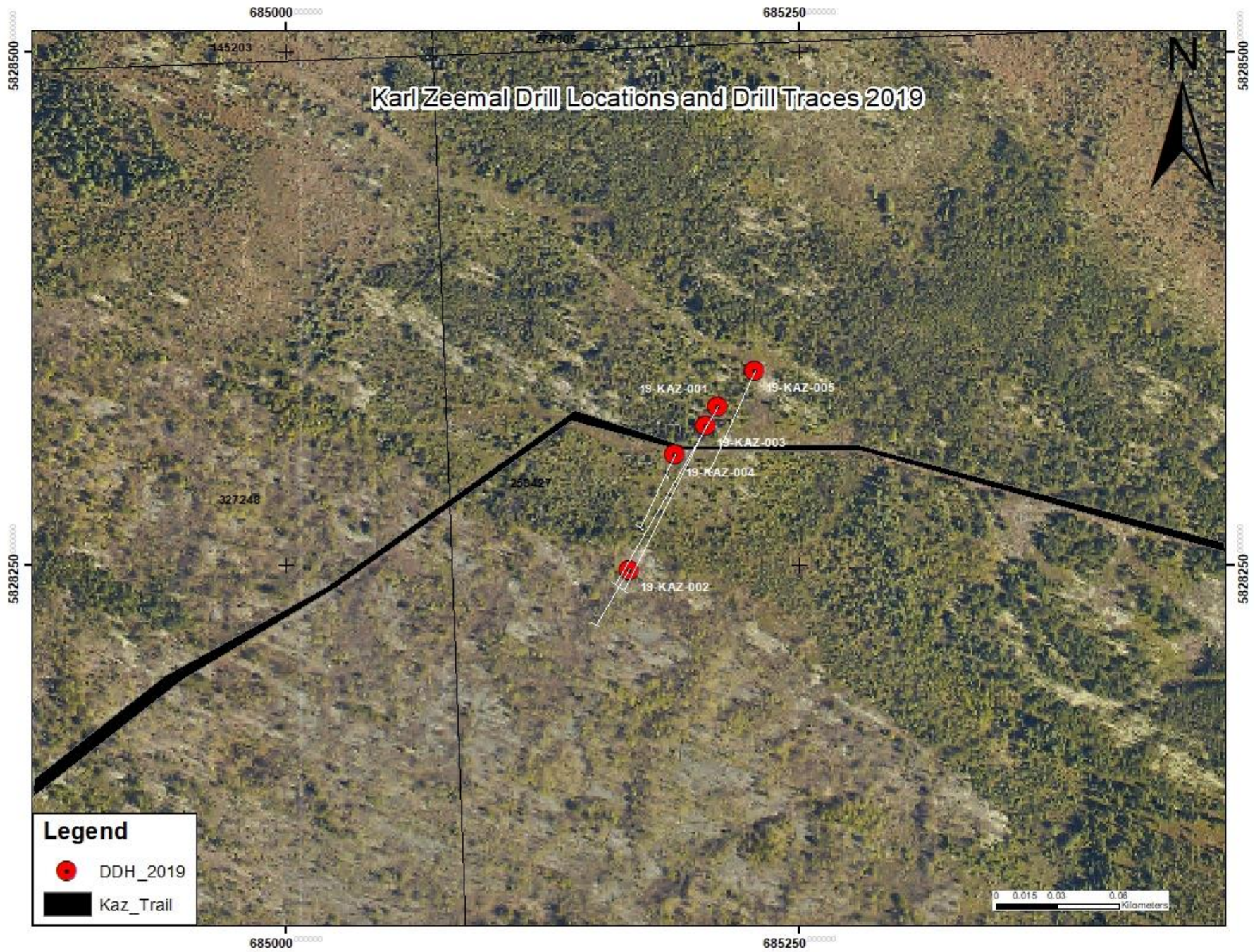


Figure 18. Collar locations of the 2019 KAZ drilling program.



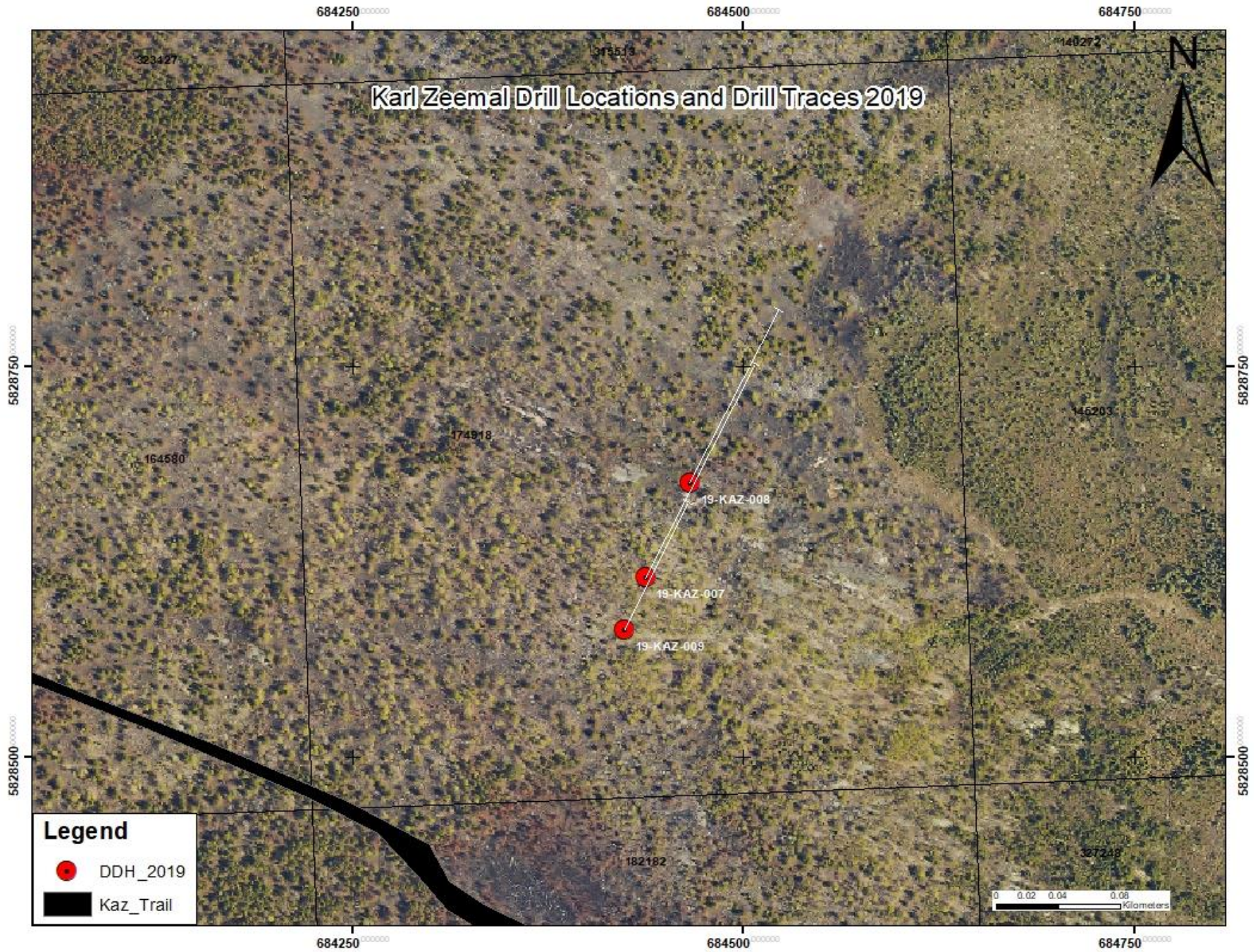


Figure 19. Collar locations of the 2019 KAZ drilling program.



## Diamond Drilling - North Shore (NSD)

### Description of Program

Exploration diamond drilling was completed on the north shore of Opapimiskan Lake (Figure 20) between the dates of February 11<sup>th</sup>, 2019 to October 9<sup>th</sup>, 2019. The work was performed for Newmont Corporation with the objective of confirming, delineating, and modelling previously identified, gold bearing sulphide mineralization in synformally folded oxide banded iron formations. Wedging techniques were utilized to intersect the target at depth with multiple daughter holes drilled from three parent holes.

Drilling services and transportation of workers was provided by Hy-Tech Drilling Ltd of Smithers, British Columbia. Transportation of materials was provided by Wisk Air Helicopters of Thunder Bay Ontario using a Bell 206 Long Ranger Helicopter.

All drill core was logged and sampled by staff geologists on the Musselwhite mine site. Core cutting was performed by employees of Ojijakoes Community Development Corp. One half of the core was sent for gold analysis and the other half remains in the core farm at Musselwhite mine.

Analytical services were provided by Activation laboratories Ltd. at locations in Dryden and Geraldton, Ontario. 30g pulps of pulverized and homogenized drill core samples were analyzed for gold by fire assay. Reference material was from CDN Resources Laboratories Ltd. and granite was used for blank material. Alternating blank and reference material was inserted every 10 samples for QA/QC. Reference material had gold values of 0.468 g/t, 3.05 g/t, 7.19 g/t and 13.28 g/t. Samples returning over 10ppm Au were reanalyzed with Gravimetric Fire Assay. Reference material would be considered a fail if it were more than 3 standard deviations from the expected value. Blank material would be considered a fail if it were more than 0.5g/t Au. If failed material was encountered, samples were sent for re-assay.

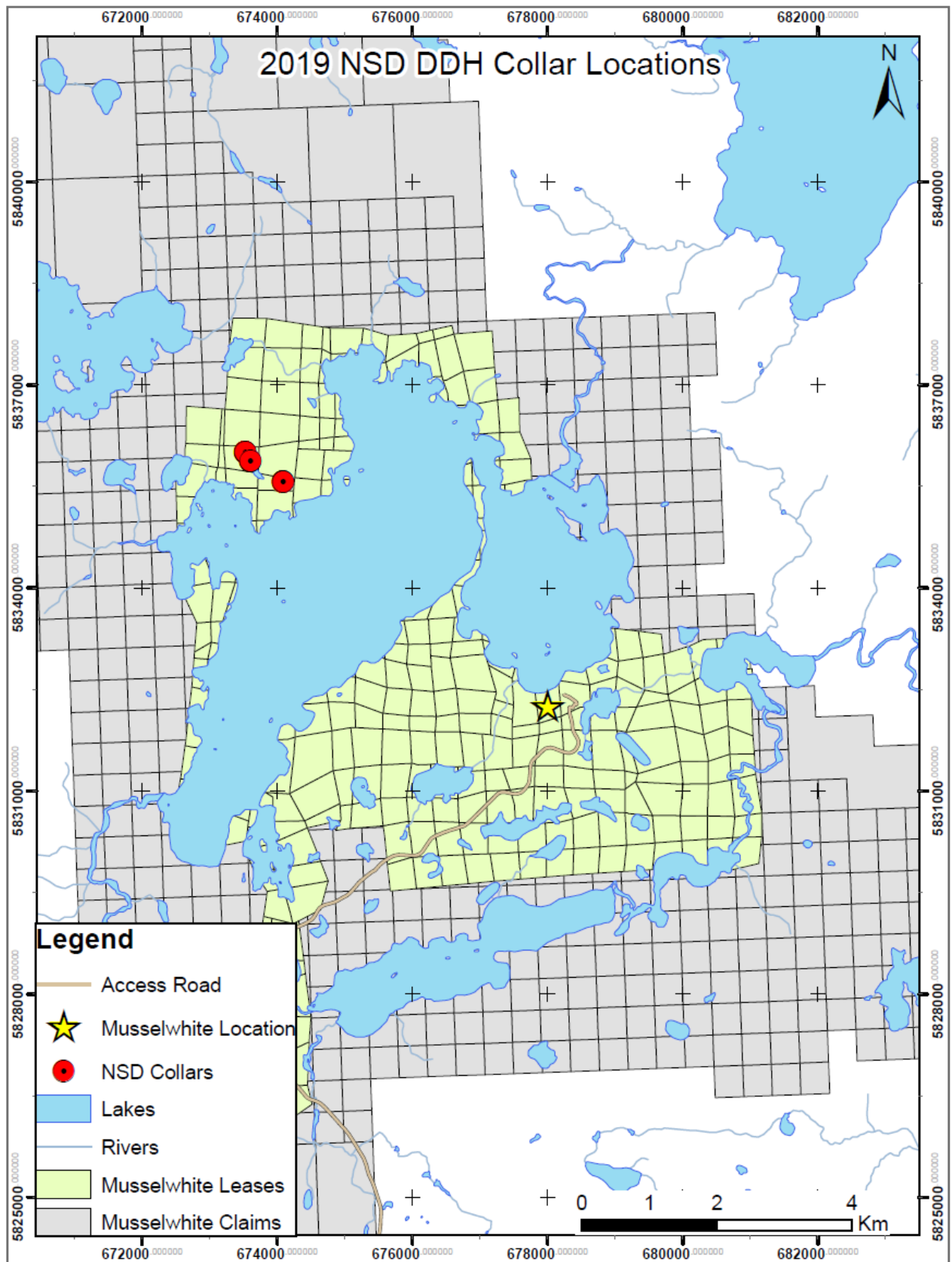


Figure 20. Claim map with collar locations of the 2019 NSD drilling program.

## Table of Drill Hole Collars

Drill holes are surveyed to the local grid of Newmont's adjacent Musselwhite Mine but have been converted to UTM (NAD83 15N) for the purpose of this report. A total of 15 diamond drill holes were completed for a total of 8,502m of core retrieved. The total length including the length of parent holes for each drill hole totals 25,710m. Table 7 outlines the collar coordinates in both UTM and Mine Grid, as well as the total hole length and the total logged/core retrieved length.

One parent hole was used from the 2018 NSD program, and the other two parent holes were drilled during the 2019 program: 18-NSD-001, 19-NSD-005, and 19-NSD-006. The rest of the 2019 holes were drilled from these parent holes using steel and retrievable wedges. Three holes were cancelled (19-NSD-001, 19-NSD-004, 19-NSD-005) before intersecting the zone, due to concerns with wedging.

*Table 7. Collar coordinates in both Musselwhite Mine Grid and UTM Nad83 Zone 15N. Total length and total logged length included.*

Drill Hole	East (Mine Grid)	North (Mine Grid)	UTM East	UTM North	Planned Azimuth	Plan Dip	Total Length (m)	Logged Length (m)	Samples Assayed
19-NSD-001	7862.65	15631.58	673527.14	5836009.82	85	-84	1568	95.3	0
19-NSD-002	7862.65	15631.58	673527.14	5836009.82	85	-84	1866	468.7	195
19-NSD-003	7862.65	15631.58	673527.14	5836009.82	85	-84	1842	301.1	159
19-NSD-004	7862.65	15631.58	673527.14	5836009.82	85	-84	1668	52	0
19-NSD-005	7820.73	15489.57	673596.00	5835878.74	85	-82	946.5	946.5	535
19-NSD-006	7951.95	14923.50	674084.48	5835564.04	85	-84	1697	1697	1161
19-NSD-007	7862.65	15631.58	673527.14	5836009.82	85	-84	1830	165.7	140
19-NSD-008	7820.73	15489.57	673596.00	5835878.74	85	-82	1887	955.8	548
19-NSD-009	7862.65	15631.58	673527.14	5836009.82	85	-84	1824	838.9	347
19-NSD-010	7951.95	14923.50	674084.48	5835564.04	85	-84	1713	471.4	285
19-NSD-011	7820.73	15489.57	673596.00	5835878.74	85	-82	1938	538	312
19-NSD-013	7862.65	15631.58	673527.14	5836009.82	85	-84	1809	594.5	261
19-NSD-012	7951.95	14923.50	674084.48	5835564.04	85	-84	1722	493.9	179
19-NSD-014	7820.73	15489.57	673596.00	5835878.74	85	-82	1893.5	440.6	270
19-NSD-015	7951.95	14923.50	674084.48	5835564.04	85	-84	1506	442.6	126
						TOTAL	25710	8502	4518



## Table of Meters and Samples Per Claim

Figure 21 shows the six mining leases on which the drilling work was performed. Table 8 outlines how many metres were drilled per mining lease. The collars of the NSD drill holes are located on LEA-107583 and LEA-107592.

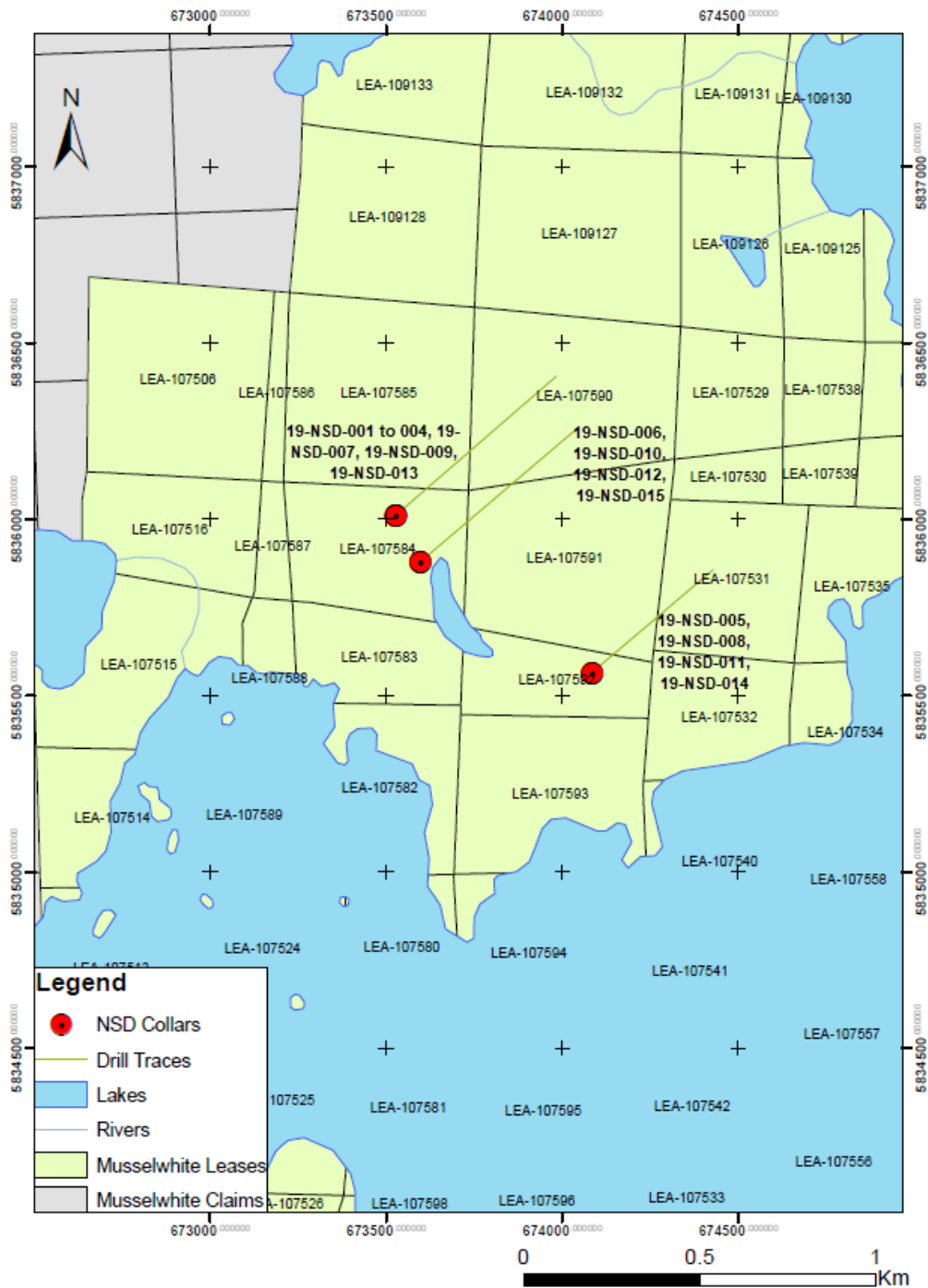


Figure 21. Collar locations on Musselwhite Mine Claim map.

Table 8. Meterage drilled per claim.

Claim Number	Meters Drilled
LEA-107584	881
LEA-107585	247
LEA-107590	4090
LEA-107591	1129
LEA-107592	519
LEA-107531	1636

## Results and Conclusions

A total of 4,518 samples were collected and sent to Activation Laboratories for analysis. Evaluation of the data indicates that the program was successful in determining the geology of Musselwhite Mine has a down strike continuity 1km mine-north of the in-mine exploration.

Table 9 outlines a summary of significant gold intercepts. The gold intercepts were seen in a variety of lithologies. Intercepts were in undefined zones scattered in the drill holes as well as in defined zones seen at Musselwhite. Most of the drill holes intercepted significant gold grades in the Northern Iron Formation, which is what program was targeting.

Table 9. Significant gold intercepts in the 2019 NSD drilling program.

Hole ID	From (m)	To (m)	Length (m)	Zone	Lithology	Width (m)	Au g/t
19-NSD-002	1705.8	1713.3	7.5	Undefined	Garnet-amphibole-biotite schist	5.6	11.64
	1788.1	1791	2.9	Undefined	Garnet-biotite schist & mafic volcanic	2	3.11
	1816.1	1829.5	13.4	PQ Limb	Garnet-grunerite-amphibole IF	10	16.2
19-NSD-003	1701.4	1703	1.6	Undefined	Garnet-biotite schist	1.4	7.94
	1772.2	1773	0.8	Undefined	Garnet-biotite schist	0.8	8.32
	1791.7	1792.3	0.6	Undefined	Garnet-amphibole IF	0.5	8.2
	1798	1806.4	8.4	PQ Limb	Garnet-grunerite-amphibole IF	6.4	25.21
	1808.7	1809.6	0.9	PQ Limb	Chert-magnetite IF	0.9	17.3
19-NSD-006	107.2	107.7	0.5	Undefined	Quartz Vein	0.3	4.03
	462.2	463	0.8	Undefined	Felsic Tuff	0.6	3.48
	1389.5	1390.6	1.1	Undefined	Garnet-biotite schist	0.9	5.42
	1526.9	1527.7	0.8	Undefined	Garnet-amphibole IF	0.7	3.46
	1536.4	1546.5	10.1	Undefined	Garnet-amphibole IF & garnet-biotite schist	2.7	7.92
	1568.3	1569	0.7	Undefined	Garnet-amphibole IF	0.6	18.1
	1619	1622.4	3.4	PQ Limb	Garnet-grunerite-amphibole IF	2.9	10.03
	1668.3	1669.1	0.8	Undefined	Chert-magnetite IF	0.6	3.29
19-NSD-007	1766	1767.1	1.1	Undefined	Garnet-biotite schist	1	6.63
	1782	1782.6	0.6	Undefined	Garnet-amphibole IF	0.5	4.91
	1791	1791.4	0.4	Undefined	Garnet-amphibole IF	0.4	3.52
	1796	1798.1	2.1	PQ Limb	Garnet-grunerite-amphibole IF	1.9	9.26
	1804	1804.6	0.5	PQ Limb	Chert-magnetite IF	0.5	6.13

19-NSD-008	1349.1	1350.1	1	Undefined	Garnet-bearing metasediments	0.9	4.15
	1676.1	1677	0.9	Undefined	Garnet-biotite schist	0.8	7.07
	1778.9	1780.8	1.9	Undefined	Garnet-bearing mafic volcanic	0.9	28.97
	1782.1	1783.1	1	Undefined	Garnet-amphibole IF	0.5	3.54
	1806.6	1814.3	7.7	PQ Limb	Garnet-grunerite-amphibole IF	3.8	2.68
	1818.3	1820.6	2.3	PQ Limb	Chert-magnetite IF & garnet-biotite schist	1.7	7.77
19-NSD-009	1675.3	1675.7	0.4	Undefined	Garnet-biotite schist	0.4	6.22
	1726.1	1727.5	1.4	Undefined	Garnet-biotite schist	1.2	3.58
	1737.7	1738.5	0.8	Undefined	Garnet-amphibole IF	0.7	4.01
	1763.4	1764	0.6	PQ Limb	Garnet-grunerite-amphibole IF	0.5	4.27
	1777	1777.4	0.4	Undefined	Chert-magnetite IF	0.3	25.2
19-NSD-010	1512.1	1516.5	4.4	Undefined	Garnet-amphibole IF	1.4	3.49
	1569	1570	1	Undefined	Garnet-amphibole IF	1	3.69
	1617	1618	1	Undefined	Mafic volcanic	0.7	3.51
	1632	1636.1	4.1	PQ Limb	Garnet-grunerite-amphibole IF	2.6	9.55
	1658.6	1659	0.4	Undefined	Chert-magnetite IF & garnet-biotite schist	0.2	9
	1666.9	1667.5	0.6	Undefined	Chert-magnetite IF & garnet-biotite schist	0.4	5.26
	1678	1680.3	2.3	Undefined	Chert-magnetite IF	1.7	2.69
19-NSD-011	1682.1	1682.9	0.8	Undefined	Garnet-amphibole IF	0.6	13.4
	1731.5	1732.5	1	Undefined	Garnet-biotite schist	0.6	4.57
	1766.5	1767.1	0.6	Undefined	Garnet-amphibole IF	0.4	3.39
	1791.9	1792.3	0.4	Undefined	Garnet-amphibole IF	0.3	14.7
	1821.5	1822.5	1	Undefined	Garnet-biotite schist	0.4	3
	1828.2	1831.4	3.2	PQ Limb	Garnet-grunerite-amphibole IF	2	2.25
	1841.1	1842.1	1	PQ Limb	Chert-magnetite IF & garnet-biotite schist	0.6	4.15
19-NSD-012	1464	1466.2	2.2	Undefined	Garnet-biotite schist	1.4	26.63
	1502	1502.7	0.7	Undefined	Garnet-amphibole IF	0.6	7.83
	1520.7	1522.5	1.8	Undefined	Garnet-amphibole IF	1.6	13.08
	1584	1585.4	1.4	Undefined	Garnet-amphibole IF	1	3.85
	1659.3	1660.5	1.2	PQ Limb	Garnet-grunerite-amphibole IF	0.7	5.31
19-NSD-013	1709.6	1710.4	0.8	Undefined	Garnet-biotite schist	0.7	3.29
	1737.5	1737.9	0.4	Undefined	Garnet-amphibole IF	0.3	3.13
	1751.6	1752.2	0.6	PQ Limb	Garnet-grunerite-amphibole IF	0.5	6.97
19-NSD-014	1686.2	1686.7	0.5	Undefined	Garnet-amphibole IF	0.3	4.4
	1796.6	1797	0.4	Undefined	Garnet-amphibole IF	0.3	23
	1829	1830	1	Undefined	Garnet-biotite schist	0.7	3.98
	1835.6	1838.5	2.9	PQ Limb	Chert-magnetite IF & garnet-biotite schist	2	3.64
	1849.9	1851.5	1.6	Undefined	Garnet-grunerite-amphibole IF	1	15.99
	1854.4	1854.9	0.5	Undefined	Chert-magnetite IF & garnet-biotite schist	0.3	6.15

## Recommendations

For Karl Zeemal, it is recommended to continue with prospecting and outcrop mapping the soil anomalies, as this could lead to more refined or new targets, and then to go in with a few drill holes to confirm.

Recommendations for the Bottonfield and Graff Lake targets would be to do outcrop mapping and lithogeochemical sampling to refine possible targets. A few more drill holes

should be drilled to follow up on the significant gold intercepts that were intersected in a few of the holes.

Based on the results of the North Shore Program, it is recommended that more exploration diamond drilling be completed to confirm and delineate the continuity of the gold bearing Northern Iron Formation along strike.

## Summary of Costs

Table 10 below details all costs incurred to conduct the exploration activities on the Karl Zeemal claims described in this report. All relevant invoiced and receipts are appended to this report. All non-applicable charges have been deducted from the totals of each invoice.

Table 11 details all the costs incurred to conduct the North Shore and the KAZ/GRF/BOT drilling program. All relevant invoices and receipts are appended to this report. Table 12-14 shows cost per claim and total drilling program costs.

*Table 10. Summary of costs incurred to complete the 2019 exploration program of the Karl Zeemal claim group described above.*

### Services and Materials

Category	Invoice Date	Invoice Number	Payee	Description	Amount
Transportation	18-Jun-19	7170	Wisk Air Helicopters	1 Flight Hrs.	\$1,316.00
<b>Subtotal</b>					<b>\$1,316.00</b>
Assaying	8-Jul-19	A19-08798	Activation Laboratories Ltd.	UT-4 + Fire Assay 27 Samples	\$992.15
<b>Subtotal</b>					<b>\$992.15</b>

### Personnel

Category	Person	Rate/Day	Person-days	Description	Amount
Field Operations	Staff Exploration Geologist (3)	\$600.00	27	Field Days Only	\$16,200.00
	Field Geologist (2)	\$465.00	18	Field Days Only	\$8,370.00
	Student Field Geologist (2)	\$350.00	18	Field Days Only	\$6,300.00



**Subtotal** \$30,870.00

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Data compilation and Interpretation	Staff Exploration Geologist	\$600.00	5	Days ahead of field season	\$3,000.00
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**Subtotal** \$3,000.00

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Reporting	Project Geologist	\$750.00	2	salary	\$1,500.00
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**Subtotal** \$1,500.00

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Lodging	Goldcorp Personnel (3)	\$80.00	30	Musselwhite Mine Camp	\$2,400.00
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Wisk Air Personnel (2)	\$80.00	6	Musselwhite Mine Camp	\$480.00
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Bayside Personnel (4)	\$80.00	40	Musselwhite Mine Camp	\$3,200.00
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**Subtotal** \$6,080.00

**Misc.**

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Category	Invoice Date	Invoice Number	Payee	Description	Amount
Field Communications	7/1/2019	ICAD00171129	inReach Inc.	Subscription for Garmin inReach Devices	\$402.82

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**Subtotal** \$402.82

**Program Total** \$44,160.97

Table 11. Summary of costs incurred to complete the 2019 exploration drilling programs of the KAZ & North Shore claim group described above.

<b>Services and Materials</b>					
<b>Category</b>	<b>Invoice Date</b>	<b>Invoice Number</b>	<b>Payee</b>	<b>Description</b>	<b>Amount</b>
<b>Transportation</b>	12-Aug-19	7218	Wisk Air Helicopters	89.9 Flight Hrs.	\$ 118,308.40
	22-Jul-19	7201		83 Flight Hrs.	\$ 109,228.00
	5-Jul-19	7185		105.9 Flight Hrs.	\$ 146,987.40
	18-Jun-19	7171		4.9 Flight Hrs.	\$ 8,111.00
	18-Jun-19	7170		67.1 Flight Hrs.	\$ 113,223.60
	31-May-19	7153		27 Flight Hrs.	\$ 54,756.00
	17-May-19	7134		8.4 Flight Hrs.	\$ 11,424.00
	7-Oct-19	7283		61.2 Flight Hrs.	\$ 80,539.20
	15-Oct-19	7290		62.8 Flight Hrs.	\$ 82,669.80
	24-Sep-19	7269		61.4 Flight Hrs.	\$ 80,802.40
	4-Sep-19	7252		65.7 Flight Hrs	\$ 66,461.20
	26-Aug-19	7227		81.9 Flight Hrs	\$ 107,780.40
	4-Apr-19	7109		95.1 Flight Hrs	\$ 111,036.00
	12-Apr-19	7115		Bulk Fuel Used	\$ 8,996.00
	3-Apr-19	7108		24.3 Flight Hrs	\$ 33,048.00
	4-Apr-19	7109		95.1 Flight Hrs	\$ 111,036.00
	18-Mar-19	7105		Bulk Fuel Used	\$ 7,725.00
	4-Mar-19	7094		11.3 Flight Hrs	\$ 15,368.00
	18-Mar-19	7104		23.9 Flight Hrs	\$ 32,504.00
	29-May-19	7089		Bulk Fuel Used	\$ 9,037.50
27-Feb-19	7088	6 Flight Hrs	\$ 6,960.00		
7-Oct-19	7283	61.2 Flight Hrs.	\$ 80,850.00		
			<b>Subtotal</b>	<b>\$ 1,396,851.90</b>	
<b>Personnel</b>					
<b>Lodging</b>	Person	Rate/Day	Person-Days	Description	Amount
	Wisk Air Personnel (2)	\$80.00	482	Musselwhite Camp	\$38,560.00
	Hy-Tech Personnel (14)	\$80.00	3374		\$269,920.00
			<b>Subtotal</b>	<b>\$308,480.00</b>	
			<b>Program Total</b>	<b>\$ 1,705,331.90</b>	

Table 12. Table of drilling costs per claim.

<b>KAZ/GRF/BOT Drilling</b>		
Claim Number	Meters Drilled	Cost/Claim
259427	510	\$ 94,961.62
174918	393	\$ 73,176.31
133412	77	\$ 14,337.34
329699	418	\$ 77,831.29
153421	179	\$ 33,329.67
146319	246	\$ 45,805.02
262237	184	\$ 34,260.66
128082	313	\$ 58,280.37
253494	470	\$ 87,513.65
126733	208	\$ 38,729.45
246918	959	\$ 178,565.09
<b>Total</b>	<b>3957</b>	<b>\$ 736,790.47</b>
KAZ Drilling Total	Drilling cost/m	
\$ 736,790.47	\$ 186.20	
<b>NSD Drilling</b>		
Claim Number	Meters Drilled	Cost/Claim
LEA-107584	881	\$ 112,121.45
LEA-107585	247	\$ 31,434.73
LEA-107590	4090	\$ 520,518.41
LEA-107591	1129	\$ 143,683.44
LEA-107592	519	\$ 66,051.11
LEA-107531	1636	\$ 208,207.36
<b>Total</b>	<b>8502</b>	<b>\$ 1,082,016.50</b>
NSD Drilling total	Drilling cost/m	
\$ 1,082,016.50	\$ 127.27	
Assay Cost/sample	\$ 10.01	
Assay cost/claim	\$ 5,107.65	

Table 13. Total program total per claim.

Total Cost/Claim	
259427	\$ 100,069.27
174918	\$ 78,283.96
133412	\$ 19,444.99
329699	\$ 82,938.94
153421	\$ 38,437.31
146319	\$ 50,912.66
262237	\$ 39,368.31
128082	\$ 63,388.02
253494	\$ 92,621.30
126733	\$ 43,837.09
246918	\$ 183,672.74
LEA-107584	\$ 117,229.09
LEA-107585	\$ 36,542.38
LEA-107590	\$ 525,626.05
LEA-107591	\$ 148,791.09
LEA-107592	\$ 71,158.76
LEA-107531	\$ 213,315.01
<b>TOTAL</b>	<b>\$ 1,905,636.97</b>
<b>Program Total</b>	
NSD Drilling	\$ 1,082,016.50
KAZ/BOT/GRF Drilling	\$ 736,790.47
Assays	\$ 86,830.00
<b>TOTAL</b>	<b>\$ 1,905,636.97</b>



Table 14. KAZ Lithogeochemical program cost per claim.

Claim Number	Number of samples	Cost/Claim
110987	1	\$ 1,635.59
110988	6	\$ 9,813.55
145203	1	\$ 1,635.59
145204	0	\$ -
146416	2	\$ 3,271.18
164580	0	\$ -
174918	1	\$ 1,635.59
182182	1	\$ 1,635.59
193087	7	\$ 11,449.13
212535	1	\$ 1,635.59
239228	0	\$ -
259427	4	\$ 6,542.36
268514	1	\$ 1,635.59
314497	0	\$ -
327248	1	\$ 1,635.59
327249	1	\$ 1,635.59
<b>Total</b>	<b>27</b>	<b>\$ 44,160.93</b>

## Statement of Qualifications

I, Shannon Fry, do hereby certify that:

I am a resident of the township of Shuniah, Ontario, Canada.

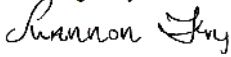
I am a graduate of Lakehead University receiving a Bachelor of Science Degree in Geology in 2014.

I am a Professional Geoscientist registered in good standing with the Professional Geoscientists of Ontario, member #2911.

I am employed by Newmont Corporation, as an Exploration Geology Supervisor at Musselwhite Mine in the District of Kenora, Northwestern Ontario.

I agree with all the information contained within this report and believe that it is an accurate description of the work performed.

The above statements are valid.

DocuSigned by:  
  
FC52453011FE419...



**Date Submitted:** 03-Jun-19  
**Invoice No.:** A19-07313  
**Invoice Date:** 05-Jun-19  
**Your Reference:** MW5136 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

41 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07313**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F002251	< 0.005	
F002252	0.006	
F002253	0.010	
F002254	0.009	
F002255	0.006	
F002256	0.007	
F002257	0.008	
F002258	< 0.005	
F002259	0.008	
F002260	< 0.005	
F002261	0.201	
F002262	0.006	
F002263	0.032	
F002264	0.057	
F002265	0.033	
F002266	0.034	
F002267	0.009	
F002268	0.010	
F002269	0.011	
F002270	> 10.0	14.2
F002271	0.021	
F002272	0.005	
F002273	0.007	
F002274	0.022	
F002275	0.006	
F002276	0.011	
F002277	< 0.005	
F002278	0.009	
F002279	0.005	
F002280	< 0.005	
F002281	0.014	
F002282	0.046	
F002283	< 0.005	
F002284	0.005	
F002285	0.005	
F002286	0.014	
F002287	0.036	
F002288	0.005	
F002289	0.015	
F002290	3.80	
F002291	0.006	
OREAS 224 (Fire Assay) Meas		2.22

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.26	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.25	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.348	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.332	
OREAS 217 (Fire Assay) Cert	0.338	
F002260 Orig	< 0.005	
F002260 Dup	< 0.005	
F002271 Orig	0.021	
F002271 Dup	0.018	
F002280 Orig	< 0.005	
F002280 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 03-Jun-19  
**Invoice No.:** A19-07317  
**Invoice Date:** 05-Jun-19  
**Your Reference:** MW5136 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

71 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07317**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F008771	0.538
F008772	0.049
F008773	0.717
F008774	0.236
F008775	1.79
F008776	0.308
F008777	1.41
F008778	0.688
F008779	0.774
F008780	< 0.005
F008781	0.452
F008782	0.084
F008783	0.130
F008784	0.051
F008785	0.107
F008786	0.364
F008787	0.140
F008788	0.078
F008789	0.053
F008790	3.60
F008791	0.006
F008792	0.011
F008793	0.011
F008794	0.025
F008795	0.022
F008796	0.037
F008797	0.139
F008798	0.510
F008799	0.032
F008800	0.005
F008801	0.021
F008802	0.006
F008803	0.218
F008804	0.072
F008805	0.067
F008806	0.009
F008807	0.128
F008808	0.223
F008809	0.126
F008810	3.69
F008811	0.162
F008812	0.105
F008813	0.005

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F008814	0.006
F008815	< 0.005
F008816	0.005
F008817	< 0.005
F008818	0.005
F008819	0.007
F008820	< 0.005
F008821	0.005
F008822	< 0.005
F008823	0.005
F008824	0.017
F008825	< 0.005
F008826	< 0.005
F008827	< 0.005
F008828	< 0.005
F010641	2.27
F010642	0.081
F010643	0.021
F010644	0.017
F010645	0.011
F010646	0.008
F010647	0.025
F010648	0.020
F010649	0.018
F010650	0.486
F010651	0.008
F010652	0.016
F010653	0.014
OREAS 222 (Fire Assay) Meas	1.22
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.24
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.24
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.347
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.343

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
Assay) Meas	
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.347
OREAS 217 (Fire Assay) Cert	0.338
F008781 Orig	0.452
F008781 Dup	0.515
F008791 Orig	0.006
F008791 Dup	0.010
F008801 Orig	0.021
F008801 Dup	0.028
F008815 Orig	< 0.005
F008815 Dup	0.005
F008825 Orig	< 0.005
F008825 Dup	< 0.005
F010647 Orig	0.025
F010647 Dup	0.023
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 03-Jun-19  
**Invoice No.:** A19-07325  
**Invoice Date:** 06-Jun-19  
**Your Reference:** MW5138 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07325**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F006947	0.749	
F006948	0.467	
F006949	0.019	
F006950	0.493	
F006951	0.011	
F010501	0.014	
F010502	0.016	
F010503	0.145	
F010504	0.017	
F010505	0.062	
F010506	0.024	
F010507	0.045	
F010508	0.039	
F010509	< 0.005	
F010510	3.60	
F010511	0.035	
F010512	0.022	
F010513	0.016	
F010514	0.051	
F010515	0.031	
F010516	0.017	
F010517	0.011	
F010518	0.018	
F010519	0.025	
F010520	0.005	
F010521	0.015	
F010522	0.017	
F010523	0.020	
F010524	0.010	
F010525	0.009	
F010526	0.015	
F010527	0.025	
F010528	0.012	
F010529	0.024	
F010530	7.25	
F010531	0.011	
F010532	0.025	
F010533	0.043	
F010534	0.025	
F010535	0.033	
F010536	0.075	
F010537	0.315	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010538	1.69	
F010539	0.111	
F010540	< 0.005	
F010541	0.369	
F010542	0.035	
F010543	0.046	
F010544	0.060	
F010545	0.379	
F010546	1.57	
F010547	0.111	
F010548	0.137	
F010549	0.011	
F010550	0.466	
F010551	0.010	
F010552	0.010	
F010553	0.019	
F010554	0.008	
F010555	0.007	
F010556	0.009	
F010557	0.008	
F010558	< 0.005	
F010559	0.005	
F010560	< 0.005	
F010561	0.006	
F010562	0.016	
F010563	< 0.005	
F010564	0.017	
F010565	0.057	
F010566	0.018	
F010567	0.014	
F010568	0.045	
F010569	0.017	
F010570	> 10.0	14.3
F010571	0.021	
F010572	0.016	
F010573	0.011	
F010574	0.015	
F010575	0.028	
F010576	0.021	
F010577	0.041	
F010578	0.033	
F010579	0.057	
F010580	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010581	0.022	
F010582	7.39	
F010583	0.056	
F010584	0.024	
F010585	0.011	
F010586	0.015	
F010587	0.007	
F010588	0.008	
F010589	0.130	
F010590	3.55	
F010591	0.009	
F010592	0.009	
F010593	0.009	
F010594	0.257	
F010595	0.954	
F010596	0.025	
F010597	0.029	
F010598	0.035	
F010599	0.042	
F010600	0.007	
F010601	0.027	
F010602	0.025	
F010603	0.025	
F010604	0.024	
F010605	0.025	
F010606	0.081	
F010607	0.034	
F010608	0.025	
F010609	0.029	
F010610	3.71	
F010611	0.033	
F010612	0.044	
F010613	0.110	
F010614	0.046	
F010615	0.041	
F010616	0.054	
F010617	0.021	
F010618	0.040	
F010619	0.027	
F010620	0.008	
F010621	0.020	
F010622	0.030	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010623	0.037	
F010624	0.019	
F010625	0.022	
F010626	0.012	
F010627	0.016	
F010628	0.016	
F010629	0.025	
F010630	6.93	
F010631	0.016	
F010632	0.010	
F010633	0.011	
F010634	0.013	
F010635	0.016	
F010636	0.012	
F010637	0.015	
F010638	0.011	
F010639	0.028	
F010640	0.006	
OREAS 224 (Fire Assay) Meas		2.22
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.26	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.16	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 217 (Fire Assay) Meas	0.349	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.347	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.348	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.330	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.345	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.349	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.4
OREAS 257 Cert		14.18
F010505 Orig	0.062	
F010505 Dup	0.059	
F010515 Orig	0.031	
F010515 Dup	0.031	
F010525 Orig	0.009	
F010525 Dup	0.011	
F010540 Orig	< 0.005	
F010540 Dup	0.005	
F010545 Orig	0.379	
F010545 Split	0.298	
F010549 Orig	0.011	
F010549 Dup	0.017	
F010559 Orig	0.005	
F010559 Dup	< 0.005	
F010574 Orig	0.015	
F010574 Dup	0.015	
F010584 Orig	0.024	
F010584 Dup	0.024	
F010594 Orig	0.257	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010594 Dup	0.220	
F010595 Orig	0.954	
F010595 Split	1.06	
F010608 Orig	0.025	
F010608 Dup	0.026	
F010618 Orig	0.040	
F010618 Dup	0.038	
F010628 Orig	0.016	
F010628 Dup	0.015	
Method Blank	0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07529  
**Invoice Date:** 20-Jun-19  
**Your Reference:** MW5146

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

REPORT **A19-07529**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011624	0.025	
F011625	0.033	
F011626	0.022	
F011627	0.057	
F011628	0.107	
F011629	0.048	
F011630	7.05	
F011631	0.034	
F011632	0.028	
F011633	0.025	
F011634	0.015	
F011635	0.018	
F011636	0.012	
F011637	0.008	
F011638	0.012	
F011639	0.008	
F011640	< 0.005	
F011641	0.011	
F011642	0.015	
F011643	0.018	
F011644	0.040	
F011645	0.104	
F011646	0.163	
F011647	0.037	
F011648	0.018	
F011649	0.018	
F011650	0.442	
F011651	0.015	
F011652	0.016	
F011653	0.022	
F011654	0.013	
F011655	0.005	
F011656	0.019	
F011657	0.035	
F011658	0.006	
F011659	0.013	
F011660	< 0.005	
F011661	0.030	
F011662	< 0.005	
F011663	0.006	
F011664	0.014	
F011665	0.008	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011666	0.008	
F011667	0.006	
F011668	0.009	
F011669	0.035	
F011670	> 10.0	14.2
F011671	0.037	
F011672	0.022	
F011673	0.010	
F011674	0.012	
F011675	0.007	
F011676	0.019	
F011677	0.045	
F011678	0.005	
F011679	0.030	
F011680	< 0.005	
F011681	0.019	
F011682	0.007	
F011683	0.030	
F011684	0.025	
F011685	0.014	
F011686	0.031	
F011687	0.037	
F011688	0.023	
F011689	0.021	
F011690	3.37	
F011691	0.015	
F011692	0.042	
F011693	0.047	
F011694	0.065	
F011695	0.023	
F011696	0.038	
F011697	0.020	
F011698	0.006	
F011699	< 0.005	
F011700	< 0.005	
F011701	< 0.005	
F011702	< 0.005	
F011703	< 0.005	
F011704	0.007	
F011705	0.007	
F011706	0.006	
F011707	0.008	
F011708	0.006	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011709	0.019	
F011710	3.76	
F011711	0.007	
F011712	0.016	
F011713	0.017	
F011714	0.005	
F011715	< 0.005	
F011716	0.025	
F011717	0.015	
F011718	< 0.005	
F011719	< 0.005	
F011720	< 0.005	
F011721	0.011	
F011722	0.017	
F011723	< 0.005	
F011724	0.013	
F011725	0.044	
F011726	0.027	
F011727	0.021	
F011728	0.009	
F011729	0.007	
F011730	7.33	
F011731	0.008	
F011732	0.011	
F011733	0.006	
F011734	0.030	
F011735	0.006	
F011736	0.006	
F011737	0.006	
F011738	0.005	
F011739	0.007	
F011740	< 0.005	
F011741	0.006	
F011742	< 0.005	
F011743	0.019	
F011744	0.005	
F011745	< 0.005	
F011746	< 0.005	
F011747	< 0.005	
F011748	< 0.005	
F011749	< 0.005	
F011750	0.511	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011751	< 0.005	
F011752	< 0.005	
F011753	< 0.005	
F011754	< 0.005	
F011755	< 0.005	
F011756	< 0.005	
F011757	< 0.005	
F011758	< 0.005	
F011759	< 0.005	
F011760	< 0.005	
F011761	< 0.005	
F011762	< 0.005	
F011763	< 0.005	
F011764	< 0.005	
F011765	< 0.005	
F011766	< 0.005	
F011767	< 0.005	
OREAS 216 (Fire Assay) Meas		6.78
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.54	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.52	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.55	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.56	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.59	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.534	
OREAS 218 Cert	0.531	
OREAS 209 (Fire Assay) Meas	1.52	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.51	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.57	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.56	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 255 (Fire Assay) Meas		4.10
OREAS 255 (Fire Assay) Cert		4.08
F011639 Orig	0.008	
F011639 Dup	0.005	
F011646 Orig	0.163	
F011646 Dup	0.237	
F011657 Orig	0.035	
F011657 Dup	0.035	
F011673 Orig	0.010	
F011673 Split	0.008	
F011674 Orig	0.012	
F011674 Dup	0.013	
F011681 Orig	0.019	
F011681 Dup	0.014	
F011691 Orig	0.015	
F011691 Dup	0.014	
F011708 Orig	0.006	
F011708 Dup	0.006	
F011715 Orig	< 0.005	
F011715 Dup	< 0.005	
F011723 Orig	< 0.005	
F011723 Split	0.006	
F011725 Orig	0.044	
F011725 Dup	0.042	
F011736 Orig	0.006	
F011736 Dup	0.006	
F011746 Orig	< 0.005	
F011746 Dup	< 0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011756 Orig	< 0.005	
F011756 Dup	< 0.005	
F011762 Orig	< 0.005	
F011762 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03
Method Blank	0.005	
Method Blank	< 0.005	



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07530  
**Invoice Date:** 19-Jun-19  
**Your Reference:** MW5150

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

147 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

REPORT **A19-07530**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011768	0.007	
F011769	< 0.005	
F011770	> 10.0	14.7
F011771	0.005	
F011772	0.007	
F011773	< 0.005	
F011774	0.008	
F011775	< 0.005	
F011776	< 0.005	
F011777	< 0.005	
F011778	< 0.005	
F011779	< 0.005	
F011780	< 0.005	
F011781	< 0.005	
F011782	< 0.005	
F011783	< 0.005	
F011784	< 0.005	
F011785	< 0.005	
F011786	< 0.005	
F011787	< 0.005	
F011788	< 0.005	
F011789	< 0.005	
F011790	3.37	
F011791	< 0.005	
F011792	< 0.005	
F011793	< 0.005	
F011794	< 0.005	
F011795	< 0.005	
F011796	< 0.005	
F011797	< 0.005	
F011798	< 0.005	
F011799	< 0.005	
F011800	< 0.005	
F011801	< 0.005	
F011802	< 0.005	
F011803	< 0.005	
F011804	< 0.005	
F011805	< 0.005	
F011806	< 0.005	
F011807	< 0.005	
F011808	< 0.005	
F011809	0.008	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011810	3.73	
F011811	0.007	
F011812	0.044	
F011813	0.009	
F011814	0.203	
F011815	0.048	
F011816	0.205	
F011817	0.029	
F011818	0.022	
F011819	0.013	
F011820	< 0.005	
F011821	0.006	
F011822	0.014	
F011823	< 0.005	
F011824	< 0.005	
F011825	< 0.005	
F011826	< 0.005	
F011827	0.014	
F011828	0.006	
F011829	0.009	
F011830	7.25	
F011831	0.012	
F011832	0.010	
F011833	< 0.005	
F011834	0.020	
F011835	< 0.005	
F011836	< 0.005	
F011837	0.017	
F011838	0.005	
F011839	0.007	
F011840	< 0.005	
F011841	0.008	
F011842	0.005	
F011843	< 0.005	
F011844	< 0.005	
F011845	< 0.005	
F011846	< 0.005	
F011847	< 0.005	
F011848	< 0.005	
F011849	< 0.005	
F011850	0.490	
F011851	< 0.005	
F011852	0.006	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011853	< 0.005	
F011854	0.005	
F011855	0.005	
F011856	0.007	
F011857	< 0.005	
F011858	0.046	
F011859	0.023	
F011860	< 0.005	
F011861	0.026	
F011862	< 0.005	
F011863	< 0.005	
F011864	< 0.005	
F011865	< 0.005	
F011866	< 0.005	
F011867	< 0.005	
F011868	< 0.005	
F011869	< 0.005	
F011870	> 10.0	14.5
F011871	< 0.005	
F011872	< 0.005	
F011873	< 0.005	
F011874	< 0.005	
F011875	< 0.005	
F011876	0.017	
F011877	0.008	
F011878	0.005	
F011879	0.015	
F011880	< 0.005	
F011881	0.017	
F011882	< 0.005	
F011883	0.012	
F011884	0.020	
F011885	0.018	
F011886	0.005	
F011887	0.021	
F011888	0.021	
F011889	< 0.005	
F011890	3.73	
F011891	0.022	
F011892	0.008	
F011893	0.016	
F011894	0.164	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011895	0.054	
F011896	0.102	
F011897	0.027	
F011898	0.068	
F011899	0.043	
F011900	< 0.005	
F011901	< 0.005	
F011902	0.060	
F011903	0.443	
F011904	0.014	
F011905	0.593	
F011906	0.061	
F011907	0.046	
F011908	0.060	
F011909	0.100	
F011910	3.67	
F011911	0.141	
F011912	0.013	
F011913	0.007	
F011914	0.016	
OREAS 216 (Fire Assay) Meas		6.81
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.40	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.56	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 209 (Fire	1.59	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.54	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.53	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.55	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.50	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 255 (Fire Assay) Meas		4.22
OREAS 255 (Fire Assay) Cert		4.08
F011783 Orig	< 0.005	
F011783 Dup	< 0.005	
F011789 Orig	< 0.005	
F011789 Dup	< 0.005	
F011801 Orig	< 0.005	
F011801 Dup	< 0.005	
F011817 Orig	0.029	
F011817 Split	0.037	
F011817 Split	0.037	
F011824 Orig	< 0.005	
F011824 Dup	< 0.005	
F011835 Orig	< 0.005	
F011835 Dup	0.006	
F011847 Orig	< 0.005	
F011847 Dup	< 0.005	
F011856 Orig	0.007	
F011856 Dup	0.005	
F011865 Orig	< 0.005	
F011865 Dup	< 0.005	
F011867 Orig	< 0.005	
F011867 Split	< 0.005	
F011874 Orig	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011874 Dup	< 0.005	
F011892 Orig	0.008	
F011892 Dup	0.009	
F011903 Orig	0.443	
F011903 Dup	0.409	
F011909 Orig	0.100	
F011909 Dup	0.098	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07532  
**Invoice Date:** 20-Jun-19  
**Your Reference:** MW5153

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

REPORT **A19-07532**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011915	0.010	
F011916	0.054	
F011917	0.027	
F011918	0.024	
F011919	0.005	
F011920	< 0.005	
F011921	0.005	
F011922	0.005	
F011923	< 0.005	
F011924	0.017	
F011925	0.009	
F011926	0.006	
F011927	0.006	
F011928	0.116	
F011929	0.007	
F011930	7.11	
F011931	< 0.005	
F011932	0.007	
F011933	0.006	
F011934	0.008	
F011935	0.020	
F011936	0.020	
F011937	0.019	
F011938	0.029	
F011939	0.044	
F011940	< 0.005	
F011941	0.022	
F011942	0.009	
F011943	0.042	
F011944	0.020	
F011945	0.013	
F011946	0.008	
F011947	0.018	
F011948	0.014	
F011949	0.009	
F011950	0.488	
F011951	0.020	
F011952	0.020	
F011953	0.020	
F011954	0.026	
F011955	0.039	
F011956	0.037	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011957	0.057	
F011958	0.010	
F011959	0.011	
F011960	< 0.005	
F011961	0.098	
F011962	0.013	
F011963	< 0.005	
F011964	< 0.005	
F011965	0.015	
F011966	0.035	
F011967	0.037	
F011968	0.013	
F011969	0.028	
F011970	> 10.0	13.9
F011971	0.041	
F011972	0.021	
F012501	0.012	
F012502	0.008	
F012503	0.017	
F012504	0.009	
F012505	0.007	
F012506	0.010	
F012507	0.007	
F012508	0.009	
F012509	0.007	
F012510	3.59	
F012511	0.013	
F012512	0.008	
F012513	0.009	
F012514	0.037	
F012515	0.012	
F012516	0.012	
F012517	0.011	
F012518	0.013	
F012519	0.014	
F012520	< 0.005	
F012521	0.010	
F012522	0.006	
F012523	0.012	
F012524	0.172	
F012525	0.015	
F012526	0.005	
F012527	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012528	0.005	
F012529	0.008	
F012530	7.26	
F012531	0.014	
F012532	0.009	
F012533	0.010	
F012534	0.007	
F012535	0.009	
F012536	0.139	
F012537	0.009	
F012538	0.007	
F012539	0.005	
F012540	< 0.005	
F012541	0.005	
F012542	0.006	
F012543	0.014	
F012544	0.034	
F012545	0.039	
F012546	0.009	
F012547	0.005	
F012548	0.009	
F012549	0.148	
F012550	0.518	
F012551	0.011	
F012552	0.060	
F012553	2.08	
F012554	0.069	
F012555	0.009	
F012556	0.065	
F012557	0.148	
F012558	0.097	
F012559	0.009	
F012560	< 0.005	
F012561	0.008	
F012562	0.009	
F012563	0.012	
F012564	0.024	
F012565	0.009	
F012566	0.012	
F012567	0.056	
F012568	0.016	
F012569	0.011	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012570	> 10.0	14.1
F012571	0.013	
F012572	0.012	
F012573	0.009	
F012574	0.008	
F012575	0.008	
F012576	0.008	
F012577	0.005	
F012578	< 0.005	
F012579	< 0.005	
F012580	< 0.005	
F012581	< 0.005	
F012582	< 0.005	
F012583	0.005	
F012584	0.005	
F012585	0.006	
F012586	0.042	
OREAS 216 (Fire Assay) Meas		6.61
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.53	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.62	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.57	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.49	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.41	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.540	
OREAS 218 Cert	0.531	
OREAS 209 (Fire Assay) Meas	1.55	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.60	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.58	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 209 (Fire Assay) Meas	1.52	
OREAS 209 (Fire Assay) Cert	1.58	
OREAS 255 (Fire Assay) Meas		4.02
OREAS 255 (Fire Assay) Cert		4.08
F011919 Orig	0.005	
F011919 Dup	0.005	
F011943 Orig	0.042	
F011943 Dup	0.053	
F011964 Orig	< 0.005	
F011964 Split	< 0.005	
F011965 Orig	0.015	
F011965 Dup	0.015	
F011971 Orig	0.041	
F011971 Dup	0.025	
F012508 Orig	0.009	
F012508 Dup	0.013	
F012527 Orig	< 0.005	
F012527 Dup	< 0.005	
F012534 Orig	0.007	
F012534 Dup	0.007	
F012542 Orig	0.006	
F012542 Split	0.006	
F012544 Orig	0.034	
F012544 Dup	0.049	
F012561 Orig	0.008	
F012561 Dup	0.011	
F012568 Orig	0.016	
F012568 Dup	0.024	
F012579 Orig	< 0.005	
F012579 Dup	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012581 Orig	< 0.005	
F012581 Dup	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07539  
**Invoice Date:** 11-Jun-19  
**Your Reference:** MW5142 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07539**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with a large, looped initial 'E' and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010654	0.012	
F010655	0.007	
F010656	0.014	
F010657	0.011	
F010658	0.017	
F010659	0.014	
F010660	< 0.005	
F010661	0.023	
F010662	0.146	
F010663	0.075	
F010664	0.018	
F010665	0.029	
F010666	0.012	
F010667	0.014	
F010668	0.005	
F010669	0.013	
F010670	> 10.0	13.8
F010671	0.059	
F010672	0.033	
F010673	0.040	
F010674	0.034	
F010675	0.016	
F010676	0.012	
F010677	0.010	
F010678	0.013	
F010679	0.022	
F010680	< 0.005	
F010681	0.008	
F010682	0.018	
F010683	0.033	
F010684	0.116	
F010685	0.052	
F010686	0.073	
F010687	0.027	
F010688	0.019	
F010689	0.027	
F010690	3.13	
F010691	0.033	
F010692	0.024	
F010693	0.031	
F010694	0.019	
F010695	0.016	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010696	0.016	
F010697	0.013	
F010698	0.010	
F010699	0.015	
F010700	0.006	
F010701	0.016	
F010702	0.050	
F010703	0.024	
F010704	0.041	
F010705	0.037	
F010706	0.364	
F010707	0.056	
F010708	0.049	
F010709	0.024	
F010710	3.35	
F010711	0.028	
F010712	0.078	
F010713	0.355	
F010714	0.022	
F010715	< 0.005	
F010716	0.006	
F010717	0.007	
F010718	0.045	
F010719	0.475	
F010720	0.005	
F010721	0.066	
F010722	0.020	
F010723	0.050	
F010724	0.087	
F010725	0.178	
F010726	0.028	
F010727	0.023	
F010728	0.008	
F010729	0.007	
F010730	6.31	
F010731	0.037	
F010732	0.028	
F010733	0.025	
F010734	0.174	
F010735	0.054	
F010736	0.048	
F010737	0.036	
F010738	0.013	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010739	0.016	
F010740	< 0.005	
F010741	0.022	
F010742	0.022	
F010743	0.024	
F010744	0.045	
F010745	0.440	
F010746	0.064	
F010747	0.049	
F010748	0.068	
F010749	0.010	
F010750	0.483	
F010751	0.012	
F010752	0.013	
F010753	0.008	
F010754	0.016	
F010755	0.018	
F010756	0.042	
F010757	0.007	
F010758	0.006	
F010759	0.007	
F010760	< 0.005	
F010761	0.010	
F010762	0.008	
F010763	0.044	
F010764	2.42	
F010765	0.171	
F010766	0.013	
F010767	0.045	
F010768	0.019	
F010769	0.011	
F010770	> 10.0	13.6
F010771	0.012	
F010772	0.015	
F010773	0.005	
F010774	0.008	
F010775	0.033	
F010776	0.010	
F010777	0.010	
F010778	0.009	
F010779	0.008	
F010780	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010781	0.016	
F010782	0.016	
F010783	0.026	
F010784	0.061	
F010785	0.018	
F010786	0.021	
F010787	0.020	
F010788	0.016	
F010789	0.011	
F010790	3.36	
F010791	0.013	
F010792	0.010	
F010793	0.010	
F010794	0.005	
F010795	0.010	
F010796	0.009	
F010797	0.013	
OREAS 224 (Fire Assay) Meas		2.25
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.12	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.16	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.23	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.17	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.347	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.347	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.331	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.331	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.344	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.332	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.3
OREAS 257 Cert		14.18
F010663 Orig	0.075	
F010663 Dup	0.104	
F010673 Orig	0.040	
F010673 Dup	0.043	
F010683 Orig	0.033	
F010683 Dup	0.035	
F010698 Orig	0.010	
F010698 Dup	0.010	
F010703 Orig	0.024	
F010703 Split	0.021	
F010707 Orig	0.056	
F010707 Dup	0.056	
F010717 Orig	0.007	
F010717 Dup	0.006	
F010732 Orig	0.028	
F010732 Dup	0.026	
F010742 Orig	0.022	
F010742 Dup	0.022	
F010752 Orig	0.013	
F010752 Dup	0.018	
F010753 Orig	0.008	
F010753 Split	0.007	
F010766 Orig	0.013	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010766 Dup	0.009	
F010776 Orig	0.010	
F010776 Dup	0.011	
F010786 Orig	0.021	
F010786 Dup	0.020	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank		< 0.03





**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07539-ReAssay  
**Invoice Date:** 20-Jun-19  
**Your Reference:** MW5142 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07539-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F010681	0.009
F010682	0.015
F010683	0.039
F010684	0.088
F010685	0.050
F010686	0.070
F010687	0.027
F010688	0.018
F010689	0.021
F010690	3.48
F010691	0.029
F010692	0.021
F010693	0.032
F010694	0.012
F010695	0.012
F010696	0.016
F010697	0.014
F010698	0.010
F010699	0.013
F010721	0.071
F010722	0.022
F010723	0.077
F010724	0.089
F010725	0.262
F010726	0.023
F010727	0.021
F010728	0.006
F010729	0.008
F010730	6.86
F010731	0.032
F010732	0.023
F010733	0.021
F010734	0.115
F010735	0.049
F010736	0.044
F010737	0.027
F010738	0.009
F010739	0.012
OREAS 222 (Fire Assay) Meas	1.21
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.19

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.331
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.342
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.326
OREAS 217 (Fire Assay) Cert	0.338
F010691 Orig	0.029
F010691 Dup	0.032
F010721 Orig	0.071
F010721 Dup	0.069
F010731 Orig	0.032
F010731 Dup	0.037
Method Blank	0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07543  
**Invoice Date:** 12-Jun-19  
**Your Reference:** MW5145 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07543**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with some loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010798	< 0.005	
F010799	< 0.005	
F010800	0.013	
F010801	0.005	
F010802	0.009	
F010803	0.014	
F010804	0.014	
F010805	0.008	
F010806	0.012	
F010807	0.009	
F010808	0.385	
F010809	0.015	
F010810	3.35	
F010811	0.020	
F010812	0.011	
F010813	0.013	
F010814	0.022	
F010815	0.023	
F010816	0.010	
F010817	0.005	
F010818	< 0.005	
F010819	0.040	
F010820	< 0.005	
F010821	0.005	
F010822	< 0.005	
F010823	0.005	
F010824	0.016	
F010825	0.017	
F010826	0.020	
F010827	< 0.005	
F010828	0.012	
F010829	0.049	
F010830	6.31	
F010831	0.104	
F010832	0.046	
F010833	0.017	
F010834	0.006	
F010835	0.010	
F010836	0.021	
F010837	0.010	
F010838	0.027	
F010839	0.069	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010840	< 0.005	
F010841	0.121	
F010842	0.172	
F010843	0.012	
F010844	0.011	
F010845	0.007	
F010846	0.012	
F010847	0.014	
F010848	0.010	
F010849	0.015	
F010850	0.460	
F010851	0.017	
F010852	0.009	
F010853	0.012	
F010854	0.017	
F010855	0.017	
F010856	0.013	
F010857	0.005	
F010858	< 0.005	
F010859	0.018	
F010860	< 0.005	
F010861	< 0.005	
F010862	< 0.005	
F010863	< 0.005	
F010864	< 0.005	
F010865	< 0.005	
F010866	< 0.005	
F010867	0.007	
F010868	0.005	
F010869	0.005	
F010870	> 10.0	14.4
F010871	0.008	
F010872	0.005	
F010873	< 0.005	
F010874	0.005	
F010875	0.005	
F010876	0.006	
F010877	0.006	
F010878	0.010	
F010879	0.013	
F010880	0.005	
F010881	0.012	
F010882	0.015	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010883	0.014	
F010884	< 0.005	
F010885	0.021	
F010886	0.007	
F010887	< 0.005	
F010888	< 0.005	
F010889	< 0.005	
F010890	3.34	
F010891	0.005	
F010892	0.822	
F010893	< 0.005	
F010894	0.023	
F010895	< 0.005	
F010896	< 0.005	
F010897	< 0.005	
F010898	0.014	
F010899	0.005	
F010900	< 0.005	
F010901	0.005	
F010902	0.005	
F010903	0.459	
F010904	1.46	
F010905	0.029	
F010906	0.008	
F010907	0.024	
F010908	0.018	
F010909	0.018	
F010910	3.34	
F010911	0.108	
F010912	0.019	
F010913	0.470	
F010914	6.53	
F010915	2.62	
F010916	7.81	
F010917	0.008	
F010918	< 0.005	
F010919	0.010	
F010920	< 0.005	
F010921	0.303	
F010922	0.009	
F010923	0.008	
F010924	0.007	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010925	0.011	
F010926	0.007	
F010927	2.99	
F010928	0.254	
F010929	0.005	
F010930	6.13	
F010931	0.124	
F010932	0.091	
F010933	0.029	
F010934	0.051	
F010935	0.010	
F010936	< 0.005	
F010937	0.147	
F010938	0.255	
F010939	0.503	
F010940	< 0.005	
F010941	0.364	
F010942	0.186	
OREAS 222 (Fire Assay) Meas	1.19	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.15	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.325	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.328	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.329	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.333	
OREAS 217 (Fire Assay) Cert	0.338	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 217 (Fire Assay) Meas	0.329	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.0
OREAS 257 Cert		14.18
F010807 Orig	0.009	
F010807 Dup	0.008	
F010817 Orig	0.005	
F010817 Dup	< 0.005	
F010827 Orig	< 0.005	
F010827 Dup	< 0.005	
F010842 Orig	0.172	
F010842 Dup	0.201	
F010847 Orig	0.014	
F010847 Split	0.013	
F010851 Orig	0.017	
F010851 Dup	0.017	
F010861 Orig	< 0.005	
F010861 Dup	0.005	
F010876 Orig	0.006	
F010876 Dup	0.006	
F010886 Orig	0.007	
F010886 Dup	0.009	
F010896 Orig	< 0.005	
F010896 Dup	< 0.005	
F010897 Orig	< 0.005	
F010897 Split	0.007	
F010911 Orig	0.108	
F010911 Dup	0.107	
F010920 Dup	< 0.005	
F010931 Orig	0.124	
F010931 Dup	0.086	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07543-ReAssay  
**Invoice Date:** 14-Jun-19  
**Your Reference:** MW5145 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07543-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with a large, looped 'E' and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010821	0.005	
F010822	0.005	
F010823	< 0.005	
F010824	0.010	
F010825	0.010	
F010826	0.021	
F010827	0.005	
F010828	0.013	
F010829	0.059	
F010830	3.34	
F010831	0.103	
F010832	0.034	
F010833	0.008	
F010834	0.005	
F010835	0.008	
F010836	0.019	
F010837	0.006	
F010838	0.025	
F010839	0.066	
F010921	0.384	
F010922	0.011	
F010923	0.011	
F010924	0.011	
F010925	0.013	
F010926	0.007	
F010927	3.37	
F010928	0.234	
F010929	0.006	
F010930	> 10.0	14.6
F010931	0.108	
F010932	0.087	
F010933	0.023	
F010934	0.056	
F010935	< 0.005	
F010936	0.005	
F010937	0.203	
F010938	0.337	
F010939	0.598	
OREAS 224 (Fire Assay) Meas		2.16
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire	1.22	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.24	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.329	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.330	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.340	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.3
OREAS 257 Cert		14.18
F010831 Orig	0.103	
F010831 Dup	0.083	
F010921 Orig	0.384	
F010931 Orig	0.108	
F010931 Dup	0.108	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07546  
**Invoice Date:** 12-Jun-19  
**Your Reference:** MW5148 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07546**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010943	0.030	
F010944	0.137	
F010945	0.011	
F010946	0.009	
F010947	0.106	
F010948	0.070	
F010949	0.008	
F010950	0.472	
F010951	0.040	
F010952	0.021	
F010953	0.014	
F010954	0.007	
F010955	0.013	
F010956	0.011	
F010957	0.018	
F010958	0.018	
F010959	0.020	
F010960	0.008	
F010961	0.016	
F010962	0.023	
F010963	0.016	
F010964	0.011	
F010965	0.015	
F010966	0.012	
F010967	0.014	
F010968	0.014	
F010969	0.039	
F010970	> 10.0	14.3
F010971	< 0.005	
F010972	0.012	
F010973	0.008	
F010974	0.010	
F010975	0.117	
F010976	0.009	
F010977	0.006	
F010978	0.007	
F010979	0.013	
F010980	< 0.005	
F010981	0.040	
F010982	0.009	
F010983	0.009	
F010984	0.009	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F010985	0.007	
F010986	0.007	
F010987	0.010	
F010988	0.010	
F010989	0.005	
F010990	3.44	
F010991	< 0.005	
F010992	0.006	
F010993	0.006	
F010994	0.005	
F010995	0.009	
F010996	< 0.005	
F010997	< 0.005	
F010998	< 0.005	
F010999	< 0.005	
F011000	< 0.005	
F011001	0.006	
F011002	< 0.005	
F011003	0.007	
F011004	< 0.005	
F011005	0.005	
F011006	< 0.005	
F011007	0.008	
F011008	0.012	
F011009	< 0.005	
F011010	3.76	
F011011	< 0.005	
F011012	0.027	
F011013	0.007	
F011014	0.008	
F011015	0.007	
F011016	0.006	
F011017	0.007	
F011018	0.009	
F011019	0.008	
F011020	0.005	
F011021	0.008	
F011022	0.008	
F011023	0.010	
F011024	0.008	
F011025	0.009	
F011026	0.009	
F011027	0.011	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011028	0.013	
F011029	0.018	
F011030	7.00	
F011031	0.023	
F011032	0.018	
F011033	0.021	
F011034	0.023	
F011035	0.015	
F011036	0.013	
F011037	0.013	
F011038	0.023	
F011039	0.017	
F011040	< 0.005	
F011041	0.011	
F011042	0.015	
F011043	0.008	
F011044	0.005	
F011045	0.006	
F011046	0.005	
F011047	0.009	
F011048	0.005	
F011049	< 0.005	
F011050	0.499	
F011051	0.010	
F011052	0.005	
F011053	0.005	
F011054	< 0.005	
F011055	0.005	
F011056	< 0.005	
F011057	0.005	
F011058	< 0.005	
F011059	0.005	
F011060	< 0.005	
F011061	< 0.005	
F011062	0.006	
F011063	0.005	
F011064	0.007	
F011065	0.007	
F011066	< 0.005	
F011067	0.011	
F011068	0.005	
F011069	0.006	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011070	> 10.0	14.2
F011071	0.009	
F011072	0.005	
F011073	0.005	
F011074	0.009	
F011075	0.025	
F011076	0.010	
F011077	0.009	
F011078	0.005	
F011079	0.005	
F011080	< 0.005	
F011081	0.014	
F011082	0.013	
F011083	0.006	
F011084	0.006	
F011085	0.006	
F011086	0.008	
OREAS 224 (Fire Assay) Meas		2.13
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.24	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.16	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.17	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.15	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.17	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire	0.331	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.339	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.333	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.345	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.328	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.326	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.2
OREAS 257 Cert		14.18
F010952 Orig	0.021	
F010952 Dup	0.022	
F010962 Orig	0.023	
F010962 Dup	0.025	
F010972 Orig	0.012	
F010972 Dup	0.012	
F010987 Orig	0.010	
F010987 Dup	0.011	
F010992 Orig	0.006	
F010992 Split	0.007	
F010996 Orig	< 0.005	
F010996 Dup	< 0.005	
F011006 Orig	< 0.005	
F011006 Dup	< 0.005	
F011021 Orig	0.008	
F011021 Dup	0.007	
F011031 Orig	0.023	
F011031 Dup	0.020	
F011041 Orig	0.011	
F011041 Dup	0.016	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011042 Orig	0.015	
F011042 Split	0.011	
F011055 Orig	0.005	
F011055 Dup	< 0.005	
F011065 Orig	0.007	
F011065 Dup	0.006	
F011075 Orig	0.025	
F011075 Dup	0.018	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07549  
**Invoice Date:** 20-Jun-19  
**Your Reference:** MW5149 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07549**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

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Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011087	0.055	
F011088	0.015	
F011089	0.010	
F011090	3.50	
F011091	0.010	
F011092	0.009	
F011093	0.011	
F011094	0.021	
F011095	0.029	
F011096	0.016	
F011097	0.010	
F011098	0.011	
F011099	0.012	
F011100	< 0.005	
F011101	0.005	
F011102	< 0.005	
F011103	0.006	
F011104	0.010	
F011105	0.009	
F011106	0.006	
F011107	0.010	
F011108	0.030	
F011109	< 0.005	
F011110	3.46	
F011111	0.025	
F011112	0.005	
F011113	0.006	
F011114	< 0.005	
F011115	0.010	
F011116	0.005	
F011117	< 0.005	
F011118	< 0.005	
F011119	< 0.005	
F011120	< 0.005	
F011121	0.008	
F011122	0.006	
F011123	0.007	
F011124	< 0.005	
F011125	< 0.005	
F011126	0.009	
F011127	0.008	
F011128	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011129	< 0.005	
F011130	6.93	
F011131	0.005	
F011132	< 0.005	
F011133	< 0.005	
F011134	< 0.005	
F011135	< 0.005	
F011136	< 0.005	
F011137	< 0.005	
F011138	< 0.005	
F011139	< 0.005	
F011140	< 0.005	
F011141	< 0.005	
F011142	< 0.005	
F011143	< 0.005	
F011144	0.007	
F011145	< 0.005	
F011146	< 0.005	
F011147	0.006	
F011148	< 0.005	
F011149	< 0.005	
F011150	0.447	
F011151	0.005	
F011152	< 0.005	
F011153	< 0.005	
F011154	< 0.005	
F011155	< 0.005	
F011156	0.005	
F011157	< 0.005	
F011158	0.005	
F011159	< 0.005	
F011160	0.005	
F011161	< 0.005	
F011162	< 0.005	
F011163	0.005	
F011164	0.011	
F011165	0.005	
F011166	< 0.005	
F011167	0.005	
F011168	0.005	
F011169	0.005	
F011170	> 10.0	14.0
F011171	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011172	0.005	
F011173	0.005	
F011174	< 0.005	
F011175	< 0.005	
F011176	0.005	
F011177	0.005	
F011178	0.005	
F011179	< 0.005	
F011180	0.005	
F011181	0.011	
F011182	< 0.005	
F011183	< 0.005	
F011184	0.009	
F011185	< 0.005	
F011186	< 0.005	
F011187	< 0.005	
F011188	0.008	
F011189	< 0.005	
F011190	3.47	
F011191	< 0.005	
F011192	< 0.005	
F011193	0.009	
F011194	< 0.005	
F011195	0.007	
F011196	0.009	
F011197	0.013	
F011198	0.005	
F011199	0.009	
F011200	< 0.005	
F011201	0.012	
F011202	0.019	
F011203	0.013	
F011204	0.016	
F011205	0.008	
F011206	< 0.005	
F011207	< 0.005	
F011208	0.008	
F011209	0.007	
F011210	3.42	
F011211	0.012	
F011212	0.005	
F011213	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011214	0.005	
F011215	0.005	
F011216	< 0.005	
F011217	< 0.005	
F011218	< 0.005	
F011219	< 0.005	
F011220	< 0.005	
F011221	< 0.005	
F011222	< 0.005	
F011223	< 0.005	
F011224	< 0.005	
F011225	< 0.005	
F011226	< 0.005	
F011227	< 0.005	
F011228	0.039	
F011229	< 0.005	
F011230	6.83	
OREAS 224 (Fire Assay) Meas		2.13
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.24	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.27	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire	0.331	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.327	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.337	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.328	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.333	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.332	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.2
OREAS 257 Cert		14.18
F011096 Orig	0.016	
F011096 Dup	0.018	
F011106 Orig	0.006	
F011106 Dup	0.006	
F011116 Orig	0.005	
F011116 Dup	0.005	
F011131 Orig	0.005	
F011131 Dup	< 0.005	
F011136 Orig	< 0.005	
F011136 Split	< 0.005	
F011140 Orig	< 0.005	
F011140 Dup	< 0.005	
F011165 Orig	0.005	
F011165 Dup	< 0.005	
F011175 Orig	< 0.005	
F011175 Dup	0.005	
F011185 Orig	< 0.005	
F011185 Dup	< 0.005	
F011186 Orig	< 0.005	
F011186 Split	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011199 Orig	0.009	
F011199 Dup	0.011	
F011209 Orig	0.007	
F011209 Dup	0.009	
F011219 Orig	< 0.005	
F011219 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank	< 0.005	



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07550  
**Invoice Date:** 13-Jun-19  
**Your Reference:** MW5152 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07550**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized and somewhat cursive.

Emmanuel Esemé , Ph.D.  
Quality Control

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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011231	0.008	
F011232	0.007	
F011233	0.013	
F011234	0.011	
F011235	0.011	
F011236	0.012	
F011237	0.006	
F011238	0.023	
F011239	0.008	
F011240	0.006	
F011241	0.009	
F011242	0.017	
F011243	0.015	
F011244	0.012	
F011245	< 0.005	
F011246	0.010	
F011247	0.005	
F011248	0.005	
F011249	0.013	
F011250	0.485	
F011251	0.008	
F011252	< 0.005	
F011253	0.007	
F011254	0.006	
F011255	0.011	
F011256	0.006	
F011257	0.087	
F011258	< 0.005	
F011259	< 0.005	
F011260	< 0.005	
F011261	< 0.005	
F011262	0.005	
F011263	< 0.005	
F011264	< 0.005	
F011265	< 0.005	
F011266	0.005	
F011267	0.006	
F011268	0.007	
F011269	0.015	
F011270	> 10.0	14.0
F011271	0.005	
F011272	0.007	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011273	0.005	
F011274	0.005	
F011275	< 0.005	
F011276	< 0.005	
F011277	< 0.005	
F011278	< 0.005	
F011279	0.005	
F011280	< 0.005	
F011281	< 0.005	
F011282	< 0.005	
F011283	0.009	
F011284	0.033	
F011285	< 0.005	
F011286	< 0.005	
F011287	< 0.005	
F011288	0.006	
F011289	0.006	
F011290	3.72	
F011291	0.006	
F011292	< 0.005	
F011293	< 0.005	
F011294	0.006	
F011295	0.009	
F011296	0.008	
F011297	0.015	
F011298	0.033	
F011299	0.011	
F011300	0.005	
F011301	0.028	
F011302	0.028	
F011303	0.035	
F011304	0.026	
F011305	0.030	
F011306	0.031	
F011307	0.025	
F011308	0.021	
F011309	0.039	
F011310	3.44	
F011311	0.036	
F011312	0.025	
F011313	0.025	
F011314	0.027	
F011315	0.012	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011316	0.013	
F011317	0.015	
F011318	0.019	
F011319	0.017	
F011320	0.007	
F011321	0.018	
F011322	0.018	
F011323	0.024	
F011324	0.024	
F011325	0.012	
F011326	0.021	
F011327	0.028	
F011328	0.025	
F011329	0.029	
F011330	6.63	
F011331	0.023	
F011332	0.065	
F011333	0.016	
F011334	0.240	
F011335	0.125	
F011336	0.171	
F011337	0.110	
F011338	0.098	
F011339	0.103	
F011340	0.008	
F011341	0.046	
F011342	0.010	
F011343	0.012	
F011344	0.014	
F011345	0.009	
F011346	0.009	
F011347	0.009	
F011348	0.010	
F011349	0.011	
F011350	0.477	
F011351	0.013	
F011352	0.015	
F011353	0.010	
F011354	0.010	
F011355	0.010	
F011356	0.013	
F011357	0.026	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011358	0.019	
F011359	0.016	
F011360	0.007	
F011361	0.022	
F011362	0.016	
F011363	0.012	
F011364	0.028	
F011365	0.012	
F011366	0.015	
F011367	0.022	
F011368	0.022	
F011369	0.028	
F011370	> 10.0	14.2
F011371	0.030	
F011372	0.029	
F011373	0.023	
F011374	0.027	
OREAS 224 (Fire Assay) Meas		2.15
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.19	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.23	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire	0.327	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.335	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.345	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.335	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.337	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.340	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.1
OREAS 257 Cert		14.18
F011240 Orig	0.006	
F011240 Dup	0.005	
F011251 Orig	0.008	
F011251 Dup	0.007	
F011260 Orig	< 0.005	
F011260 Dup	< 0.005	
F011275 Orig	< 0.005	
F011275 Dup	< 0.005	
F011281 Orig	< 0.005	
F011281 Split	< 0.005	
F011284 Orig	0.033	
F011284 Dup	0.026	
F011294 Orig	0.006	
F011294 Dup	0.006	
F011309 Orig	0.039	
F011309 Dup	0.037	
F011319 Orig	0.017	
F011319 Dup	0.013	
F011329 Orig	0.029	
F011329 Dup	0.032	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011331 Orig	0.023	
F011331 Split	0.039	
F011343 Orig	0.012	
F011343 Dup	0.015	
F011363 Orig	0.012	
F011363 Dup	0.013	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07552  
**Invoice Date:** 12-Jun-19  
**Your Reference:** MW5156 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

36 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07552**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F011375	0.023
F011376	0.016
F011377	0.022
F011378	0.006
F011379	0.018
F011380	< 0.005
F011381	0.028
F011382	0.035
F011383	0.105
F011384	0.026
F011385	0.025
F011386	0.039
F011387	0.025
F011388	0.015
F011389	0.018
F011390	3.24
F011391	0.020
F011392	0.020
F011393	0.021
F011394	0.025
F011395	0.015
F011396	0.022
F011397	0.024
F011398	0.040
F011399	0.006
F011400	< 0.005
F011401	0.015
F011402	0.022
F011403	0.023
F011404	0.026
F011405	0.007
F011406	0.057
F011407	0.068
F011408	0.010
F011409	0.022
F011410	2.94
OREAS 222 (Fire Assay) Meas	1.16
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.346
OREAS 217 (Fire Assay) Cert	0.338



	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
OREAS 217 (Fire Assay) Meas	0.339
OREAS 217 (Fire Assay) Cert	0.338
F011384 Orig	0.026
F011384 Dup	0.029
F011394 Orig	0.025
F011394 Dup	0.021
F011404 Orig	0.026
F011404 Dup	0.029
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 07-Jun-19  
**Invoice No.:** A19-07552-ReAssay  
**Invoice Date:** 14-Jun-19  
**Your Reference:** MW5156 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

36 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-07552-ReAssay**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé".

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F011381	0.028
F011382	0.035
F011383	0.176
F011384	0.029
F011385	0.026
F011386	0.040
F011387	0.026
F011388	0.016
F011389	0.015
F011390	3.37
F011391	0.021
F011392	0.017
F011393	0.021
F011394	0.020
F011395	0.012
F011396	0.022
F011397	0.028
F011398	0.045
F011399	< 0.005
F011401	0.012
F011402	0.021
F011403	0.023
F011404	0.021
F011405	0.007
F011406	0.055
F011407	0.041
F011408	0.009
F011409	0.021
F011410	3.37
OREAS 222 (Fire Assay) Meas	1.22
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.24
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.329
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.330
OREAS 217 (Fire Assay) Cert	0.338

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
OREAS 217 (Fire Assay) Meas	0.340
OREAS 217 (Fire Assay) Cert	0.338
F011387 Orig	0.026
F011387 Dup	0.026
F011397 Orig	0.028
F011397 Dup	0.023
F011408 Orig	0.009
F011408 Dup	0.009
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 27-Jun-19  
**Invoice No.:** A19-08462  
**Invoice Date:** 03-Jul-19  
**Your Reference:** MW5157

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

REPORT **A19-08462**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F011973	0.028	
F011974	< 0.005	
F011975	< 0.005	
F011976	< 0.005	
F011977	< 0.005	
F011978	< 0.005	
F011979	< 0.005	
F011980	< 0.005	
F011981	0.009	
F011982	0.008	
F011983	< 0.005	
F011984	0.006	
F011985	< 0.005	
F011986	< 0.005	
F011987	< 0.005	
F011988	< 0.005	
F011989	< 0.005	
F011990	3.48	
F011991	< 0.005	
F011992	< 0.005	
F011993	< 0.005	
F011994	< 0.005	
F011995	< 0.005	
F011996	< 0.005	
F011997	0.010	
F011998	< 0.005	
F011999	< 0.005	
F012000	< 0.005	
F012731	< 0.005	
F012732	0.058	
F012733	0.027	
F012734	0.006	
F012735	0.499	
F012736	0.006	
F012737	0.082	
F012738	0.149	
F012739	0.029	
F012740	< 0.005	
F012741	0.259	
F012742	0.009	
F012743	0.005	
F012744	0.288	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012745	< 0.005	
F012746	0.040	
F012747	< 0.005	
F012748	0.217	
F012749	0.083	
F012750	0.446	
F012751	0.273	
F012752	0.124	
F012753	0.444	
F012754	0.138	
F012755	0.384	
F012756	0.009	
F012757	0.017	
F012758	0.014	
F012759	< 0.005	
F012760	< 0.005	
F012761	0.040	
F012762	0.162	
F012763	0.048	
F012764	< 0.005	
F012765	< 0.005	
F012766	< 0.005	
F012767	< 0.005	
F012768	0.013	
F012769	0.008	
F012770	> 10.0	14.2
F012771	0.036	
F012772	2.07	
F012773	0.170	
F012774	0.043	
F012775	1.22	
F012776	> 10.0	10.6
F012777	0.071	
F012778	0.013	
F012779	0.381	
F012780	< 0.005	
F012781	< 0.005	
F012782	< 0.005	
F012783	< 0.005	
F012784	< 0.005	
F012785	< 0.005	
F012786	0.911	
F012787	0.008	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012788	0.016	
F012789	0.026	
F012790	3.45	
F012791	0.028	
F012792	0.111	
F012793	0.007	
F012794	0.031	
F012795	0.147	
F012796	< 0.005	
F012797	< 0.005	
F012798	0.344	
F012799	0.007	
F012800	< 0.005	
F012801	0.017	
F012802	0.071	
F012803	0.042	
F012804	0.028	
F012805	0.106	
F012806	0.020	
F012807	0.015	
F012808	0.006	
F012809	< 0.005	
F012810	3.41	
F012811	< 0.005	
F012812	< 0.005	
F012813	< 0.005	
F012814	< 0.005	
F012815	< 0.005	
F012816	< 0.005	
F012817	< 0.005	
F012818	< 0.005	
F012819	< 0.005	
F012820	< 0.005	
F012821	< 0.005	
F012822	< 0.005	
F012823	< 0.005	
F012824	< 0.005	
F012825	< 0.005	
F012826	< 0.005	
F012827	< 0.005	
F012828	< 0.005	
F012829	< 0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012830	6.86	
F012831	0.020	
F012832	< 0.005	
F012833	< 0.005	
F012834	< 0.005	
F012835	< 0.005	
F012836	< 0.005	
F012837	< 0.005	
F012838	< 0.005	
F012839	< 0.005	
F012840	< 0.005	
F012841	< 0.005	
F012842	< 0.005	
F012843	< 0.005	
F012844	< 0.005	
F012845	< 0.005	
F012846	< 0.005	
OREAS 216 (Fire Assay) Meas		6.73
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.45	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.48	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.43	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.504	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.518	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.526	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.525	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.533	
OREAS 218 Cert	0.531	
OREAS 255 (Fire Assay) Meas		4.15
OREAS 255 (Fire Assay) Cert		4.08
F011988 Orig	< 0.005	
F011988 Dup	< 0.005	
F011995 Orig	< 0.005	
F011995 Dup	< 0.005	
F012736 Orig	0.006	
F012736 Dup	0.010	
F012752 Orig	0.124	
F012752 Split	0.124	
F012752 Split	0.124	
F012758 Orig	0.014	
F012758 Dup	0.010	
F012769 Orig	0.008	
F012769 Dup	0.006	
F012774 Orig	0.043	
F012774 Dup	0.039	
F012776 Orig		10.6
F012776 Dup		10.7
F012786 Orig	0.911	
F012786 Dup	1.07	
F012802 Orig	0.067	
F012802 Split	0.047	
F012802 Orig	0.071	
F012802 Dup	0.062	
F012821 Orig	< 0.005	
F012821 Dup	< 0.005	
F012828 Orig	< 0.005	
F012828 Dup	< 0.005	
F012839 Orig	< 0.005	
F012839 Dup	< 0.005	
F012841 Orig	< 0.005	
F012841 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 27-Jun-19  
**Invoice No.:** A19-08463  
**Invoice Date:** 03-Jul-19  
**Your Reference:** MW5161

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

REPORT **A19-08463**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012847	< 0.005	
F012848	< 0.005	
F012849	< 0.005	
F012850	0.486	
F012851	0.012	
F012852	0.006	
F012853	0.007	
F012854	0.008	
F012855	< 0.005	
F012856	< 0.005	
F012857	0.007	
F012858	0.007	
F012859	< 0.005	
F012860	< 0.005	
F012861	< 0.005	
F012862	< 0.005	
F012863	< 0.005	
F012864	< 0.005	
F012865	< 0.005	
F012866	0.005	
F012867	0.009	
F012868	0.006	
F012869	0.006	
F012870	> 10.0	14.6
F012871	0.006	
F012872	0.009	
F012873	< 0.005	
F012874	0.007	
F012875	0.005	
F012876	0.005	
F012877	0.005	
F012878	< 0.005	
F012879	< 0.005	
F012880	< 0.005	
F012881	0.011	
F012882	0.007	
F012883	< 0.005	
F012884	< 0.005	
F012885	0.009	
F012886	< 0.005	
F012887	0.011	
F012888	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F012889	0.006	
F012890	3.49	
F012891	< 0.005	
F012892	< 0.005	
F012893	0.006	
F012894	< 0.005	
F012895	< 0.005	
F012896	0.008	
F012897	< 0.005	
F012898	< 0.005	
F012899	< 0.005	
F012900	< 0.005	
F012901	< 0.005	
F012902	< 0.005	
F012903	< 0.005	
F012904	< 0.005	
F012905	< 0.005	
F012906	0.005	
F012907	< 0.005	
F012908	< 0.005	
F012909	< 0.005	
F012910	3.39	
F012911	< 0.005	
F012912	0.005	
F012913	< 0.005	
F012914	< 0.005	
F012915	< 0.005	
F020001	0.005	
F020002	0.080	
F020003	0.005	
F020004	0.005	
F020005	< 0.005	
F020006	< 0.005	
F020007	< 0.005	
F020008	< 0.005	
F020009	< 0.005	
F020010	3.43	
F020011	0.006	
F020012	0.005	
F020013	0.005	
F020014	< 0.005	
F020015	< 0.005	
F020016	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F020017	< 0.005	
F020018	< 0.005	
F020019	< 0.005	
F020020	< 0.005	
F020021	< 0.005	
F020022	< 0.005	
F020023	0.005	
F020024	< 0.005	
F020025	< 0.005	
F020026	< 0.005	
F020027	< 0.005	
F020028	< 0.005	
F020029	< 0.005	
F020030	7.13	
F020031	0.005	
F020032	< 0.005	
F020033	< 0.005	
F020034	< 0.005	
F020035	0.005	
F020036	< 0.005	
F020037	< 0.005	
F020038	< 0.005	
F020039	< 0.005	
F020040	< 0.005	
F020041	< 0.005	
F020042	< 0.005	
F020043	< 0.005	
F020044	0.049	
F020045	0.008	
F020046	0.005	
F020047	< 0.005	
F020048	< 0.005	
F020049	< 0.005	
F020050	0.442	
F020051	< 0.005	
F020052	< 0.005	
F020053	< 0.005	
F020054	< 0.005	
F020055	< 0.005	
F020056	< 0.005	
F020057	< 0.005	
F020058	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F020059	< 0.005	
F020060	< 0.005	
F020061	0.006	
F020062	0.006	
F020063	< 0.005	
F020064	0.010	
F020065	< 0.005	
F020066	0.011	
F020067	< 0.005	
F020068	< 0.005	
F020069	< 0.005	
F020070	> 10.0	14.2
F020071	0.005	
F020072	< 0.005	
F020073	< 0.005	
F020074	< 0.005	
F020075	< 0.005	
F020076	< 0.005	
OREAS 216 (Fire Assay) Meas		6.73
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.48	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.58	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.49	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.531	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.517	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.502	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.528	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.506	
OREAS 218 Cert	0.531	
OREAS 255 (Fire Assay) Meas		4.15
OREAS 255 (Fire Assay) Cert		4.08
F012862 Orig	< 0.005	
F012862 Dup	< 0.005	
F012869 Orig	0.006	
F012869 Dup	0.006	
F012880 Orig	< 0.005	
F012880 Dup	< 0.005	
F012896 Orig	0.008	
F012896 Split	0.006	
F012896 Split	0.006	
F012903 Orig	< 0.005	
F012903 Dup	< 0.005	
F012914 Orig	< 0.005	
F012914 Dup	< 0.005	
F020016 Orig	< 0.005	
F020016 Dup	< 0.005	
F020022 Orig	< 0.005	
F020022 Dup	< 0.005	
F020031 Orig	0.005	
F020031 Split	< 0.005	
F020033 Orig	< 0.005	
F020033 Dup	< 0.005	
F020051 Orig	< 0.005	
F020051 Dup	< 0.005	
F020057 Orig	< 0.005	
F020057 Dup	< 0.005	
F020068 Orig	< 0.005	
F020068 Dup	< 0.005	
F020071 Orig	0.005	
F020071 Dup	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 04-Jul-19  
**Invoice No.:** A19-08702  
**Invoice Date:** 08-Jul-19  
**Your Reference:** MW5165

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT      **A19-08702**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018001	< 0.005	
F018002	< 0.005	
F018003	< 0.005	
F018004	0.005	
F018005	0.005	
F018006	0.005	
F018007	< 0.005	
F018008	0.005	
F018009	0.005	
F018010	3.46	
F018011	0.006	
F018012	0.005	
F018013	0.005	
F018014	< 0.005	
F018015	< 0.005	
F018016	0.005	
F018017	< 0.005	
F018018	0.005	
F018019	< 0.005	
F018020	< 0.005	
F018021	0.005	
F018022	< 0.005	
F018023	< 0.005	
F018024	0.005	
F018025	0.005	
F018026	< 0.005	
F018027	< 0.005	
F018028	< 0.005	
F018029	< 0.005	
F018030	6.91	
F018031	< 0.005	
F018032	< 0.005	
F018033	< 0.005	
F018034	< 0.005	
F018035	0.005	
F018036	< 0.005	
F018037	< 0.005	
F018038	< 0.005	
F018039	< 0.005	
F018040	< 0.005	
F018041	0.005	
F018042	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018043	0.005	
F018044	< 0.005	
F018045	< 0.005	
F018046	0.005	
F018047	0.231	
F018048	0.006	
F018049	< 0.005	
F018050	0.442	
F018051	0.019	
F018052	0.067	
F018053	0.107	
F018054	0.052	
F018055	0.837	
F018056	0.053	
F018057	0.069	
F018058	0.022	
F018059	0.014	
F018060	< 0.005	
F018061	< 0.005	
F018062	0.005	
F018063	< 0.005	
F018064	< 0.005	
F018065	< 0.005	
F018066	< 0.005	
F018067	< 0.005	
F018068	< 0.005	
F018069	< 0.005	
F018070	> 10.0	13.6
F018071	0.005	
F018072	0.005	
F018073	< 0.005	
F018074	< 0.005	
F018075	< 0.005	
F018076	< 0.005	
F018077	< 0.005	
F018115	< 0.005	
F018116	< 0.005	
F018117	0.006	
F018118	< 0.005	
F018119	0.007	
F018120	< 0.005	
F018121	< 0.005	
F018122	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018123	< 0.005	
F018124	0.006	
F018125	0.006	
F018126	0.009	
F018127	< 0.005	
F018128	< 0.005	
F018129	< 0.005	
F018130	7.25	
F018131	0.006	
F018132	< 0.005	
F018133	0.006	
F018134	0.005	
F018135	< 0.005	
F018136	< 0.005	
F018137	< 0.005	
F018138	0.010	
F018139	0.041	
F018140	< 0.005	
F018141	< 0.005	
F018142	0.009	
F018143	< 0.005	
F018144	< 0.005	
F018145	< 0.005	
F018146	< 0.005	
F018147	< 0.005	
F018148	< 0.005	
F018149	< 0.005	
F018150	0.471	
F018151	< 0.005	
F018152	< 0.005	
F018153	0.006	
F018154	0.007	
F018155	< 0.005	
F018156	< 0.005	
F018157	< 0.005	
F018158	< 0.005	
F018159	< 0.005	
F018160	< 0.005	
F018161	< 0.005	
F018162	0.005	
F018163	0.005	
F018164	0.012	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018165	< 0.005	
F018166	< 0.005	
F018167	< 0.005	
F018168	< 0.005	
F018169	0.010	
F018170	> 10.0	13.5
F018171	0.007	
F018199	< 0.005	
F018200	< 0.005	
F018201	0.005	
F018202	< 0.005	
F018203	< 0.005	
F018204	< 0.005	
F018205	0.005	
F018206	< 0.005	
F018207	< 0.005	
F018208	< 0.005	
OREAS 216 (Fire Assay) Meas		6.86
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.44	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.53	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.57	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.58	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.533	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.519	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.526	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.510	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.549	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.556	
OREAS 218 Cert	0.531	
OREAS 257 Meas		13.9
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.12
OREAS 255 (Fire Assay) Cert		4.08
F018016 Orig	0.005	
F018016 Dup	< 0.005	
F018022 Orig	< 0.005	
F018022 Dup	< 0.005	
F018034 Orig	< 0.005	
F018034 Dup	< 0.005	
F018051 Orig	0.019	
F018051 Split	0.018	
F018051 Orig	0.019	
F018051 Dup	0.018	
F018064 Orig	< 0.005	
F018064 Dup	< 0.005	
F018068 Orig	< 0.005	
F018068 Dup	< 0.005	
F018117 Orig	0.006	
F018117 Dup	0.005	
F018126 Orig	0.009	
F018126 Dup	0.006	
F018135 Orig	< 0.005	
F018135 Dup	< 0.005	
F018137 Orig	< 0.005	
F018137 Split	< 0.005	
F018145 Orig	< 0.005	
F018145 Dup	< 0.005	
F018159 Orig	< 0.005	
F018159 Dup	< 0.005	
F018168 Orig	< 0.005	
F018168 Dup	< 0.005	
F018207 Orig	< 0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018207 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 04-Jul-19  
**Invoice No.:** A19-08703  
**Invoice Date:** 08-Jul-19  
**Your Reference:** MW5168

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-08703**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
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E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018209	< 0.005	
F018210	3.45	
F018211	0.007	
F018212	0.006	
F018230	7.07	
F018231	0.006	
F018232	< 0.005	
F018233	< 0.005	
F018234	0.005	
F018235	0.005	
F018236	< 0.005	
F018237	< 0.005	
F018238	< 0.005	
F018239	< 0.005	
F018240	< 0.005	
F018241	0.034	
F018242	0.019	
F018243	0.028	
F018244	< 0.005	
F018245	< 0.005	
F018246	< 0.005	
F018247	< 0.005	
F018248	< 0.005	
F018249	< 0.005	
F018250	0.458	
F018251	0.007	
F018252	< 0.005	
F018253	< 0.005	
F018254	0.012	
F018255	< 0.005	
F018256	0.015	
F018257	0.009	
F018258	0.006	
F018259	< 0.005	
F018260	< 0.005	
F018261	< 0.005	
F018262	< 0.005	
F018263	< 0.005	
F018312	< 0.005	
F018313	< 0.005	
F018314	< 0.005	
F018315	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018316	< 0.005	
F018317	0.010	
F018318	0.006	
F018319	< 0.005	
F018320	< 0.005	
F018321	< 0.005	
F018322	< 0.005	
F018323	< 0.005	
F018324	< 0.005	
F018325	0.005	
F018326	< 0.005	
F018327	< 0.005	
F018328	< 0.005	
F018329	< 0.005	
F018330	6.95	
F018331	< 0.005	
F018332	< 0.005	
F018333	< 0.005	
F018334	< 0.005	
F018335	< 0.005	
F018336	< 0.005	
F018337	< 0.005	
F018338	< 0.005	
F018339	0.007	
F018340	< 0.005	
F018341	< 0.005	
F018342	< 0.005	
F018343	< 0.005	
F018344	< 0.005	
F018345	< 0.005	
F018346	< 0.005	
F018347	< 0.005	
F018348	< 0.005	
F018349	< 0.005	
F018350	0.485	
F018351	0.006	
F018352	< 0.005	
F018353	< 0.005	
F018354	< 0.005	
F018355	< 0.005	
F018356	< 0.005	
F018357	< 0.005	
F018358	0.043	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018359	0.011	
F018360	< 0.005	
F018361	< 0.005	
F018362	< 0.005	
F018363	< 0.005	
F018364	< 0.005	
F018365	< 0.005	
F018366	< 0.005	
F018367	< 0.005	
F018368	0.005	
F018369	< 0.005	
F018370	> 10.0	13.7
F018371	0.005	
F018372	< 0.005	
F018373	< 0.005	
F018374	< 0.005	
F018375	< 0.005	
F018376	< 0.005	
F018377	< 0.005	
F018378	< 0.005	
F018379	< 0.005	
F018380	< 0.005	
F018381	< 0.005	
F018390	3.41	
F018391	< 0.005	
F018392	< 0.005	
F018393	< 0.005	
F018394	< 0.005	
F018395	< 0.005	
F018396	< 0.005	
F018397	0.006	
F018398	0.111	
F018399	< 0.005	
F018400	< 0.005	
F018401	0.012	
F018402	0.022	
F018403	< 0.005	
F018404	< 0.005	
F018405	< 0.005	
F018406	< 0.005	
F019001	0.464	
F019002	0.026	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019003	0.043	
F019004	0.023	
F019005	0.031	
F019006	0.195	
F019007	0.082	
F019008	0.036	
F019009	0.027	
F019010	3.59	
F019011	0.018	
F019012	0.046	
F019013	0.012	
F019014	0.011	
F019015	< 0.005	
F019016	0.012	
F019017	0.032	
F019018	0.022	
F019019	0.022	
F019020	< 0.005	
OREAS 216 (Fire Assay) Meas		6.86
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.49	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.41	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.41	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.533	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.505	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.532	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.538	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.531	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.549	
OREAS 218 Cert	0.531	
OREAS 257 Meas		13.9
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.12
OREAS 255 (Fire Assay) Cert		4.08
F018241 Orig	0.034	
F018241 Dup	0.027	
F018247 Orig	< 0.005	
F018247 Dup	< 0.005	
F018259 Orig	< 0.005	
F018259 Dup	< 0.005	
F018323 Orig	< 0.005	
F018323 Split	< 0.005	
F018323 Split	< 0.005	
F018329 Orig	< 0.005	
F018329 Dup	< 0.005	
F018341 Orig	< 0.005	
F018341 Dup	< 0.005	
F018358 Orig	0.043	
F018358 Dup	0.046	
F018365 Orig	< 0.005	
F018365 Dup	< 0.005	
F018373 Orig	< 0.005	
F018373 Split	< 0.005	
F018375 Orig	< 0.005	
F018375 Dup	< 0.005	
F018395 Orig	< 0.005	
F018395 Dup	< 0.005	
F018404 Orig	< 0.005	
F018404 Dup	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019005 Orig	0.031	
F019005 Dup	0.022	
F019018 Orig	0.022	
F019018 Dup	0.021	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03





**Date Submitted:** 04-Jul-19  
**Invoice No.:** A19-08704  
**Invoice Date:** 09-Jul-19  
**Your Reference:** MW5170

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

REPORT **A19-08704**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with overlapping loops and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

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E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019021	0.033	
F019022	0.014	
F019023	0.016	
F019024	0.012	
F019025	0.011	
F019026	0.010	
F019027	< 0.005	
F019028	0.008	
F019029	0.011	
F019030	7.24	
F019031	0.032	
F019032	0.038	
F019033	0.077	
F019034	0.014	
F019035	0.013	
F019036	0.013	
F019037	0.125	
F019038	0.189	
F019039	0.029	
F019040	< 0.005	
F019041	0.017	
F019042	0.013	
F019043	0.019	
F019044	0.005	
F019045	0.043	
F019046	0.030	
F019047	0.009	
F019048	0.011	
F019049	0.007	
F019050	0.421	
F019051	0.007	
F019052	0.023	
F019053	< 0.005	
F019054	0.014	
F019055	0.010	
F019056	0.009	
F019057	0.014	
F019058	0.384	
F019059	0.013	
F019060	< 0.005	
F019061	0.015	
F019062	0.026	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019063	0.018	
F019064	0.007	
F019065	0.032	
F019066	0.069	
F019067	0.045	
F019068	0.888	
F019069	0.107	
F019070	> 10.0	14.4
F019071	0.133	
F019072	0.049	
F019073	0.261	
F019074	0.132	
F019075	< 0.005	
F019076	0.005	
F019077	0.010	
F019078	0.016	
F019079	0.006	
F019080	< 0.005	
F019081	0.012	
F019082	0.008	
F019083	0.065	
F019084	0.113	
F019085	0.193	
F019086	0.148	
F019087	0.006	
F019088	0.019	
F019089	0.008	
F019090	3.46	
F019091	0.021	
F019092	0.096	
F019093	0.013	
F019094	0.021	
F019095	0.022	
F019096	0.028	
F019097	0.006	
F019098	0.051	
F019099	0.008	
F019100	< 0.005	
F019101	0.007	
F019102	0.029	
F019103	0.012	
F019104	0.005	
F019105	0.013	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019106	0.015	
F019107	0.006	
F019108	0.014	
F019109	0.071	
F019110	3.63	
F019111	0.038	
F019112	0.051	
F019113	0.005	
F019114	0.059	
F019115	0.013	
F019116	0.011	
F019117	0.005	
F019118	< 0.005	
F019119	0.006	
F019120	< 0.005	
F019121	< 0.005	
F019122	< 0.005	
F019123	0.045	
F019124	0.050	
F019125	< 0.005	
F019126	0.005	
F019127	< 0.005	
F019128	< 0.005	
F019129	0.011	
F019130	6.96	
F019131	0.006	
F019132	< 0.005	
F019133	< 0.005	
F019134	0.198	
F019135	0.193	
F019136	0.007	
F019137	0.035	
F019138	0.108	
F019139	0.032	
F019140	< 0.005	
F019141	0.046	
F019142	0.160	
F019143	0.028	
F019144	0.864	
F019145	0.030	
F019146	0.024	
F019147	0.113	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019148	< 0.005	
F019149	< 0.005	
F019150	0.420	
F019151	< 0.005	
F019152	0.012	
F019153	0.032	
F019154	0.007	
F019155	0.007	
F019156	0.009	
F019157	0.007	
F019158	0.006	
F019159	0.017	
F019160	< 0.005	
F019161	0.028	
F019162	0.012	
F019163	0.007	
F019164	0.006	
OREAS 216 (Fire Assay) Meas		6.77
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.60	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.48	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.548	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.524	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.528	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.546	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.542	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.05
OREAS 255 (Fire Assay) Cert		4.08
F019036 Orig	0.013	
F019036 Dup	0.015	
F019042 Orig	0.013	
F019042 Dup	0.013	
F019054 Orig	0.014	
F019054 Dup	0.015	
F019071 Orig	0.133	
F019071 Split	0.086	
F019072 Orig	0.049	
F019072 Dup	0.057	
F019077 Orig	0.010	
F019077 Dup	0.009	
F019088 Orig	0.019	
F019088 Dup	0.026	
F019105 Orig	0.013	
F019105 Dup	0.013	
F019112 Orig	0.051	
F019112 Dup	0.039	
F019121 Orig	< 0.005	
F019121 Split	< 0.005	
F019122 Orig	< 0.005	
F019122 Dup	< 0.005	
F019139 Orig	0.032	
F019139 Dup	0.014	
F019146 Orig	0.024	
F019146 Dup	0.008	
F019157 Orig	0.007	
F019157 Dup	0.006	
F019163 Orig	0.007	
F019163 Dup	0.006	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 09-Jul-19  
**Invoice No.:** A19-08879  
**Invoice Date:** 11-Jul-19  
**Your Reference:** MW5173 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

88 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-08879**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with a large, sweeping initial 'E' and 'E'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019165	0.011	
F019166	0.010	
F019167	0.015	
F019168	0.038	
F019169	0.016	
F019170	> 10.0	14.2
F019171	0.039	
F019172	0.026	
F019173	0.016	
F019174	0.026	
F019175	0.048	
F019176	0.214	
F019177	0.045	
F019178	0.024	
F019179	0.017	
F019180	< 0.005	
F019181	0.007	
F019182	0.008	
F019183	0.009	
F019184	0.006	
F019185	< 0.005	
F019186	< 0.005	
F019187	< 0.005	
F019188	< 0.005	
F019189	< 0.005	
F019190	3.60	
F019191	0.021	
F019192	< 0.005	
F019193	< 0.005	
F019194	< 0.005	
F019195	0.020	
F019196	< 0.005	
F019197	0.010	
F019198	0.028	
F019199	0.007	
F019200	< 0.005	
F019201	0.007	
F019202	0.009	
F019203	0.006	
F019204	0.033	
F019205	0.024	
F019206	0.030	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019207	< 0.005	
F019208	0.026	
F019209	0.010	
F019210	3.36	
F019211	0.008	
F019212	0.012	
F019213	0.028	
F019214	0.165	
F019215	0.048	
F019216	0.034	
F019217	0.093	
F019218	< 0.005	
F019219	0.012	
F019220	< 0.005	
F019221	0.065	
F019222	0.025	
F019223	< 0.005	
F019224	0.022	
F019225	0.005	
F019226	0.011	
F019227	0.011	
F019228	0.069	
F019229	0.009	
F019230	6.50	
F019231	2.15	
F019232	0.007	
F019233	0.069	
F019234	0.014	
F019235	< 0.005	
F019236	0.018	
F019237	0.012	
F019238	0.005	
F019239	0.005	
F019240	< 0.005	
F019241	< 0.005	
F019242	< 0.005	
F019243	0.005	
F019244	< 0.005	
F019245	< 0.005	
F019246	0.018	
F019247	0.011	
F019248	0.012	
F019249	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019250	0.452	
F019251	0.006	
F019252	0.006	
OREAS 224 (Fire Assay) Meas		2.08
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.17	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.26	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.340	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.333	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.342	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.346	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.3
OREAS 257 Cert		14.18
F019174 Orig	0.026	
F019174 Dup	0.024	
F019184 Orig	0.006	
F019184 Dup	0.005	
F019194 Orig	< 0.005	
F019194 Dup	< 0.005	
F019209 Orig	0.010	
F019209 Dup	0.008	
F019214 Orig	0.165	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019214 Split	0.115	
F019218 Orig	< 0.005	
F019218 Dup	< 0.005	
F019243 Orig	0.005	
F019243 Dup	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 09-Jul-19  
**Invoice No.:** A19-08879-ReAssay  
**Invoice Date:** 15-Jul-19  
**Your Reference:** MW5173 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

88 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-08879-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized with a large, sweeping 'E' and 'M'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F019221	0.065
F019222	0.027
F019223	< 0.005
F019224	< 0.005
F019225	0.005
F019226	0.013
F019227	0.015
F019228	0.040
F019229	0.014
F019230	6.70
F019231	2.15
F019232	0.013
F019233	0.040
F019234	0.021
F019235	0.012
F019236	0.013
F019237	0.022
F019238	0.012
F019239	0.013
OREAS 222 (Fire Assay) Meas	1.22
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.16
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.337
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.337
OREAS 217 (Fire Assay) Cert	0.338
Method Blank	< 0.005
Method Blank	0.005



**Date Submitted:** 09-Jul-19  
**Invoice No.:** A19-08880  
**Invoice Date:** 12-Jul-19  
**Your Reference:** MW5174 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

96 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-08880**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019435	0.010	
F019436	0.011	
F019437	0.025	
F019438	0.009	
F019439	0.009	
F019440	< 0.005	
F019441	0.009	
F019442	0.008	
F019443	0.009	
F019444	0.011	
F019445	0.010	
F019446	0.011	
F019447	0.011	
F019448	0.012	
F019449	0.014	
F019450	0.458	
F019451	0.012	
F019452	0.012	
F019453	0.011	
F019454	0.014	
F019455	0.020	
F019456	0.016	
F019457	0.015	
F019458	0.013	
F019459	0.013	
F019460	< 0.005	
F019461	0.013	
F019462	0.008	
F019463	0.011	
F019464	0.005	
F019465	0.005	
F019466	0.009	
F019467	0.006	
F019468	< 0.005	
F019469	0.006	
F019470	> 10.0	14.4
F019471	0.013	
F019472	< 0.005	
F019473	0.014	
F019474	0.007	
F019475	0.009	
F019476	0.034	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019477	0.011	
F019478	0.013	
F019479	0.011	
F019480	< 0.005	
F019481	0.026	
F019482	0.012	
F019483	0.007	
F019484	0.018	
F019485	0.009	
F019486	0.021	
F019487	0.005	
F019488	< 0.005	
F019489	0.015	
F019490	3.49	
F019491	0.010	
F019492	< 0.005	
F019493	0.005	
F019494	0.005	
F019495	0.007	
F019496	< 0.005	
F019497	< 0.005	
F019498	< 0.005	
F019499	0.005	
F019500	< 0.005	
F019501	< 0.005	
F019502	< 0.005	
F019503	< 0.005	
F019504	< 0.005	
F019505	< 0.005	
F019506	< 0.005	
F019507	< 0.005	
F019508	< 0.005	
F019509	0.006	
F019510	3.37	
F019511	0.005	
F019512	0.006	
F019513	0.005	
F019514	< 0.005	
F019515	0.005	
F019516	0.012	
F019517	0.009	
F019518	0.005	
F019519	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019520	< 0.005	
F019521	0.008	
F019522	0.008	
F019523	0.006	
F019524	0.005	
F019525	0.006	
F019526	< 0.005	
F019527	0.005	
F019528	0.013	
F019529	< 0.005	
F019530	6.56	
OREAS 216 (Fire Assay) Meas		6.68
OREAS 216 (Fire Assay) Cert		6.66
OREAS 224 (Fire Assay) Meas		2.25
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.27	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.24	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.15	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.345	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.331	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.329	
OREAS 217 (Fire Assay) Cert	0.338	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Cert		
OREAS 217 (Fire Assay) Meas	0.335	
OREAS 217 (Fire Assay) Cert	0.338	
F019444 Orig	0.011	
F019444 Dup	0.013	
F019454 Orig	0.014	
F019454 Dup	0.014	
F019464 Orig	0.005	
F019464 Dup	< 0.005	
F019479 Orig	0.011	
F019479 Dup	0.011	
F019484 Orig	0.018	
F019484 Split	0.020	
F019488 Orig	< 0.005	
F019488 Dup	< 0.005	
F019498 Orig	< 0.005	
F019498 Dup	0.005	
F019513 Orig	0.005	
F019513 Dup	< 0.005	
F019523 Orig	0.006	
F019523 Dup	0.006	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank	< 0.005	



**Date Submitted:** 09-Jul-19  
**Invoice No.:** A19-08880-ReAssay  
**Invoice Date:** 20-Aug-19  
**Your Reference:** MW5174 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

96 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Geraldton QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-08880-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized with loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F019521	< 0.005
F019522	< 0.005
F019523	< 0.005
F019524	< 0.005
F019525	< 0.005
F019526	< 0.005
F019527	< 0.005
F019528	< 0.005
F019529	< 0.005
F019530	6.76
OREAS 222 (Fire Assay) Meas	1.26
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.346
OREAS 217 (Fire Assay) Cert	0.338
F019529 Orig	< 0.005
F019529 Dup	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 09-Jul-19  
**Invoice No.:** A19-08882  
**Invoice Date:** 10-Jul-19  
**Your Reference:** MW5175 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

52 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-08882**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with some loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F019574	0.017
F019575	0.006
F019576	0.015
F019577	0.006
F019578	< 0.005
F019579	0.007
F019580	< 0.005
F019581	0.009
F019582	0.012
F019583	< 0.005
F019584	< 0.005
F019585	< 0.005
F019586	< 0.005
F019587	0.008
F019588	0.017
F019589	< 0.005
F019590	3.59
F019591	0.011
F019592	0.010
F019593	0.012
F019594	0.005
F019605	0.017
F019606	0.212
F019607	0.027
F019608	0.094
F019609	0.082
F019610	3.70
F019611	0.045
F019612	0.057
F019613	0.012
F019614	0.009
F019615	0.005
F019616	0.020
F019617	< 0.005
F019618	0.005
F019619	0.005
F019620	< 0.005
F019621	< 0.005
F019674	0.012
F019675	0.111
F019676	0.005
F019677	0.202
F019678	0.009

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F019679	0.046
F019691	0.008
F019692	0.023
F019693	0.021
F019694	0.028
F019695	0.018
F019696	0.011
F019697	0.005
F019698	0.006
OREAS 222 (Fire Assay) Meas	1.21
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.18
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.342
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.345
OREAS 217 (Fire Assay) Cert	0.338
F019583 Orig	< 0.005
F019583 Dup	< 0.005
F019593 Orig	0.012
F019593 Dup	0.009
F019613 Orig	0.012
F019613 Dup	0.011
F019691 Orig	0.008
F019691 Dup	0.023
F019696 Orig	0.011
F019696 Split	0.012
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005





**Date Submitted:** 11-Jul-19  
**Invoice No.:** A19-08989  
**Invoice Date:** 16-Jul-19  
**Your Reference:** MW5178 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-08989**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with a large 'E' and 'S'.

---

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019253	0.012	
F019254	0.005	
F019255	0.013	
F019256	0.029	
F019257	0.010	
F019258	0.082	
F019259	0.160	
F019260	< 0.005	
F019261	0.024	
F019262	0.150	
F019263	0.104	
F019264	0.005	
F019265	< 0.005	
F019266	0.006	
F019267	< 0.005	
F019268	< 0.005	
F019269	< 0.005	
F019270	> 10.0	14.3
F019271	0.009	
F019272	< 0.005	
F019273	0.010	
F019274	0.017	
F019275	0.007	
F019276	< 0.005	
F019277	0.005	
F019278	0.005	
F019279	0.008	
F019280	< 0.005	
F019281	0.058	
F019282	0.007	
F019283	0.005	
F019284	0.006	
F019285	0.005	
F019286	0.005	
F019287	0.008	
F019288	0.009	
F019289	0.042	
F019290	3.52	
F019291	0.014	
F019292	0.198	
F019293	0.048	
F019294	5.81	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019295	0.082	
F019296	0.015	
F019297	1.17	
F019298	0.017	
F019299	3.21	
F019300	0.006	
F019301	0.032	
F019302	0.126	
F019303	0.132	
F019304	0.446	
F019305	0.017	
F019306	0.032	
F019307	0.006	
F019308	< 0.005	
F019309	< 0.005	
F019310	3.44	
F019311	0.011	
F019312	0.028	
F019313	0.053	
F019314	0.135	
F019315	1.06	
F019316	1.37	
F019317	2.20	
F019318	0.427	
F019319	0.432	
F019320	< 0.005	
F019321	0.091	
F019322	0.311	
F019323	0.381	
F019324	0.256	
F019325	0.021	
F019326	0.588	
F019327	0.105	
F019328	2.60	
F019329	0.033	
F019330	6.80	
F019331	0.254	
F019332	0.072	
F019333	1.07	
F019334	0.211	
F019335	0.167	
F019336	0.015	
F019337	0.007	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019338	0.103	
F019339	0.010	
F019340	< 0.005	
F019341	0.007	
F019342	0.006	
F019343	< 0.005	
F019344	0.005	
F019345	0.007	
F019346	0.006	
F019347	0.008	
F019348	0.011	
F019349	0.010	
F019350	0.459	
F019351	0.018	
F019352	0.020	
F019353	0.009	
F019354	0.009	
F019355	0.006	
F019356	0.006	
F019357	0.005	
F019358	0.006	
F019359	< 0.005	
F019360	< 0.005	
F019361	0.012	
F019362	0.006	
F019363	0.012	
F019364	0.011	
F019365	0.006	
F019366	0.014	
F019367	0.011	
F019368	0.006	
F019369	0.009	
F019370	> 10.0	14.7
F019371	0.008	
F019372	0.011	
F019373	0.005	
F019374	0.013	
F019375	0.006	
F019376	< 0.005	
F019377	< 0.005	
F019378	0.014	
F019379	0.010	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019380	< 0.005	
F019381	0.007	
F019382	0.014	
F019383	0.017	
F019384	0.009	
F019385	0.021	
F019386	0.010	
F019387	0.005	
F019388	< 0.005	
F019389	< 0.005	
F019390	3.41	
F019391	0.011	
F019392	< 0.005	
F019393	0.006	
F019394	< 0.005	
F019395	0.005	
F019396	0.011	
OREAS 224 (Fire Assay) Meas		2.22
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.16	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.19	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.17	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.17	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.329	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.327	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.325	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.325	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.326	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.325	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.1
OREAS 257 Cert		14.18
F019262 Orig	0.150	
F019262 Dup	0.129	
F019272 Orig	< 0.005	
F019272 Dup	< 0.005	
F019282 Orig	0.007	
F019282 Dup	0.007	
F019302 Orig	0.126	
F019302 Split	0.150	
F019306 Orig	0.032	
F019306 Dup	0.029	
F019341 Orig	0.007	
F019341 Dup	0.005	
F019351 Orig	0.018	
F019351 Dup	0.018	
F019352 Orig	0.020	
F019352 Split	0.023	
F019365 Orig	0.006	
F019365 Dup	0.005	
F019375 Orig	0.006	
F019375 Dup	0.006	
F019385 Orig	0.021	
F019385 Dup	0.021	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 11-Jul-19  
**Invoice No.:** A19-08990  
**Invoice Date:** 17-Jul-19  
**Your Reference:** MW5179 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-08990**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

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	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019531	0.005	
F019532	0.006	
F019533	0.005	
F019534	0.007	
F019535	0.010	
F019536	0.007	
F019537	0.007	
F019538	0.007	
F019539	0.005	
F019540	< 0.005	
F019541	< 0.005	
F019542	0.009	
F019543	0.009	
F019544	0.011	
F019545	0.019	
F019546	0.009	
F019547	0.006	
F019548	0.011	
F019549	0.008	
F019550	0.440	
F019551	0.008	
F019552	0.009	
F019553	0.009	
F019554	0.013	
F019555	0.015	
F019556	0.020	
F019557	0.012	
F019558	< 0.005	
F019559	< 0.005	
F019560	< 0.005	
F019561	< 0.005	
F019562	0.006	
F019563	0.009	
F019564	< 0.005	
F019565	< 0.005	
F019566	< 0.005	
F019567	< 0.005	
F019568	< 0.005	
F019569	< 0.005	
F019570	> 10.0	14.1
F019571	< 0.005	
F019572	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019573	< 0.005	
F019595	0.025	
F019596	0.037	
F019597	0.039	
F019598	0.025	
F019599	0.032	
F019600	< 0.005	
F019601	0.301	
F019602	0.012	
F019603	0.074	
F019604	0.094	
F019622	< 0.005	
F019623	< 0.005	
F019624	< 0.005	
F019625	< 0.005	
F019626	< 0.005	
F019627	< 0.005	
F019628	< 0.005	
F019629	< 0.005	
F019630	6.72	
F019631	< 0.005	
F019632	< 0.005	
F019633	0.018	
F019634	< 0.005	
F019635	< 0.005	
F019636	< 0.005	
F019637	< 0.005	
F019638	< 0.005	
F019639	< 0.005	
F019640	< 0.005	
F019641	< 0.005	
F019642	< 0.005	
F019643	< 0.005	
F019644	< 0.005	
F019645	0.005	
F019646	< 0.005	
F019647	0.005	
F019648	0.005	
F019649	0.005	
F019650	0.538	
F019651	< 0.005	
F019652	< 0.005	
F019653	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019654	< 0.005	
F019655	< 0.005	
F019656	< 0.005	
F019657	< 0.005	
F019658	< 0.005	
F019659	< 0.005	
F019660	< 0.005	
F019661	< 0.005	
F019662	< 0.005	
F019663	< 0.005	
F019664	< 0.005	
F019665	< 0.005	
F019666	< 0.005	
F019667	< 0.005	
F019668	< 0.005	
F019669	< 0.005	
F019670	> 10.0	14.3
F019671	< 0.005	
F019672	< 0.005	
F019673	< 0.005	
F019680	< 0.005	
F019681	0.011	
F019682	0.010	
F019683	< 0.005	
F019684	< 0.005	
F019685	0.007	
F019686	0.005	
F019687	< 0.005	
F019688	0.026	
F019689	0.029	
F019690	3.59	
F019699	0.005	
F019700	< 0.005	
F019701	0.005	
F019702	< 0.005	
F019703	< 0.005	
F019704	< 0.005	
F019705	< 0.005	
F019706	0.005	
F019707	< 0.005	
F019708	0.005	
F019709	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019710	3.53	
F019711	0.006	
F019712	< 0.005	
F019713	0.005	
F019714	0.005	
F019715	< 0.005	
F019716	< 0.005	
F019717	< 0.005	
F019718	< 0.005	
F019719	< 0.005	
F019720	< 0.005	
F019721	< 0.005	
F019722	< 0.005	
F019723	< 0.005	
F019724	< 0.005	
F019725	< 0.005	
F019726	< 0.005	
OREAS 224 (Fire Assay) Meas		2.19
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.24	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.25	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.349	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.330	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.326	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.326	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.341	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.337	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
F019540 Orig	< 0.005	
F019540 Dup	< 0.005	
F019551 Orig	0.008	
F019551 Dup	0.008	
F019560 Orig	< 0.005	
F019560 Dup	< 0.005	
F019596 Orig	0.037	
F019596 Dup	0.012	
F019601 Orig	0.301	
F019601 Split	0.290	
F019622 Orig	< 0.005	
F019622 Dup	< 0.005	
F019632 Orig	< 0.005	
F019632 Dup	< 0.005	
F019647 Orig	0.005	
F019647 Dup	0.005	
F019657 Orig	< 0.005	
F019657 Dup	< 0.005	
F019667 Orig	< 0.005	
F019667 Dup	< 0.005	
F019668 Orig	< 0.005	
F019668 Split	< 0.005	
F019687 Orig	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019687 Dup	< 0.005	
F019705 Orig	< 0.005	
F019705 Dup	< 0.005	
F019715 Orig	< 0.005	
F019715 Dup	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 11-Jul-19  
**Invoice No.:** A19-08991  
**Invoice Date:** 16-Jul-19  
**Your Reference:** MW5183 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

45 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-08991**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with a large, looped 'E' and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019727	0.005	
F019728	< 0.005	
F019729	0.005	
F019730	6.51	
F019731	0.038	
F019732	0.006	
F019733	0.006	
F019734	0.006	
F019735	< 0.005	
F019736	0.005	
F019737	< 0.005	
F019738	< 0.005	
F019739	0.005	
F019740	< 0.005	
F019741	0.021	
F019742	0.010	
F019743	0.005	
F019744	0.005	
F019745	< 0.005	
F019746	< 0.005	
F019747	0.006	
F019748	< 0.005	
F019749	0.006	
F019750	0.482	
F019751	0.005	
F019752	0.005	
F019753	< 0.005	
F019754	0.005	
F019755	< 0.005	
F019756	0.005	
F019757	< 0.005	
F019758	< 0.005	
F019759	< 0.005	
F019760	< 0.005	
F019761	< 0.005	
F019762	< 0.005	
F019763	0.005	
F019764	< 0.005	
F019765	0.005	
F019766	0.005	
F019767	0.005	
F019768	0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019769	< 0.005	
F019770	> 10.0	14.3
F019771	< 0.005	
OREAS 224 (Fire Assay) Meas		2.22
OREAS 224 (Fire Assay) Cert		2.15
OREAS 224 (Fire Assay) Meas		2.22
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.16	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.20	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.23	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.329	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.332	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.332	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		13.9
OREAS 257 Cert		14.18
OREAS 257 Meas		14.1
OREAS 257 Cert		14.18
F019736 Orig	0.005	
F019736 Dup	< 0.005	
F019756 Orig	0.005	
F019756 Dup	< 0.005	
F019771 Orig	< 0.005	
F019771 Dup	0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 11-Jul-19  
**Invoice No.:** A19-08991-ReAssay  
**Invoice Date:** 18-Jul-19  
**Your Reference:** MW5183 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

45 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-08991-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized and somewhat cursive, written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

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TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F019727	0.009
F019728	0.007
F019729	0.007
F019730	6.83
F019731	0.005
F019732	0.040
F019733	< 0.005
F019734	0.009
F019735	< 0.005
F019736	< 0.005
F019737	0.005
F019738	< 0.005
F019739	< 0.005
OREAS 222 (Fire Assay) Meas	1.27
OREAS 222 (Fire Assay) Cert	1.22
OREAS 222 (Fire Assay) Meas	1.24
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.335
OREAS 217 (Fire Assay) Cert	0.338
OREAS 217 (Fire Assay) Meas	0.351
OREAS 217 (Fire Assay) Cert	0.338
Method Blank	< 0.005
Method Blank	0.005



**Date Submitted:** 15-Jul-19  
**Invoice No.:** A19-09088  
**Invoice Date:** 24-Jul-19  
**Your Reference:** MW5177

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-09088**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F000881	< 0.005	
F000882	< 0.005	
F000883	< 0.005	
F000884	< 0.005	
F000885	< 0.005	
F000886	< 0.005	
F000887	< 0.005	
F000888	< 0.005	
F000889	< 0.005	
F000890	3.41	
F000891	< 0.005	
F000892	< 0.005	
F000893	< 0.005	
F000894	< 0.005	
F000895	< 0.005	
F000896	0.005	
F000897	< 0.005	
F000898	< 0.005	
F000899	< 0.005	
F000900	< 0.005	
F000901	< 0.005	
F000902	< 0.005	
F000903	< 0.005	
F000904	< 0.005	
F000905	< 0.005	
F000906	< 0.005	
F000907	< 0.005	
F000908	< 0.005	
F000909	< 0.005	
F000910	3.56	
F000911	0.005	
F000912	< 0.005	
F000913	< 0.005	
F000914	< 0.005	
F000915	< 0.005	
F000916	0.014	
F000917	< 0.005	
F000918	0.013	
F000919	< 0.005	
F000920	< 0.005	
F000921	< 0.005	
F000922	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F000923	0.006	
F000924	< 0.005	
F000925	< 0.005	
F000926	0.005	
F000927	0.026	
F000928	0.030	
F000929	0.006	
F000930	7.06	
F000931	0.021	
F000932	0.022	
F000933	0.005	
F000934	0.006	
F000935	0.006	
F000936	0.008	
F000937	0.009	
F000938	0.013	
F000939	0.014	
F000940	< 0.005	
F007719	0.768	
F007720	< 0.005	
F007721	0.031	
F007722	0.037	
F007723	0.105	
F007724	0.011	
F007725	< 0.005	
F007726	0.005	
F007727	0.005	
F007728	0.008	
F007729	0.013	
F007730	6.91	
F007731	0.011	
F007732	0.019	
F007733	0.009	
F007734	0.005	
F007735	< 0.005	
F007736	< 0.005	
F007737	< 0.005	
F007738	< 0.005	
F007739	< 0.005	
F007740	< 0.005	
F007741	0.238	
F007742	0.008	
F007743	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F007744	0.005	
F007745	0.006	
F007746	0.006	
F007747	0.018	
F007748	0.068	
F007749	0.035	
F007750	0.461	
F007751	0.118	
F007752	0.011	
F007753	0.006	
F007754	0.051	
F007755	< 0.005	
F007756	< 0.005	
F007757	0.006	
F007758	< 0.005	
F007759	< 0.005	
F007760	< 0.005	
F007761	0.005	
F007762	0.015	
F007763	< 0.005	
F007764	< 0.005	
F007765	0.005	
F007766	< 0.005	
F007767	< 0.005	
F007768	0.009	
F007769	0.006	
F007770	> 10.0	14.6
F007771	0.013	
F007772	0.036	
F007773	0.348	
F007774	0.334	
F007775	0.021	
F007776	0.077	
F007777	0.079	
F007778	0.164	
F007779	0.006	
F007780	< 0.005	
F007781	0.007	
F007782	0.009	
F007783	0.009	
F007784	0.200	
F007785	0.248	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F007786	0.100	
F007787	0.005	
F007788	< 0.005	
F007789	< 0.005	
F007790	3.43	
F007791	< 0.005	
F007792	0.005	
F007793	< 0.005	
F007794	< 0.005	
F007795	< 0.005	
F007796	< 0.005	
F007797	< 0.005	
F007798	< 0.005	
F007799	0.024	
F007800	< 0.005	
F007801	< 0.005	
F007802	< 0.005	
F007803	< 0.005	
OREAS 216 (Fire Assay) Meas		6.69
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.55	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.50	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.54	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.45	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.536	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.512	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.521	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.515	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.532	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.3
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		3.97
OREAS 255 (Fire Assay) Cert		4.08
F000884 Orig	< 0.005	
F000884 Dup	< 0.005	
F000902 Orig	< 0.005	
F000902 Dup	< 0.005	
F000913 Orig	< 0.005	
F000913 Dup	< 0.005	
F000919 Orig	< 0.005	
F000919 Dup	< 0.005	
F000931 Orig	0.021	
F000931 Split	0.016	
F000934 Orig	0.006	
F000934 Dup	0.007	
F007738 Orig	< 0.005	
F007738 Dup	< 0.005	
F007747 Orig	0.018	
F007747 Dup	0.026	
F007756 Orig	< 0.005	
F007756 Dup	< 0.005	
F007758 Orig	< 0.005	
F007758 Split	< 0.005	
F007777 Orig	0.079	
F007777 Dup	0.066	
F007784 Orig	0.200	
F007784 Dup	0.238	
F007795 Orig	< 0.005	
F007795 Dup	< 0.005	
F007803 Orig	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F007803 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 15-Jul-19  
**Invoice No.:** A19-09089  
**Invoice Date:** 24-Jul-19  
**Your Reference:** MW5181

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-09089**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
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E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F000941	0.077	
F000942	0.009	
F000943	0.006	
F000944	0.008	
F000945	0.028	
F000946	0.005	
F000947	0.010	
F000948	0.011	
F000949	0.012	
F000950	0.441	
F021501	0.014	
F021502	0.018	
F021503	0.115	
F021504	0.075	
F021505	0.017	
F021506	0.010	
F021507	0.007	
F021508	< 0.005	
F021509	< 0.005	
F021510	3.42	
F021511	0.009	
F021512	< 0.005	
F021513	0.005	
F021514	0.005	
F021515	< 0.005	
F021516	0.013	
F021517	0.114	
F021518	0.012	
F021519	0.038	
F021520	< 0.005	
F021521	0.006	
F021522	0.014	
F021523	0.016	
F021524	0.011	
F021525	0.014	
F021526	0.049	
F021527	0.079	
F021528	0.219	
F021529	0.064	
F021530	7.04	
F021531	0.021	
F021532	0.024	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021533	0.172	
F021534	0.005	
F021535	0.007	
F021536	0.010	
F021537	< 0.005	
F021538	0.006	
F021539	0.007	
F021540	< 0.005	
F021541	0.009	
F021542	0.012	
F021543	0.015	
F021544	0.006	
F021545	0.010	
F021546	0.006	
F021547	< 0.005	
F021548	0.007	
F021549	0.014	
F021550	0.456	
F021551	0.007	
F021552	0.088	
F021553	0.162	
F021554	0.396	
F021555	0.311	
F021556	0.007	
F021557	0.007	
F021558	0.005	
F021559	0.022	
F021560	< 0.005	
F021561	0.018	
F021562	0.279	
F021563	0.037	
F021564	0.009	
F021565	< 0.005	
F021566	0.005	
F021567	0.005	
F021568	0.005	
F021569	0.115	
F021570	> 10.0	14.5
F021571	0.016	
F021572	0.053	
F021573	0.006	
F021574	0.007	
F021575	0.523	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021576	0.015	
F021577	0.013	
F021578	0.006	
F021579	0.043	
F021580	< 0.005	
F021581	< 0.005	
F021582	< 0.005	
F021583	0.237	
F021584	0.008	
F021585	0.134	
F021586	0.068	
F021587	0.026	
F021588	0.023	
F021589	0.011	
F021590	3.42	
F021591	0.007	
F021592	0.009	
F021593	0.006	
F021594	< 0.005	
F021595	< 0.005	
F021596	< 0.005	
F021597	0.005	
F021598	< 0.005	
F021599	< 0.005	
F021600	< 0.005	
F021601	< 0.005	
F021602	< 0.005	
F021603	< 0.005	
F021604	< 0.005	
F021605	< 0.005	
F021606	< 0.005	
F021607	< 0.005	
F021608	< 0.005	
F021609	< 0.005	
F021610	3.30	
F021611	< 0.005	
F021612	< 0.005	
F021613	< 0.005	
F021614	< 0.005	
F021615	< 0.005	
F021616	< 0.005	
F021617	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021618	< 0.005	
F021619	< 0.005	
F021620	< 0.005	
F021621	< 0.005	
F021622	0.007	
F021623	< 0.005	
F021624	< 0.005	
F021625	0.005	
F021626	0.005	
F021627	0.005	
F021628	< 0.005	
F021629	0.005	
F021630	3.36	
F021631	0.005	
F021632	0.006	
F021633	0.007	
F021634	0.007	
OREAS 216 (Fire Assay) Meas		6.69
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.52	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.48	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.543	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.532	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.529	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.532	
OREAS 218 Cert	0.531	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.533	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.521	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.2
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.11
OREAS 255 (Fire Assay) Cert		4.08
F021501 Orig	0.014	
F021501 Dup	0.013	
F021511 Orig	0.009	
F021511 Dup	0.007	
F021519 Orig	0.038	
F021519 Dup	0.038	
F021541 Orig	0.009	
F021541 Split	0.007	
F021541 Orig	0.009	
F021541 Dup	0.009	
F021546 Orig	0.006	
F021546 Dup	0.005	
F021558 Orig	0.005	
F021558 Dup	0.005	
F021575 Orig	0.523	
F021575 Dup	0.550	
F021581 Orig	< 0.005	
F021581 Dup	< 0.005	
F021591 Orig	0.007	
F021591 Split	< 0.005	
F021592 Orig	0.009	
F021592 Dup	0.009	
F021609 Orig	< 0.005	
F021609 Dup	< 0.005	
F021616 Orig	< 0.005	
F021616 Dup	< 0.005	
F021627 Orig	0.005	
F021627 Dup	0.006	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 18-Jul-19  
**Invoice No.:** A19-09293  
**Invoice Date:** 23-Jul-19  
**Your Reference:** MW5186 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

145 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-09293**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F020551	0.006	
F020552	0.005	
F020553	< 0.005	
F020554	< 0.005	
F020555	< 0.005	
F020556	0.005	
F020557	0.006	
F020558	< 0.005	
F020559	0.008	
F020560	< 0.005	
F020561	< 0.005	
F020562	0.009	
F020563	0.011	
F020564	0.010	
F020565	0.020	
F020566	0.006	
F020567	0.006	
F020568	0.005	
F020569	0.016	
F020570	> 10.0	14.3
F020571	0.011	
F020572	< 0.005	
F020573	< 0.005	
F020574	< 0.005	
F020575	0.020	
F020576	0.018	
F020577	0.013	
F020578	0.010	
F020579	0.006	
F020580	0.005	
F020581	0.006	
F020582	0.113	
F020583	0.005	
F020584	0.032	
F020585	0.051	
F020586	0.010	
F020587	0.010	
F020588	0.018	
F020589	0.015	
F020590	3.34	
F020591	0.016	
F020592	0.011	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F020593	0.010	
F020594	0.040	
F020595	0.011	
F020596	0.011	
F020597	0.009	
F020598	0.010	
F020599	0.014	
F020600	< 0.005	
F020601	0.013	
F020602	0.009	
F020603	0.013	
F020604	0.014	
F020605	0.018	
F020606	0.008	
F020607	< 0.005	
F020608	0.062	
F020609	0.013	
F020610	3.38	
F020611	0.062	
F020612	0.014	
F020613	0.005	
F020614	0.010	
F020615	0.006	
F020616	0.009	
F020617	0.014	
F020618	0.080	
F020619	0.012	
F020620	0.010	
F020621	0.010	
F020622	0.011	
F007919	0.008	
F007920	0.005	
F007921	0.007	
F007922	0.008	
F007923	0.010	
F007924	0.011	
F007925	0.008	
F007926	0.008	
F007927	0.007	
F007928	0.009	
F007929	< 0.005	
F007930	6.96	
F007931	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F007932	< 0.005	
F007933	0.007	
F007934	0.006	
F007935	0.005	
F007936	0.006	
F007937	< 0.005	
F007938	0.005	
F007939	0.012	
F007940	< 0.005	
F007941	0.012	
F007942	0.009	
F007943	< 0.005	
F007944	0.007	
F007945	0.007	
F007946	0.005	
F007947	0.007	
F007948	0.005	
F007949	0.005	
F007950	0.454	
F007951	0.009	
F007952	0.006	
F007953	0.015	
F007954	0.011	
F007955	0.338	
F007956	0.263	
F007957	0.012	
F007958	0.008	
F007959	0.005	
F007960	< 0.005	
F007961	0.007	
F007962	0.005	
F007963	0.005	
F007964	< 0.005	
F007965	0.006	
F007966	0.005	
F007967	< 0.005	
F007968	< 0.005	
F007969	< 0.005	
F007970	> 10.0	13.4
F007971	0.006	
F007972	0.005	
F007973	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F007974	0.008	
F007975	< 0.005	
F007976	0.006	
F007977	0.006	
F007978	0.007	
F007979	0.009	
F007980	< 0.005	
F007981	0.005	
F007982	< 0.005	
F007983	0.012	
F007984	0.010	
F007985	0.009	
F007986	0.005	
F007987	0.008	
F007988	0.007	
F007989	0.006	
F007990	3.36	
F007991	0.005	
OREAS 224 (Fire Assay) Meas		2.09
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.13	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.23	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.333	
OREAS 217 (Fire Assay) Cert	0.338	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 217 (Fire Assay) Meas	0.328	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.336	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.338	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.339	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.0
OREAS 257 Cert		14.18
F020560 Orig	< 0.005	
F020560 Dup	< 0.005	
F020571 Orig	0.011	
F020571 Dup	0.005	
F020580 Orig	0.005	
F020580 Dup	< 0.005	
F020595 Orig	0.011	
F020595 Dup	0.012	
F020601 Orig	0.013	
F020601 Split	0.012	
F020604 Orig	0.014	
F020604 Dup	0.014	
F020614 Orig	0.010	
F020614 Dup	0.006	
F007925 Orig	0.008	
F007925 Dup	0.008	
F007935 Orig	0.005	
F007935 Dup	0.005	
F007945 Orig	0.007	
F007945 Dup	0.009	
F007946 Orig	0.005	
F007946 Split	0.007	
F007959 Orig	0.005	
F007959 Dup	0.005	
F007969 Orig	< 0.005	
F007969 Dup	< 0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F007979 Orig	0.009	
F007979 Dup	0.007	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09589  
**Invoice Date:** 26-Jul-19  
**Your Reference:** MW5184 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-09589**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018407	1.15	
F018408	0.047	
F018409	0.025	
F018410	3.62	
F018411	0.013	
F018412	0.019	
F018413	0.512	
F018414	0.572	
F018415	0.018	
F018416	1.23	
F018417	0.146	
F018418	0.014	
F018419	0.031	
F018420	< 0.005	
F018421	0.013	
F018422	0.757	
F018423	0.392	
F018424	0.015	
F018425	0.024	
F018426	0.010	
F018427	0.015	
F018428	0.012	
F018429	0.019	
F018430	7.00	
F018431	0.017	
F018432	0.026	
F018433	0.021	
F018434	0.022	
F018435	0.017	
F018436	0.023	
F018437	0.007	
F018438	0.021	
F018439	0.128	
F018440	< 0.005	
F018441	0.018	
F018442	0.012	
F018443	0.020	
F018444	0.023	
F018445	0.007	
F018446	0.006	
F018447	0.005	
F018448	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018449	0.020	
F018450	0.480	
F018451	0.034	
F018452	0.293	
F018453	0.021	
F018454	0.515	
F018455	0.063	
F018456	0.337	
F018457	0.026	
F018458	0.036	
F018459	0.074	
F018460	< 0.005	
F018461	0.178	
F018462	0.035	
F018463	0.011	
F018464	< 0.005	
F018465	0.096	
F018466	0.271	
F018467	2.90	
F018468	6.04	
F018469	7.65	
F018470	> 10.0	14.2
F018471	0.233	
F018472	0.014	
F018473	0.050	
F018474	0.025	
F018475	0.011	
F018476	0.010	
F018477	0.006	
F018478	0.012	
F018479	0.008	
F018480	< 0.005	
F018481	0.006	
F018482	0.009	
F018483	0.045	
F018484	0.011	
F018485	0.012	
F018486	4.55	
F018487	0.025	
F018488	0.015	
F018489	0.045	
F018490	3.45	
F018491	4.91	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018492	0.209	
F018493	< 0.005	
F018494	0.005	
F018495	0.006	
F018496	0.010	
F018497	4.02	
F018498	0.014	
F018499	0.014	
F018500	< 0.005	
F018501	0.036	
F018502	1.67	
F018503	0.050	
F018504	3.52	
F018505	1.17	
F018506	0.055	
F018507	1.47	
F018508	0.051	
F018509	0.071	
F018510	3.76	
F018511	0.161	
F018512	5.62	
F019397	0.012	
F019398	0.009	
F019399	< 0.005	
F019400	< 0.005	
F019401	0.006	
F019402	< 0.005	
F019403	< 0.005	
F019404	< 0.005	
F019405	< 0.005	
F019406	0.005	
F019407	< 0.005	
F019408	< 0.005	
F019409	< 0.005	
F019410	3.30	
F019411	< 0.005	
F019412	< 0.005	
F019413	< 0.005	
F019414	< 0.005	
F019415	< 0.005	
F019416	< 0.005	
F019417	0.007	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019418	0.007	
F019419	0.005	
F019420	< 0.005	
F019421	0.005	
F019422	0.005	
F019423	< 0.005	
F019424	0.005	
F019425	< 0.005	
F019426	0.007	
F019427	0.007	
F019428	0.007	
F019429	0.007	
F019430	6.74	
F019431	< 0.005	
F019432	< 0.005	
F019433	< 0.005	
F019434	< 0.005	
OREAS 224 (Fire Assay) Meas		2.18
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.23	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.26	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.26	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.25	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire	0.329	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.326	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.349	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.340	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.340	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.337	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.2
OREAS 257 Cert		14.18
F018416 Orig	1.23	
F018416 Dup	1.22	
F018426 Orig	0.010	
F018426 Dup	0.010	
F018436 Orig	0.023	
F018436 Dup	0.030	
F018451 Orig	0.034	
F018451 Dup	0.026	
F018456 Orig	0.337	
F018456 Split	0.252	
F018460 Orig	< 0.005	
F018460 Dup	< 0.005	
F018485 Orig	0.012	
F018485 Dup	0.013	
F018495 Orig	0.006	
F018495 Dup	0.006	
F018505 Orig	1.17	
F018505 Dup	1.36	
F018506 Orig	0.055	
F018506 Split	0.076	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019403 Orig	< 0.005	
F019403 Dup	0.005	
F019413 Orig	< 0.005	
F019413 Dup	< 0.005	
F019423 Orig	< 0.005	
F019423 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03





**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09590  
**Invoice Date:** 31-Jul-19  
**Your Reference:** MW5185 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-09590**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019772	< 0.005	
F019773	< 0.005	
F019774	0.007	
F019775	0.005	
F019776	0.026	
F019777	0.040	
F019778	< 0.005	
F019779	< 0.005	
F019780	0.007	
F019781	< 0.005	
F019782	0.008	
F019783	< 0.005	
F019784	< 0.005	
F019785	0.008	
F019786	< 0.005	
F019787	< 0.005	
F019788	0.005	
F019789	< 0.005	
F019790	3.63	
F019791	0.005	
F019792	< 0.005	
F019793	0.005	
F019794	0.006	
F019795	0.007	
F019796	0.138	
F019797	0.007	
F019798	3.54	
F019799	4.93	
F019800	0.005	
F019801	0.010	
F019802	0.011	
F019803	0.006	
F019804	< 0.005	
F019805	0.007	
F019806	0.006	
F019807	< 0.005	
F019808	0.104	
F019809	0.007	
F019810	3.35	
F019811	0.012	
F019812	0.009	
F019813	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019814	< 0.005	
F019815	0.012	
F019816	0.041	
F019817	0.006	
F019818	0.005	
F019819	< 0.005	
F019820	0.006	
F019821	0.005	
F019822	0.008	
F019823	0.010	
F019824	0.007	
F019825	0.006	
F019826	0.005	
F019827	0.007	
F019828	0.005	
F019829	0.006	
F019830	6.68	
F019831	0.007	
F019832	0.008	
F019833	0.006	
F019834	0.008	
F019835	0.029	
F019836	0.007	
F019837	0.007	
F019838	0.009	
F019839	0.007	
F019840	0.005	
F019841	< 0.005	
F019842	< 0.005	
F019843	< 0.005	
F019844	< 0.005	
F019845	< 0.005	
F019846	< 0.005	
F019847	0.009	
F019848	0.015	
F019849	< 0.005	
F019850	0.510	
F019851	< 0.005	
F019852	< 0.005	
F019853	< 0.005	
F019854	< 0.005	
F019855	< 0.005	
F019856	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019857	< 0.005	
F019858	< 0.005	
F019859	< 0.005	
F019860	< 0.005	
F019861	< 0.005	
F019862	< 0.005	
F019863	< 0.005	
F019864	< 0.005	
F019865	< 0.005	
F019866	< 0.005	
F019867	< 0.005	
F019868	< 0.005	
F019869	< 0.005	
F019870	> 10.0	13.9
F019871	< 0.005	
F019872	< 0.005	
F019873	< 0.005	
F019874	< 0.005	
F019875	< 0.005	
F019876	< 0.005	
F019877	< 0.005	
F019878	< 0.005	
F019879	< 0.005	
F019880	< 0.005	
F019881	< 0.005	
F019882	0.005	
F019883	< 0.005	
F019884	< 0.005	
F019885	< 0.005	
F019886	< 0.005	
F019887	< 0.005	
F019888	< 0.005	
F019889	< 0.005	
F019890	3.09	
F019891	< 0.005	
F019892	< 0.005	
F018513	3.73	
F018514	> 10.0	20.0
F018515	0.934	
F018516	0.409	
F018517	0.632	
F018518	0.118	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018519	0.661	
F018520	< 0.005	
F018521	2.13	
F018522	0.727	
F018523	6.13	
F018524	0.126	
F018525	0.007	
F018526	0.029	
F018527	0.005	
F018528	0.009	
F018529	0.005	
F018530	6.81	
F018531	0.036	
F018532	0.073	
F018533	0.035	
F018534	0.023	
F018535	0.135	
OREAS 224 (Fire Assay) Meas		2.13
OREAS 224 (Fire Assay) Cert		2.15
OREAS 224 (Fire Assay) Meas		2.12
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.18	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.22	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.327	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.327	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.342	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.338	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.338	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.344	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		13.9
OREAS 257 Cert		14.18
OREAS 257 Meas		14.0
OREAS 257 Cert		14.18
F019781 Orig	< 0.005	
F019781 Dup	< 0.005	
F019791 Orig	0.005	
F019791 Dup	0.005	
F019801 Orig	0.010	
F019801 Dup	0.006	
F019816 Orig	0.041	
F019816 Dup	0.014	
F019821 Orig	0.005	
F019821 Split	0.006	
F019825 Orig	0.006	
F019825 Dup	0.005	
F019835 Orig	0.029	
F019835 Dup	0.048	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019851 Orig	< 0.005	
F019851 Dup	< 0.005	
F019860 Orig	< 0.005	
F019860 Dup	< 0.005	
F019871 Orig	< 0.005	
F019871 Split	< 0.005	
F019871 Orig	< 0.005	
F019871 Dup	< 0.005	
F019884 Orig	< 0.005	
F019884 Dup	< 0.005	
F018514 Orig	> 10.0	
F018514 Dup	> 10.0	
F018524 Orig	0.126	
F018524 Dup	0.091	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09590-ReAssay  
**Invoice Date:** 02-Aug-19  
**Your Reference:** MW5185 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

Code 1A3-Geraldton Au - Fire Assay Gravimetric

REPORT **A19-09590-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019881	< 0.005	
F019882	< 0.005	
F019883	< 0.005	
F019884	< 0.005	
F019885	< 0.005	
F019886	< 0.005	
F019887	< 0.005	
F019888	< 0.005	
F019889	< 0.005	
F019890	3.46	
F019891	< 0.005	
F019892	< 0.005	
F018513	3.50	
F018514	> 10.0	21.2
F018515	0.960	
F018516	0.393	
F018517	0.585	
F018518	0.142	
F018519	0.784	
OREAS 224 (Fire Assay) Meas		2.21
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.21	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire Assay) Meas	0.341	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.0
OREAS 257 Cert		14.18
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09591  
**Invoice Date:** 28-Jul-19  
**Your Reference:** MW5189 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton Au - Fire Assay AA

REPORT **A19-09591**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
801 Main Street, P.O. Box 999, Geraldton, Ontario, Canada, P0T 1M0  
TELEPHONE +807 854-2020 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F018536	0.034	
F018537	0.038	
F018538	0.065	
F018539	0.040	
F018540	< 0.005	
F018541	0.226	
F018542	0.016	
F018543	0.078	
F018544	0.083	
F018545	0.040	
F018546	0.300	
F018547	0.295	
F018548	0.369	
F018549	0.118	
F018550	0.476	
F018551	0.060	
F018552	0.064	
F018553	0.042	
F018554	0.032	
F018555	0.055	
F018556	0.026	
F018557	0.183	
F018558	0.035	
F018559	0.028	
F018560	< 0.005	
F018561	0.066	
F018562	0.009	
F019893	0.330	
F019894	0.430	
F019895	0.463	
F019896	0.021	
F019897	0.376	
F019898	0.225	
F019899	0.005	
F019900	< 0.005	
F019901	0.196	
F019902	0.009	
F019903	0.006	
F019904	< 0.005	
F019905	0.009	
F019906	< 0.005	
F019907	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019908	< 0.005	
F019909	0.019	
F019910	3.35	
F019911	< 0.005	
F019912	0.005	
F019913	0.010	
F019914	0.110	
F019915	0.067	
F019916	0.057	
F019917	< 0.005	
F019918	0.007	
F019919	< 0.005	
F019920	< 0.005	
F019921	0.006	
F019922	0.008	
F019923	0.005	
F019924	0.006	
F019925	< 0.005	
F019926	0.100	
F019927	0.010	
F019928	0.009	
F019929	0.005	
F019930	7.53	
F019931	0.018	
F019932	0.005	
F019933	< 0.005	
F019934	0.391	
F019935	0.010	
F019936	0.007	
F019937	< 0.005	
F019938	0.015	
F019939	0.013	
F019940	< 0.005	
F019941	< 0.005	
F019942	0.032	
F019943	0.018	
F019944	0.008	
F019967	0.013	
F019968	0.006	
F019969	0.009	
F019970	> 10.0	14.5
F019971	0.013	
F019972	0.007	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019973	0.009	
F019974	0.008	
F019975	0.006	
F019976	0.010	
F019977	0.006	
F019978	0.006	
F019979	0.009	
F019980	< 0.005	
F019981	0.010	
F019982	0.009	
F019983	0.007	
F019984	< 0.005	
F019985	< 0.005	
F019986	< 0.005	
F019987	0.005	
F019988	< 0.005	
F019989	0.009	
F019990	2.73	
F019991	0.012	
F019992	0.018	
F019993	0.008	
F019994	0.026	
F019995	0.014	
F019996	0.020	
F019997	0.009	
F019998	< 0.005	
F019999	0.005	
F020000	0.008	
F023501	< 0.005	
F023502	< 0.005	
F023503	< 0.005	
F023504	0.011	
F023505	0.022	
F023506	0.011	
F023507	0.016	
F023508	0.009	
F023509	0.010	
F023510	3.33	
F023511	0.014	
F023512	0.012	
F023513	0.018	
F023514	0.009	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023515	0.030	
F023516	0.005	
F023517	< 0.005	
F023518	0.015	
F023519	0.031	
F023520	< 0.005	
F023521	0.018	
F023522	< 0.005	
F023523	0.025	
F023524	0.010	
F023525	0.041	
F023526	< 0.005	
F023527	0.014	
F023528	< 0.005	
F023529	0.016	
F023530	6.64	
F023531	< 0.005	
OREAS 224 (Fire Assay) Meas		2.21
OREAS 224 (Fire Assay) Cert		2.15
OREAS 222 (Fire Assay) Meas	1.22	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.19	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.23	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.16	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.25	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 222 (Fire Assay) Meas	1.24	
OREAS 222 (Fire Assay) Cert	1.22	
OREAS 217 (Fire	0.336	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay) Meas		
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.347	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.344	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.343	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.337	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 217 (Fire Assay) Meas	0.348	
OREAS 217 (Fire Assay) Cert	0.338	
OREAS 257 Meas		14.0
OREAS 257 Cert		14.18
F018545 Orig	0.040	
F018545 Dup	0.032	
F018555 Orig	0.055	
F018555 Dup	0.048	
F019895 Orig	0.463	
F019911 Orig	< 0.005	
F019911 Dup	< 0.005	
F019915 Orig	0.067	
F019915 Split	0.100	
F019919 Orig	< 0.005	
F019919 Dup	< 0.005	
F019929 Orig	0.005	
F019929 Dup	0.005	
F019944 Orig	0.008	
F019944 Dup	0.007	
F019976 Orig	0.010	
F019976 Dup	0.010	
F019986 Orig	< 0.005	
F019986 Dup	< 0.005	
F019987 Orig	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F019987 Split	0.005	
F020000 Orig	0.008	
F020000 Dup	< 0.005	
F023511 Orig	0.014	
F023511 Dup	0.013	
F023520 Orig	< 0.005	
F023520 Dup	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03





**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09591-ReAssay  
**Invoice Date:** 19-Aug-19  
**Your Reference:** MW5189 Geraldton

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Geraldton QOP AA-Au (Au - Fire Assay AA)

REPORT **A19-09591-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

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E-MAIL Geraldton@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F019981	0.010
F019982	< 0.005
F019983	< 0.005
F019984	< 0.005
F019985	< 0.005
F019986	< 0.005
F019987	0.019
F019988	< 0.005
F019989	0.007
F019990	3.66
F019991	0.010
F019992	< 0.005
F019993	< 0.005
F019994	0.054
F019995	0.012
F019996	0.017
F019997	< 0.005
F019998	< 0.005
F019999	< 0.005
OREAS 222 (Fire Assay) Meas	1.16
OREAS 222 (Fire Assay) Cert	1.22
OREAS 217 (Fire Assay) Meas	0.329
OREAS 217 (Fire Assay) Cert	0.338
Method Blank	< 0.005



**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09602  
**Invoice Date:** 26-Jul-19  
**Your Reference:** MW5187

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

146 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-09602**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021635	< 0.005	
F021636	< 0.005	
F021637	0.007	
F021638	< 0.005	
F021639	< 0.005	
F021640	< 0.005	
F021641	< 0.005	
F021642	< 0.005	
F021643	< 0.005	
F021644	< 0.005	
F021057	0.006	
F021058	< 0.005	
F021059	< 0.005	
F021060	< 0.005	
F021061	< 0.005	
F021062	0.007	
F021063	0.012	
F021064	0.008	
F021065	< 0.005	
F021066	< 0.005	
F021067	< 0.005	
F021068	< 0.005	
F021069	< 0.005	
F021070	> 10.0	14.6
F021071	< 0.005	
F021072	< 0.005	
F021073	< 0.005	
F021074	< 0.005	
F021075	< 0.005	
F021076	< 0.005	
F021077	< 0.005	
F021078	< 0.005	
F021079	< 0.005	
F021080	< 0.005	
F021081	< 0.005	
F021082	< 0.005	
F021083	< 0.005	
F021084	< 0.005	
F021085	< 0.005	
F021086	< 0.005	
F021087	0.088	
F021088	0.114	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021089	0.038	
F021090	3.45	
F021091	0.213	
F021092	0.005	
F021093	0.136	
F021094	0.011	
F021095	0.056	
F021096	0.007	
F021097	< 0.005	
F021098	< 0.005	
F021099	< 0.005	
F021100	< 0.005	
F021101	< 0.005	
F021102	< 0.005	
F021103	< 0.005	
F021104	< 0.005	
F021105	< 0.005	
F021106	< 0.005	
F021107	< 0.005	
F021108	0.041	
F021109	0.035	
F021110	3.35	
F021111	0.053	
F021112	0.088	
F021113	0.104	
F021114	0.077	
F021115	0.046	
F021116	< 0.005	
F021117	0.005	
F021118	0.007	
F021119	< 0.005	
F021120	< 0.005	
F021121	0.009	
F021122	0.016	
F021123	0.035	
F021124	0.033	
F021125	1.81	
F021126	0.657	
F021127	0.058	
F021128	0.006	
F021129	< 0.005	
F021130	7.27	
F021131	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021132	< 0.005	
F021133	< 0.005	
F021134	0.005	
F021135	0.120	
F021136	0.008	
F021137	< 0.005	
F021138	0.008	
F021139	< 0.005	
F021140	< 0.005	
F021141	< 0.005	
F021142	0.017	
F021143	0.024	
F021144	0.036	
F021145	0.018	
F021146	< 0.005	
F021147	0.057	
F021148	< 0.005	
F021149	0.010	
F021150	0.465	
F021151	0.009	
F021152	0.005	
F021153	< 0.005	
F021154	< 0.005	
F021155	< 0.005	
F021156	< 0.005	
F021157	< 0.005	
F021158	< 0.005	
F021159	< 0.005	
F021160	< 0.005	
F021161	< 0.005	
F021162	< 0.005	
F021163	< 0.005	
F021164	0.005	
F021165	< 0.005	
F021166	< 0.005	
F021167	< 0.005	
F021168	0.023	
F021169	< 0.005	
F021170	> 10.0	14.8
F021171	< 0.005	
F021172	< 0.005	
F021173	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021174	< 0.005	
F021175	< 0.005	
F021176	< 0.005	
F021177	< 0.005	
F021178	< 0.005	
F021179	< 0.005	
F021180	< 0.005	
F021181	< 0.005	
F021182	< 0.005	
F021183	< 0.005	
F021184	< 0.005	
F021185	< 0.005	
F021186	< 0.005	
F021187	0.214	
F021188	0.005	
F021189	0.018	
F021190	3.35	
F021191	0.007	
F021192	< 0.005	
OREAS 216 (Fire Assay) Meas		6.71
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.60	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.56	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.49	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.62	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.509	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.534	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.552	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.534	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.524	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.557	
OREAS 218 Cert	0.531	
OREAS 255 (Fire Assay) Meas		4.13
OREAS 255 (Fire Assay) Cert		4.08
F021062 Orig	0.007	
F021062 Dup	0.006	
F021068 Orig	< 0.005	
F021068 Dup	< 0.005	
F021079 Orig	< 0.005	
F021079 Dup	< 0.005	
F021096 Orig	0.007	
F021096 Split	0.007	
F021097 Orig	< 0.005	
F021097 Dup	< 0.005	
F021103 Orig	< 0.005	
F021103 Dup	< 0.005	
F021114 Orig	0.077	
F021114 Dup	0.072	
F021134 Orig	0.005	
F021134 Dup	< 0.005	
F021142 Orig	0.017	
F021142 Dup	0.018	
F021146 Orig	< 0.005	
F021146 Split	0.006	
F021149 Orig	0.010	
F021149 Dup	0.007	
F021159 Orig	< 0.005	
F021159 Dup	< 0.005	
F021169 Orig	< 0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021169 Dup	< 0.005	
F021178 Orig	< 0.005	
F021178 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09603  
**Invoice Date:** 29-Jul-19  
**Your Reference:** MW5190

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-09603**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'M'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021193	0.011	
F021194	0.042	
F021195	0.007	
F021196	0.009	
F021197	0.007	
F021198	< 0.005	
F021199	0.008	
F021200	< 0.005	
F021201	0.006	
F021202	< 0.005	
F021203	< 0.005	
F021204	0.005	
F021205	0.022	
F021206	0.014	
F021207	0.017	
F021208	0.005	
F021209	0.005	
F021210	3.54	
F021211	0.103	
F021212	0.091	
F021213	0.059	
F021214	0.013	
F021215	0.164	
F021216	0.005	
F021217	0.005	
F021218	< 0.005	
F021219	0.005	
F021220	< 0.005	
F021221	< 0.005	
F021222	0.009	
F021223	< 0.005	
F021224	< 0.005	
F021225	< 0.005	
F021226	< 0.005	
F021227	< 0.005	
F021228	< 0.005	
F021229	< 0.005	
F021230	6.70	
F021231	0.008	
F021232	< 0.005	
F021233	0.018	
F021234	0.017	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021235	0.006	
F021236	0.013	
F021237	0.015	
F021238	0.016	
F021239	0.018	
F021240	< 0.005	
F021241	0.019	
F021242	0.008	
F021243	< 0.005	
F021244	< 0.005	
F021245	< 0.005	
F021246	< 0.005	
F021247	< 0.005	
F021248	< 0.005	
F021249	< 0.005	
F021250	0.405	
F021251	< 0.005	
F021252	< 0.005	
F021253	< 0.005	
F021254	< 0.005	
F021255	< 0.005	
F021256	< 0.005	
F021257	< 0.005	
F021258	< 0.005	
F021259	< 0.005	
F021260	< 0.005	
F021261	< 0.005	
F021262	< 0.005	
F021263	< 0.005	
F021264	< 0.005	
F021645	< 0.005	
F021646	< 0.005	
F021647	< 0.005	
F021648	< 0.005	
F021649	< 0.005	
F021650	0.503	
F021651	< 0.005	
F021652	< 0.005	
F021653	< 0.005	
F021654	0.006	
F021655	< 0.005	
F021656	0.006	
F021657	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021658	< 0.005	
F021659	< 0.005	
F021660	< 0.005	
F021661	< 0.005	
F021662	< 0.005	
F021663	< 0.005	
F021664	< 0.005	
F021665	< 0.005	
F021666	< 0.005	
F021667	< 0.005	
F021668	< 0.005	
F021669	< 0.005	
F021670	> 10.0	15.0
F021671	< 0.005	
F021672	< 0.005	
F021673	< 0.005	
F021674	< 0.005	
F021675	< 0.005	
F021676	< 0.005	
F021677	< 0.005	
F021678	< 0.005	
F021679	< 0.005	
F021680	< 0.005	
F021681	< 0.005	
F021682	< 0.005	
F021683	< 0.005	
F021684	< 0.005	
F021685	< 0.005	
F021686	< 0.005	
F021687	< 0.005	
F021688	< 0.005	
F021689	< 0.005	
F021690	3.35	
F021691	< 0.005	
F021692	< 0.005	
F021693	< 0.005	
F021694	< 0.005	
F021695	< 0.005	
F021696	< 0.005	
F021697	< 0.005	
F021698	< 0.005	
F021699	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021700	< 0.005	
F021701	< 0.005	
F021702	< 0.005	
F021703	< 0.005	
F021704	< 0.005	
F021705	< 0.005	
F021706	< 0.005	
F021707	< 0.005	
F021708	< 0.005	
F021709	< 0.005	
F021710	3.40	
F021711	< 0.005	
F021712	< 0.005	
F021713	< 0.005	
F021714	< 0.005	
F021715	< 0.005	
F021716	< 0.005	
OREAS 216 (Fire Assay) Meas		6.71
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.43	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.40	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.43	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.506	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.504	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.503	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.514	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.514	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.12
OREAS 255 (Fire Assay) Cert		4.08
F021208 Orig	0.005	
F021208 Dup	0.005	
F021214 Orig	0.013	
F021214 Dup	0.009	
F021226 Orig	< 0.005	
F021226 Dup	< 0.005	
F021242 Orig	0.008	
F021242 Split	0.005	
F021242 Split	0.005	
F021249 Orig	< 0.005	
F021249 Dup	< 0.005	
F021259 Orig	< 0.005	
F021259 Dup	< 0.005	
F021657 Orig	< 0.005	
F021657 Dup	< 0.005	
F021663 Orig	< 0.005	
F021663 Dup	< 0.005	
F021672 Orig	< 0.005	
F021672 Split	< 0.005	
F021674 Orig	< 0.005	
F021674 Dup	< 0.005	
F021691 Orig	< 0.005	
F021691 Dup	< 0.005	
F021698 Orig	< 0.005	
F021698 Dup	< 0.005	
F021709 Orig	< 0.005	
F021709 Dup	< 0.005	
F021716 Orig	< 0.005	
F021716 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03





**Date Submitted:** 24-Jul-19  
**Invoice No.:** A19-09604  
**Invoice Date:** 29-Jul-19  
**Your Reference:** MW5193

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

147 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-09604**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021717	0.006	
F021718	0.005	
F021719	0.005	
F021720	< 0.005	
F021721	0.126	
F021722	0.006	
F021723	0.006	
F021724	0.012	
F021725	0.006	
F021726	0.005	
F021727	< 0.005	
F021728	0.006	
F021729	0.006	
F021730	7.15	
F021731	0.006	
F021732	< 0.005	
F021733	0.007	
F021734	< 0.005	
F021735	0.009	
F021736	0.005	
F021737	0.012	
F021738	0.011	
F021739	< 0.005	
F021740	< 0.005	
F021741	< 0.005	
F021742	0.011	
F021743	0.026	
F021744	0.044	
F021745	0.365	
F021746	0.090	
F021747	0.048	
F021748	0.018	
F021749	0.007	
F021750	0.444	
F021751	0.030	
F021752	0.010	
F021753	0.008	
F021754	0.011	
F021755	0.012	
F021756	0.013	
F021757	0.008	
F021758	0.022	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021759	0.008	
F021760	< 0.005	
F021761	0.061	
F021762	0.008	
F021763	0.023	
F021764	0.014	
F021765	0.029	
F021766	0.048	
F021767	0.022	
F021768	0.024	
F021769	0.061	
F021770	> 10.0	14.4
F021771	0.018	
F021772	0.065	
F021773	0.020	
F021774	0.018	
F021775	0.013	
F021776	< 0.005	
F021777	< 0.005	
F021778	0.007	
F021779	0.018	
F021780	< 0.005	
F021265	0.008	
F021266	0.009	
F021267	0.016	
F021268	0.024	
F021269	0.067	
F021270	> 10.0	14.5
F021271	0.016	
F021272	0.110	
F021273	0.022	
F021274	0.010	
F021275	0.133	
F021276	0.025	
F021277	0.131	
F021278	0.071	
F021279	0.054	
F021280	< 0.005	
F021281	< 0.005	
F021282	0.017	
F021283	0.015	
F021284	0.026	
F021285	0.022	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021286	0.020	
F021287	0.018	
F021288	< 0.005	
F021289	0.005	
F021290	3.34	
F021291	0.006	
F021292	0.009	
F021293	< 0.005	
F021294	0.015	
F021295	0.051	
F021296	0.083	
F021297	0.010	
F021298	0.172	
F021299	0.008	
F021300	< 0.005	
F021301	0.250	
F021302	0.224	
F021303	0.470	
F021304	0.326	
F021305	0.104	
F021306	0.036	
F021307	0.764	
F021308	0.008	
F021309	0.011	
F021310	3.48	
F021311	0.029	
F021312	0.012	
F021313	< 0.005	
F021314	0.052	
F021315	< 0.005	
F021316	0.236	
F021317	0.116	
F021318	0.053	
F021319	0.017	
F021320	< 0.005	
F021321	0.025	
F021322	0.038	
F021323	0.135	
F021324	0.238	
F021325	< 0.005	
F021326	< 0.005	
F021327	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021328	0.006	
F021329	< 0.005	
F021330	6.95	
F021331	0.005	
F021332	0.009	
F021333	< 0.005	
F021334	< 0.005	
F021335	0.006	
F021336	< 0.005	
F021337	< 0.005	
F021338	< 0.005	
F021339	< 0.005	
F021340	< 0.005	
F021341	0.005	
F021342	< 0.005	
F021343	< 0.005	
F021344	< 0.005	
F021345	< 0.005	
F021346	< 0.005	
F021347	< 0.005	
OREAS 216 (Fire Assay) Meas		6.71
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.58	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.58	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.48	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.515	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.523	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.517	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.519	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.519	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.12
OREAS 255 (Fire Assay) Cert		4.08
F021732 Orig	< 0.005	
F021732 Dup	< 0.005	
F021739 Orig	< 0.005	
F021739 Dup	0.006	
F021751 Orig	0.030	
F021751 Dup	0.022	
F021766 Orig	0.048	
F021766 Split	0.050	
F021766 Split	0.050	
F021773 Orig	0.020	
F021773 Dup	0.024	
F021268 Orig	0.024	
F021268 Dup	0.022	
F021273 Orig	0.022	
F021273 Dup	0.020	
F021291 Orig	0.006	
F021291 Dup	0.006	
F021301 Orig	0.250	
F021301 Split	0.295	
F021302 Orig	0.224	
F021302 Dup	0.256	
F021314 Orig	0.052	
F021314 Dup	0.040	
F021323 Orig	0.135	
F021323 Dup	0.111	
F021332 Orig	0.009	
F021332 Dup	0.008	
F021339 Orig	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021339 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 31-Jul-19  
**Invoice No.:** A19-09855  
**Invoice Date:** 12-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

141 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-09855**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023532	0.009	
F023533	0.019	
F023534	0.009	
F023535	0.019	
F023536	0.010	
F023537	0.058	
F023538	< 0.005	
F023539	0.009	
F023540	< 0.005	
F023541	0.029	
F023542	0.009	
F023543	0.014	
F023544	0.028	
F023545	0.013	
F023546	0.005	
F023547	0.005	
F023548	< 0.005	
F023549	< 0.005	
F023550	0.501	
F023551	0.007	
F023552	0.006	
F023553	0.005	
F023554	0.008	
F023555	0.006	
F023556	0.009	
F023557	< 0.005	
F023558	< 0.005	
F023559	< 0.005	
F023560	< 0.005	
F023561	< 0.005	
F023562	< 0.005	
F023563	< 0.005	
F023564	< 0.005	
F023565	< 0.005	
F023566	< 0.005	
F023567	< 0.005	
F023568	0.007	
F023569	< 0.005	
F023570	> 10.0	14.4
F023571	0.007	
F023572	0.005	
F023573	0.008	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023574	0.005	
F023575	0.012	
F023576	0.006	
F023577	< 0.005	
F023578	0.005	
F023579	0.006	
F023580	< 0.005	
F023581	0.009	
F023582	0.039	
F023583	< 0.005	
F023584	0.009	
F023585	0.006	
F023586	0.010	
F023587	0.245	
F023588	0.012	
F023589	0.022	
F023590	3.60	
F023591	0.009	
F023592	0.006	
F023593	< 0.005	
F023594	0.058	
F023595	< 0.005	
F023596	< 0.005	
F023597	< 0.005	
F023598	0.011	
F023599	0.025	
F023600	< 0.005	
F023601	0.007	
F023602	0.021	
F023603	< 0.005	
F023604	0.019	
F023605	0.191	
F023606	0.009	
F023607	0.008	
F023608	0.006	
F023609	< 0.005	
F023610	3.72	
F023611	0.006	
F023612	0.044	
F023613	< 0.005	
F023614	< 0.005	
F023615	< 0.005	
F023616	0.006	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023617	0.020	
F023618	0.082	
F023619	0.015	
F023620	< 0.005	
F023621	0.038	
F023622	0.013	
F023623	0.025	
F023624	0.029	
F023625	0.033	
F023626	0.033	
F023627	< 0.005	
F023628	0.010	
F023629	0.007	
F023630	7.04	
F023631	0.022	
F023632	< 0.005	
F023633	0.066	
F023634	0.016	
F023635	0.020	
F023636	< 0.005	
F023637	0.017	
F023638	0.047	
F023639	< 0.005	
F023640	< 0.005	
F023641	0.005	
F023642	0.011	
F023643	0.006	
F023644	0.024	
F023645	0.006	
F023646	0.007	
F023647	0.102	
F023648	0.005	
F023649	< 0.005	
F023650	0.477	
F023651	< 0.005	
F023652	< 0.005	
F023653	< 0.005	
F023654	< 0.005	
F023655	< 0.005	
F023656	< 0.005	
F023657	< 0.005	
F023658	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023659	< 0.005	
F023660	< 0.005	
F023661	< 0.005	
F023662	< 0.005	
F023663	< 0.005	
F023664	< 0.005	
F023665	< 0.005	
F023666	< 0.005	
F023667	< 0.005	
F023668	< 0.005	
F023669	< 0.005	
F023670	> 10.0	14.4
F023671	< 0.005	
F023672	< 0.005	
OREAS 216 (Fire Assay) Meas		6.73
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.68	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.59	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.54	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.519	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.518	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.540	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.511	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Cert	0.531	
OREAS 257 Meas		13.9
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.23
OREAS 255 (Fire Assay) Cert		4.08
F023542 Orig	0.009	
F023542 Dup	0.009	
F023551 Orig	0.007	
F023551 Dup	0.006	
F023559 Orig	< 0.005	
F023559 Dup	< 0.005	
F023581 Orig	0.009	
F023581 Split	0.007	
F023581 Split	0.007	
F023588 Orig	0.012	
F023588 Dup	0.013	
F023599 Orig	0.025	
F023599 Dup	0.020	
F023616 Orig	0.006	
F023616 Dup	0.005	
F023623 Orig	0.025	
F023623 Dup	0.029	
F023631 Orig	0.022	
F023631 Split	0.010	
F023633 Orig	0.066	
F023633 Dup	0.066	
F023644 Orig	0.024	
F023644 Dup	0.022	
F023651 Orig	< 0.005	
F023651 Dup	< 0.005	
F023656 Orig	< 0.005	
F023656 Dup	< 0.005	
F023668 Orig	< 0.005	
F023668 Dup	< 0.005	
F023671 Orig	< 0.005	
F023671 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 31-Jul-19  
**Invoice No.:** A19-09864  
**Invoice Date:** 09-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-09864**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized with loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023872	0.005	
F023873	0.009	
F023874	0.007	
F023875	< 0.005	
F023876	< 0.005	
F023877	< 0.005	
F023878	< 0.005	
F023879	< 0.005	
F023880	< 0.005	
F023881	< 0.005	
F023882	0.005	
F023883	0.008	
F023884	0.005	
F023885	< 0.005	
F023886	0.005	
F023887	0.006	
F023888	0.006	
F023889	0.010	
F023890	3.80	
F023891	0.020	
F023892	0.015	
F023893	0.006	
F023894	0.007	
F023895	0.008	
F023896	0.006	
F023897	0.006	
F023898	0.015	
F023899	0.045	
F023900	< 0.005	
F023901	0.030	
F023902	0.008	
F023903	0.006	
F023904	0.011	
F023905	0.022	
F023906	0.022	
F023907	0.006	
F023908	0.006	
F023909	0.005	
F023910	3.63	
F023911	0.009	
F023912	0.010	
F023913	0.008	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023914	0.006	
F023915	0.007	
F023916	0.009	
F023917	0.020	
F023918	0.009	
F023919	0.008	
F023920	< 0.005	
F023921	0.005	
F023922	0.006	
F023923	0.005	
F023924	0.006	
F023925	0.006	
F023926	0.005	
F023927	0.007	
F023928	0.010	
F023929	0.006	
F023930	7.40	
F023931	0.007	
F023932	0.007	
F023933	0.006	
F023934	0.008	
F023935	< 0.005	
F023936	0.006	
F023937	0.006	
F023938	0.005	
F023939	0.005	
F023940	< 0.005	
F023941	0.009	
F023942	0.007	
F023943	0.005	
F023944	0.008	
F023945	0.007	
F023946	0.009	
F023947	0.007	
F023948	0.008	
F023949	0.008	
F023950	0.421	
F023951	0.006	
F023952	0.005	
F023953	0.011	
F023954	0.013	
F023955	0.016	
F023956	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023957	0.005	
F023958	< 0.005	
F023959	< 0.005	
F023960	< 0.005	
F023961	< 0.005	
F023962	< 0.005	
F023963	0.005	
F023964	0.005	
F023965	< 0.005	
F023966	< 0.005	
F023967	0.005	
F023968	< 0.005	
F023969	0.006	
F023970	> 10.0	14.7
F023971	0.007	
F023972	0.005	
F023973	0.011	
F023974	< 0.005	
F023975	0.005	
F023976	0.005	
F023977	< 0.005	
F023978	< 0.005	
F023979	0.005	
F023980	< 0.005	
F023981	0.005	
F023982	0.005	
F023983	0.005	
F023984	< 0.005	
F023985	< 0.005	
F023986	< 0.005	
F023987	0.007	
F023988	0.005	
F023989	0.006	
F023990	3.46	
F023991	0.006	
F023992	0.006	
F023993	0.005	
F023994	0.007	
F023995	0.005	
F023996	0.005	
F023997	< 0.005	
F023998	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023999	< 0.005	
F024000	< 0.005	
F024001	< 0.005	
F024002	< 0.005	
F024003	0.005	
F024004	0.005	
F024005	0.006	
F024006	0.007	
F024007	0.078	
F024008	0.008	
F024009	0.040	
F024010	3.58	
F024011	0.009	
F024012	0.005	
F024013	0.005	
F024014	< 0.005	
F024015	0.005	
OREAS 216 (Fire Assay) Meas		6.84
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.57	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.64	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.61	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.64	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.58	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.523	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.528	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.523	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.533	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.502	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.502	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.7
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.21
OREAS 255 (Fire Assay) Cert		4.08
F023887 Orig	0.006	
F023887 Dup	0.006	
F023894 Orig	0.007	
F023894 Dup	0.008	
F023905 Orig	0.022	
F023905 Dup	0.022	
F023921 Orig	0.005	
F023921 Split	0.006	
F023921 Split	0.006	
F023927 Orig	0.007	
F023927 Dup	0.007	
F023939 Orig	0.005	
F023939 Dup	0.006	
F023956 Orig	< 0.005	
F023956 Dup	< 0.005	
F023962 Orig	< 0.005	
F023962 Dup	< 0.005	
F023971 Orig	0.007	
F023971 Split	0.005	
F023973 Orig	0.011	
F023973 Dup	0.007	
F023989 Orig	0.006	
F023989 Dup	0.006	
F023996 Orig	0.005	
F023996 Dup	0.006	
F024008 Orig	0.008	
F024008 Dup	0.009	
F024014 Orig	< 0.005	
F024014 Dup	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03
Method Blank	0.005	
Method Blank	< 0.005	



**Date Submitted:** 31-Jul-19  
**Invoice No.:** A19-09864-ReAssay  
**Invoice Date:** 14-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-09864-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé", written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
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E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023961	< 0.005	
F023962	< 0.005	
F023963	< 0.005	
F023964	< 0.005	
F023965	< 0.005	
F023966	< 0.005	
F023967	< 0.005	
F023968	< 0.005	
F023969	< 0.005	
F023970	> 10.0	14.4
F023971	0.007	
F023972	< 0.005	
F023973	< 0.005	
F023974	< 0.005	
F023975	< 0.005	
F023976	< 0.005	
F023977	< 0.005	
F023978	< 0.005	
F023979	< 0.005	
OREAS 216 (Fire Assay) Meas		6.83
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.40	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.510	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.23
OREAS 255 (Fire Assay) Cert		4.08
F023976 Orig	< 0.005	
F023976 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 31-Jul-19  
**Invoice No.:** A19-09865  
**Invoice Date:** 09-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden Au - Fire Assay AA

Code 1A3-Dryden Au - Fire Assay Gravimetric (QOP Fire Assay Dryden)

REPORT **A19-09865**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

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TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023673	0.007	
F023674	0.006	
F023675	0.007	
F023676	0.005	
F023677	< 0.005	
F023678	0.005	
F023679	< 0.005	
F023680	< 0.005	
F023681	0.007	
F023682	0.006	
F023683	0.005	
F023684	0.016	
F023685	0.006	
F023686	0.006	
F023687	< 0.005	
F023688	< 0.005	
F023689	0.006	
F023690	3.21	
F023691	0.005	
F023692	0.022	
F023693	0.005	
F023694	< 0.005	
F023695	< 0.005	
F023696	< 0.005	
F023697	< 0.005	
F023698	0.162	
F023699	0.005	
F023700	< 0.005	
F023701	< 0.005	
F023702	< 0.005	
F023703	< 0.005	
F023704	< 0.005	
F023705	0.069	
F023706	0.009	
F023707	< 0.005	
F023708	< 0.005	
F023709	< 0.005	
F023710	3.34	
F023711	0.007	
F023712	< 0.005	
F023713	0.006	
F023714	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023715	< 0.005	
F023716	0.030	
F023717	0.018	
F023718	0.038	
F023719	0.044	
F023720	< 0.005	
F023721	0.012	
F023722	< 0.005	
F023723	< 0.005	
F023724	< 0.005	
F023725	< 0.005	
F023726	< 0.005	
F023727	< 0.005	
F023728	< 0.005	
F023729	< 0.005	
F023730	6.80	
F023731	< 0.005	
F023732	< 0.005	
F023733	< 0.005	
F023734	0.007	
F023735	< 0.005	
F023736	0.006	
F023737	0.009	
F023738	0.042	
F023739	0.005	
F023740	< 0.005	
F023741	0.010	
F023742	0.013	
F023743	0.008	
F023744	0.021	
F023745	0.033	
F023746	0.010	
F023747	0.024	
F023748	0.018	
F023749	0.016	
F023750	0.457	
F023751	< 0.005	
F023752	0.006	
F023753	< 0.005	
F023754	< 0.005	
F023755	0.018	
F023756	0.018	
F023757	0.016	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023758	0.008	
F023759	0.007	
F023760	< 0.005	
F023761	0.005	
F023762	0.011	
F023763	< 0.005	
F023764	0.006	
F023765	0.014	
F023766	0.018	
F023767	0.025	
F023768	0.026	
F023769	< 0.005	
F023770	> 10.0	13.8
F023771	0.007	
F023772	0.005	
F023773	< 0.005	
F023774	< 0.005	
F023775	0.005	
F023776	0.008	
F023777	< 0.005	
F023778	< 0.005	
F023779	< 0.005	
F023780	< 0.005	
F023781	< 0.005	
F023782	< 0.005	
F023783	< 0.005	
F023784	< 0.005	
F023785	< 0.005	
F023786	< 0.005	
F023787	< 0.005	
F023788	< 0.005	
F023789	< 0.005	
F023790	3.63	
F023791	< 0.005	
F023792	< 0.005	
F023793	0.012	
F023794	< 0.005	
F023795	0.007	
F023796	< 0.005	
F023797	< 0.005	
F023798	0.005	
F023799	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023800	< 0.005	
F023801	< 0.005	
F023802	0.006	
F023803	0.036	
F023804	< 0.005	
F023805	0.032	
F023806	0.010	
F023807	0.006	
F023808	0.088	
F023809	0.042	
F023810	3.24	
F023811	< 0.005	
F023812	0.006	
F023813	0.007	
F023814	0.051	
F023815	0.041	
F023816	0.035	
OREAS 216 (Fire Assay) Meas		6.84
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.63	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.53	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.45	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.544	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.531	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.534	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.541	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.521	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.7
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.16
OREAS 255 (Fire Assay) Cert		4.08
F023688 Orig	< 0.005	
F023688 Dup	< 0.005	
F023694 Orig	< 0.005	
F023694 Dup	0.007	
F023706 Orig	0.009	
F023706 Dup	0.010	
F023722 Orig	< 0.005	
F023722 Split	< 0.005	
F023722 Split	< 0.005	
F023729 Orig	< 0.005	
F023729 Dup	< 0.005	
F023739 Orig	0.005	
F023739 Dup	0.007	
F023763 Orig	< 0.005	
F023763 Dup	0.006	
F023772 Orig	0.005	
F023772 Split	0.015	
F023774 Orig	< 0.005	
F023774 Dup	< 0.005	
F023799 Orig	0.005	
F023799 Dup	0.005	
F023809 Orig	0.042	
F023809 Dup	0.043	
F023811 Orig	< 0.005	
F023811 Dup	0.010	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank	< 0.005	



**Date Submitted:** 31-Jul-19  
**Invoice No.:** A19-09865-ReAssay  
**Invoice Date:** 16-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-09865-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

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264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F023681	0.008
F023682	0.009
F023683	0.005
F023684	0.016
F023685	0.007
F023686	0.009
F023687	< 0.005
F023688	0.005
F023689	0.008
F023690	3.46
F023691	0.008
F023692	0.029
F023693	0.007
F023694	0.009
F023695	0.006
F023696	< 0.005
F023697	< 0.005
F023698	0.164
F023699	0.005
F023801	< 0.005
F023802	0.008
F023803	0.030
F023804	< 0.005
F023805	0.033
F023806	0.014
F023807	0.006
F023808	0.082
F023809	0.042
F023810	3.66
F023811	0.006
F023812	0.014
F023813	0.011
F023814	0.060
F023815	0.055
F023816	0.031
OREAS 254 Fire Assay Meas	2.44
OREAS 254 Fire Assay Cert	2.55
OREAS 254 Fire Assay Meas	2.41
OREAS 254 Fire Assay Cert	2.55
OREAS 218 Meas	0.510



	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
OREAS 218 Cert	0.531
OREAS 218 Meas	0.556
OREAS 218 Cert	0.531
F023687 Orig	< 0.005
F023687 Dup	< 0.005
F023698 Orig	0.164
F023698 Dup	0.151
F023816 Orig	0.031
F023816 Dup	0.037
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 07-Aug-19  
**Invoice No.:** A19-10184  
**Invoice Date:** 14-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

55 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-10184**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized and somewhat cursive, with a horizontal line underneath it.

Emmanuel Esemé , Ph.D.  
Quality Control

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264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023817	0.815	
F023818	0.221	
F023819	0.035	
F023820	< 0.005	
F023821	0.401	
F023822	0.024	
F023823	0.020	
F023824	0.015	
F023825	0.014	
F023826	< 0.005	
F023827	< 0.005	
F023828	0.013	
F023829	0.021	
F023830	6.57	
F023831	0.023	
F023832	0.007	
F023833	0.006	
F023834	< 0.005	
F023835	< 0.005	
F023836	0.018	
F023837	0.012	
F023838	0.009	
F023839	0.018	
F023840	< 0.005	
F023841	0.342	
F023842	1.13	
F023843	0.314	
F023844	0.068	
F023845	0.110	
F023846	0.233	
F023847	0.553	
F023848	0.038	
F023849	0.028	
F023850	0.493	
F023851	0.008	
F023852	0.009	
F023853	0.009	
F023854	0.006	
F023855	0.006	
F023856	0.016	
F023857	0.005	
F023858	0.007	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F023859	< 0.005	
F023860	< 0.005	
F023861	0.006	
F023862	< 0.005	
F023863	< 0.005	
F023864	0.008	
F023865	0.005	
F023866	0.030	
F023867	0.023	
F023868	0.012	
F023869	0.007	
F023870	> 10.0	14.2
F023871	0.032	
OREAS 216 (Fire Assay) Meas		6.83
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.44	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.44	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.564	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.23
OREAS 255 (Fire Assay) Cert		4.08
F023832 Orig	0.007	
F023832 Dup	< 0.005	
F023839 Orig	0.018	
F023839 Dup	0.025	
F023851 Orig	0.008	
F023851 Dup	0.008	
F023852 Orig	0.009	
F023852 Dup	0.007	
F023866 Orig	0.030	
F023866 Split	0.006	
F023866 Split	0.006	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 07-Aug-19  
**Invoice No.:** A19-10184-ReAssay  
**Invoice Date:** 01-Oct-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

**CERTIFICATE OF ANALYSIS**

55 Core samples were submitted for analysis.

The following analytical package(s) were requested:		Testing Date:
1A2-GC Musselwhite Dryden	QOP AA-Au (Au - Fire Assay AA)	2019-08-15 16:51:39
1A3-Dryden	QOP AA-Au (Au - Fire Assay Gravimetric)	

REPORT **A19-10184-ReAssay**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

Emmanuel Esemé , Ph.D.  
 Quality Control Coordinator

**ACTIVATION LABORATORIES LTD.**  
 264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
 TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
 E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA
SAMPLE	Au
DESCRIPTION	g/mt
F023821	0.404
F023822	0.022
F023823	0.018
F023824	0.016
F023825	0.013
F023826	< 0.005
F023827	< 0.005
F023828	0.014
F023829	0.014
F023830	7.12
F023831	0.032
F023832	0.008
F023833	0.007
F023834	0.008
F023835	0.007
F023836	0.005
F023837	0.009
F023838	0.010
F023839	0.018
OREAS 254 Fire Assay Meas	2.63
OREAS 254 Fire Assay Cert	2.55
OREAS 254 Fire Assay Meas	2.58
OREAS 254 Fire Assay Cert	2.55
OREAS 254 Fire Assay Meas	2.55
OREAS 254 Fire Assay Cert	2.55
OREAS 254 Fire Assay Meas	2.40
OREAS 254 Fire Assay Cert	2.55
OREAS 218 Meas	0.535
OREAS 218 Cert	0.531
OREAS 218 Meas	0.532
OREAS 218 Cert	0.531
OREAS 218 Meas	0.528
OREAS 218 Cert	0.531
OREAS 218 Meas	0.559
OREAS 218 Cert	0.531
F023821 Orig	0.624
F023821 Orig	0.404
F023829 Orig	0.014
F023829 Dup	0.013
F023831 Orig	0.032
F023831 Dup	0.034
Method Blank	< 0.005
Method Blank	< 0.005
Method Blank	0.005
Method Blank	< 0.005
Method Blank	< 0.005



**Date Submitted:** 07-Aug-19  
**Invoice No.:** A19-10189  
**Invoice Date:** 19-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

137 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

REPORT **A19-10189**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

---

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024016	0.011	
F024017	< 0.005	
F024018	< 0.005	
F024019	< 0.005	
F024020	< 0.005	
F024021	< 0.005	
F024022	< 0.005	
F024023	< 0.005	
F024024	< 0.005	
F024025	0.006	
F024026	0.009	
F024027	0.008	
F024028	0.007	
F024029	0.008	
F024030	6.97	
F024031	0.011	
F024032	0.010	
F024033	0.020	
F024034	0.007	
F024035	< 0.005	
F024036	< 0.005	
F024037	< 0.005	
F024038	< 0.005	
F024039	< 0.005	
F024040	< 0.005	
F024041	< 0.005	
F024042	< 0.005	
F024043	< 0.005	
F024044	< 0.005	
F024045	< 0.005	
F024046	< 0.005	
F024047	0.015	
F024048	< 0.005	
F024049	0.005	
F024050	0.442	
F024051	0.007	
F024052	< 0.005	
F024053	0.005	
F024054	< 0.005	
F024055	< 0.005	
F024056	0.005	
F024057	0.009	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024058	0.008	
F024059	0.007	
F024060	< 0.005	
F024061	< 0.005	
F024062	0.008	
F024063	0.008	
F024064	0.009	
F024065	0.031	
F024066	0.028	
F024067	0.005	
F024068	< 0.005	
F024069	< 0.005	
F024070	> 10.0	14.5
F024071	0.006	
F024072	0.009	
F024073	0.009	
F024074	0.010	
F024075	0.009	
F024076	0.008	
F024077	0.006	
F024078	< 0.005	
F024079	0.005	
F024080	< 0.005	
F025001	< 0.005	
F025002	< 0.005	
F025003	< 0.005	
F025004	< 0.005	
F025005	< 0.005	
F025006	< 0.005	
F025007	< 0.005	
F025008	< 0.005	
F025009	< 0.005	
F025010	3.62	
F025011	< 0.005	
F025012	< 0.005	
F025013	< 0.005	
F025014	< 0.005	
F025015	< 0.005	
F025016	< 0.005	
F025017	< 0.005	
F025018	< 0.005	
F025019	0.005	
F025020	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F025021	0.006	
F025022	< 0.005	
F025023	0.012	
F025024	< 0.005	
F025025	< 0.005	
F025026	0.006	
F025027	< 0.005	
F025028	< 0.005	
F025029	0.011	
F025030	6.85	
F025031	0.005	
F025032	< 0.005	
F025033	< 0.005	
F025034	< 0.005	
F025035	< 0.005	
F025036	0.013	
F025037	< 0.005	
F025038	< 0.005	
F025039	< 0.005	
F025040	< 0.005	
F025041	0.005	
F025042	< 0.005	
F025043	< 0.005	
F025044	0.007	
F025045	0.013	
F025046	< 0.005	
F025047	0.007	
F025048	0.008	
F025049	0.009	
F025050	0.432	
F025051	0.007	
F025052	0.005	
F025053	0.008	
F025054	0.005	
F025055	< 0.005	
F025056	0.005	
F025057	0.006	
F025058	< 0.005	
F025059	< 0.005	
F025060	< 0.005	
F025061	< 0.005	
F025062	0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F025063	0.006	
F025064	0.006	
F025065	0.006	
F025066	0.005	
F025067	0.006	
F025068	< 0.005	
F025069	< 0.005	
F025070	> 10.0	14.4
F025071	0.011	
F025072	0.007	
OREAS 216 (Fire Assay) Meas		6.69
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.52	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.528	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.511	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.503	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.522	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.08
OREAS 255 (Fire Assay) Cert		4.08
F024038 Orig	< 0.005	
F024038 Dup	< 0.005	
F024049 Orig	0.005	
F024049 Dup	0.005	
F024061 Orig	< 0.005	
F024061 Dup	< 0.005	
F024065 Orig	0.031	
F024065 Split	0.043	
F024066 Orig	0.028	
F024066 Dup	0.033	
F024072 Orig	0.009	
F024072 Dup	0.010	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F025003 Orig	< 0.005	
F025003 Dup	0.005	
F025020 Orig	< 0.005	
F025020 Dup	< 0.005	
F025027 Orig	< 0.005	
F025027 Dup	< 0.005	
F025035 Orig	< 0.005	
F025035 Split	< 0.005	
F025037 Orig	< 0.005	
F025037 Dup	< 0.005	
F025061 Orig	< 0.005	
F025061 Dup	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 07-Aug-19  
**Invoice No.:** A19-10193  
**Invoice Date:** 19-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT      **A19-10193**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé", written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024081	0.007	
F024082	0.006	
F024083	0.005	
F024084	0.013	
F024085	< 0.005	
F024086	0.006	
F024087	< 0.005	
F024088	< 0.005	
F024089	< 0.005	
F024090	3.54	
F024091	0.006	
F024092	0.006	
F024093	0.006	
F024094	0.007	
F024095	0.005	
F024096	0.007	
F024097	< 0.005	
F024098	< 0.005	
F024099	< 0.005	
F024100	< 0.005	
F024101	< 0.005	
F024102	< 0.005	
F024103	< 0.005	
F024104	0.013	
F024105	< 0.005	
F024106	0.015	
F024107	< 0.005	
F024108	< 0.005	
F024109	< 0.005	
F024110	3.49	
F024111	3.02	
F024112	< 0.005	
F024113	< 0.005	
F024114	< 0.005	
F024115	< 0.005	
F024116	< 0.005	
F024117	< 0.005	
F024118	0.013	
F024119	< 0.005	
F024120	< 0.005	
F024121	< 0.005	
F024122	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024123	0.016	
F024124	0.013	
F024125	< 0.005	
F024126	< 0.005	
F024127	< 0.005	
F024128	< 0.005	
F024129	< 0.005	
F024130	6.93	
F024131	< 0.005	
F024132	0.018	
F024133	< 0.005	
F024134	0.006	
F024135	< 0.005	
F024136	0.055	
F024137	0.059	
F024138	< 0.005	
F024139	0.007	
F024140	< 0.005	
F024141	0.040	
F024142	0.021	
F024143	0.011	
F024144	0.006	
F024145	0.028	
F024146	< 0.005	
F024147	< 0.005	
F024148	< 0.005	
F024149	0.060	
F024150	0.424	
F024151	< 0.005	
F024152	< 0.005	
F024153	0.011	
F024154	0.006	
F024155	0.005	
F024156	0.006	
F024157	0.006	
F024158	< 0.005	
F024159	< 0.005	
F024160	< 0.005	
F024161	0.006	
F024162	< 0.005	
F024163	0.029	
F024164	0.006	
F024165	0.016	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024166	< 0.005	
F024167	0.009	
F024168	< 0.005	
F024169	0.005	
F024170	> 10.0	14.4
F024171	0.009	
F024172	0.006	
F024173	0.005	
F024174	0.012	
F024175	0.006	
F024176	< 0.005	
F024177	< 0.005	
F024178	< 0.005	
F024179	0.006	
F024180	< 0.005	
F024181	0.019	
F024182	0.013	
F024183	0.006	
F024184	< 0.005	
F024185	< 0.005	
F024186	< 0.005	
F024187	0.005	
F024188	< 0.005	
F024189	< 0.005	
F024190	3.43	
F024191	0.009	
F024192	< 0.005	
F024193	0.009	
F024194	0.009	
F024195	0.005	
F024196	0.005	
F024197	< 0.005	
F024198	< 0.005	
F024199	< 0.005	
F024200	< 0.005	
F024201	< 0.005	
F024202	< 0.005	
F024203	< 0.005	
F024204	0.006	
F024205	< 0.005	
F024206	< 0.005	
F024207	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024208	< 0.005	
F024209	< 0.005	
F024210	3.46	
F024211	< 0.005	
F024212	< 0.005	
F024213	0.005	
F024214	< 0.005	
F024215	< 0.005	
F024216	< 0.005	
F024217	< 0.005	
F024218	< 0.005	
F024219	< 0.005	
F024220	< 0.005	
F024221	< 0.005	
F024222	< 0.005	
F024223	< 0.005	
F024224	< 0.005	
OREAS 216 (Fire Assay) Meas		6.86
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.55	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.65	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.528	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.521	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.505	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.515	
OREAS 218 Cert	0.531	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Meas	0.520	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.513	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.6
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.22
OREAS 255 (Fire Assay) Cert		4.08
F024096 Orig	0.007	
F024096 Dup	< 0.005	
F024102 Orig	< 0.005	
F024102 Dup	< 0.005	
F024114 Orig	< 0.005	
F024114 Dup	< 0.005	
F024131 Orig	< 0.005	
F024131 Split	< 0.005	
F024131 Orig	< 0.005	
F024131 Dup	< 0.005	
F024136 Orig	0.055	
F024136 Dup	0.050	
F024148 Orig	< 0.005	
F024148 Dup	< 0.005	
F024165 Orig	0.016	
F024165 Dup	0.011	
F024171 Orig	0.009	
F024171 Dup	0.006	
F024179 Orig	0.006	
F024179 Split	< 0.005	
F024182 Orig	0.013	
F024182 Dup	0.013	
F024199 Orig	< 0.005	
F024199 Dup	< 0.005	
F024205 Orig	< 0.005	
F024205 Dup	< 0.005	
F024217 Orig	< 0.005	
F024217 Dup	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 09-Aug-19  
**Invoice No.:** A19-10396  
**Invoice Date:** 20-Aug-19  
**Your Reference:** Exploration

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

150 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT      **A19-10396**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is stylized with a large, sweeping initial 'E' and is written over a horizontal line.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
264 Government Road, Dryden, Ontario, Canada, P8N 2R3  
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024225	0.007	
F024226	0.007	
F024227	0.005	
F024228	0.007	
F024229	0.007	
F024230	6.63	
F024231	0.008	
F024232	0.010	
F024233	0.007	
F024234	0.009	
F024235	0.022	
F024236	0.009	
F024237	0.006	
F024238	0.008	
F024239	0.006	
F024240	0.008	
F024241	0.009	
F024242	0.009	
F024243	0.009	
F024244	0.008	
F024245	0.009	
F024246	0.009	
F024247	0.007	
F024248	0.006	
F024249	0.008	
F024250	0.418	
F024251	0.011	
F024252	0.012	
F024253	0.007	
F024254	0.006	
F024255	0.005	
F024256	0.005	
F024257	0.009	
F024258	0.008	
F024259	0.022	
F024260	0.006	
F024261	0.038	
F024262	0.014	
F024263	0.007	
F024264	0.006	
F024265	0.021	
F024266	0.012	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024267	0.015	
F024268	0.023	
F024269	0.020	
F024270	> 10.0	14.5
F024271	0.010	
F024272	0.007	
F024273	0.005	
F024274	0.009	
F024275	0.019	
F024276	0.032	
F024277	0.010	
F024278	0.009	
F024279	0.012	
F024280	< 0.005	
F024281	0.005	
F024282	0.005	
F024283	0.005	
F024284	0.008	
F024285	0.012	
F024286	0.008	
F024287	0.012	
F024288	0.005	
F024289	0.006	
F024290	3.33	
F024291	0.008	
F024292	0.006	
F024293	0.010	
F024294	0.006	
F024295	< 0.005	
F024296	0.007	
F024297	0.006	
F024298	0.007	
F024299	0.005	
F024300	< 0.005	
F024301	< 0.005	
F024302	< 0.005	
F024303	< 0.005	
F024304	< 0.005	
F024305	< 0.005	
F024306	< 0.005	
F024307	< 0.005	
F024308	< 0.005	
F024309	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024310	3.32	
F024311	0.006	
F024312	0.009	
F024313	0.005	
F024314	< 0.005	
F024315	0.079	
F024316	0.012	
F024317	0.009	
F024318	0.009	
F024319	0.008	
F024320	< 0.005	
F024321	0.011	
F024322	0.007	
F024323	0.006	
F024324	< 0.005	
F024325	0.005	
F024326	0.062	
F024327	0.005	
F024328	0.005	
F024329	0.005	
F024330	6.67	
F024331	0.006	
F024332	0.008	
F024333	0.018	
F024334	0.005	
F024335	< 0.005	
F024336	0.007	
F024337	< 0.005	
F024338	0.005	
F024339	0.005	
F024340	< 0.005	
F024341	0.006	
F024342	< 0.005	
F024343	< 0.005	
F024344	0.005	
F024345	< 0.005	
F024346	0.010	
F024347	0.029	
F024348	0.054	
F024349	< 0.005	
F024350	0.410	
F024351	< 0.005	



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F024352	< 0.005	
F024353	0.006	
F024354	0.014	
F024355	0.008	
F024356	0.011	
F024357	0.010	
F024358	0.007	
F024359	0.006	
F024360	< 0.005	
F024361	0.029	
F024362	0.023	
F024363	0.009	
F024364	0.018	
F024365	0.017	
F024366	0.011	
F024367	0.005	
F024368	< 0.005	
F024369	< 0.005	
F024370	> 10.0	14.3
F024371	0.006	
F024372	0.006	
F024373	0.005	
F024374	0.013	
OREAS 216 (Fire Assay) Meas		6.65
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.44	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.42	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.40	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.510	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.497	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.501	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.03
OREAS 255 (Fire Assay) Cert		4.08
F024240 Orig	0.008	
F024240 Dup	0.007	
F024247 Orig	0.007	
F024247 Dup	0.008	
F024258 Orig	0.008	
F024258 Dup	0.008	
F024274 Orig	0.009	
F024274 Split	0.005	
F024274 Split	0.005	
F024281 Orig	0.005	
F024281 Dup	< 0.005	
F024292 Orig	0.006	
F024292 Dup	0.005	
F024309 Orig	< 0.005	
F024309 Dup	0.005	
F024316 Orig	0.012	
F024316 Dup	0.009	
F024324 Orig	< 0.005	
F024324 Split	< 0.005	
F024326 Orig	0.062	
F024326 Dup	0.063	
F024343 Orig	< 0.005	
F024343 Dup	0.005	
F024349 Orig	< 0.005	
F024349 Dup	< 0.005	
F024361 Orig	0.029	
F024361 Dup	0.029	
F024366 Orig	0.011	
F024366 Dup	0.014	
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Method Blank	< 0.005	
Method Blank	0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



**Date Submitted:** 12-Aug-19  
**Invoice No.:** A19-10446  
**Invoice Date:** 19-Aug-19  
**Your Reference:** Production

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

57 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT      **A19-10446**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive style with a large, stylized 'E' and 'S'.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613  
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021925	< 0.005	
F021926	< 0.005	
F021927	< 0.005	
F021928	0.329	
F021929	0.008	
F021930	7.21	
F021931	0.005	
F021932	< 0.005	
F021933	< 0.005	
F021934	< 0.005	
F021935	0.005	
F021936	0.007	
F021937	0.019	
F021938	< 0.005	
F021939	< 0.005	
F021940	0.006	
F021941	< 0.005	
F021942	0.005	
F021943	< 0.005	
F021944	< 0.005	
F021945	0.108	
F021946	0.017	
F021947	0.006	
F021948	0.011	
F021949	0.022	
F021950	0.443	
F021951	0.013	
F021952	0.005	
F021953	< 0.005	
F021954	< 0.005	
F021955	0.005	
F021956	< 0.005	
F021957	< 0.005	
F021958	< 0.005	
F021959	0.009	
F021960	< 0.005	
F021961	0.011	
F021962	0.012	
F021963	< 0.005	
F021964	0.009	
F021965	< 0.005	
F021966	< 0.005	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021967	< 0.005	
F021968	< 0.005	
F021969	0.006	
F021970	> 10.0	15.1
F021971	0.007	
F021972	0.005	
F021973	0.005	
F021974	0.006	
F021975	0.006	
F021976	0.005	
F021977	0.011	
F021978	< 0.005	
F021979	< 0.005	
F021980	< 0.005	
F021981	0.006	
OREAS 216 (Fire Assay) Meas		6.74
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.69	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.52	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.547	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.531	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.5
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.04
OREAS 255 (Fire Assay) Cert		4.08
F021940 Orig	0.006	
F021940 Dup	< 0.005	
F021947 Orig	0.006	
F021947 Dup	0.010	
F021958 Orig	< 0.005	
F021958 Dup	< 0.005	
F021974 Orig	0.006	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021974 Split	0.007	
F021974 Split	0.007	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03
Method Blank		< 0.03



Date Submitted: 12-Aug-19
Invoice No.: A19-10446-ReAssay
Invoice Date: 23-Sep-19
Your Reference: Production

GOLDCORP Canada Ltd--Musselwhite Mine
P.O. Box 7500
Thunder bay Ontario P7B 6S8
Canada

ATTN: Katie Lucas

CERTIFICATE OF ANALYSIS

57 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Table with 2 columns: Sample ID and Analytical Package. Row 1: 1A2-GC Musselwhite Dryden, QOP AA-Au (Au - Fire Assay AA). Row 2: 1A3-Dryden, QOP AA-Au (Au - Fire Assay Gravimetric).

REPORT A19-10446-ReAssay

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

Handwritten signature of Emmanuel Esemé

Emmanuel Esemé, Ph.D.
Quality Control Coordinator

ACTIVATION LABORATORIES LTD.
264 Government Road, Dryden, Ontario, Canada, P8N 2R3
TELEPHONE +807 223-6168 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Dryden@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com



	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021961	0.013	
F021962	0.013	
F021963	0.006	
F021964	0.007	
F021965	0.005	
F021966	0.006	
F021967	0.006	
F021968	0.005	
F021969	0.008	
F021970	> 10.0	14.5
F021971	0.008	
F021972	0.007	
F021973	0.006	
F021974	0.005	
F021975	0.008	
F021976	0.007	
F021977	0.014	
F021978	0.005	
F021979	0.006	
OREAS 216 (Fire Assay) Meas		6.76
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.51	
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.522	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.532	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.6
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.20
OREAS 255 (Fire Assay) Cert		4.08
F021971 Orig	0.008	
F021971 Dup	0.006	
F021974 Orig	0.005	
F021974 Split	< 0.005	
Method Blank	< 0.005	
Method Blank	< 0.005	
Method Blank		< 0.03



**Date Submitted:** 12-Aug-19  
**Invoice No.:** A19-10465  
**Invoice Date:** 21-Aug-19  
**Your Reference:** Production

**GOLDCORP Canada Ltd--Musselwhite Mine**  
**P.O. Box 7500**  
**Thunder bay Ontario P7B 6S8**  
**Canada**

**ATTN: Katie Lucas**

## CERTIFICATE OF ANALYSIS

144 Core samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-GC Musselwhite Dryden QOP AA-Au (Au - Fire Assay AA)

Code 1A3-Dryden QOP AA-Au (Au - Fire Assay Gravimetric)

REPORT **A19-10465**

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Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is written in a cursive, somewhat stylized font.

Emmanuel Esemé , Ph.D.  
Quality Control

**ACTIVATION LABORATORIES LTD.**  
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	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021781	0.021	
F021782	0.009	
F021783	0.008	
F021784	< 0.005	
F021785	< 0.005	
F021786	< 0.005	
F021787	< 0.005	
F021788	< 0.005	
F021789	0.007	
F021790	3.46	
F021791	0.007	
F021792	0.008	
F021793	< 0.005	
F021794	0.006	
F021795	0.007	
F021796	0.021	
F021797	0.021	
F021798	0.043	
F021799	0.023	
F021800	< 0.005	
F021801	0.025	
F021802	0.122	
F021803	0.006	
F021804	0.008	
F021805	< 0.005	
F021806	< 0.005	
F021807	< 0.005	
F021808	0.005	
F021809	0.006	
F021810	3.47	
F021811	0.007	
F021812	0.525	
F021813	0.120	
F021814	0.029	
F021815	0.022	
F021816	0.010	
F021817	0.049	
F021818	0.011	
F021819	0.011	
F021820	< 0.005	
F021821	0.008	
F021822	0.023	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021823	< 0.005	
F021824	0.036	
F021825	0.061	
F021826	< 0.005	
F021827	0.011	
F021828	0.005	
F021829	0.006	
F021830	7.02	
F021831	0.006	
F021832	0.005	
F021833	< 0.005	
F021834	0.010	
F021835	0.005	
F021836	0.005	
F021837	< 0.005	
F021838	< 0.005	
F021839	0.006	
F021840	< 0.005	
F021841	0.011	
F021842	0.008	
F021843	0.005	
F021844	0.009	
F021845	0.005	
F021846	< 0.005	
F021847	0.119	
F021848	0.154	
F021849	0.017	
F021850	0.420	
F021851	0.061	
F021852	0.045	
F021853	0.078	
F021854	0.028	
F021855	0.015	
F021856	0.051	
F021857	0.023	
F021858	0.034	
F021859	0.122	
F021860	< 0.005	
F021861	0.040	
F021862	0.006	
F021863	0.016	
F021864	0.062	
F021865	0.023	

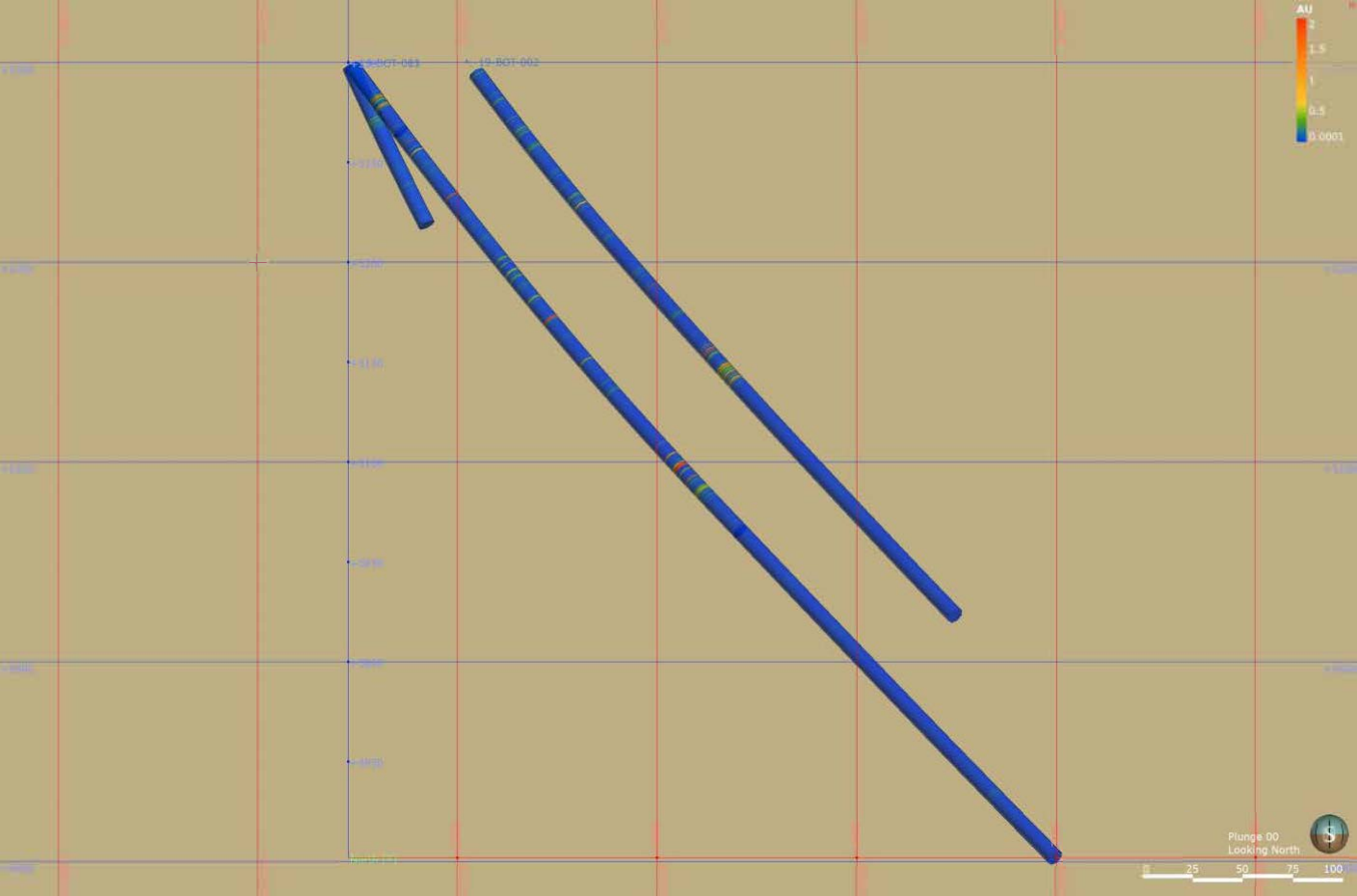
	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021866	< 0.005	
F021867	< 0.005	
F021868	< 0.005	
F021869	< 0.005	
F021870	> 10.0	14.7
F021871	0.005	
F021872	0.142	
F021873	0.488	
F021874	0.005	
F021875	< 0.005	
F021876	0.005	
F021877	< 0.005	
F021878	0.041	
F021879	0.005	
F021880	< 0.005	
F021881	< 0.005	
F021882	< 0.005	
F021883	< 0.005	
F021884	< 0.005	
F021885	0.010	
F021886	0.005	
F021887	< 0.005	
F021888	0.005	
F021889	< 0.005	
F021890	3.56	
F021891	0.008	
F021892	< 0.005	
F021893	< 0.005	
F021894	< 0.005	
F021895	0.005	
F021896	< 0.005	
F021897	< 0.005	
F021898	< 0.005	
F021899	< 0.005	
F021900	< 0.005	
F021901	< 0.005	
F021902	0.010	
F021903	< 0.005	
F021904	0.421	
F021905	0.132	
F021906	0.009	
F021907	< 0.005	

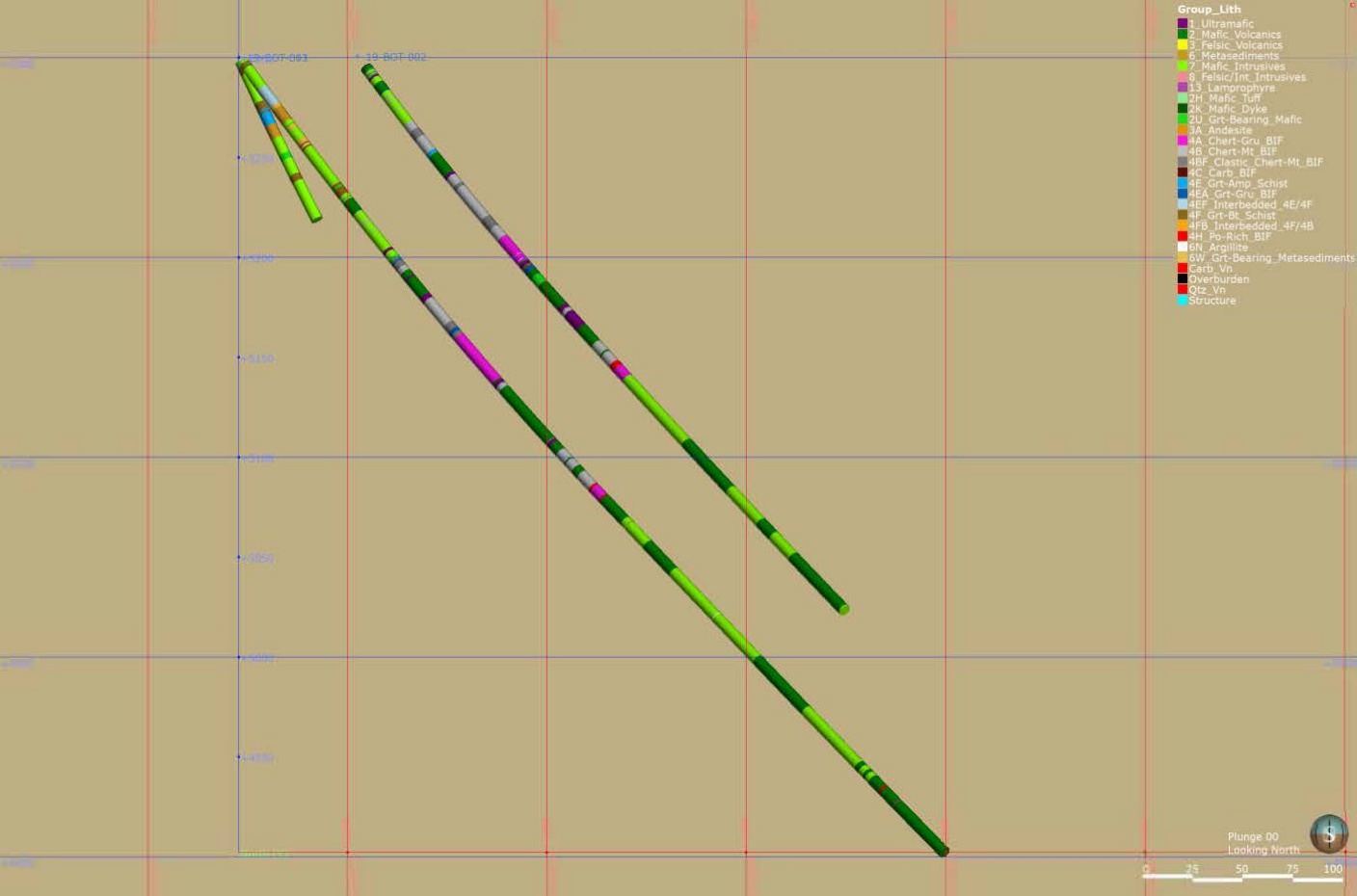
	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021908	< 0.005	
F021909	< 0.005	
F021910	3.42	
F021911	< 0.005	
F021912	< 0.005	
F021913	< 0.005	
F021914	< 0.005	
F021915	< 0.005	
F021916	< 0.005	
F021917	< 0.005	
F021918	< 0.005	
F021919	< 0.005	
F021920	< 0.005	
F021921	0.194	
F021922	0.038	
F021923	< 0.005	
F021924	< 0.005	
OREAS 216 (Fire Assay) Meas		6.64
OREAS 216 (Fire Assay) Cert		6.66
OREAS 254 Fire Assay Meas	2.59	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.57	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.47	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.49	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.68	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.46	
OREAS 254 Fire Assay Cert	2.55	
OREAS 254 Fire Assay Meas	2.41	

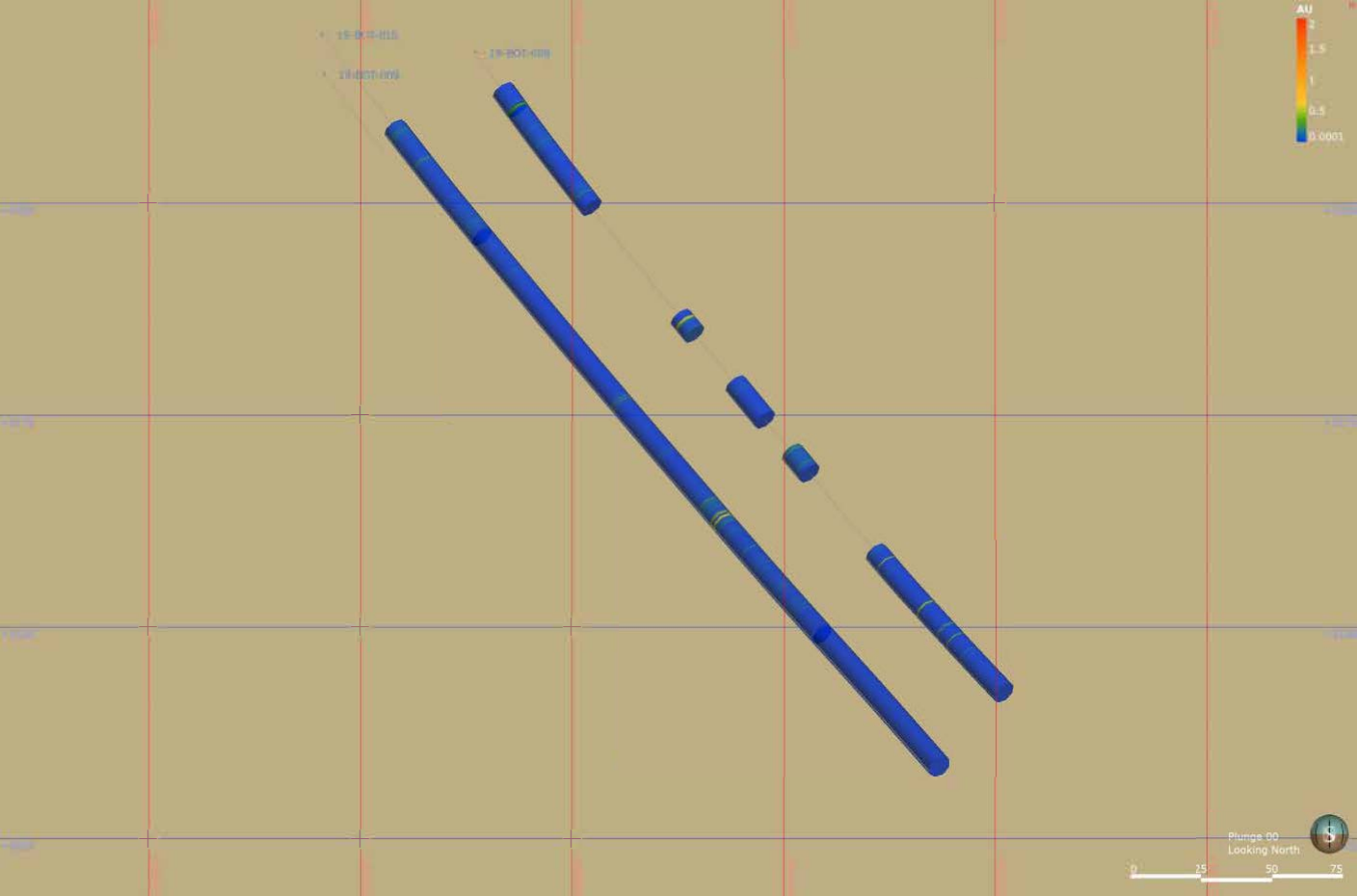
	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
Assay Meas		
OREAS 254 Fire Assay Cert	2.55	
OREAS 218 Meas	0.521	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.532	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.511	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.504	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.514	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.506	
OREAS 218 Cert	0.531	
OREAS 218 Meas	0.501	
OREAS 218 Cert	0.531	
OREAS 257 Meas		14.7
OREAS 257 Cert		14.18
OREAS 255 (Fire Assay) Meas		4.18
OREAS 255 (Fire Assay) Cert		4.08
F021796 Orig	0.021	
F021796 Dup	0.014	
F021803 Orig	0.006	
F021803 Dup	0.006	
F021814 Orig	0.029	
F021814 Dup	0.014	
F021831 Orig	0.006	
F021831 Split	< 0.005	
F021831 Orig	0.006	
F021831 Dup	0.006	
F021837 Orig	< 0.005	
F021837 Dup	< 0.005	
F021848 Orig	0.154	
F021848 Dup	0.120	
F021865 Orig	0.023	
F021865 Dup	0.021	
F021872 Orig	0.142	
F021872 Dup	0.147	
F021873 Orig	0.488	
F021873 Dup	0.484	

	FA-AA	FA- GRA
SAMPLE	Au	Au
DESCRIPTION	g/mt	g/tonne
F021881 Orig	< 0.005	
F021881 Split	< 0.005	
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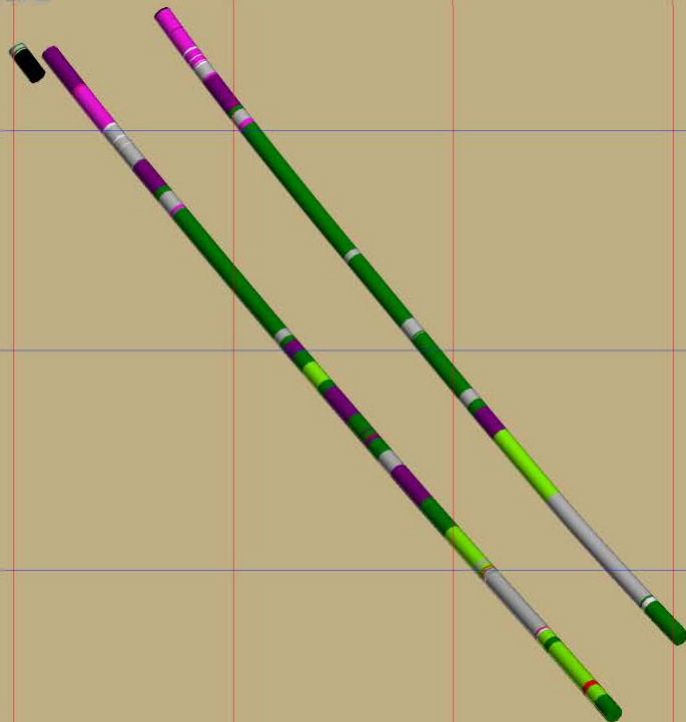


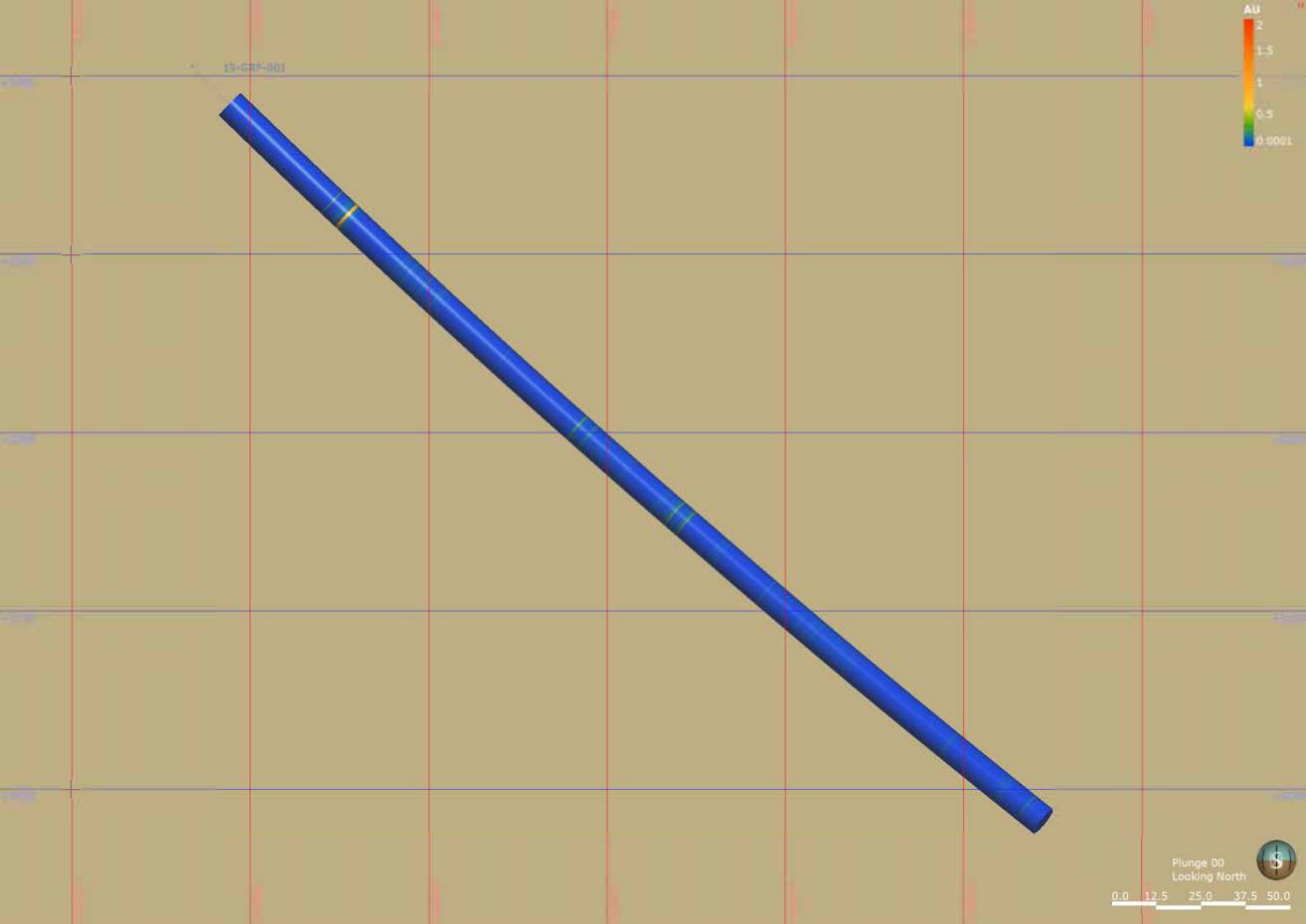
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- 1 Ultramafic
  - 2 Mafic\_Volcanics
  - 3 Felsic\_Volcanics
  - 5 Metasediments
  - 7 Mafic Intrusives
  - 8 Felsic/Int. Intrusives
  - 13 Lamprophyre
  - 2H Mafic Tuff
  - 2K Mafic Dyke
  - 2U Grt-Bearing Mafic
  - 3A Andesite
  - 4A Chert-Gr. BIF
  - 4B Chert-Mt. BIF
  - 4BF Clastic Chert-Mt. BIF
  - 4C Carb. BIF
  - 4E Grt-Amp. Schist
  - 4EA Grt-Gr. BIF
  - 4EF Interbedded 4E/4F
  - 4F Grt-Bt Schist
  - 4FB Interbedded 4F/4B
  - 4H Fe-Rich BIF
  - 6N Argillite
  - 6W Grt-Bearing Metasediments
  - Carb\_Vn
  - Diverburden
  - QZ\_Vn
  - Structure

18-077-010

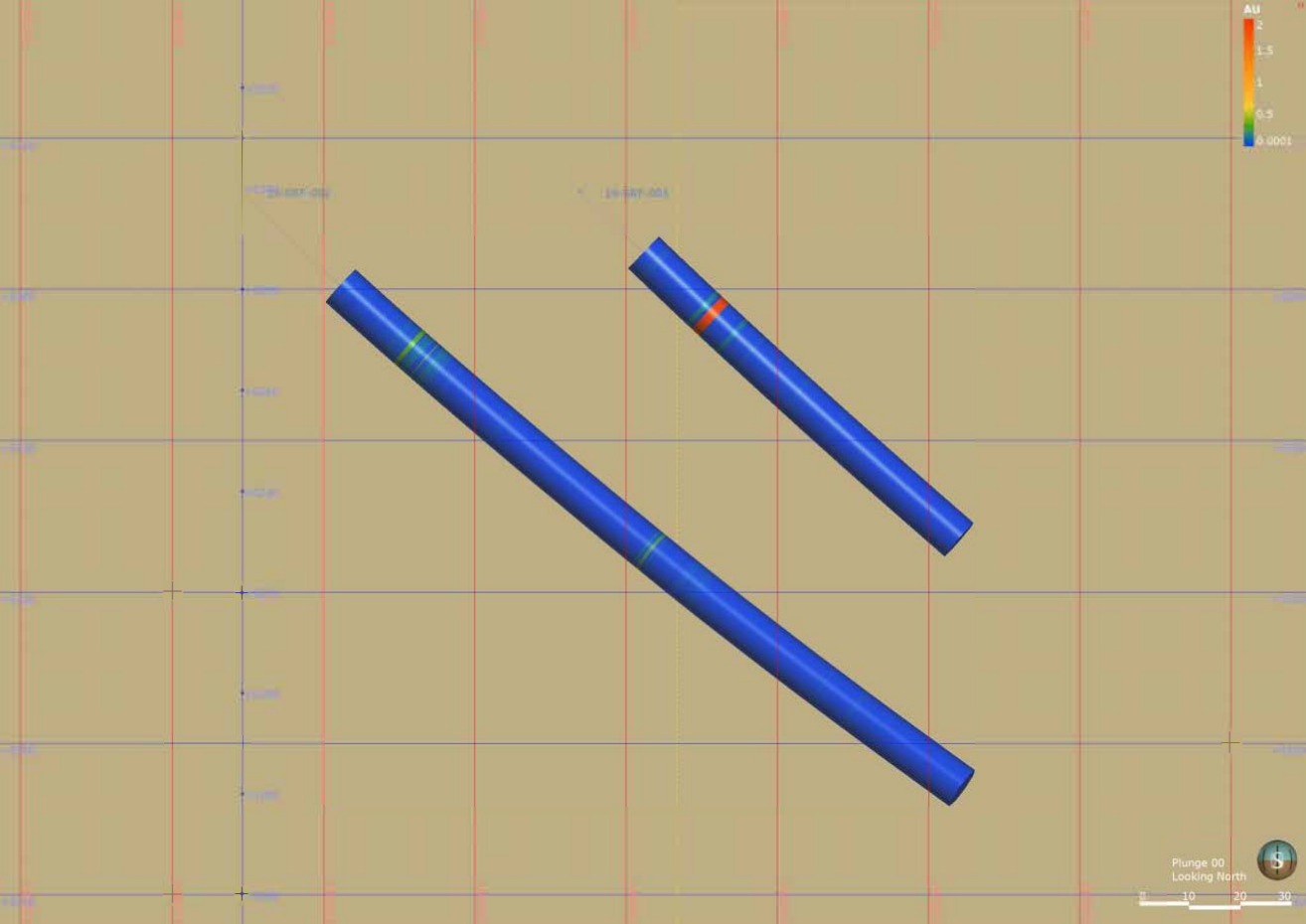
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18-077-005







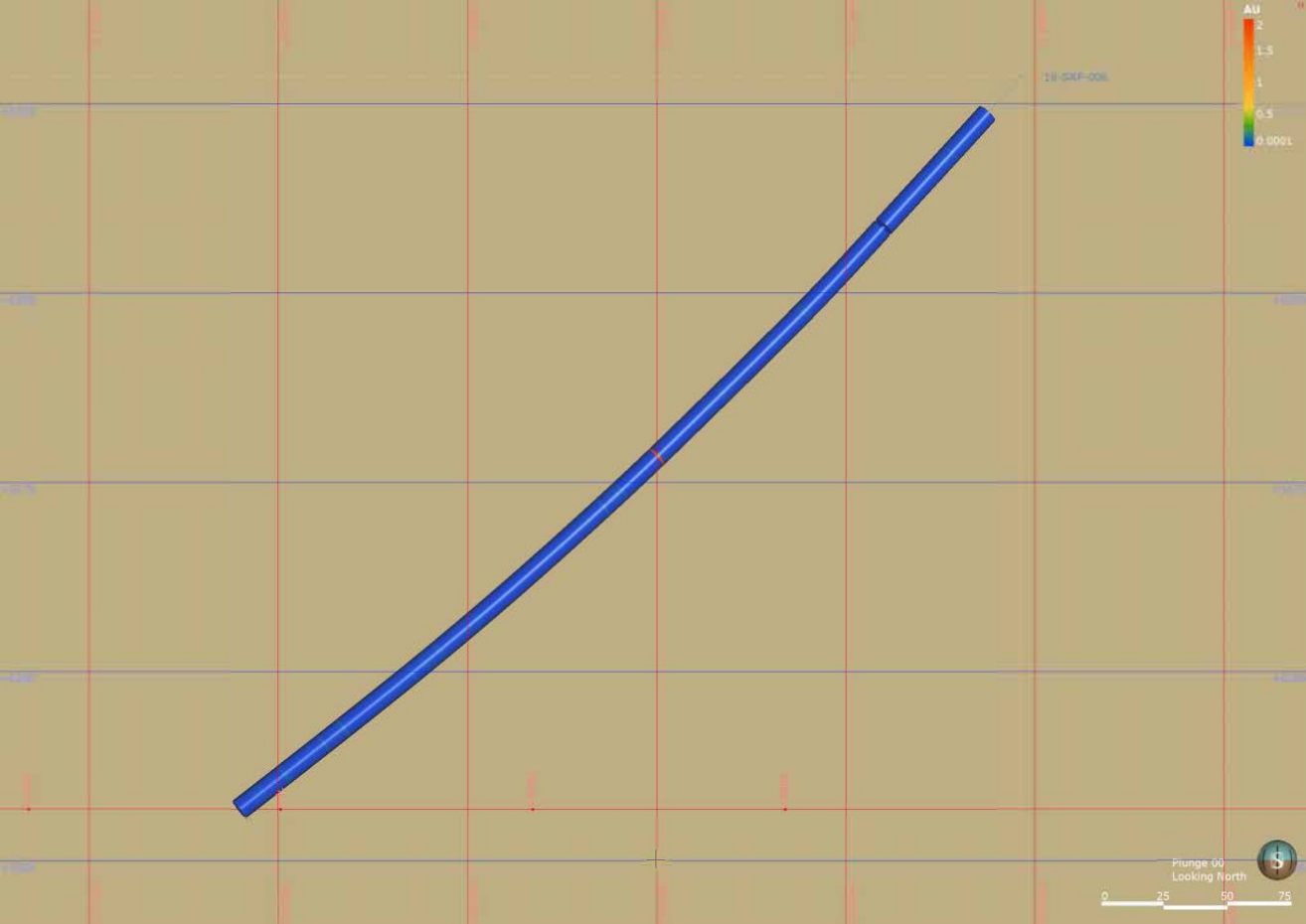




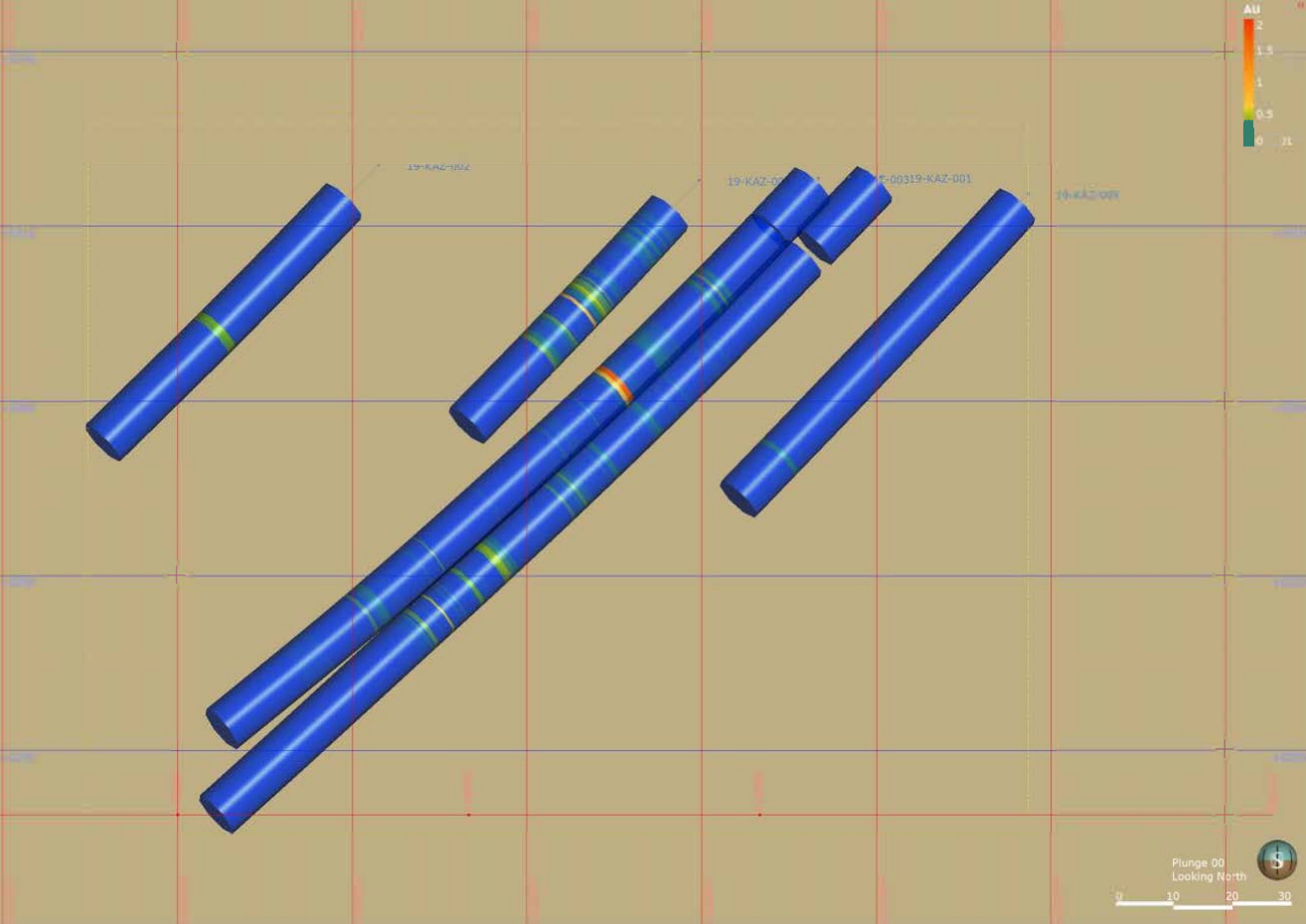
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  - 2 Mafic\_Volcanics
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  - 6 Metasediments
  - 7 Mafic Intrusives
  - 8 Felsic/Int. Intrusives
  - 13 Lamprophyre
  - 2H Mafic Tuff
  - 2K Mafic Dyke
  - 2U Grt-Bearing\_Mafic
  - 3A Andesite
  - 4A Chert-Gru. BIF
  - 4B Chert-Mt. BIF
  - 4BF Clastic Chert-Mt. BIF
  - 4C Carb. BIF
  - 4E Grt-Amp. Schist
  - 4EA Grt-Gru. BIF
  - 4EF Interbedded\_4E/4F
  - 4F Grt-Bt. Schist
  - 4FB Interbedded\_4F/4B
  - 4H Fe-Rich BIF
  - 6N Argillite
  - 6W Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Casing
  - Ignore
  - Overburden
  - Qtz\_Vn
  - Structure





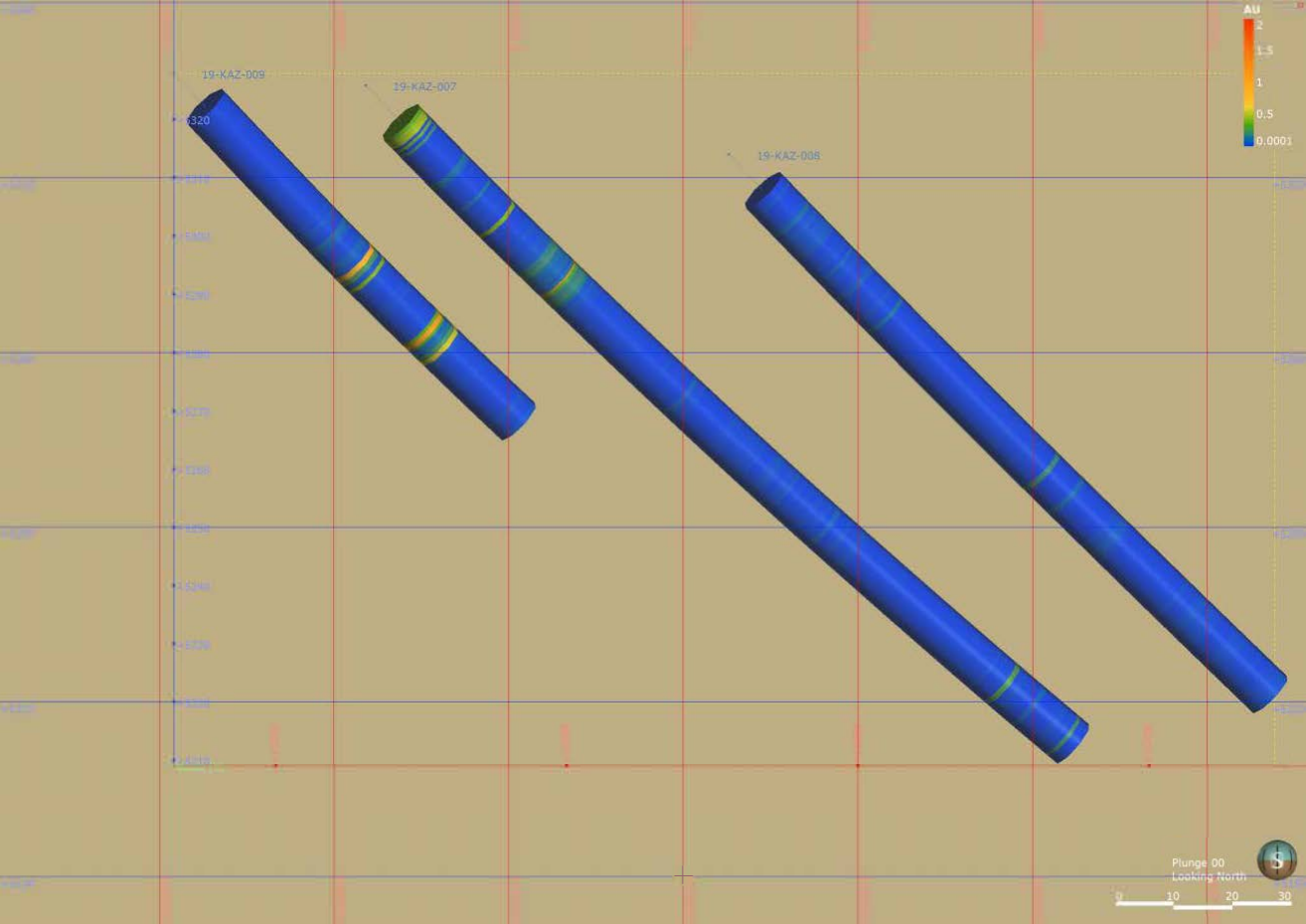




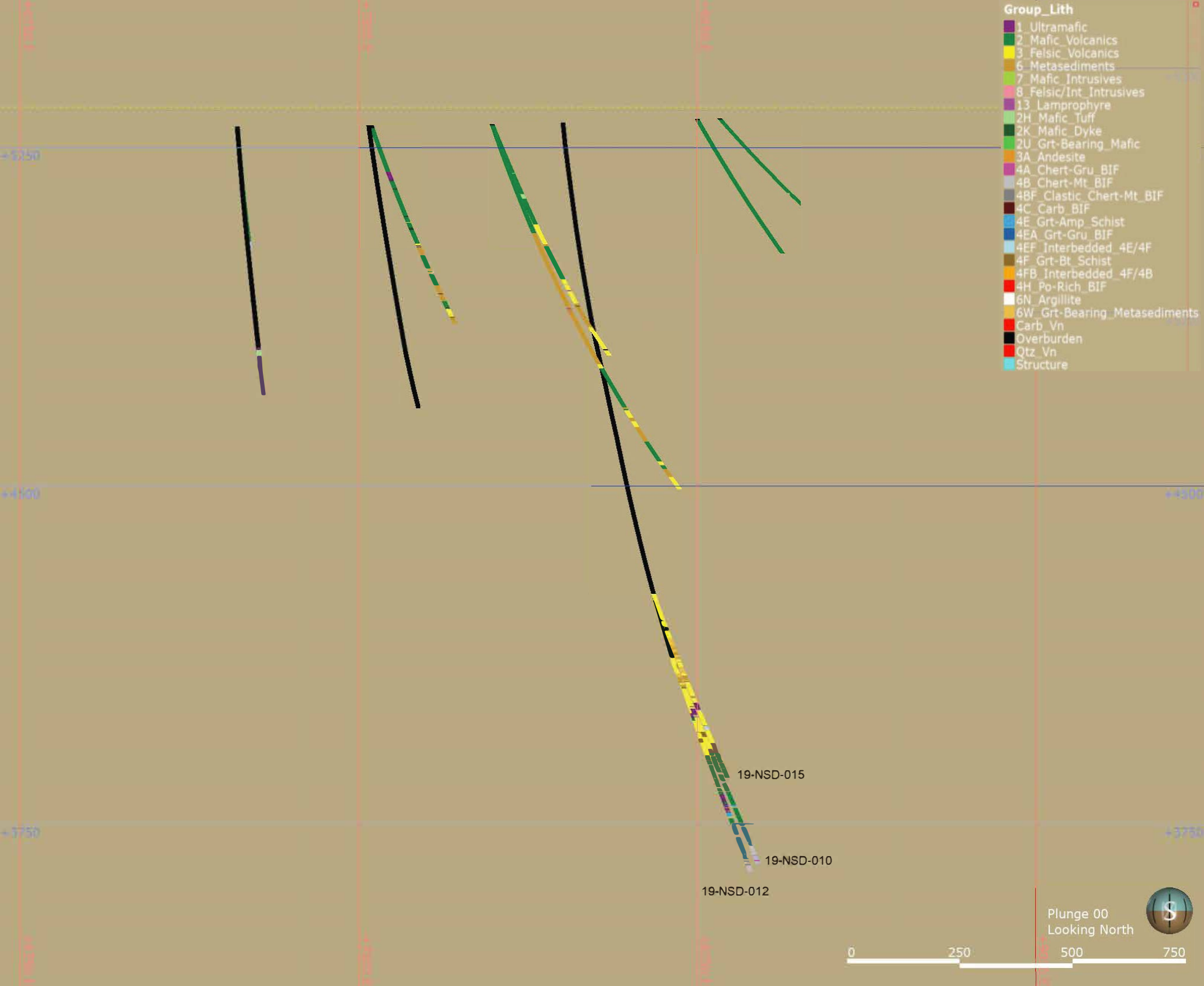




- Group\_Lith**
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  - 2 Mafic\_Volcanics
  - 3 Felsic\_Volcanics
  - 6 Metasediments
  - 7 Mafic Intrusives
  - 8 Felsic/Int. Intrusives
  - 13 Lamprophyre
  - 2H Mafic Tuff
  - 2K Mafic Dyke
  - 2U Grt-Bearing\_Mafic
  - 3A Andesite
  - 4A Chert-Gru. BIF
  - 4B Chert-Mt. BIF
  - 4BF Clastic Chert-Mt. BIF
  - 4C Carb. BIF
  - 4E Grt-Amp. Schist
  - 4EA Grt-Gru. BIF
  - 4EF Interbedded\_4E/4F
  - 4F Grt-Bt. Schist
  - 4FB Interbedded\_4F/4B
  - 4H Po-Rich. BIF
  - 6N Argillite
  - 6W Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Casing
  - Ignore
  - Overburden
  - Qtz\_Vn
  - Structure







- Group\_Lith**
- 1\_Ultramafic
  - 2\_Mafic\_Volcanics
  - 3\_Felsic\_Volcanics
  - 6\_Metasediments
  - 7\_Mafic\_Intrusives
  - 8\_Felsic/Int\_Intrusives
  - 13\_Lamprophyre
  - 2H\_Mafic\_Tuff
  - 2K\_Mafic\_Dyke
  - 2U\_Grt-Bearing\_Mafic
  - 3A\_Andesite
  - 4A\_Chert-Gru\_BIF
  - 4B\_Chert-Mt\_BIF
  - 4BF\_Clastic\_Chert-Mt\_BIF
  - 4C\_Carb\_BIF
  - 4E\_Grt-Amp\_Schist
  - 4EA\_Grt-Gru\_BIF
  - 4EF\_Interbedded\_4E/4F
  - 4F\_Grt-Bt\_Schist
  - 4FB\_Interbedded\_4F/4B
  - 4H\_Po-Rich\_BIF
  - 6N\_Argillite
  - 6W\_Grt-Bearing\_Metasediments
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  - Qtz\_Vn
  - Overburden
  - Structure

19-NSD-015

19-NSD-010

19-NSD-012

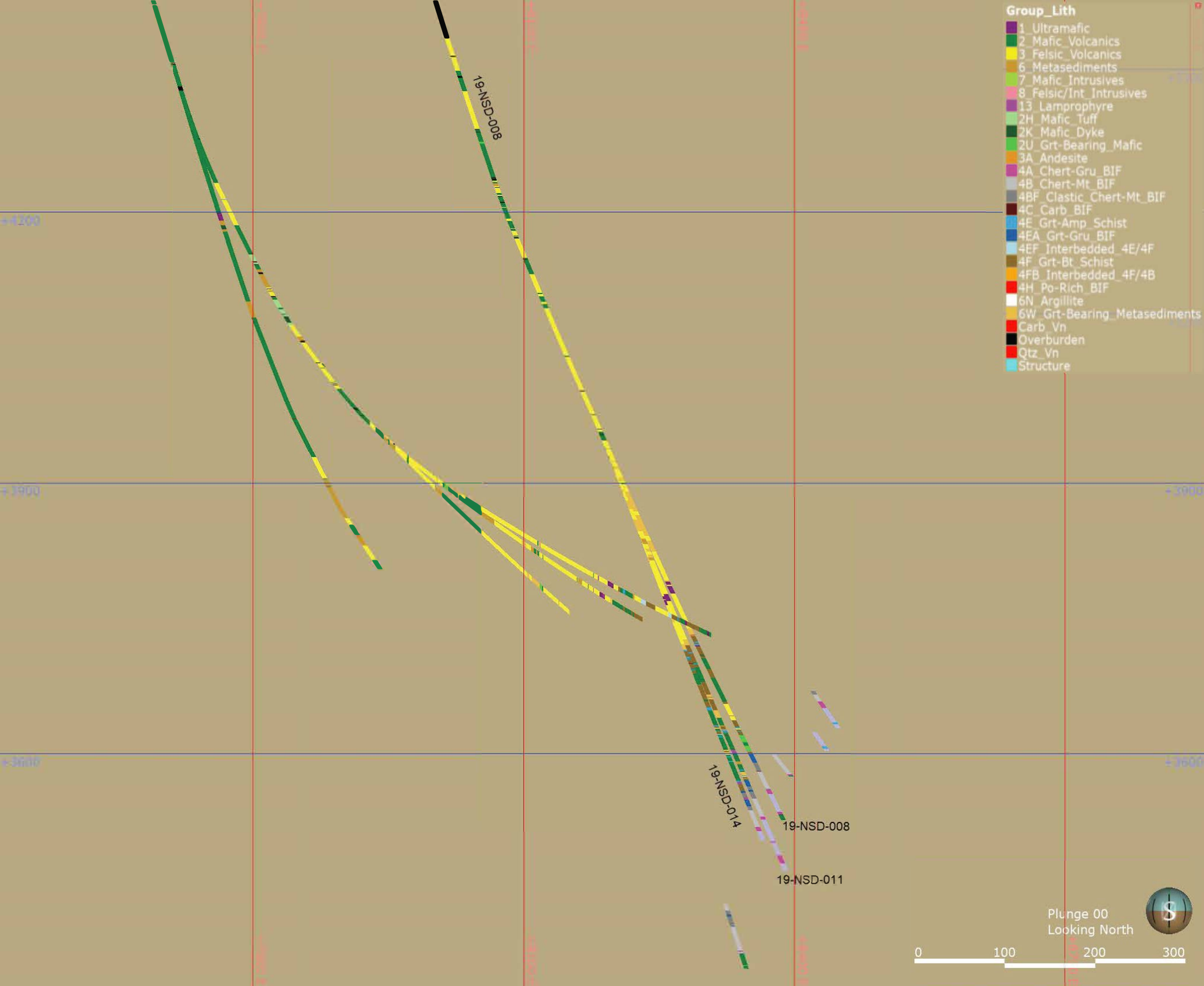
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Plunge 00  
Looking North







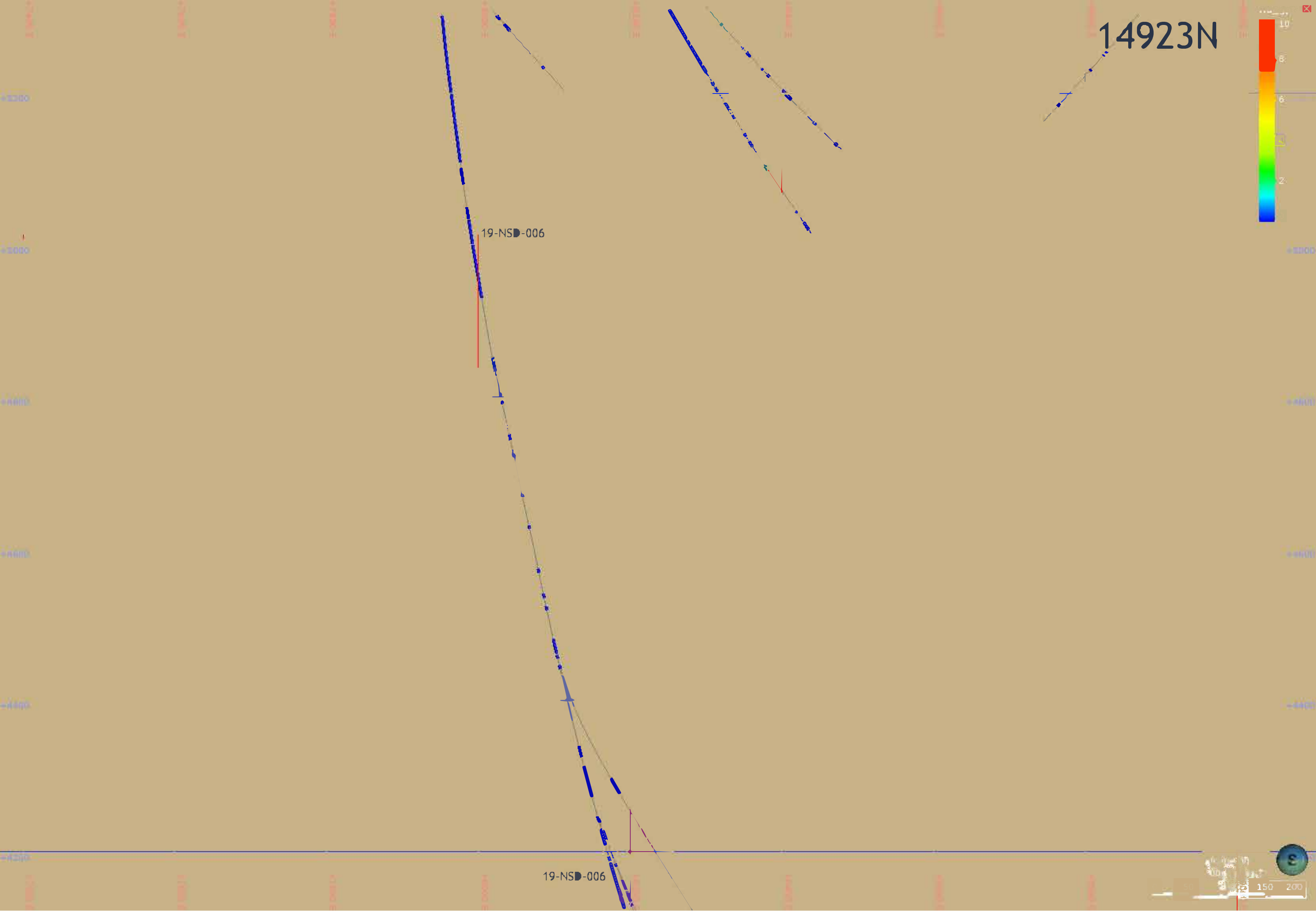


14923N



19-NSD-006

19-NSD-006



14923N

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- 1 Ultramafic
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  - 3 Felsic\_Volcanics
  - 6 Metasediments
  - 7 Mafic Intrusives
  - 8 Felsic/Int Intrusives
  - 13 Lamprophyre
  - 2H Mafic Tuff
  - 2K Mafic Dyke
  - 2U Grt-Bearing Mafic
  - 3A Andesite
  - 4A Chert-Gru\_BIF
  - 4B Chert-Mt\_BIF
  - 4BF Clastic Chert-Mt\_BIF
  - 4C Carb\_BIF
  - 4E Grt-Amp\_Schist
  - 4EA Grt-Gru\_BIF
  - 4EF Interbedded\_4E/4F
  - 4F Grt-Bt\_Schist
  - 4FB Interbedded\_4F/4B
  - 4H Po-Rich\_BIF
  - 6N Argillite
  - 6W Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Overburden
  - Qtz\_Vn
  - Structure

19-NSD-006

19-NSD-012



14923N

- Group\_Lith
- 1\_Ultramafic
  - 2\_Mafic\_Volcanics
  - 3\_Felsic\_Volcanics
  - 6\_Metasediments
  - 7\_Mafic\_Intrusives
  - 8\_Felsic/Int\_Intrusives
  - 13\_Lamprophyre
  - 2H\_Mafic\_Tuff
  - 2K\_Mafic\_Dyke
  - 2U\_Grt-Bearing\_Mafic
  - 3A\_Andesite
  - 4A\_Chert-Gru\_BIF
  - 4B\_Chert-Mt\_BIF
  - 4BF\_Clastic\_Chert-Mt\_BIF
  - 4C\_Carb\_BIF
  - 4E\_Grt-Amp\_Schist
  - 4EA\_Grt-Gru\_BIF
  - 4EF\_Interbedded\_4E/4F
  - 4F\_Grt-Bt\_Schist
  - 4FB\_Interbedded\_4F/4B
  - 4H\_Po-Rich\_BIF
  - 6N\_Argillite
  - 6W\_Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Overburden
  - Qtz\_Vn
  - Structure

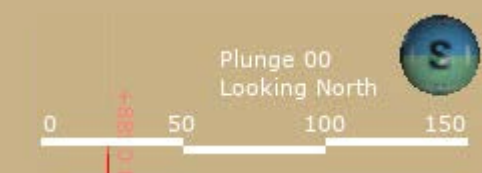
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19-NSD-012

19-NSD-006

19-NSD-010



14923N

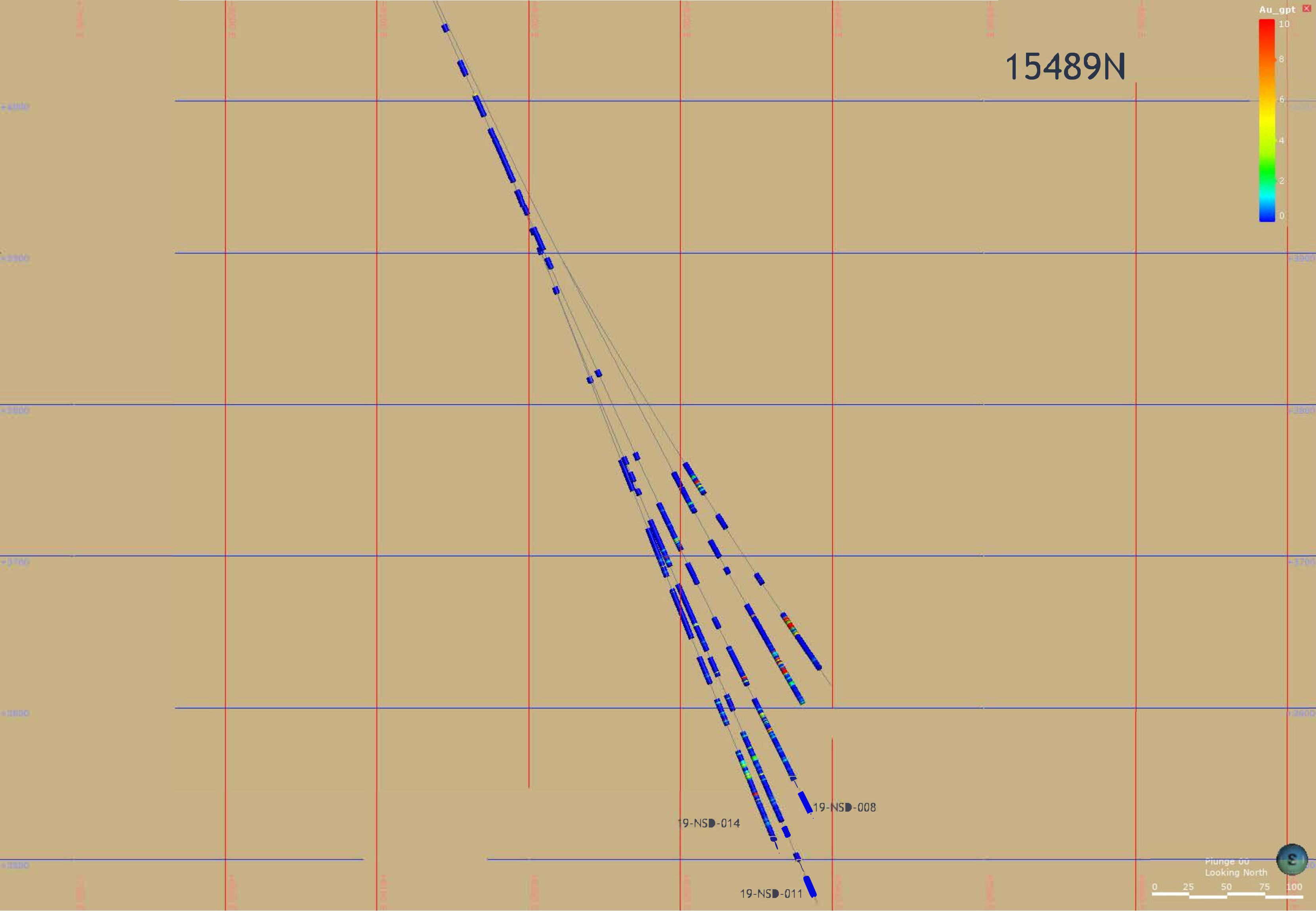
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3	Felsic_Volcanics
6	Metasediments
7	Mafic_Intrusives
8	Felsic/Int_Intrusives
13	Lamprophyre
2H	Mafic_Tuff
2K	Mafic_Dyke
2U	Grt-Bearing_Mafic
3A	Andesite
4A	Chert-Gru_BIF
4B	Chert-Mt_BIF
4BF	Clastic_Chert-Mt_BIF
4C	Carb_BIF
4E	Grt-Amp_Schist
4EA	Grt-Gru_BIF
4EF	Interbedded_4E/4F
4F	Grt-Bt_Schist
4FB	Interbedded_4F/4B
4H	Po-Rich_BIF
5N	Argillite
6W	Grt-Bearing_Metasediments
Carb_Vn	
Overburden	
Qtz_Vn	
Structure	





15489N



19-NSD-014

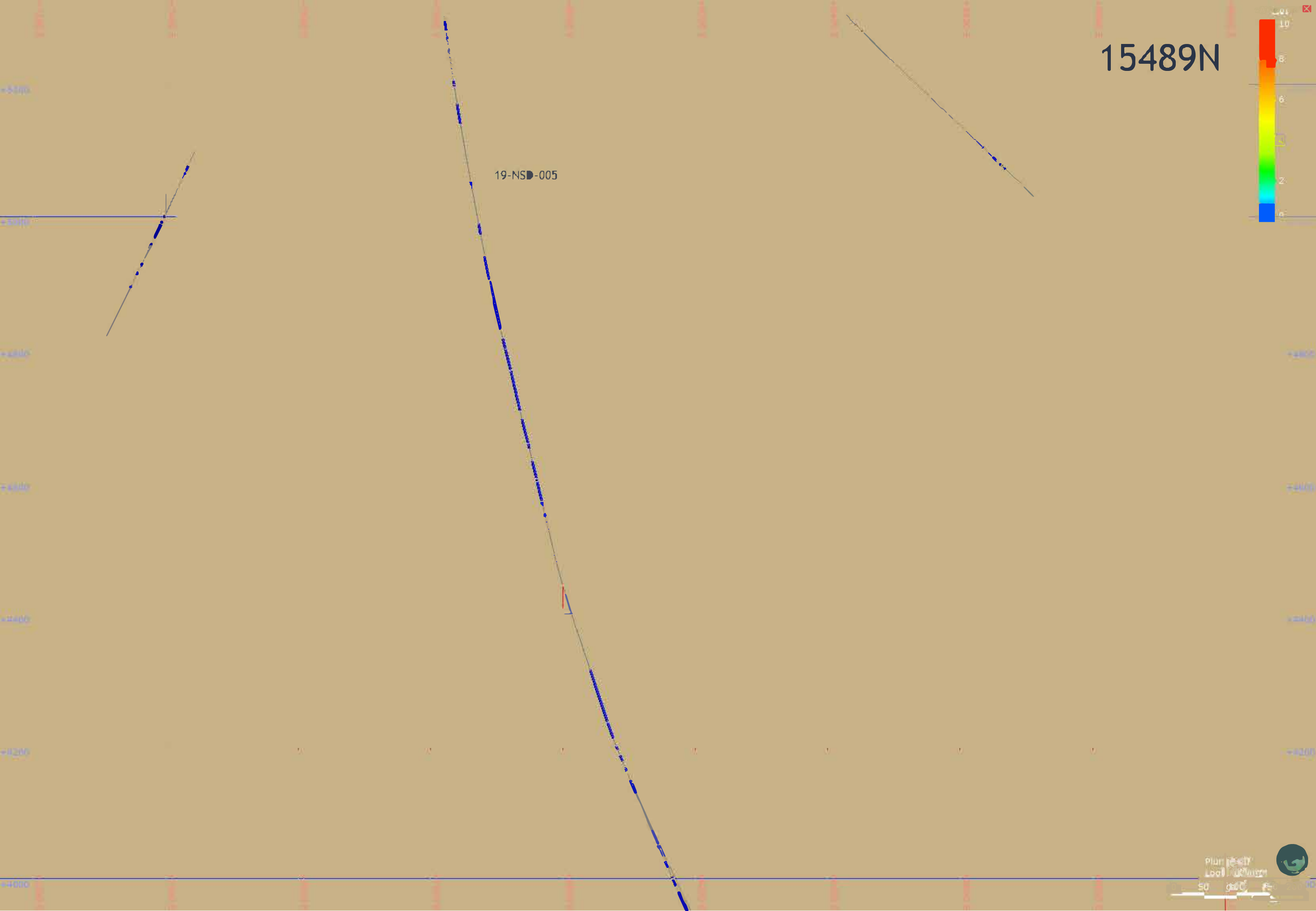
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19-NSD-011



15489N

19-NSD-005



15489N

19-NSD-005

19-NSD-014

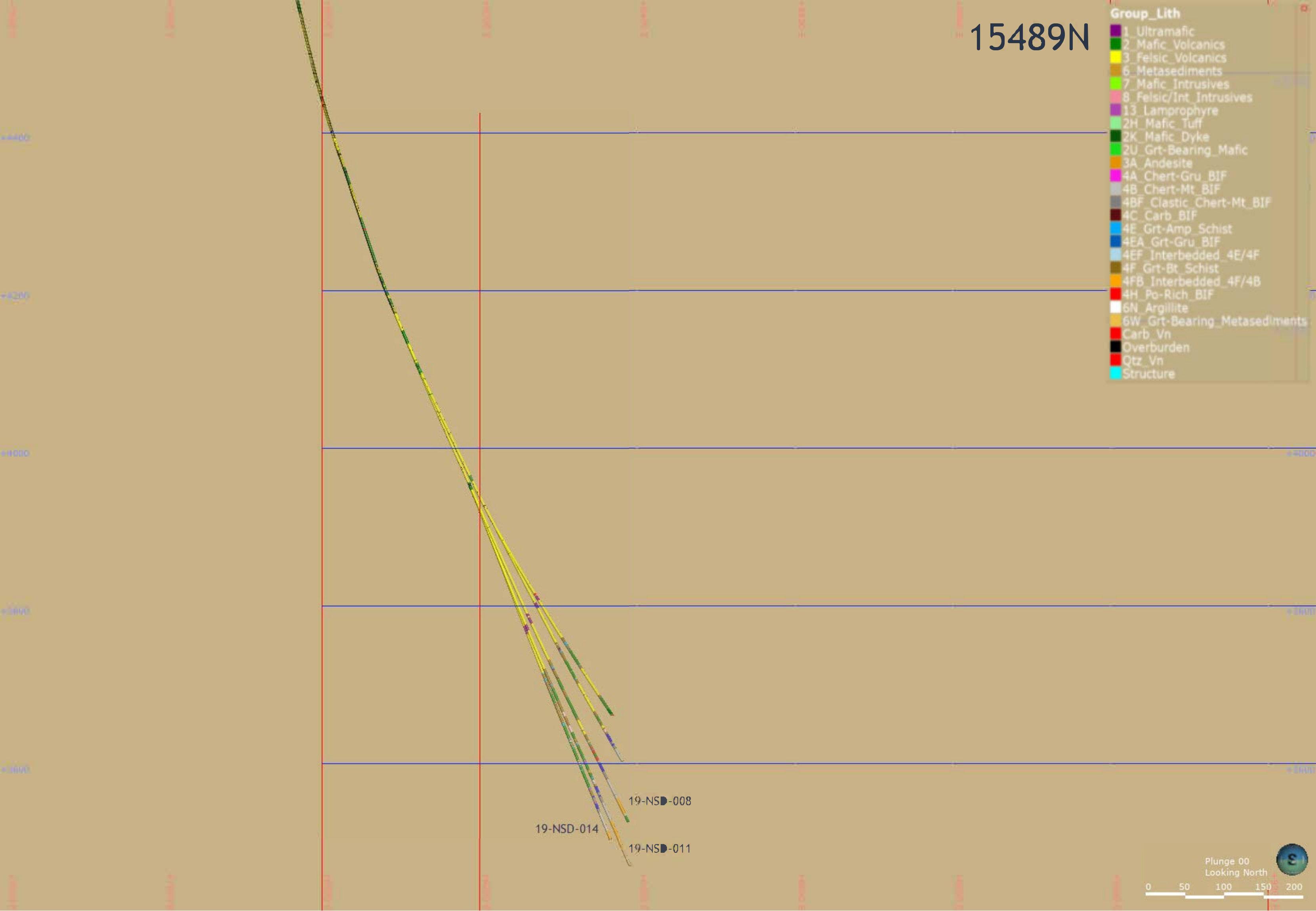
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  - 7 Mafic\_Intrusives
  - 8 Felsic/Int\_Intrusives
  - 13 Lamprophyre
  - 2K Mafic\_Dyke
  - 2U Grt-Bearing\_Mafic
  - 3A Andesite
  - 4A Chert-Gru\_BIF
  - 4B Chert-Mt\_BIF
  - 4BF Clastic\_Chert-Mt\_BIF
  - 4C Carb\_BIF
  - 4E Grt-Amp\_Schist
  - 4EA Grt-Gru\_BIF
  - 4EF Interbedded\_4E/4F
  - 4F Grt-Bt\_Schist
  - 4FB Interbedded\_4F/4B
  - 4H Po-Rich\_BIF
  - 6N Argillite
  - 6W Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Overburden
  - Qtz\_Vn
  - Structure





15489N

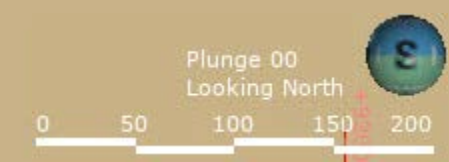
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  - 2\_Mafic\_Volcanics
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  - 7\_Mafic Intrusives
  - 8\_Felsic/Int Intrusives
  - 13\_Lamprophyre
  - 2H\_Mafic\_Tuff
  - 2K\_Mafic\_Dyke
  - 2U\_Grt-Bearing\_Mafic
  - 3A\_Andesite
  - 4A\_Chert-Gru\_BIF
  - 4B\_Chert-Mt\_BIF
  - 4BF\_Clastic\_Chert-Mt\_BIF
  - 4C\_Carb\_BIF
  - 4E\_Grt-Amp\_Schist
  - 4EA\_Grt-Gru\_BIF
  - 4EF\_Interbedded\_4E/4F
  - 4F\_Grt-Bt\_Schist
  - 4FB\_Interbedded\_4F/4B
  - 4H\_Po-Rich\_BIF
  - 6N\_Argillite
  - 6W\_Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Overburden
  - Qtz\_Vn
  - Structure



19-NSD-014

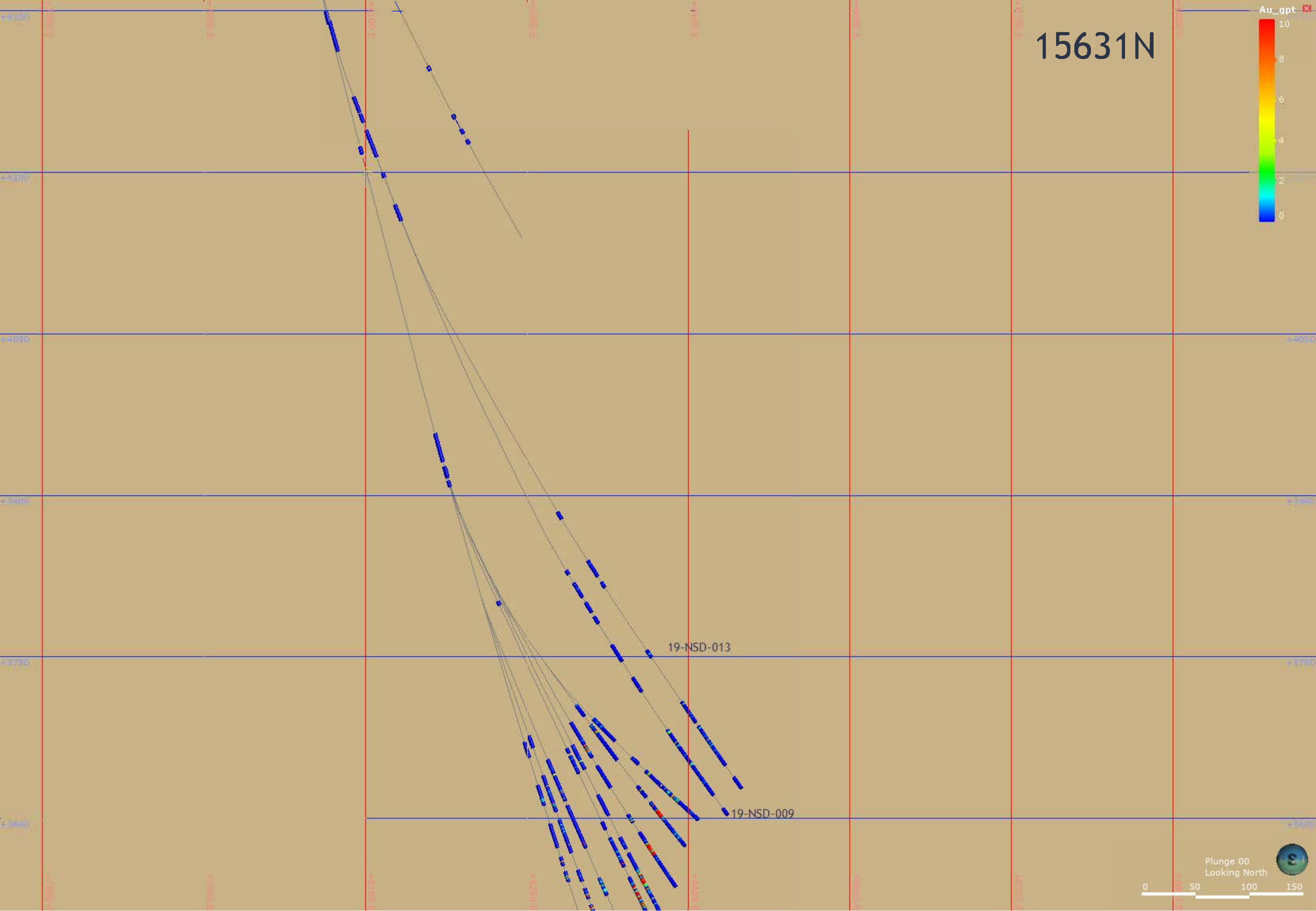
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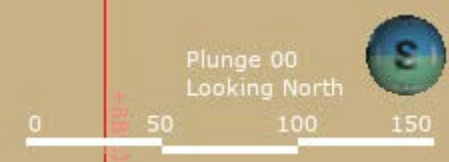


15631N

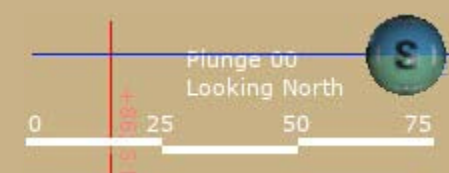
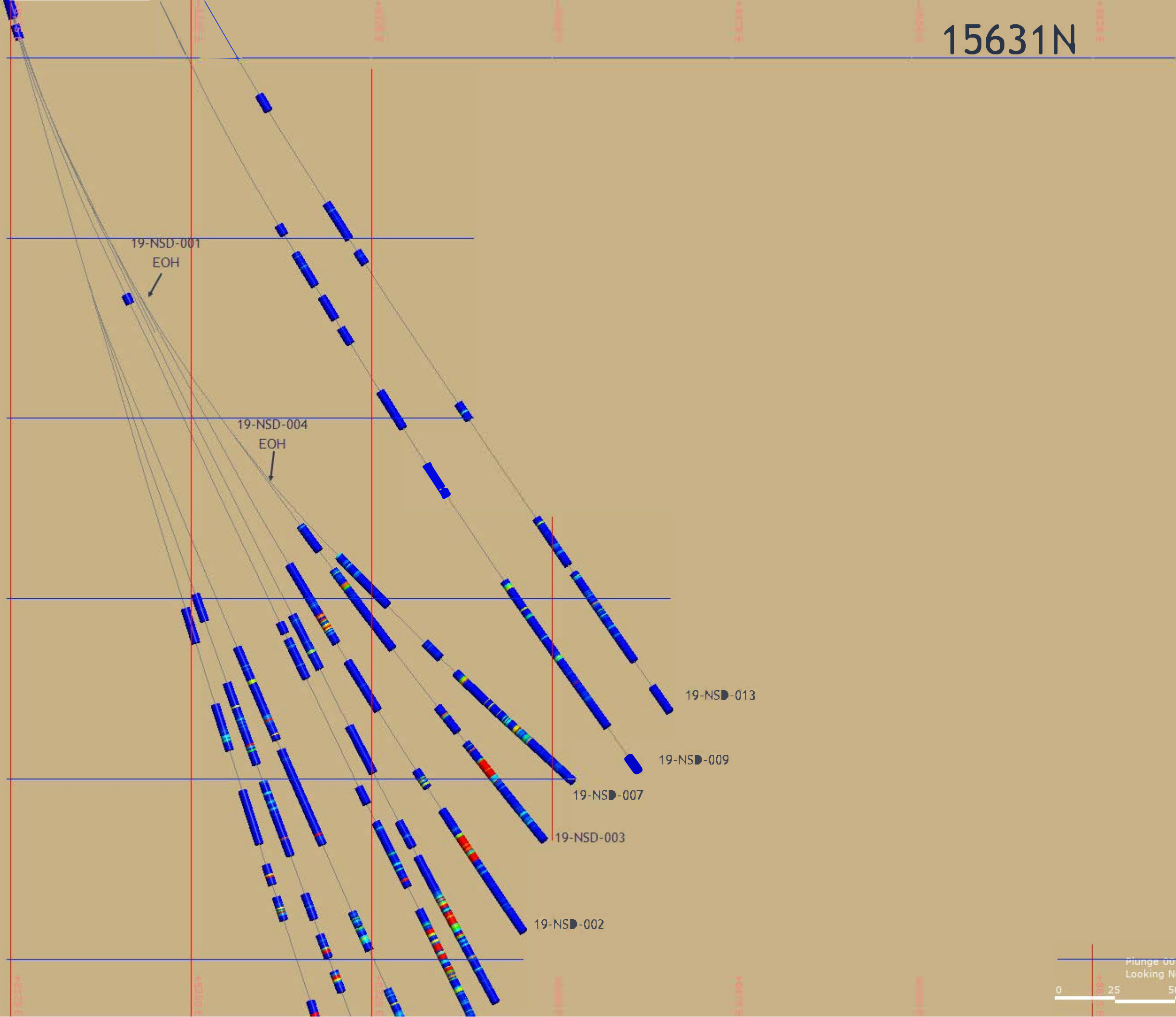


19-NSD-013

19-NSD-009



# 15631N





# 15631N

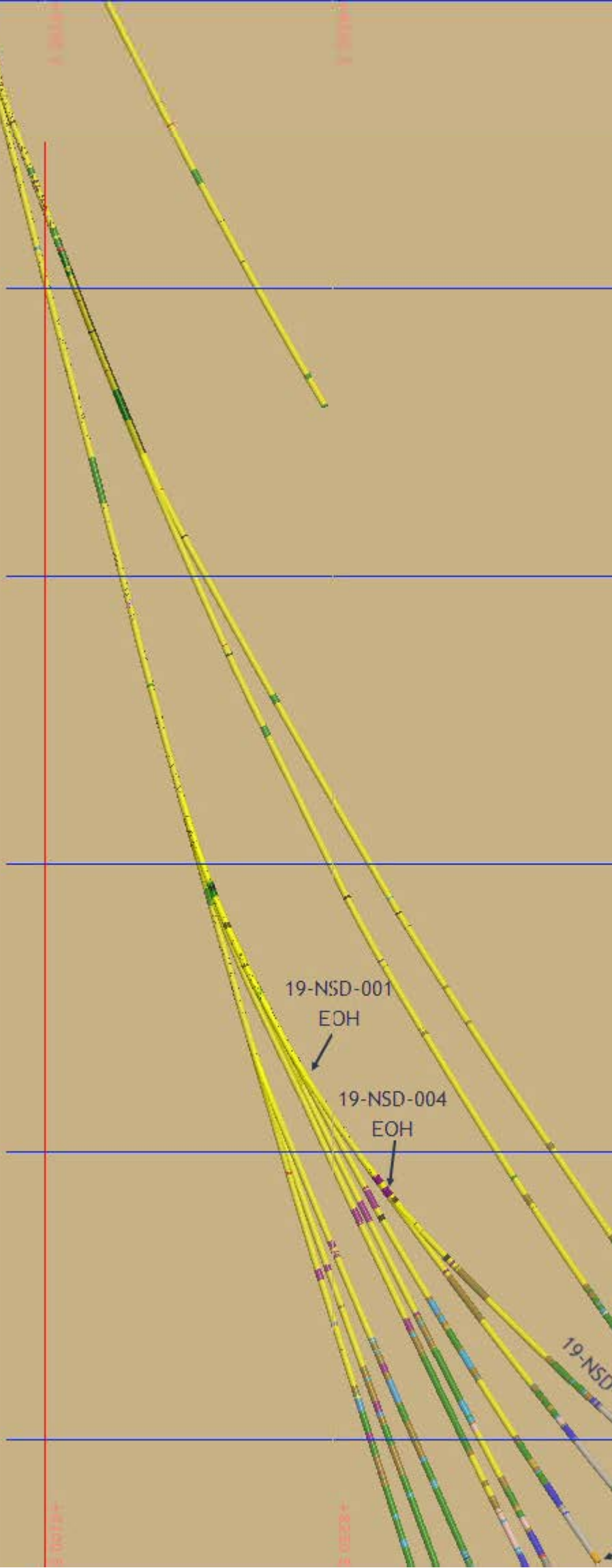
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  - 7 Mafic Intrusives
  - 8 Felsic/Int Intrusives
  - 13 Lamprophyre
  - 2H Mafic Tuff
  - 2K Mafic Dyke
  - 2U Grt-Bearing\_Mafic
  - 3A Andesite
  - 4A Chert-Gru\_BIF
  - 4B Chert-Mt\_BIF
  - 4BF Clastic\_Chert-Mt\_BIF
  - 4C Carb\_BIF
  - 4E Grt-Amp\_Schist
  - 4EA Grt-Gru\_BIF
  - 4EF Interbedded\_4E/4F
  - 4F Grt-Bt\_Schist
  - 4FB Interbedded\_4F/4B
  - 4H Po-Rich\_BIF
  - 6N Argillite
  - 6W Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Overburden
  - Qtz\_Vn
  - Structure



15631N

- Group\_Lith
- 1 Ultramafic
  - 2 Mafic\_Volcanics
  - 3 Felsic\_Volcanics
  - 6 Metasediments
  - 7 Mafic\_Intrusives
  - 8 Felsic/Int\_Intrusives
  - 13 Lamprophyre
  - 2H Mafic\_Tuff
  - 2K Mafic\_Dyke
  - 2U Grt-Bearing\_Mafic
  - 3A Andesite
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  - 4B Chert-Mt\_BIF
  - 4BF Clastic\_Chert-Mt\_BIF
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  - 4H Po-Rich\_BIF
  - 6N Argillite
  - 6W Grt-Bearing\_Metasediments
  - Carb\_Vn
  - Overburden
  - Qtz\_Vn
  - Structure

+4500  
+4000  
+3500  
+3000  
+2500  
+2000



19-NSD-001  
EOH

19-NSD-004  
EOH

19-NSD-007

19-NSD-013

19-NSD-009

19-NSD-003

19-NSD-002



Plunge 00  
Looking North



**Exploration Permit/Permis  
d'exploration****Number/Numero : PR-17-11171**

This permit is issued under the authority of section 78.3 of the *Mining Act* and the Exploration Plans and Exploration Permits Regulation (O. Reg. 308/12). It is subject to the provisions of the Act and regulation as well as the terms and conditions included in this permit.

Ce permis est émis conformément aux dispositions de section 78.3 de la *Loi sur les mines* et des règlements et est sujet aux restrictions et dispositions de ce lois et règlements ainsi qu'aux conditions ci-énoncées

Note: The issuance of this permit does not relieve the applicant from the responsibility of acquiring any other agency, board, government, etc. approval as may be required nor does it relieve the permittee from the requirements of any other legislation or guarantee access to the land.

Remarque: La délivrance d'un permis n'exonère pas le demandeur de l'obligation d'obtenir l'autorisation de tout autre organisme, commission, gouvernement, etc. qui pourrait être exigée, non plus qu'elle exempte le détenteur des dispositions des lois et elle ne garantit pas l'accès à la terre.

**Project Details/ Détails sur le projet**Project Name/ Titre du projet  
Karl Zeemel ProjectQualified Supervisor/Superviseur qualifié  
Katie Lucas**This Permit is issued to: Ce Permis est délivré a:**Name of Permittee/Nom du détenteur:  
Goldcorp Canada Ltd.Mailing Address/Adresse postale:  
3201-130 Adelaide Street West, Toronto, ON M5H 3P5

To conduct early exploration activities from/ Pour effectuer des activités d'exploration du: 2017/11/07 to: 2020/11/06

On claim/lease/licence of occupation number(s)/Sur le numéro(s) du claim/bail/permis d'occupation: 1199740 1199737 1199738 1199739 1199736  
4208959 4208960 4208961 4208962 1234260 1234261 1234262 1234263 1234264

as per your exploration permit renewal application date/conformément à la demande de permis d'exploration en date du: 2017/09/18

- Mechanized Drilling (assembled weight >150kg)/ Forage mécanisé (poids assemblé >150 kg)
- Mechanized Stripping (>100m<sup>2</sup> in 200m radius)/ Décapage mécanisé (> 100 m<sup>2</sup> dans un rayon de 200 m)
- Pitting and Trenching (>3m<sup>3</sup> in 200m radius)/ Creusement de fosses et de tranchées (>3 m<sup>3</sup> dans un rayon de 200 m)
- Line Cutting (>1.5m width)/ Découpage des quadrillages (<1,5 m de largeur)
- Other (Early exploration activities for which Director has required a permit)/Autre (Activités d'exploration préliminaires pour laquelle le Directeur a demandé un permis):

Subject to the following conditions:/Et sous les conditions suivantes:

1. The Permittee shall keep this permit or a true copy thereof on the permit area./Le détenteur conserver ce permis ou une copie conforme sur les lieux des travaux.
2. The person in charge of the operation conducted under this permit shall produce and show this permit or the true copy kept on the exploration permit area to any inspector whenever requested by the officer./Le responsable des travaux couverts par ce permis doit produire le permis ou sa copie conforme si un inspecteur lui demande.
3. The requirements outlined in Schedule 1 of Ontario Regulation 308/12 and applicable Provincial Standards for Early Exploration/ Les exigences générales identifier à l'annexe 1 du Règlement de l'Ontario 308/12 et les normes provinciale relatives à l'exploration préliminaire.
4. Other terms and conditions as listed on this permit./Autres termes et conditions énoncées sur ce permis.

Place of Issue/Émis a:  
Thunder BayIssued by/Émis par:  
Scott Burgess, Director of Exploration

Date of Issue/Date émis (yyyy/mm/dd, aaaa/mm/jj):

2017/11/07

Signature of Director/Signature du directeur:



Additional Terms and Conditions:

none

Autre termes et conditions:



## Diamond Drill Hole Major Lithology Code Legend

1	Unsubdivided Ultramafic Intrusive Unit
2	Unsubdivided Mafic Metavolcanic Flow
6	Unsubdivided Clastic Metasedimentary Unit
2U	Garnetiferous Mafic Metavolcanic Unit
4A	Gruneritized and Silicified Chert-Magnetite Banded Iron Formation
4B	Chert-Magnetite Banded Iron Formation
4C	Chert
4H	Pyrrhotite Cemented Breccia
6N	Sulphidic Meta-Argillite/Mudstone
8B	Granite
QTZ VN	Massive Quartz Vein
CARB Vein	Massive Carbonate Vein



19-BOT-002

Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F019053	39.8	40.3	0.005	39.8	49.1	7A	LG	FOL	Light green, mgr. gabbro (7A) moderately foliated, non-magnetic. Weak irregular qz-cb veining, minor 4B units @ 40.2m and 43.2 m hosting mineralization. Moderate high strain zoned pulling in these minor units and causing local grey qz veining.	LC is sharp.											
	F019054	40.3	41	0.014																		
	F019055	41	42	0.01																		
	F019056	42	42.6	0.009																		
	F019057	42.6	43.1	0.014																		
	F019058	43.1	43.4	0.384																		
	F019059	43.4	44.1	0.013																		
45	F019061	44.1	45.1	0.015																		
	F019062	45.1	46.1	0.026																		
	F019063	46.1	47.1	0.018																		
	F019064	47.1	48.1	0.007																		
	F019065	48.1	49.1	0.032																		
	F019066	49.1	49.9	0.069																		
50	F019067	49.9	50.9	0.045																		
	F019068	50.9	51.2	0.888																		
	F019069	51.2	51.9	0.107																		
	F019071	51.9	52.9	0.133																		
	F019072	52.9	53.9	0.049																		
	F019073	53.9	54.3	0.261																		
	F019074	54.3	55	0.132	54.3	59.6	4BF	DG	BA	Dark green/blue/brown, aph. chert-mag BIF w/ abundant grt-bt bands (4BF) planar alternating laminae, strongly magnetic. Moderate gru alteration of groundmass, weak HZ through much of the unit causing local loss of primary texture.	Moderate thin and planar qz-cb veining. No visible mineralization. LC is gradational.											
	F019075	55	56	0.005																		
	F019076	56	57	0.005																		
	F019077	57	58	0.01																		
	F019078	58	59	0.016																		
	F019079	59	59.6	0.006																		
60	F019081	59.6	60.4	0.012																		
	F019082	60.4	61.4	0.008	59.6	70	4B	BE	DIST	Dark green/blue, aph. chert-mag BIF (4B) planar to mod distorted laminae, strongly magnetic. Moderate brittle fault adjacent to upper contact. Strong gru alteration of magnetite unaffected magnetism (possible 4A?) Mod HZ through unit causes	moderate isoclinal s-folding. Planar cb veining where strain occurs. Minor unmineralized 4F unit @ 66.6 m with sharp contacts. No mineralization. LC is gradational.	4F										
	F019083	61.4	62.4	0.065																		
	F019084	62.4	63.4	0.113																		
	F019085	63.4	64.4	0.193																		
65	F019086	64.4	65.4	0.148																		
	F019087	65.4	66	0.006																		
	F019088	66	66.6	0.019																		
	F019089	66.6	66.9	0.008																		
	F019091	66.9	67.3	0.021																		
	F019092	67.3	68	0.096																		
	F019093	68	69	0.013	70	71.9	4E	BE	POR BL	Beige, aph. grt-amp (4E) mod distorted, mgr-cgr anhedral agglomerated grts, non-magnetic. Strong gru amphibole throughout. No visible mineralization. LC is gradational.												
70	F019095	70	71	0.022																		
	F019096	71	71.9	0.028																		
	F019097	71.9	72.2	0.006																		
	F019098	72.2	73	0.051																		
	F019099	73	74	0.008																		
	F019101	74	75	0.007																		
75	F019102	75	76	0.029	72.2	86.8	2	DG	DIST	Dark green, mgr. mafic metavolcanic (2) mod foliated, non-magnetic. Strong pervasive bt + amp alteration. Thin planar qz-cb veins typically associated w/ mafics. Common brittle faulting towards lower contacts.	Mod HZ develops @ 82.5 m causing wispy bt alteration. No visible mineralization. LC is faulted.											
	F019103	76	77	0.012																		
	F019104	77	78	0.005																		
	F019105	78	79	0.013																		
	F019106	79	80	0.015																		
	F019107	80	81	0.006																		

19-BOT-002

Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F019107	80	81	0.006	72.2	86.8	2	DG	DIST	Dark green, fgr, mafic metavolcanic (2) mod foliated, non-magnetic. Strong pervasive bt + amp alteration. Thin planar qz-cb veins typically associated w/ mafics. Common brittle faulting towards lower contacts.	Mod HZ develops @ 82.5 m causing wispy bt alteration. No visible mineralization. LC is faulted.											
	F019108	81	82	0.014																		
	F019109	82	83	0.071																		
	F019111	83	84	0.038																		
	F019112	84	85	0.051																		
	F019113	85	86	0.005																		
	F019114	86	86.8	0.059	86.8	88.7	1	G	MA	Light grey, fgr, ultramafic (1) massive, non-magnetic. Strong pervasive tlc + srp alteration causing soapy texture. No veining or mineralization. Minor green mafic unit riding lower contact. LC is sharp.		2										
	F019115	86.8	87.8	0.013																		
	F019116	87.8	88.4	0.011																		
	F019117	88.4	88.7	0.005	88.7	94.9	4B	DG	LA	Dark green/blue, aph, chert-mag BIF (4B) planar alternating laminae, strongly magnetic. Mod HZ riding upper contact causing isoclinal z-folding. HZ @ 93.1 causing strong grey qz flooding. No visible mineralization. LC is gradational.												
	F019118	88.7	89.3	0.005																		
	F019119	89.3	90	0.006																		
	F019121	90	91	0.005																		
	F019122	91	92	0.005																		
	F019123	92	93	0.045																		
	F019124	93	94	0.05	94.9	97.3	4BF	DG	BA	Dark green/blue/brown, aph, chert-mag BIF w/ abundant grt-bt bands (4BF) planar alternating bands and laminae, strongly magnetic. No significant veining. ~2% blebby po min. LC is gradational.												
	F019125	94	94.9	0.005																		
	F019126	94.9	95.9	0.005																		
	F019127	95.9	96.4	0.005	97.3	120.6	4B	DG	DIST	Dark green/beige/blue, aph, chert-mag BIF (4B) moderately distorted alternating laminae, strongly magnetic. High strain zone develops @ 97.9 m causing mod to strong distortion locally flipping fabric and causing moderate white qz crack seal veining	cross cutting bedding. Patchy 2% blebby po mineralization. Minor 4H riding lower contact hosting ~60% massive po. LC is gradational.											
	F019128	96.4	97.3	0.005																		
	F019129	97.3	98.1	0.011																		
	F019131	98.1	99.1	0.006																		
	F019132	99.1	99.4	0.005																		
	F019133	99.4	100	0.005																		
	F019134	100	101	0.198																		
	F019135	101	102	0.193																		
	F019136	102	102.7	0.007																		
	F019137	102.7	103.5	0.035																		
	F019138	103.5	104.1	0.108																		
	F019139	104.1	104.8	0.032																		
	F019141	104.8	105.2	0.046																		
	F019142	105.2	106	0.16																		
	F019143	106	106.9	0.028																		
	F019144	106.9	107.9	0.864																		
	F019145	107.9	108.9	0.03																		
	F019146	108.9	109.9	0.024																		
	F019147	109.9	110.9	0.113																		
	F019148	110.9	111.9	0.005																		
	F019149	111.9	112.9	0.005																		
	F019151	112.9	113.9	0.005																		
	F019152	113.9	114.9	0.012																		
	F019153	114.9	115.9	0.032																		
	F019154	115.9	116.9	0.007																		
	F019155	116.9	117.9	0.007																		
	F019156	117.9	118.9	0.009																		
	F019157	118.9	119.9	0.007																		
	F019158	119.9	120.3	0.006																		













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Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F019427	320	321	0.007	302.5	342.2	2	GG	MA	Light greenish-gray, fgr, mafic metavolcanic (?) massive to locally foliated, non-magnetic. Weak to mod pervasive green amp. Common qz-cb veining. Moderate sericite? Alteration creating light grey colour.	Patchy trace to 3.5% vfg disseminated and litho hosted po min. Local HZ creating strong green amp alt and 7% diss and threaded po mineralization. LC is gradational.											
	F019428	321	322	0.007																		
	F019429	322	322.9	0.007																		
	F019431	322.9	323.4	0.005																		
	F019432	323.4	323.9	0.005																		
	F019433	323.9	324.9	0.005																		
325	F019434	324.9	325.9	0.005																		
	F019435	325.9	326.7	0.01																		
	F019436	326.7	327.5	0.011																		
	F019437	327.5	328.3	0.025																		
	F019438	328.3	328.7	0.009																		
	F019439	328.7	329.3	0.009																		
330	F019441	329.3	330	0.009																		
	F019442	330	331	0.008																		
	F019443	331	332	0.009																		
	F019444	332	333	0.011																		
	F019445	333	334	0.01																		
	F019446	334	335	0.011																		
335	F019447	335	336	0.011																		
	F019448	336	337	0.012																		
	F019449	337	337.6	0.014																		
	F019451	337.6	338.1	0.012																		
	F019452	338.1	338.5	0.012																		
	F019453	338.5	339.4	0.011																		
340	F019454	339.4	340.3	0.014																		
	F019455	340.3	341.2	0.02																		
	F019456	341.2	342.2	0.016																		
	F019457	342.2	343	0.015	342.2	369.4	7A	DG	MO	Dark green, mgr-cgr, gabbro (7A) massive and mottled, non-magnetic. Strong pervasive green amp aw/ variable mgr-cgr green amp crystals with no preferential orientation.	Common qz-cb crack seal veining throughout typically observed with mafic rocks. Local trace litho hosted disseminations of po min. LC is gradational.											
	F019458	343	344	0.013																		
	F019459	344	345	0.013																		
345	F019461	345	346	0.013																		
	F019462	346	347	0.008																		
	F019463	347	348	0.011																		
	F019464	348	349	0.005																		
	F019465	349	350	0.005																		
350	F019466	350	351	0.009																		
	F019467	351	352	0.006																		
	F019468	352	353	0.005																		
	F019469	353	354	0.006																		
355	F019471	354	355	0.013																		
	F019472	355	356	0.005																		
	F019473	356	357	0.014																		
	F019474	357	358	0.007																		
	F019475	358	359	0.009																		
	F019476	359	360	0.034																		
360	F019477	360	361	0.011																		

Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F019477	360	361	0.011	342.2	369.4	7A	DG	MO	Dark green, mgr-cgr, gabbro (7A) massive and mottled, non-magnetic. Strong pervasive green amp aw/ variable mgr-cgr green amp crystals with no preferential orientation.	Common qz-cb crack seal veining throughout typically observed with mafic rocks. Local trace litho hosted disseminations of po min. LC is gradational.											
	F019478	361	362	0.013																		
	F019479	362	363	0.011																		
	F019481	363	364	0.026																		
	F019482	364	365	0.012																		
	F019483	365	366	0.007																		
	F019484	366	367	0.018																		
	F019485	367	368	0.009																		
	F019486	368	369	0.021																		
	F019487	369	369.4	0.005																		
	F019488	369.4	370	0.005	369.4	381	2	DG	MA	Dark green, fgr, mafic metavolcanic (2) massive, non-magnetic. Strong pervasive green amp throughout causing green colour. Common thin cb crack seal/tension gashes typically associated w/ mafics. No visible mineralization. LC is gradational.												
	F019489	370	371	0.015																		
	F019491	371	372	0.01																		
	F019492	372	373	0.005																		
	F019493	373	374	0.005																		
	F019494	374	375	0.005																		
	F019495	375	376	0.007																		
	F019496	376	377	0.005																		
	F019497	377	378	0.005																		
	F019498	378	379	0.005																		
	F019499	379	380	0.005	381	398.5	7A	DG	MA	Dark green, mgr, gabbro (7A) massive, non-magnetic. Mgr angular green amp crystals with no preferential orientation. Common qz-cb crack seal veins/ tension gashes. Local trace disseminated po mineralization. LC is gradational.												
	F019501	380	381	0.005																		
	F019502	381	382	0.005																		
	F019503	382	383	0.005																		
	F019504	383	384	0.005																		
	F019505	384	385	0.005																		
	F019506	385	386	0.005																		
	F019507	386	387	0.005																		
	F019508	387	388	0.005																		
	F019509	388	389	0.006																		
	F019511	389	390	0.005																		
	F019512	390	391	0.006																		
	F019513	391	392	0.005																		
	F019514	392	393	0.005																		
	F019515	393	394	0.005																		
	F019516	394	395	0.012																		
	F019517	395	396	0.009																		
	F019518	396	397	0.005																		
	F019519	397	398	0.005																		
	F019521	398	398.5	0.005																		
	F019522	398.5	399	0.005	398.5	443	2	DG	MA	Dark green, fgr, mafic metavolcanic (2) massive, non-magnetic. Strong fgr green amp alteration throughout groundmass. Common cb tension gashes locally weakly brecciating unit. Local 0.75-1% diss/blebby po min hosted in groundmass. LC is gradational.												
	F019523	399	400	0.005																		
	F019524	400	401	0.005																		







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Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION																																							
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments																														
	F010556	40	41	0.009	37.3	46.5	6W	G	LA	Dark grey-black metased (6). Fine grained. Well laminated to foliated. Abundant bt wisps. 5-6% qz-cb veining. No significant mineralization. Multiple minor methane fault splays scattered throughout, and locally fractured. Locally very weakly magnetic.	Meth fault splays have cb infill and beige to pink staining bleeding out. Sharp LC.																																								
	F010557	41	42	0.008																																															
	F010558	42	43	0.005																																															
	F010559	43	44	0.005																																															
	F010561	44	45	0.006																																															
44	F010562	45	46	0.016	46.5	49.1	7A	DG	FOL	Dark green gabbro (7A). Mgr to cgr. Well foliated. Weakly magnetic. 1-2% qz-cb veining. Trc local Py seen in groundmass. Minor possible methane fault splays (cb infill cross-cutting fabric). Brittle fault from 48.3-49.4m, leaving core blocky 30cm of core missing due to brittle faulting. Core recovered is blocky. Same as above gabbro (7A). Increased cb stringer near UC w/ fault. Trc blebby Po mostly assoc w/ minor veinlets. Minor methane fault splays (very thin) cross-cutting fabric. Well foliated. Weakly foliated. Dark green and mgr. Sharp LC.																																									
	F010563	46	46.5	0.005																																															
	F010564	46.5	47	0.017																																															
	F010565	47	47.5	0.057																																															
	F010566	47.5	48.3	0.018																																															
	F010567	48.3	49.1	0.014																																															
	F010568	49.4	50	0.045																																															
	F010569	50	51	0.017																																															
	F010571	51	51.5	0.021																																															
	F010572	51.5	51.8	0.016																																															
	F010573	51.8	52.3	0.011	52.3	59.2	7A	DG	FOL	Dark green gabbro (7A). Mgr & well foliated. SZ w/ abundant cb stringers through unit. No significant qz-cb veining. Weakly magnetic. UC and LC are sheared so a little difficult to pin-point exact contact. No visible mineralization. Dark grey grt-bearing metased (6W). Fine grained w/ scattered mod mgr subhedral grt. SZ until 52.7m, with abundant cb stringers. Well foliated. Weakly magnetic. Trc blb-str Po mostly assoc w/ groundmass. Sheared LC. 1% qz-cb veining.																																									
	F010574	52.3	53	0.015																																															
	F010575	53	54	0.028																																															
	F010576	54	55	0.021																																															
	F010577	55	56	0.041																																															
	F010578	56	57	0.033																																															
	F010579	57	57.6	0.057																																															
	F010581	57.6	58.2	0.022																																															
	F010582	58.2	58.5	7.39																																															
	F010583	58.5	58.8	0.056																																															
	F010584	58.8	59.2	0.024																																															
	F010585	59.2	60	0.011																																															
	F010586	60	61	0.015																								59.2	62.2	6W	G	LA	Dark grey grt-bearing metased (6W). Fine grained. Well laminated. Very weakly magnetic. 1-2% qz-cb veining. Trc Po localized in host rock towards LC. Weak cb stringers near thicker vein at 61.6m. Sharp LC.																		
	F010587	61	61.7	0.007																																															
	F010588	61.7	62.2	0.008																																															
	F010589	62.2	63.1	0.13																																															
	F010591	63.1	63.8	0.009																																															
	F010592	63.8	64.1	0.009																																															
	F010593	64.1	64.5	0.009																																															
	F010594	64.5	64.9	0.257																																															
	F010595	64.9	65.5	0.954																																															
	F010596	65.5	66.3	0.025																																															
	F010597	66.3	67	0.029																																															
	F010598	67	68	0.035																																															
	F010599	68	69	0.042																																															
	F010601	69	70	0.027	65.5	91.4	7A	DG	FOL	Dark green gabbro (7A). Mgr. Well fol to lcl massive. Abundant bt wisps throughout unit. Abundant chl altn (or light green ser, very soft). 3-4% cb vns w/ sporadic qz-cb vns. Trc blb Po assoc w/ veins. Weak-mod local fracturing. Sct wk meth fault splays	Multiple faults, some with unconsolidated fault gouge (80.2-80.5m & 89-89.6m). SZ at 75.7-76m w/ abundant bt wisps & cb stringers. Minor pink staining w/in qz-cb infill of methane fault splays. Trc-2% Po assoc w/ vns & groundmass. Irregular & broken LC.																																								
	F010602	70	71	0.025																																															
	F010603	71	72	0.025																																															
	F010604	72	73	0.024																																															
	F010605	73	74	0.025																																															
	F010606	74	75	0.081																																															
	F010607	75	76	0.034																																															
	F010608	76	77	0.025																																															
	F010609	77	77.5	0.029																																															
	F010611	77.5	78.5	0.033																																															
	F010612	78.5	79	0.044																																															
	F010613	79	79.3	0.11																																															
	F010614	79.3	80	0.046																																															
	F010615	80	81	0.041																																															















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Depth	Assay				MAJOR UNIT							MINOR UNIT		ALTERATION								
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F010938	320	321	0.337	311.5	321.5	4B	BE	DIST	Beige/dark green/blue, aph, chert-mag BIF (4B) mod distorted to planar alternating laminae, strongly magnetic. Mod-str gru alteration of magnetite, does not affect magnetism; reason for 4b classification. Mod HZ's cause carbonate flooding and	folding, as well as 3-4% diss/blebby po mineralization. Z-, s-, and m-folding observed with isoclinal fold hinges. LC is sharp.	4A										
	F010939	321	321.5	0.598																		
	F010941	321.5	322.2	0.364	321.5	322.2	4H	B	MA	Brown, fgr, pyrrhotite cemented breccia (4H) massive to distorted, mod magnetic. Two separate (splayed?) pyrrhotite breccias, with minor distorted 4A unit from 321.8-321.9 m. mgr-cgr rounded silica breccia clasts attenuated along foliation.	~55% massive to semi-massive po mineralization through unit. LC is sharp.											
	F010942	322.2	322.9	0.186	322.2	322.9	4H	G	MA													
	F010943	322.9	323.9	0.03						Dark grey, fgr, massive grey quartz vein, non-magnetic. Blebby pyrrhotite hosted in vein, as well as minor 4A xenolith hosting 3.5% wispy po mineralization. LC is sharp.												
	F010944	323.9	324.9	0.137																		
32	F010945	324.9	325.7	0.011						Greenish-grey, aph, chert-gru BIF (4A) strongly distorted, weakly magnetic. Unit is highly strained throughout causing mod-str quartz flooding and strong distortion. Unit is strongly silicified and weakly brecciated.	Semi-continuous 1-2% blebby/disseminated po min associated with both HZ and qz flooding. LC is sharp.											
	F010946	325.7	326.2	0.009	322.9	330.3	4A	G	DIST													
	F010947	326.2	327.2	0.106						Fgr massive white qz vein (flooding) caused by HZ seen in unit above. Minor local 4A xenoliths. ~3% blebby vein hosted po mineralization. LC is sharp.												
	F010948	327.2	328	0.07	330.3	331.2	4A	W	MA													
	F010949	328	329	0.008						Dark green, fgr, mafic metavolcanic (2) massive, non-magnetic. Local mgr amphibole crystals (possible gradational gabbro grainsize?). Crack seal qz-carbonate veining common through unit. No visible mineralization.	LC is gradational and marked where consistent coarsening of grains occurs.											
	F010951	329	329.7	0.04	331.2	332	4A															
33	F010952	329.7	330.3	0.021						Dark green, mgr-cgr, gabbro (7A) massive, non-magnetic. Mgr-cgr amphibole crystal throughout. Common qz-carb crack seal veining throughout. No mineralization.												
	F010953	330.3	330.7	0.014	332	333	4A															
	F010954	330.7	331.2	0.007						70 cm grind												
	F010955	331.2	332	0.013	333	334	4A															
	F010956	332	333	0.011						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010957	333	334	0.018	334.3	352.5	7A	DG	MA													
	F010958	334	335	0.018						70 cm grind												
	F010959	335	336	0.02	352.5	353.2	7A															
	F010961	336	337	0.016						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010962	337	338	0.023	353.2	368.6	7A	DG	MA													
	F010963	338	339	0.016						70 cm grind												
	F010964	339	340	0.011	368.6	369.3	7A															
	F010965	340	341	0.015						70 cm grind												
	F010966	341	342	0.012	369.3	370.0	7A															
	F010967	342	343	0.014						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010968	343	344	0.014	370.0	370.7	7A															
	F010969	344	345	0.039						70 cm grind												
	F010971	345	346	0.005	370.7	371.4	7A															
	F010972	346	347	0.012						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010973	347	348	0.008	371.4	372.1	7A															
	F010974	348	348.8	0.01						70 cm grind												
	F010975	348.8	349.3	0.117	372.1	372.8	7A															
	F010976	349.3	350	0.009						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010977	350	351	0.006	372.8	373.5	7A															
	F010978	351	352	0.007						70 cm grind												
	F010979	352	352.5	0.013	373.5	374.2	7A															
	F010981	353.2	354	0.04						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010982	354	355	0.009	374.2	374.9	7A															
	F010983	355	356	0.009						70 cm grind												
	F010984	356	357	0.009	374.9	375.6	7A															
	F010985	357	358	0.007						Continuation of previous unit. Again, variable grainsize, and common crack seal quartz-carbonate veining. Local trace litho hosted disseminated po mineralization. LC is gradational.												
	F010986	358	359	0.007	375.6	376.3	7A															
	F010987	359	360	0.01						70 cm grind												
	F010988	360	360.4	0.01	376.3	377.0	7A															







Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F011094	440.1	441.1	0.021	429	464	7A	DG	MA	Dark green, cgr, gabbro (7A) massive to locally weakly foliated, non-magnetic. Mgr-cgr angular green amp crystals with no preferential orientation, common qz carb tension gashes shallowly cutting core in different orientations.	Patchy trace to 2% vfg disseminated po mineralization. LC is sharp.											
	F011095	441.1	442.1	0.029																		
	F011096	442.1	443.1	0.016																		
	F011097	443.1	443.8	0.01																		
	F011098	443.8	444.5	0.011																		
	F011099	444.5	445	0.012																		
	F011101	445	446	0.005																		
	F011102	446	446.4	0.005																		
	F011103	446.4	447	0.006																		
	F011104	447	448	0.01																		
	F011105	448	449	0.009																		
	F011106	449	450	0.006																		
	F011107	450	451	0.01																		
	F011108	451	452	0.03																		
	F011109	452	453	0.005																		
	F011111	453	454	0.025																		
	F011112	454	455	0.005																		
	F011113	455	456	0.006																		
	F011114	456	457	0.005																		
	F011115	457	458	0.01																		
	F011116	458	458.6	0.005																		
	F011117	458.6	459.4	0.005																		
	F011118	459.4	460	0.005																		
	F011119	460	461	0.005																		
	F011121	461	462	0.008																		
	F011122	462	463	0.006																		
	F011123	463	464	0.007																		
	F011124	464	464.8	0.005	464	483.3	2	DG	MA	Dark green, fgr, mafic metavolcanic (2) massive to locally weakly foliated, non-magnetic. Strong green amphibole modal abundance, weak to absent of bt. Local HZ causing grey qz flooding and increased	(4%) disseminated po mineralization. Trace to 0.4% vfg disseminated po mineralization polluting groundmass.											
	F011125	464.8	465.3	0.005																		
	F011126	465.3	466	0.009																		
	F011127	466	466.6	0.008																		
	F011128	466.6	467.6	0.005																		
	F011129	467.6	468.3	0.005																		
	F011131	468.3	469	0.005																		
	F011132	469	469.7	0.005																		
	F011133	469.7	470.4	0.005																		
	F011134	470.4	471	0.005																		
	F011135	471	472	0.005																		
	F011136	472	473	0.005																		
	F011137	473	474	0.005																		
	F011138	474	474.3	0.005																		
	F011139	474.3	474.6	0.005																		
	F011141	474.6	475.1	0.005																		
	F011142	475.1	476	0.005																		
	F011143	476	477	0.005																		
	F011144	477	478	0.007																		
	F011145	478	478.7	0.005																		
	F011146	478.7	479.7	0.005																		
	F011147	479.7	480.7	0.006																		

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Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F011147	479.7	480.7	0.006	464	483.3	2	DG	MA	Dark green, fgr. mafic metavolcanic (2) massive to locally weakly foliated, non-magnetic. Strong green amphibole modal abundance, weak to absent of bt. Local HZ causing grey qz flooding and increased	(4%) disseminated po mineralization. Trace to 0.4% vfg disseminated po mineralization polluting groundmass.											
	F011148	480.7	481.5	0.005																		
	F011149	481.5	482	0.005																		
	F011151	482	482.6	0.005																		
	F011152	482.6	483.3	0.005																		
	F011153	483.3	484	0.005																		
	F011154	484	485	0.005																		
485	F011155	485	486	0.005																		
	F011156	486	486.5	0.005																		
	F011157	486.5	487.5	0.005																		
	F011158	487.5	488.5	0.005																		
	F011159	488.5	489.5	0.005																		
490	F011161	489.5	490.5	0.005																		
	F011162	490.5	491.5	0.005																		
	F011163	491.5	492.5	0.005																		
	F011164	492.5	493.4	0.011																		
	F011165	493.4	494	0.005																		
495	F011166	494	495	0.005	483.3	506.4	2	DG	MA	Continuation of previous unit, but here abundant quartz boudins/lapilli? Are scattered throughout unit (possible 2H7) commonly attenuated along foliation axis. Semi-continuous vfg disseminated po min ranging from trace amounts to 0.5%. LC is gradational.												
	F011167	495	496	0.005																		
	F011168	496	496.8	0.005																		
	F011169	496.8	497.6	0.005																		
	F011171	497.6	498.2	0.005																		
	F011172	498.2	499	0.005																		
	F011173	499	499.9	0.005																		
500	F011174	499.9	500.9	0.005																		
	F011175	500.9	501.9	0.005																		
	F011176	501.9	502.9	0.005																		
	F011177	502.9	503.9	0.005																		
	F011178	503.9	504.3	0.005																		
	F011179	504.3	505.2	0.005																		
505	F011181	505.2	506	0.011																		
	F011182	506	506.4	0.005																		
	F011183	506.4	507	0.005																		
	F011184	507	508	0.009																		
	F011185	508	509	0.005																		
	F011186	509	510	0.005																		
510	F011187	510	511	0.005																		
	F011188	511	511.5	0.008																		
	F011189	511.5	512.2	0.005																		
	F011191	512.2	513	0.005																		
515	F011192	513	513.9	0.005	506.4	552	7A	DG	MA	Dark green, cgr. gabbro (7A) massive to weakly foliated, non-magnetic. Local HZ causing strong carbonate flooding. Patches of mod bt alteration. Common qz-carb crack seal veining/tension gashes observed. Patches of trace vfg disseminated po	mineralization and local 2% threaded/diss po min from 550.4-550.6 m. Cgr green amp crystals are locally wk-mod attenuated along foliation axis.											
	F011193	513.9	514.9	0.009																		
	F011194	514.9	515.9	0.005																		
	F011195	515.9	516.9	0.007																		
	F011196	516.9	517.9	0.009																		
	F011197	517.9	518.9	0.013																		
	F011198	518.9	519.6	0.005																		
	F011199	519.6	520.1	0.009																		
520	F011201	520.1	521	0.012																		



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Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
	F011249	560	561	0.013	559.5	561.7	2	LG	MA	Light green, fgr. mafic metavolcanic (2) massive, non-magnetic. No visible bt alteration, mod pervasive green amp alteration. Weak qz-carb tension gashes, no mineralization. LC is diffuse and marked where cgr crystals occur.													
	F011251	561	561.7	0.008																			
	F011252	561.7	562	0.005	561.7	564.9	7A	DG	MA	Dark green, cgr. gabbro (7A) massive, non-magnetic. Cgr sub-angular green amp crystal throughout with no preferential orientation. Common qz-carb tension gashes in varying abundances locally causing brecciation. Local trace litho hosted po. LC is sharp.													
	F011253	562	563	0.007																			
	F011254	563	564	0.006	564.9	573.5	2	LG	MA	Light green, fgr. mafic metavolcanic (2) massive, non-magnetic. Mod to strong pervasive green amp alt, locally angular mgr crystals. Common qz-carb tension gashes observed throughout. Local trace litho hosted po min, and 0.25% vein hosted disseminated po from 567.6-568.2m. LC is sharp.													
	F011255	564	564.9	0.011																			
	F011256	564.9	565.6	0.006	573.5	574.8	QTZ VN	W	MA	White, fgr. qz-carb flooding caused by moderate shear zone. Dark green attenuated mafic xenoliths observed throughout unit hosting 4-10% stringers/wispy magnetic po mineralization, 2% py min. LC is sharp.													
	F002251	565.6	566.6	0.005																			
	F002252	566.6	567.6	0.006	574.8	585.9	2	LG	MA	Light green, fgr. mafic metavolcanic (2) massive to locally mottled, non-magnetic. Mod pervasive green amp alteration, patchy silicification. Weak qz-carb tension gashes. Local patches of 1-6% disseminated litho hosted po mineralization. LC is sharp.													
	F002253	567.6	568.2	0.01																			
	F002254	568.2	569.2	0.009	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002255	569.2	570.2	0.006																			
	F002256	570.2	571.2	0.007	586.5	627	2	LG	MA	Light green, fgr. mafic metavolcanic (2) massive to locally distorted, non-magnetic. Weak to mod pervasive green amp alteration, local patches of moderate silicification. Mod shear zone from 558-558.6 m causing distortion, weak qz flooding and ~40% semi-massive/wispy po mineralization. Common qz-carb tension gashes causing weak brecciation. Local qz-carbonate veining hosting trace py min. EOH.													
	F002257	571.2	572.2	0.008																			
	F002258	572.2	573.2	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002259	573.2	573.5	0.008																			
	F002261	573.5	573.9	0.201	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002262	573.9	574.2	0.006																			
	F002263	574.2	574.8	0.032	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002264	574.8	575.8	0.057																			
	F002265	575.8	576.8	0.033	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002266	576.8	577.8	0.034																			
	F002267	577.8	578.8	0.009	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002268	578.8	579.8	0.01																			
	F002269	579.8	580.8	0.011	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002271	580.8	581.8	0.021																			
	F002272	581.8	582.6	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002273	582.6	583.1	0.007																			
	F002274	583.1	583.7	0.022	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002275	583.7	584	0.006																			
	F002276	584	585	0.011	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002277	585	585.9	0.005																			
	F002278	585.9	586.5	0.009	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002279	586.5	587	0.005																			
	F002281	587	588	0.014	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002282	588	588.6	0.046																			
	F002283	588.6	589.6	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002284	589.6	589.9	0.005																			
	F002285	589.9	590.9	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002286	590.9	591.9	0.014																			
	F002287	591.9	592.6	0.036	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002288	592.6	592.9	0.005																			
	F002289	592.9	593.9	0.015	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F002291	593.9	594.9	0.006																			
	F011257	594.9	595.4	0.087	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F011258	595.4	596	0.005																			
	F011259	596	597	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F011261	597	598	0.005																			
	F011262	598	599	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F011263	599	600	0.005																			
	F011264	600	601	0.005	585.9	586.5	4A	BE	BA	Beige/green/grey, aph, chert-gru BIF (4A) planar to locally distorted banding, locally strongly magnetic. Strong magnetism is associated w/ unaltered magnetite bands. Mod HZ throughout unit causing ~6% threaded and blebby po mineralization. LC is sharp.													
	F011264	600	601	0.005																			

















Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION								
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
245					224.7	257.4	7A	DG	MA	Dark green mg massive mafic rock that is most resemblant of diabase. The margins of the rock juxtaposed with the upper and lower contacts are finer-grained than the rest of this entity. perhaps these sections are chill-margins.	Perhaps this entity is "2" material that has undergone dynamic recrystallization. This entity houses a sparse quantity of fg Py and Po mineralization. Lower contact is sharp.										
	F021863	254.1	255.1	0.016																	
	F021864	255.1	256.1	0.062																	
	F021865	256.1	257.1	0.023																	
	F021866	257.1	257.4	0.005																	
	F021867	257.4	257.7	0.005																	
	F021868	257.7	258.7	0.005																	
	F021869	258.7	259.7	0.005																	
240	F021871	259.7	260.7	0.005																	
	F021872	260.7	261.1	0.142																	
	F021873	261.1	261.5	0.488																	
	F021874	261.5	262.5	0.005																	
	F021875	262.5	263.5	0.005																	
	F021876	263.5	264.5	0.005																	
235	F021877	264.5	265.5	0.005																	
	F021878	265.5	266.5	0.041																	
	F021879	266.5	267.1	0.005																	
	F021881	267.1	267.8	0.005																	
	F021882	267.8	268.1	0.005																	
	F021883	268.1	269.1	0.005	257.4	312.7	4B	G	LA	Grey fg laminated chert-magnetite iron formation exhibiting localized fg Po mineralization and pronounced strain. This entity contains a significant quantity of magnetite and grunerite.	In some localities the magnetite occurs as fg-mg "nodules" that contribute to the core exhibiting a somewhat "mottled" texture. Lower contact is sharp.										
230	F021884	269.1	270.1	0.005																	
	F021885	270.1	271.1	0.01																	
	F021886	271.1	272.1	0.005																	
	F021887	272.1	272.8	0.005																	
	F021888	272.8	273.1	0.005																	
	F021889	273.1	273.5	0.005																	
	F021891	273.5	274.3	0.008																	
225	F021892	274.3	275.3	0.005																	
	F021893	275.3	276.3	0.005																	
	F021894	276.3	277.3	0.005																	
	F021895	277.3	278.3	0.005																	
	F021896	278.3	279.3	0.005																	
	F021897	279.3	280.3	0.005																	
220	F021898	280.3	281.3	0.005																	



Serial	Assay				MAJOR UNIT							MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
	F021898	280.3	281.3	0.005																			
	F021899	281.3	282.3	0.005																			
	F021901	282.3	283.3	0.005																			
	F021902	283.3	284.3	0.01																			
	F021903	284.3	285.3	0.005																			
29	F021904	285.3	286.1	0.421																			
	F021905	286.1	286.4	0.132																			
	F021906	286.4	287	0.009																			
	F021907	287	287.5	0.005																			
	F021908	287.5	287.8	0.005																			
	F021909	287.8	288.8	0.005																			
	F021911	288.8	289.8	0.005																			
24	F021912	289.8	290.8	0.005																			
	F021913	290.8	291.8	0.005																			
	F021914	291.8	292.8	0.005																			
	F021915	292.8	293.8	0.005																			
	F021916	293.8	294.8	0.005																			
28	F021917	294.8	295.8	0.005																			
	F021918	295.8	296.8	0.005	257.4	312.7	4B	G	LA	Grey fg laminated chert-magnetite iron formation exhibiting localized fg Po mineralization and pronounced strain. This entity contains a significant quantity of magnetite and grunerite.	In some localities the magnetite occurs as fg-mg "nodules" that contribute to the core exhibiting a somewhat "mottled" texture. Lower contact is sharp.												
	F021919	296.8	297.5	0.005																			
	F021921	297.5	298.4	0.194																			
	F021922	298.4	299.4	0.038																			
	F021923	299.4	300.4	0.005																			
34	F021924	300.4	301.2	0.005																			
	F021925	301.2	302.2	0.005																			
	F021926	302.2	303	0.005																			
	F021927	303	303.5	0.005																			
	F021928	303.5	304.1	0.005																			
	F021929	304.1	304.4	0.005																			
	F021931	304.4	305.1	0.329																			
	F021932	305.1	305.4	0.008																			
	F021933	305.4	306	0.005																			
39	F021934	306	306.6	0.005																			
	F021935	306.6	307.1	0.005																			
	F021936	307.1	307.7	0.005																			
	F021937	307.7	308.3	0.007																			
	F021938	308.3	308.9	0.019																			
	F021939	308.9	309.3	0.005																			
	F021941	309.3	309.9	0.005																			
3	F021942	309.9	310.5	0.005																			
	F021943	310.5	310.8	0.005																			
	F021944	310.8	311.6	0.005																			
	F021945	311.6	312.1	0.108																			
	F021946	312.1	312.7	0.017																			
	F021947	312.7	313.5	0.006	312.7	313.5	2	DG	DIST	Fresh-faces exhibit significant amphibole content. This rock appears to be most indicative of a sheared and altered mafic unit. Lower contact is sharp.													
	F021948	313.5	313.9	0.011	313.5	313.9	4B	G	LA	Dark green/white fg rock exhibiting pronounced strain and containing an appreciable quantity of quartz-carbonate; quartz-carbonate content is pervasive. This entity houses appreciable fg Po mineralization. Grey fg chert-magnetite iron formation containing a small amount of magnetite. This entity houses a minute quantity of fg Po mineralization. Lower contact is irregular.													
	F021949	313.9	314.9	0.022																			
3	F021951	314.9	315.7	0.013	313.9	315.7	6N	G	MA	Dark fg massive metasediment exhibiting pronounced strain. This entity contains an appreciable quantity of fg Po mineralization. A grey shiny metallic luster exhibited on fresh faces is resemblant of graphite. Lower contact is sharp.													
	F021952	315.7	316.4	0.005																			
	F021953	316.4	317.1	0.005																			
	F021954	317.1	317.9	0.005																			
	F021955	317.9	318.9	0.005																			
	F021956	318.9	319.5	0.005	315.7	333	2	DG	MA	Dark green fg massive mafic metavolcanic rock that is punctuated by quartz-carbonate veins/veinlets. This entity contains an appreciable quantity of fg Po and Py mineralization. This entity lacks a discernable foliation. EOH.													
	F021957	319.5	319.9	0.005																			
	F021958	319.9	320.3	0.005																			
34	F021959	320.3	321.3	0.009																			

QTZ  
VN

















19-BOT-010

Sample	Assay			MAJOR UNIT						MINOR UNIT			ALTERATION							
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F011822	200.2	201.2	0.014	199.3	204.8	1	G	MA	Grey fgr massive ultramafic intrusive exhibiting significant pervasive talc alteration. This entity is non-magnetic and exhibits relatively lower magnetic susceptibility values: values range from 0.4-0.5 primarily.	Lower contact is gradational.										
F011823	201.2	202.2	0.005																	
F011824	202.2	203.2	0.005																	
F011825	203.2	204.2	0.005																	
F011826	204.2	204.8	0.005																	
F011827	204.8	205.8	0.014	204.8	211.1	2	GG	MA	Grey-green fgr massive mafic metavolcanic exhibiting a mottled texture that is characterized by biotite crystals. This section is punctuated by distorted quartz veins. This entity contains an appreciable quantity of fgr Py mineralization.	Lower contact is gradational.										
F011828	205.8	206.8	0.006																	
F011829	206.8	207.8	0.009																	
F011831	207.8	208.8	0.012																	
F011832	208.8	209.5	0.01																	
F011833	209.5	210.2	0.005	211.1	215.1	7A	GG	MA	Grey-green fgr-mgr mafic entity containing constituent crystals whose grain-size is appreciatively larger than the surrounding mafic material. This rock may be considered a "2" exhibiting dynamic recrystallization, a "7A", or a "2K".	This entity houses sparse fgr Py mineralization. Lower contact is gradational.										
F011834	210.2	210.6	0.02																	
F011835	210.6	211.1	0.005																	
F011836	211.1	211.5	0.005																	
F011837	211.5	212	0.017																	
F011838	212	213	0.005	215.1	220.9	7A	GG	MA	Grey-dark green mgr-cgr massive mafic rock that is most indicative of a intrusion. This entity differs from the preceding "7A" material in that this rock houses mgr-cgr lath shaped crystals within what appears to be a fgr groundmass.	Lower contact is gradational.										
F011839	213	214	0.007																	
F011841	214	214.5	0.008																	
F011842	214.5	215.1	0.005																	
F011843	215.1	216.1	0.005																	
F011844	216.1	217.1	0.005	220.9	224.6	2	GG	MA	Grey-green fgr massive mafic metavolcanic containing localized fgr Po and Py mineralization. This entity houses a minor section containing magnetite bands, as well as appreciable sulphide mineralization.	Lower contact is irregular/gradational.	4B									
F011845	217.1	218.1	0.005																	
F011846	218.1	218.6	0.005																	
F011847	218.6	219.1	0.005																	
F011848	219.1	219.4	0.005																	
F011849	219.4	220.2	0.005	224.6	239.6	1	G	MA	Grey fgr massive ultramafic intrusive exhibiting appreciable talc alteration. This entity contains a significant quantity of structural features that are most indicative of faults. Lower contact is faulted.											
F011851	220.2	220.9	0.006																	
F011852	220.9	221.9	0.005																	
F011853	221.9	222.2	0.005																	
F011854	222.2	223.2	0.005																	
F011855	223.2	223.8	0.005	239.6	247.8	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic containing sparse fgr Py mineralization. Lower contact is gradational.											
F011856	223.8	224.3	0.007																	
F011857	224.3	224.6	0.005																	
F011858	224.6	225.6	0.046																	
F011859	225.6	226.6	0.023																	
F011861	226.6	227.6	0.026	239.6	247.8	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic containing sparse fgr Py mineralization. Lower contact is gradational.											
F011862	227.6	228.6	0.005																	
F011863	228.6	229.6	0.005																	
F011864	229.6	230.6	0.005																	
F011865	230.6	231.6	0.005																	
F011866	231.6	232.6	0.005	239.6	247.8	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic containing sparse fgr Py mineralization. Lower contact is gradational.											
F011867	232.6	233.6	0.005																	
F011868	233.6	234.6	0.005																	
F011869	234.6	235.6	0.005																	
F011871	235.6	236.6	0.005																	
F011872	236.6	237.6	0.005	239.6	247.8	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic containing sparse fgr Py mineralization. Lower contact is gradational.											
F011873	237.6	238.6	0.005																	
F011874	238.6	239.6	0.005																	
F011875	239.6	240.1	0.005																	
F011876	240.1	241.1	0.017																	

Entity is "2" material with bands of magnetite. Perhaps this is some sort of xenolith? Appreciable fgr Po and Py mineralization.

Strange mineralized "4B/2" material containing appreciable fgr Po and Py content.



19-BOT-010

Serial	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F011927	279.9	280.9	0.006	267.9	286.6	1	G	MA	Grey fgr massive ultramafic intrusive exhibiting appreciable talc alteration. This entity houses a considerable quantity of brittle faults and fractures. Lower contact is gradational.												
	F011928	280.9	281.9	0.116																		
	F011929	281.9	282.9	0.007																		
	F011931	282.9	283.9	0.005																		
	F011932	283.9	284.4	0.007																		
	F011933	284.4	285	0.006																		
	F011934	285	286	0.008																		
	F011935	286	286.6	0.02																		
	F011936	286.6	287.6	0.02	286.6	303	2	GG	MA	Grey- dark green fgr massive mafic metavolcanic punctuated by quartz, quartz-carbonate, and carbonate veins/veinlets. This entity is characterized by biotite wisps. Lower contact is gradational.												
	F011937	287.6	288.6	0.019																		
	F011938	288.6	289.6	0.029																		
	F011939	289.6	290.6	0.044																		
	F011941	290.6	291.6	0.022																		
	F011942	291.6	292.6	0.009																		
	F011943	292.6	293.6	0.042																		
	F011944	293.6	294.6	0.02																		
	F011945	294.6	295.6	0.013																		
	F011946	295.6	296.6	0.008																		
	F011947	296.6	297.2	0.018																		
	F011948	297.2	297.8	0.014																		
	F011949	297.8	298.1	0.009																		
	F011951	298.1	299.1	0.02																		
	F011952	299.1	300.1	0.02																		
	F011953	300.1	301.1	0.02																		
	F011954	301.1	302.1	0.026																		
	F011955	302.1	303	0.039																		
	F011956	303	304	0.037	303	322.2	7A	DG	MA	Dark-green mgr massive mafic rock containing a sparse quantity of fgr Po and Py mineralization. Lower contact is irregular.												
	F011957	304	305	0.057																		
	F011958	305	306	0.01																		
	F011959	306	307	0.011																		
	F011961	307	307.4	0.098																		
	F011962	307.4	308.4	0.013																		
	F011963	308.4	309.4	0.005																		
	F011964	309.4	310.4	0.005																		
	F011965	310.4	311.4	0.015																		
	F011966	311.4	312.4	0.035																		
	F011967	312.4	313.4	0.037																		
	F011968	313.4	314.4	0.013																		
	F011969	314.4	315.4	0.028																		
	F011971	315.4	316.4	0.041																		
	F011972	316.4	317.4	0.021																		
	F011973	317.4	318.4	0.028																		
	F011974	318.4	319.4	0.005																		
	F011975	319.4	320.4	0.005																		

Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION													
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments					
	F011975	319.4	320.4	0.005	303	322.2	7A	DG	MA	Dark-green mgr massive mafic rock containing a sparse quantity of fgr Po and Py mineralization. Lower contact is irregular.																
	F011976	320.4	321.4	0.005																						
	F011977	321.4	322.2	0.005																						
	F011978	322.2	323.2	0.005	322.2	324	4B	G	BA	Fgr grey-black laminated chert-mag BIF with strong foliation. Moderate-strong gru alteration. Unit is locally weakly-moderately distorted and folded. Strongly magnetic. Localized ~4-10% string/blebby po min at UC. Sharp LC.																
	F011979	323.2	324	0.005																						
	F011981	324	325	0.009	324	325.9	7A	GG	FOL	Fgr-mgr grey-green well foliated gabbro with localized ~15% qz/cb veining at LC. Unit has a sharp knife fault that causes the foliation direction to abruptly flip to the opposite direction. Non-magnetic. No visible min. Sharp LC.																
	F011982	325	325.9	0.008																						
	F011983	325.9	326.4	0.005	325.9	326.4	QTZ	W	MA	Fgr white massive quartz vein with distorted intercalated gabbro. Unit is overall weakly distorted and contains weak cb alteration. Non-magnetic. No visible min. Sharp LC.																
	F011984	326.4	327	0.006																						
	F011985	327	327.4	0.005	327	327.4	7A	W	MA	Fgr-mgr grey-green well foliated gabbro with ~10-15% qz/cb veining. Unit is weakly distorted and fractured. Non-magnetic. No visible min. Faulted/sheared LC.																
	F011986	327.4	328.1	0.005																						
	F011987	328.1	328.8	0.005	328.8	328.8	QTZ	W	DIST	Fgr white massive quartz vein within a potential fault zone. Intensity of the fault is unknown since the core has been dropped at some point. Non-magnetic. No visible min. Sharp LC.																
	F011988	329.8	330.4	0.005																						
	F011989	330.4	331	0.005	329.8	341.9	SIN	G		Fgr grey-beige foliated chert-mag BIF. The entire unit exhibits a texture akin to "static" composed of fgr-mgr magnetite grains in a chert/grunerite matrix. Texture becomes localized within the mag bands towards LC. Moderate-strong gru alt throughout. 1m of ground core.																
	F011991	331	332	0.005																						
	F011992	332	333	0.005																						
	F011993	333	334	0.005																						
	F011994	334	335	0.005																						
	F011995	335	336	0.005																						
	F011996	336	337	0.005																						
	F011997	337	338	0.01																						
	F011998	338	339	0.005																						
	F011999	339	340	0.005																						
	F012824	340	341	0.005	341.9	345.4	4B	G	DIST	Fgr grey-beige weakly-moderately foliated chert-mag BIF. The entire unit exhibits a texture akin to "static" composed of fgr-mgr magnetite grains in a chert/grunerite matrix. Unit contains localized areas of intense folding/shearing. No visible min.																
	F012825	341	341.9	0.005																						
	F012826	341.9	342.4	0.005																						
	F012827	342.4	343.4	0.005																						
	F012828	343.4	344.4	0.005																						
	F012829	344.4	345.4	0.005																						
	F012831	345.4	346.4	0.02																						
	F012832	346.4	347.4	0.005																						
	F012833	347.4	348.4	0.005																						
	F012834	348.4	349.4	0.005																						
	F012835	349.4	350.4	0.005	345.4	362.2	4B	G	BA	Fgr grey-beige well foliated chert-mag BIF. The "static" texture is now localized within mag bands and is far less frequent. The intensity and frequency of this texture decreases gradually towards LC. Moderate-strong gru alteration throughout.																
	F012836	350.4	351.4	0.005																						
	F012837	351.4	352.4	0.005																						
	F012838	352.4	353.4	0.005																						
	F012839	353.4	353.7	0.005																						
	F012841	353.7	354.5	0.005																						
	F012842	354.5	355.4	0.005																						
	F012843	355.4	355.7	0.005																						
	F012844	355.7	356.6	0.005																						
	F012845	356.6	357.4	0.005																						
	F012846	357.4	358.3	0.005																						
	F012847	358.3	359.2	0.005																						
	F012848	359.2	360.2	0.005																						
	F012849	360.2	361.2	0.005																						

Unit transitions from intense distortion/attenuation with tight folds to moderate-intense distortion/attenuation with broader folds towards LC. Banding in the broader section pinches out along with refolding of the folds. Trace po min. Gradational LC.

Unit is fairly homogenous with respect to grain size but possible "remnant" banding is visible in the background, although the timing of each texture is uncertain. Moderate-strong gru alteration throughout. Strongly magnetic. Gradational LC.

Unit is intermittent moderately-strong folded and distorted. Strongly magnetic. Localized 1-10% blebby/semi-massive po min within litho. Irregular LC.



19-BOT-010

Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F012849	360.2	361.2	0.005	345.4	362.2	4B	G	BA	Fgr grey-beige well foliated chert-mag BIF. The "static" texture is now localized within mag bands and is far less frequent. The intensity and frequency of this texture decreases gradually towards LC. Moderate-strong gru alteration throughout.	Unit is intermittent moderately-strong folded and distorted. Strongly magnetic. Localized 1-10% blebby/semi-massive po min within litho. Irregular LC.											
	F012851	361.2	362.2	0.012																		
	F012852	362.2	362.5	0.006	362.2	362.5	4H	GG	FOL	Fgr bronze-green-white semi-massive pyrrhotite-rich breccia with weak-moderate foliation. Strong cb, weak-mod chl alteration. Unit contains ~5cm cb veining. Strongly magnetic. ~20-25% po mineralization throughout. Sharp LC.												
	F012853	362.5	363	0.007	362.5	363	4A	BE	BA													
	F012854	363	363.9	0.008	363	363.9	5N	BK	FOL													
	F012855	363.9	364.2	0.005	363.9	368.2	7A	GG	FOL	Fgr grey-beige well foliated chert-gru BIF. Strong gru alteration. Unit is weakly-moderately broadly folded and weakly distorted. Locally strongly magnetic. ~1% blebby/disseminated po min within litho. Sharp LC.												
34	F012856	364.2	365.2	0.005																		
	F012857	365.2	366.2	0.007																		
	F012858	366.2	367.2	0.007																		
	F012859	367.2	368.2	0.005																		
	F012861	368.2	368.8	0.005																		
	F012862	368.8	369.6	0.005																		
37	F012863	369.6	370.4	0.005																		
	F012864	370.4	370.7	0.005																		
	F012865	370.7	371.1	0.005																		
	F012866	371.1	372.1	0.005	371.1	394.2	7A	GG	FOL	Fgr grey-green well foliated mafic metavolcanics. Moderate-strong bt alteration. Unit is weakly obliquely fractured with cb-infilling. ~15-20% cb/qz veining. Locally weakly magnetic.	Localized blebby/disseminated po min within litho/veining. Gradational LC.											
	F012867	372.1	373.1	0.009																		
	F012868	373.1	374	0.006																		
37	F012869	374	375	0.006																		
	F012871	375	376	0.006																		
	F012872	376	377	0.009																		
	F012873	377	378	0.005																		
	F012874	378	379	0.007																		
	F012875	379	379.8	0.005																		
38	F012876	379.8	380.2	0.005																		
	F012877	380.2	381	0.005																		
	F012878	381	381.8	0.005																		
	F012879	381.8	382.4	0.005																		
	F012881	382.4	383.2	0.011																		
	F012882	383.2	384.2	0.007																		
38	F012883	384.2	385.2	0.005																		
	F012884	385.2	386.2	0.005																		
	F012885	386.2	387.2	0.009																		
	F012886	387.2	388.2	0.005																		
	F012887	388.2	389.2	0.011																		
39	F012888	389.2	390.2	0.005																		
	F012889	390.2	391.2	0.006																		
	F012891	391.2	392.2	0.005																		
	F012892	392.2	393.2	0.005																		
	F012893	393.2	394.2	0.006																		
39	F012894	394.2	395	0.005	394.2	396.6	QTZ VN	G	FOL	Fgr dark green-grey-white quartz/carbonate vein with ~25-30% intercalated/remnant distorted gabbro. Unit is moderately-intensely distorted and fractured/brecciated. Non-magnetic. No visible min. Gradational LC.												
	F012895	395	396	0.005																		
	F012896	396	396.6	0.008																		
	F012897	396.6	397.4	0.005																		
	F012898	397.4	398.2	0.005																		
	F012899	398.2	398.8	0.005	396.6	402.8	7A	GG	FOL	Fgr-mgr dark green-grey well foliated gabbro. Unit is weakly-moderately fractured and contains localized intense knife faulting. Intermittent 0.5-2cm distorted and cross-cutting qz/cb veining. Weakly magnetic.	Localized 0.5-1% disseminated/wispy po min within litho/veining. Gradational LC.											
	F012900	398.8	399.7	0.005																		
	F012901	398.8	399.7	0.005																		
	F012902	399.7	400.4	0.005																		
40	F012903	400.4	401.1	0.005																		









19-GRF-001

Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION								
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
5					0	14.9	CASING														
15	F018001	14.9	15.5	0.005	14.9	54.6	2	GG	FOL	Light greenish-grey, fgr. mafic metavolcanic (2) mod to well foliated, non-magnetic. Variable pervasive bt+amp alt ranging from wk-mod and seems to be controlled by patchy HZ/SZ's. These zones show stronger qz-cb veining, local silicification and	abundant KF's showing >1cm sinistral offset. Minor unnumbered 4A @ 24.8m. Trace local po blebs hosted in groundmass. LC is sharp.	4A									
	F018002	15.5	16	0.005																	
	F018003	16	17	0.005																	
	F018004	17	18	0.005																	
	F018005	18	19	0.005																	
	F018006	19	20	0.005																	
20	F018007	20	21	0.005																	
	F018008	21	22	0.005																	
	F018009	22	23	0.005																	
	F018011	23	24	0.006																	
	F018012	24	24.7	0.005																	
25	F018013	24.7	25	0.005																	
	F018014	25	26	0.005																	
	F018015	26	27	0.005																	
	F018016	27	28	0.005																	
	F018017	28	29	0.005																	
30	F018018	29	30	0.005																	
	F018019	30	31	0.005																	
	F018021	31	32	0.005																	
	F018022	32	33	0.005																	
	F018023	33	34	0.005																	
	F018024	34	35	0.005																	
35	F018025	35	36	0.005																	
	F018026	36	37	0.005																	
	F018027	37	38	0.005																	
	F018028	38	39	0.005																	
	F018029	39	40	0.005																	
	F018031	40	41	0.005																	

19-GRF-001

Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION																											
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments																			
	F018031	40	41	0.005	14.9	54.6	2	GG	FOL	Light greenish-grey, fgr, mafic metavolcanic (2) mod to well foliated, non-magnetic. Variable pervasive bt+amp alt ranging from wk-mod and seems to be controlled by patchy HZ/SZ's. These zones show stronger qz-cb veining, local silicification and	abundant KF's showing >1cm sinistral offset. Minor unmineralized 4A @ 24.8m. Trace local po blebs hosted in groundmass. LC is sharp.																													
	F018032	41	42	0.005																																				
	F018033	42	43	0.005																																				
	F018034	43	44	0.005																																				
	F018035	44	45	0.005																																				
	F018036	45	46	0.005																																				
	F018037	46	47	0.005																																				
	F018038	47	48	0.005																																				
	F018039	48	49	0.005																																				
	F018041	49	50	0.005																																				
	F018042	50	51	0.005	54.6	55	4B	BE	LA	Beige/dark green, aph, chert-mag BIF (4B) thin alternating planar laminae, strongly magnetic. Strong gru alteration of magnetite, but still strongly magnetic; reason for 4B classification. ~0.75% diss/threaded po min.	No veining. LC is sharp.																													
	F018043	51	52	0.005																																				
	F018044	52	53	0.005																																				
	F018045	53	54	0.005																																				
	F018046	54	54.6	0.005																																				
	F018047	54.6	55	0.231																																				
	F018048	55	56	0.006																																				
	F018049	56	56.9	0.005																		55	56.9	2	G	FOL	Light grey, fgr, mafic metavolcanic (2) weakly foliated, non-magnetic. Wk pervasive bt alt. Planar 0.1-0.5 cm qz-cb veinlets observed throughout unit. No visible mineralization. LC is sharp.													
	F018051	56.9	57.9	0.019																																				
	F018052	57.9	58.7	0.107																																				
	F018053	58.7	59	0.067																																				
	F018054	59	60	0.107																																				
	F018055	60	61	0.052																																				
	F018056	61	61.3	0.837																																				
	F018057	61.3	62	0.053																																				
	F018058	62	62.7	0.069																																				
	F018059	62.7	63	0.022																																				
	F018061	63	63.5	0.014	56.9	62	4B	BE	LA	Beige/dark green, aph, chert-mag BIF (4B) planar thin alternating laminae, locally distorted, strongly magnetic. Strong gru alt of groundmass unaffacting magnetism; reasoning for 4B classification. Local HZ causing mod distortion and chevron m-folds,	local qz flooding hosting po mineralization, ~1-3% semi-continuous po min from 60m-LC. LC is sharp.																													
	F018062	63.5	63.9	0.005																																				
	F018063	63.9	64.5	0.005																																				
	F018064	64.5	65	0.005																																				
	F018065	65	66	0.005																																				
	F018066	66	67	0.005																																				
	F018067	67	68	0.005																																				
	F018068	68	69	0.005																																				
	F018069	69	70	0.005																			62	77.6	2	G	FOL	Light grey, fgr, mafic metavolcanic? (2) (possible 6?) mod foliated, non-magnetic. Variable pervasive bt alt ranging from wk-mod. Common planar qz-cb veining throughout typically associated w/ mafics.	Mod SZ from UC-64.1m causing biotitization of groundmass and distortion/boudinage of qz, patchy 4-5% py min, minor 4B hosting trace diss po @ 62.8m. LC is sharp.											
	F018071	70	71	0.005																																				
	F018072	71	72	0.005																																				
	F018073	72	73	0.005																																				
	F018074	73	74	0.005																																				
	F018075	74	75	0.005																																				
	F018076	75	76	0.005																																				
	F018077	76	77	0.005																																				
	F018078	77	77.6	0.005																																				
	F018079	77.6	78.4	0.01																																				
	F018081	78.4	78.9	0.014	77.6	80.9		G	FOL	strong pervasive silica. Isoclinal m-folding observed. Semi-continuous 1-10% magnetic po mineralization, trace 1% py. LC is sharp.																														
	F018082	78.9	79.3	0.01																																				
	F018083	79.3	79.6	0.013																																				
	F018084	79.6	80	0.019																																				
	F018085	80	80.5	0.01																																				









19-GRF-001

Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION								
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
	F018241	200	201	0.034	185.3	211.1	2	LG	FOL	Light green, fgr. mafic metavolcanic (2) well foliated, non-magnetic. Weak pervasive bt, mod pervasive green amp. Common planar qz-cb veining 5-10/m. Moderate brittle faulting observed w/ euhedral py crystallized in fault gouge. Local 1% diss po.	also 4% vein hosted asp. Local breccia being infilled by cb. Patch of strong sericitization develops @ 208.7 and hosts diss py. Mod SZ develops @ 209.3 m showing strong sericitization followed by coarsening of amp crystals. LC is gradational.										
	F018242	201	202	0.019																	
	F018243	202	203	0.028																	
	F018244	203	204	0.005																	
	F018245	204	205	0.005																	
205	F018246	205	206	0.005																	
	F018247	206	207	0.005																	
	F018248	207	208	0.005																	
	F018249	208	208.7	0.005																	
	F018251	208.7	209.2	0.007																	
	F018252	209.2	210.1	0.005	211.1	214.6	2U	DG	DIST	Dark green/pink, fgr matrix, grt-bearing mafic metavolcanic (2) mod distorted, locally foliated, fgr porph grts throughout. Unit is moderately sheared causing coarsening of green amp crystals, mod pervasive cb.	Patchy 0.5-4% magnetic po mineralization, 1% py. Grts density decreases towards contacts. LC is gradational.	4E									
210	F018253	210.1	211.1	0.005																	
	F018254	211.1	212	0.012																	
	F018255	212	212.6	0.005																	
	F018256	212.6	213.1	0.015																	
	F018257	213.1	213.4	0.009																	
	F018258	213.4	214	0.006																	
	F018259	214	214.6	0.005																	
215	F018261	214.6	215	0.005																	
	F018262	215	216	0.005																	
	F018263	216	217	0.005	214.6	233.7	2	LG	FOL	Light green, fgr. mafic metavolcanic (2) well foliated, non-magnetic. Weak pervasive bt, mod-str pervasive green amp. Moderate qz-cb veining throughout typically associated w/ mafics, grey qz tension gashes observed. Local 3% diss/threaded po min.	LC is diffuse due to wk HZ.										
	F018264	217	217.3	0.01																	
	F018265	217.3	217.6	0.012																	
	F018266	217.6	218.1	0.01																	
	F018267	218.1	219	0.01																	
218	F018268	219	219.4	0.01																	
	F018269	219.4	220.2	0.011																	
	F018271	220.2	221	0.014																	
	F018272	221	222	0.014																	
	F018273	222	223	0.014																	
	F018274	223	224	0.01																	
225	F018275	224	225	0.017																	
	F018276	225	226	0.01																	
	F018277	226	227	0.015																	
	F018278	227	228	0.01																	
	F018279	228	229	0.01																	
	F018281	229	230	0.012	233.7	234.2	B	FOL	Greyish-brown, fgr, metasediment (6) well foliated/highly strained, non-magnetic. Fgr pervasive bt 'qz sweats' throughout unit. Weak cb veining is a product of strain. ~3% diss/threaded po min, 1% py. LC is diffuse.												
219	F018282	230	230.9	0.01																	
	F018283	230.9	231.9	0.018																	
	F018284	231.9	232.9	0.023																	
	F018285	232.9	233.7	0.01																	
	F018286	233.7	234.2	0.012																	
	F018287	234.2	235	0.014																	
223	F018288	235	236	0.035																	
	F018289	236	237	0.012																	
	F018291	237	237.8	0.045																	234.2
	F018292	237.8	238.2	0.038																	
	F018293	238.2	239	0.01																	
	F018294	239	240	0.019																	
240	F018295	240	241	0.016																	



19-GRF-001

Sample	Assay			MAJOR UNIT						MINOR UNIT		ALTERATION									
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F018351	280	281	0.006																		
F018352	281	282	0.005																		
F018353	282	283	0.005	274.2	286	2	G	FOL	Light grey, fgr, mafic metavolcanic (2) well foliated, non-magnetic. Weak pervasive bt alt, patchy mod tlc alteration. Common thin planar cb crack seal veinlets; tightly packed @ 276.9m, possible breccia? Mod Brittle fault @ 280.6 m.	Mod HZ @ 280.8 m causing cb flooding. No mineralization. Minor unmineralized 4B @ 285.7 m. LC is sharp.											
F018354	283	284	0.005																		
F018355	284	285	0.005																		
F018356	285	285.7	0.005																		
F018357	285.7	286	0.005																		
F018358	286	287	0.043																		
F018359	287	288	0.011	286	289.2	4B	DG	LA	Dark green/beige, aph, chert-mag BIF (4B) planar/mod distorted alternating laminae, strongly magnetic. Strong gr alteration of magnetite. Mod HZ causing attenuation and ripping apart of laminae, mod isoclinal s-folding.	Minor unmineralized mafic @ 288.4m. Local threaded po min. LC is sharp.											
F018361	288	288.4	0.005																		
F018362	288.4	288.7	0.005																		
F018363	288.7	289.2	0.005																		
F018364	289.2	290	0.005	289.2	298.7	2	GG	FOL	Light greenish-grey, fgr, mafic metavolcanic (2) weak to mod foliated, non-magnetic. Weak-mod pervasive bt + amp alteration. Crack seal cb veining is a product of brecciation locally. No mineralization. LC is sharp.												
F018365	290	291	0.005																		
F018366	291	292	0.005																		
F018367	292	293	0.005																		
F018368	293	294	0.005																		
F018369	294	295	0.005																		
F018371	295	296	0.005																		
F018372	296	297	0.005																		
F018373	297	298	0.005	298.7	299.4	1	W	MA	White, fgr, massive crack seal qz-cb vein, non-magnetic. Minor ultramafic(?) xenolith @ 298.8m. Veining seems to be a product of brecciation. No mineralization. LC is sharp.	Light grey, fgr, ultramafic? (1) massive, non-magnetic. Mod pervasive tlc alt; powdery when scratched. Could be altered mafic from brecciation/fluids. Crack seal qz veining occurs through unit. No mineralization observed. LC is diffuse.											
F018374	298	298.7	0.005																		
F018375	298.7	299.4	0.005																		
F018376	299.4	300.1	0.005																		
F018377	300.1	301	0.005	300.1	306	2	GG	FOL	Light greenish-grey, fgr, mafic metavolcanic (2) mod to well foliated, non-magnetic. Mod patchy pervasive tlc alt bleeding in from overlying UM? Mod pervasive bt + amp alteration throughout. Common cb crack seal veining occurs throughout.	local wk hematite staining – traces of methane splays. No visible mineralization. LC is sharp.											
F018378	301	302	0.005																		
F018379	302	303	0.005																		
F018381	303	304	0.005																		
F018382	304	305	0.017																		
F018383	305	306	0.018	306	307.6	4B	DG	DIST	Dark green/beige, aph, chert-mag BIF (4B) planar to mod distorted alternating laminae, strongly magnetic. Unit is moderately sheared causing loss of primary texture locally, minor mafic chunks being pulled into core w/ cgr crystals size.	No veining, 2-6% blebby/dis po mineralization throughout product of strain. LC is sharp.											
F018384	306	306.4	0.02																		
F018385	306.4	306.8	0.027																		
F018386	306.8	307.6	0.041																		
F018387	307.6	307.9	0.017	307.6	313	2	G	FOL	Light grey, fgr, mafic metavolcanic (2) wk-mod foliated, non-magnetic. Weak pervasive bt alt. Strong silicification of top 20cm of unit. Mod SZ terminates @ 307.8m hosting ~2% py min. Crack seal white qz veining develops @ 311.8m. No mineralization.												
F018388	307.9	308.3	0.024																		
F018389	308.3	309	0.01																		
F018391	309	310	0.005																		
F018392	310	311	0.005	313	315.8	2	G	DIST	**INTERESTING UNIT** Continuation of previous unit, but here unit is strongly sericitized and methane faulted, causing moderate brecciation, local development of grts and local strong green amphibole alteration. Local hematite staining present.	1-8% disseminated and threaded py mineralization associated with methane faulting. LC is diffuse.											
F018393	311	312	0.005																		
F018394	312	313	0.005																		
F018395	313	313.6	0.005																		
F018396	313.6	314	0.005																		
F018397	314	314.8	0.006	315.8	317.1	6N	G	DIST	**INTERESTING** Grey/black, Argillite mudstone (6N) strongly distorted and banded, non-magnetic. Unit hosts strong methane fault causing intense sericitization of groundmass, and moderate brecciation showing clasts w/ well preserved	primary textures. ~10% disseminated and blebby py mineralization hosted in preserved 6N clasts. LC is sharp.											
F018398	314.8	315.4	0.111																		
F018399	315.4	315.8	0.005																		
F018401	315.8	316.4	0.012																		
F018402	316.4	317.1	0.022	317.1	318	1	G	MA	Light grey, fgr, ultramafic? (1) massive, non-magnetic. Strong pervasive tlc alteration. Unit shows moderate sericitization caused by methane faulting, thin qz crack seal veins/splays are observed shallowly cutting core; weak methane splays	showing local hematite staining, wk methane splays. Local trace py diss. EOH.											
F018403	317.1	318	0.005																		
F018404	318	319	0.005																		
F018405	319	320	0.005	318	321	2	GG	MA	Light grey, fgr, mafic metavolcanic? (2) massive to weakly foliated, non-magnetic. Pervasive tlc alteration drops off, strong sericitization of groundmass seems to be overprinting primary mafic textures. Abundant thin qz crack seal veins locally												
F018406	320	321	0.005																		











19-GRF-002

Sample	Assay			MAJOR UNIT						MINOR UNIT				ALTERATION							
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F019694	119.8	120.7	0.028	118.5	122.2	2	G	FOL	Light grey, fgr. metasediment (6) well foliated to strongly distorted, non-magnetic. Mod HZ seems to cause strong to intense sericitization of groundmass throughout entire unit. Minor mafic unit riding upper contact hosting ~1% po.	~2% po throughout entire unit controlled by strain. LC is sharp.											
F019695	120.7	121.6	0.018																		
F019696	121.6	122.2	0.011																		
F019697	122.2	123	0.005																		
F019698	123	124	0.006	122.2	128.2	2	GG	FOL	Greenish-grey, fgr. mafic metavolcanic (2) well foliated, non-magnetic, Weak to mod pervasive bt + amp alteration. Common planar qz-cb veining typically associated w/ mafics.												
F019699	124	125	0.005																		
F019701	125	126	0.005																		
F019702	126	127	0.005																		
F019703	127	127.6	0.005																		
F019704	127.6	128.2	0.005																		
F019705	128.2	129	0.005																		
F019706	129	130	0.005																		
F019707	130	131	0.005																		
F019708	131	132	0.005	128.2	151.7	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated w/ mod pervasive bt and localized bt wisps (gives core local banded appearance). Abundant qz-cb stringers and qz/qz-cb veining. Local fracturing scattered. Locally very weakly magnetic.	Trc scattered Po predominantly assoc w/ veining but also sct in groundmass. Whole unit is most likely a HZ w/ the abundance of qz-cb stringers. Sharp LC. 10% qz-cb stringers and veins.											
F019709	132	133	0.005																		
F019711	133	134	0.006																		
F019712	134	135	0.005																		
F019713	135	136	0.005																		
F019714	136	137	0.005																		
F019715	137	138	0.005																		
F019716	138	139	0.005																		
F019717	139	140	0.005																		
F019718	140	141	0.005																		
F019719	141	142	0.005																		
F019721	142	143	0.005																		
F019722	143	144	0.005																		
F019723	144	145	0.005																		
F019724	145	146	0.005																		
F019725	146	147	0.005																		
F019726	147	148	0.005																		
F019727	148	149	0.009																		
F019728	149	150	0.007																		
F019729	150	151	0.007	151.7	152	4B	G	BA	Dark grey-purple chert-mag BIF (4B). Aphanitic. Strongly magnetic. Well banded and folded with possible re-folded fold near UC. Up to 5% str-blb to locally semi-massive (bands) Po assoc w/ groundmass and small veinlets. Folded LC. 1-2% qz-cb veinlets.												
F019731	151	151.7	0.005																		
F019732	151.7	152	0.04																		
F019733	152	153	0.005																		
F019734	153	154	0.009																		
F019735	154	155	0.005																		
F019736	155	156	0.005	152	162.5	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Strongly foliated to highly strained. SZ from 157.9-161.5m. Locally weakly magnetic. SZ has increased in abundance and frequency of qz-cb stringers. Abundant bt (perv and wisps). 10% qz-cb str and veins.	Trc sct Po assoc w/ veining and groundmass. Brittle fracturing at UC. Gradational LC.											
F019737	156	157	0.005																		
F019738	157	158	0.005																		
F019739	158	159	0.005																		
F019741	159	160	0.021																		
F019742	160	161	0.01																		





19-GRF-003

Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
	F019807	40	41	0.005	32.5	46.7	4B	G	BA	Dark grey and beige chert-mag BIF (4B). Strongly magnetic. Aphanitic. Multiple chl altered "shear bands" between 33.5-36.4m and 46-46.7m. Well banded w/ alternating areas of mod folded and linear. Multiple sct meth fit splays. Sharp LC.	Tr to 5% Po assoc w/ 2-3% qz-cb veining and groundmass w/ local 10% s-ma Po band at 39m. Up to 5% Po assoc w/ chl altered "shear bands".										
	F019808	41	42	0.104																	
	F019809	42	43	0.007																	
	F019811	43	44	0.012																	
	F019812	44	44.6	0.009																	
	F019813	44.6	45.3	0.005																	
	F019814	45.3	45.9	0.005																	
	F019815	45.9	46.3	0.012																	
	F019816	46.3	46.7	0.041																	
	F019817	46.7	47	0.006																	
	F019818	47	47.7	0.005																	
	F019819	47.7	48	0.005																	
	F019821	48	49	0.008																	
	F019822	49	50	0.01																	
	F019823	50	50.7	0.007																	
	F019824	50.7	51.1	0.006																	
	F019825	51.1	52.1	0.005																	
	F019826	52.1	53	0.005																	
	F019827	53	54	0.007																	
	F019828	54	54.5	0.005																	
	F019829	54.5	55.5	0.006																	
	F019831	55.5	56.5	0.007																	
	F019832	56.5	57.2	0.008																	
	F019833	57.2	58	0.006																	
	F019834	58	58.5	0.008																	
	F019835	58.5	59.1	0.029																	
	F019836	59.1	60	0.007																	
	F019837	60	61	0.007																	
	F019838	61	62	0.009																	
	F019839	62	63	0.007																	
	F019841	63	64	0.005																	
	F019842	64	65	0.005																	
	F019843	65	66	0.005																	
	F019844	66	66.6	0.005																	
	F019845	66.6	67.1	0.005																	
	F019846	67.1	68	0.005																	
	F019847	68	68.8	0.009	68	68.8	4B	G	BA	Dark grey and beige chert-mag BIF (4B). Aphanitic. Strongly magnetic. Thinly banded and w/ very minor folds. Sharp LC. 2-3% qz-cb veining w up to 2% Po assoc w both veining and groundmass. Dark green amp (or pyroxene?) at UC and LC.	3-5% qz-cb veining w/ lcl ser halos. Tr Po in veining and litho. HZ from 84.6-94.3m w distorted fabric, increased bt and abundant cb stringers. Mod BR fracturing from 100.7-101.6m w fractures being in various directions. EOH.										
	F019848	68.8	69.4	0.015																	
	F019849	69.4	70	0.005																	
	F019851	70	71	0.005																	
	F019852	71	72	0.005																	
	F019853	72	73	0.005																	
	F019854	73	74	0.005																	
	F019855	74	74.6	0.005																	
	F019856	74.6	75.2	0.005																	
	F019857	75.2	76	0.005																	
	F019858	76	77	0.005																	
	F019859	77	78	0.005																	
	F019861	78	79	0.005																	
	F019862	79	79.5	0.005																	
	F019863	79.5	80.5	0.005																	













19-GRF-006

Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F023948	80	81	0.008	78.7	83.5	2	DG	DIST	Dark green, fg, mafic metavolcanic (2) mod distorted, non-magnetic. Wk pervasive bt, str green amp through groundmass. Mod HZ throughout causing abundant thin cb tension gashes/microfractures. Moderate brittle faulting is observed as well.	No mineralization. LC is sharp.											
	F023949	81	82	0.008																		
	F023951	82	83	0.006																		
	F023952	83	83.5	0.005	83.5	84.6	G			faulting												
	F023953	84.6	85	0.011																		
	F023954	85	86	0.013	84.6	87	1	GG	MA	Light greenish-grey, fg, ultramafic (1) massive, non-magnetic. Moderate pervasive tl alteration causing soapy texture and soft rock to scratch. Local wk cb tension gashes. No mineralization. LC is sharp.												
	F023955	86	87	0.016																		
	F023956	87	88	0.005	87	130.9	2	GG	DIST	Greenish-grey, fg, mafic metavolcanic (2) mod distorted to foliated, non-magnetic. Mod wispy and patchy bt alteration. Patchy HZ's are present causing strong abundances of bt alteration and abundant qz-cb tension gashes, local strong qz flooding.	Abundant weak methane splays showing mod sericite alt and hematite staining. No mineralization. LC is sharp.											
	F023957	88	89	0.005																		
	F023958	89	90	0.005																		
	F023959	90	91	0.005																		
	F023961	91	92	0.005																		
	F023962	92	93	0.005																		
	F023963	93	94	0.005																		
	F023964	94	95	0.005																		
	F023965	95	96	0.005																		
	F023966	96	97	0.005																		
	F023967	97	98	0.005																		
	F023968	98	99	0.005																		
	F023969	99	100	0.006																		
	F023971	100	101	0.007																		
	F023972	101	101.7	0.005																		
	F023973	101.7	102	0.011																		
	F023974	102	103	0.005																		
	F023975	103	104	0.005																		
	F023976	104	105	0.005																		
	F023977	105	106	0.005																		
	F023978	106	107	0.005																		
	F023979	107	108	0.005																		
	F023981	108	109	0.005																		
	F023982	109	110	0.005																		
	F023983	110	111	0.005																		
	F023984	111	112	0.005																		
	F023985	112	113	0.005																		
	F023986	113	114	0.005																		
	F023987	114	115	0.007																		
	F023988	115	116	0.005																		
	F023989	116	116.7	0.006																		
	F023991	116.7	117	0.006																		
	F023992	117	118	0.006																		
	F023993	118	119	0.005																		
	F023994	119	120	0.007																		
	F023995	120	121	0.005																		

4B





19-GRF-006

Sample	Assay			MAJOR UNIT						MINOR UNIT			ALTERATION							
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F024089	199.7	200.4	0.005	199.7	203.4	3F	G	FOL	Light grey, fg, felsic lapilli tuff (3F) well foliated, non-magnetic. Strong pervasive sericite alteration and phlogopite through groundmass. Local weak qz veining, local trace threaded po min. LC is gradational.											
F024091	200.4	201.4	0.006																	
F024092	201.4	202.4	0.006																	
F024093	202.4	203.4	0.006																	
F024094	203.4	204.3	0.007	203.4	207.5	B	DIST	Brown, fg, metasediment (6) well foliated and moderate distorted, non-magnetic. Moderate SZ from UC-206.2m causing str wispy bt alteration and abundant boudinaged qz throughout. Local 0.5% disseminated po min. LC is sharp.												
F024095	204.3	205.1	0.005																	
F024096	205.1	206	0.007																	
F024097	206	207	0.005																	
F024098	207	207.5	0.005	207.5	207.8	LG	MA	Light green, fg, mafic metavolcanic (2) massive, non-magnetic. Wk pervasive bt + amp alteration, weak crack seal qz veining. No mineralization. LC is sharp and irregular.												
F024099	207.5	207.8	0.005																	
F024101	207.8	208.8	0.005																	
F024102	208.8	209.8	0.005																	
F024103	209.8	210.7	0.005	211	222	2	GG	FOL	Light greyish-brown, fg, metasediment (6) mod foliated and mod distorted, non-magnetic. Unit is distorted from moderate high strain zone causing moderate wispy bt alteration and rounded boudinaged qz veining.	1% disseminated contact controlled po mineralization. LC is sharp and irregular.										
F024104	210.7	211	0.013																	
F024105	211	211.3	0.005																	
F024106	211.3	212	0.015																	
F024107	212	213	0.005																	
F024108	213	214	0.005																	
F024109	214	215	0.005																	
F024111	215	216	3.02																	
F024112	216	217	0.005																	
F024113	217	218	0.005	222	222.5	4B	LG	LA	Greenish-grey, fg, mafic metavolcanic (2) weakly foliated, non-magnetic. Wk pervasive bt alteration and green amp all. Common planar qz-cb veining typically associated w/ mafics.	Contact controlled 1% disseminated po mineralization adjacent to UC. LC is sharp.										
F024114	218	219	0.005																	
F024115	219	220	0.005																	
F024116	220	221	0.005																	
F024117	221	222	0.005	222.5	223.3	6B	B	FOL	Light green, aph, chert-mag BIF (4B) planar to distorted alternating laminae, strongly magnetic. Wk to mod gru alteration of magnetite. Local 1cm band of metasediment. No veining or mineralization. LC is sharp.											
F024118	222	222.5	0.013																	
F024119	222.5	223.3	0.005																	
F024121	223.3	224.3	0.005																	
F024122	224.3	225	0.005	225	225.7	6N	BK	FOL	Brown, fg, metasediment (6) well foliated, non-magnetic. Strong abundance of bt in groundmass, common thin fg qz sweats throughout. Unit is showing high strain zone. No mineralization. LC is sharp.											
F024123	225	225.4	0.016																	
F024124	225.4	225.7	0.013																	
F024125	225.7	226	0.005																	
F024126	226	227	0.005	225.7	236.2	2	G	FOL	Greenish-grey, fg, mafic metavolcanic (2) weakly foliated, non-magnetic. Thin cb microfractures of x-cutting fabric. No mineralization. LC is sharp.	Black, aph, argillite/mudstone (6N) massive to mod distorted relict bedding, non-magnetic. Hard groundmass, amphibole banding adjacent to LC. Weak thin cb crack seal veins observed throughout. ~6% dis/threaded po mineralization. LC is sharp.	3F									
F024127	227	228	0.005																	
F024128	228	229	0.005																	
F024129	229	230	0.005																	
F024131	230	231	0.005																	
F024132	231	232	0.018																	
F024133	232	233	0.005																	
F024134	233	234	0.006																	
F024135	234	235	0.005	236.2	236.9	6T	W	DIST	White/beige, fg, massive qz-cb vein, mod gru alteration of vein and no mineralization. Local s-folding with minor fgr-cgr metasediment xenoliths. No mineralization. LC is faulted.											
F024136	235	235.9	0.055																	
F024137	235.9	236.2	0.059																	
F024138	236.2	236.9	0.005																	
F024139	236.9	237.4	0.007	236.9	246.5	6W	G	POR BL	Light grey/pink, fg groundmass, grt-bearing metasediment (6W) mod foliated, fg-cg anhedral porph grts moderately attenuated along foliation, non-magnetic. Patchy HZ's showing str bt alteration. Weak methane splays x-cutting fabric.	No mineralization. LC is sharp.										
F024141	237.4	238	0.04																	
F024142	238	239	0.021																	
F024143	239	240	0.011																	
F024144	240	241	0.006																	

19-GRF-006

Sample	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F024144	240	241	0.006	236.9	246.5	6W	G	POR BL	Light grey/pink, fg groundmass, grt-bearing metasediment (6W) mod foliated, fg-cg anhedral porph grts moderately attenuated along foliation, non-magnetic. Patchy HZ's showing str bt alteration. Weak methane splays x-cutting fabric.	No mineralization. LC is sharp.												
F024145	241	242	0.028																			
F024146	242	243	0.005																			
F024147	243	244	0.005																			
F024148	244	245	0.005																			
F024149	245	246	0.06	246.5	247.5	1	GG	DIST	Light greenish-grey, fg, ultramafic (1) moderately distorted, non-magnetic. Intense tlc + srp alteration throughout causing very soft rock to scratch. HZ causes irregular 6W clasts throughout unit showing 3% int py min and then seeming to be dis	throughout groundmass. LC is sharp.												
F024151	246	246.5	0.005																			
F024152	246.5	247.5	0.005																			
F024153	247.5	248.5	0.011																			
F024154	248.5	249	0.006																			
F024155	249	249.3	0.005	247.5	255.9	6W	G	POR BL	Light grey, fg, grt-bearing metasediment (6W) mod foliated, fg-cg anhedral porph grts wk-mod attenuated along foliation. Local mod planar ser bands throughout, patchy tlc alteration. Minor UM units @ 249, 250.5m. No mineralization. LC is gradational.													
F024156	249.3	250	0.006																			
F024157	250	250.4	0.005																			
F024158	250.4	250.7	0.005																			
F024159	250.7	251.6	0.006																			
F024161	251.6	252.5	0.005	255.9	259.2		G	FOL	Grey, fg, metasediment (6) wk-mod foliated, non-magnetic. Mod planar sericite bands throughout increasing in intensity grading downhole. Local weak methane splays. Local trace py disseminations. LC is gradational.													
F024162	252.5	253.4	0.029																			
F024163	253.4	254.3	0.006																			
F024164	254.3	255.2	0.016																			
F024165	255.2	255.9	0.005																			
F024166	255.9	256.5	0.009	259.2	270.3	6W	G	BA	Light grey/pink, fg, grt-bearing metasediments (6W) mod foliated, fg-cg porph grts weakly attenuated along foliation, non-magnetic. Moderate bt-rich banding alternating with sericite bands. Mod methane faulting present locally. No mineralization.	LC is gradational and marked where grts terminate.												
F024167	256.5	257.4	0.005																			
F024168	257.4	258.3	0.005																			
F024169	258.3	259.2	0.009																			
F024171	259.2	260	0.006																			
F024172	260	261	0.005	270.3	284.9		G	DIST	Light grey, fg, metasediment (6) mod distorted to foliated, non-magnetic. Mod pervasive phlogopite alteration, Moderate planar sericite banding occurs throughout, Common planar qz-cb veining. No mineralization. LC is sharp.													
F024173	261	262	0.012																			
F024174	262	263	0.006																			
F024175	263	264	0.005																			
F024176	264	265	0.005																			
F024177	265	266	0.005																			
F024178	266	267	0.006																			
F024179	267	268	0.019																			
F024181	268	269	0.013																			
F024182	269	269.6	0.006																			
F024183	269.6	270.3	0.005																			
F024184	270.3	271	0.005																			
F024185	271	272	0.005																			
F024186	272	273	0.005																			
F024187	273	274	0.005																			
F024188	274	275	0.005																			
F024189	275	276	0.009																			
F024191	276	277	0.005																			
F024192	277	278	0.009																			
F024193	278	279	0.009																			
F024194	279	280	0.005																			
F024195	280	281	0.005																			

19-GRF-006

Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
	F024195	280	281	0.005	270.3	284.9		G	DIST	Light grey, fg, metasediment (6) mod distorted to foliated, non-magnetic. Mod pervasive phlogopite alteration, Moderate planar sericite banding occurs throughout, Common planar qz-cb veining. No mineralization. LC is sharp.											
	F024196	281	282	0.005																	
	F024197	282	283	0.005																	
	F024198	283	284	0.005																	
28	F024199	284	284.9	0.005	284.9	285.6	1	GG	DIST	Light greenish-grey, fg, ultramafic (1) moderately distorted, non-magnetic. Intense pervasive tic + srp alteration causing very soft rock to scratch. Local wk qz veining. Trace py mineralization. LC is sharp.											
	F024201	284.9	285.6	0.005																	
	F024202	285.6	286.5	0.005																	
	F024203	286.5	287.5	0.005																	
	F024204	287.5	288.5	0.006	285.6	289.5		G	FOL	Light grey, fg, metasediment (6) well foliated, non-magnetic. Mod pervasive bt+amp alteration, no veining or mineralization. LC is gradational.											
	F024205	288.5	289.5	0.005																	
	F024206	289.5	290.1	0.005																	
24	F024207	290.1	291.1	0.005																	
	F024208	291.1	292.1	0.005	289.5	292.1	3F	G	BA	Light grey, fg, felsic lapilli tuff (3F) well foliated/banded, non-magnetic. Local unaltered sections show fg feldspathic lapilli. Common planar sericite bands. Mod Breccia with angular breccia clasts and healed w/ epidote? From 291.5-291.7.	No mineralization. LC is gradational.										
	F024209	292.1	293	0.005																	
	F024211	293	294	0.005																	
	F024212	294	295	0.005																	
24	F024213	295	296	0.005	292.1	313.4		G	FOL	Light grey, fg, metasediment (6) well foliated, non-magnetic. Moderate breccias from 293.7-294.2, 298.3-298.6, showing cb healing and vfg consolidated fault gouge, respectively. Local methane faulting causing strong sericite + hematite staining.	Local unmineralized white qz vein set. No mineralization. LC is sharp.										
	F024214	296	297	0.005																	
	F024215	297	298	0.005																	
	F024216	298	299	0.005																	
	F024217	299	300	0.005																	
	F024218	300	301	0.005																	
	F024219	301	302	0.005																	
	F024221	302	303	0.005																	
	F024222	303	304	0.005																	
	F024223	304	305	0.005																	
34	F024224	305	306	0.005																	
	F024225	306	307	0.007																	
	F024226	307	308	0.007																	
	F024227	308	309	0.005																	
	F024228	309	310	0.007																	
34	F024229	310	311	0.007																	
	F024231	311	312	0.008	313.4	313.7		G	DIST	Light grey, fg, ultramafic (1) moderately distorted, non-magnetic. Intense pervasive tic + srp alteration causing soft rock to scratch. No veining or mineralization. LC is sharp.											
	F024232	312	313	0.01																	
	F024233	313	313.4	0.007																	
	F024234	313.4	313.7	0.009																	
	F024235	313.7	314.4	0.022	313.7	315.9	3F	G	FOL	Light grey, fg, felsic lapilli tuff (3F) mod foliated to massive, non-magnetic. Moderate pervasive sericite alteration. No significant veining or visible mineralization. LC is sharp.											
	F024236	314.4	315	0.009																	
	F024237	315	315.9	0.006																	
34	F024238	315.9	316.5	0.008																	
	F024239	316.5	317	0.006	315.9	316.5	QZ	W	MA	White, fg, massive qz veins, non-magnetic. Irregular and attenuated metasediment xenoliths present. No mineralization. LC is sharp.											
	F024241	317	318	0.009																	
	F024242	318	319	0.009																	
	F024243	319	320	0.009																	
34	F024244	320	321	0.008	316.5	322.3	3F	G	FOL	Light grey, fg, felsic lapilli tuff (3F) well foliated, non-magnetic. Patches of moderate tic alteration bleeding into unit from underlying UM. Patches of strong banded sericite alteration. No mineralization. LC is sharp.											
	F024244	321	321	0.008																	



19-GRF-006

Serial	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION								
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
	F024244	320	321	0.008	316.5	322.3	3F	G	FOL	Light grey, fg, felsic lapilli tuff (3F) well foliated, non-magnetic. Patches of moderate tic alteration, bleeding into unit from underlying UM. Patches of strong banded sericite alteration. No mineralization. LC is sharp.											
	F024245	321	321.8	0.009																	
	F024246	321.8	322.3	0.009																	
	F024247	322.3	323.2	0.007	322.3	325.2	1	G	DIST	Light grey, fg, ultramafic (1) foliated to distorted, non-magnetic. Intense pervasive tic + srp alteration throughout causing soft rock to scratch, local minor lesser altered patches. Unit shows HZ causing distortion and z-folding. No mineralization.	LC is sharp.										
	F024248	323.2	324.2	0.006																	
	F024249	324.2	325.2	0.008	325.2	326.5		G	FOL	Light grey, fg, metasediment (6) well foliated, non-magnetic. Wk pervasive bt alteration. No significant veining. No mineralization. LC is sharp.											
	F024251	325.2	326	0.011																	
	F024252	326	326.5	0.012																	
	F024253	326.5	327	0.007																	
	F024254	327	328	0.006																	
	F024255	328	329	0.005																	
	F024256	329	330	0.005																	
	F024257	330	331	0.009																	
	F024258	331	332	0.008																	
	F024259	332	333	0.022																	
	F024261	333	334	0.038																	
	F024262	334	335	0.014																	
	F024263	335	336	0.007																	
	F024264	336	337	0.006																	
	F024265	337	338	0.021																	
	F024266	338	339	0.012																	
	F024267	339	340	0.015																	
	F024268	340	341	0.023																	
	F024269	341	342	0.02																	
	F024271	342	343	0.01																	
	F024272	343	344	0.007	326.5	426.8	3	G	FOL	Not a typical mine rock. Light grey, fg, felsic volcanics? (3) moderately foliated, non-magnetic. Felsic groundmass with wk-mod pervasive bt and strong feldspathic flooding. Local cg muscovite books. Abundant weak methane fault splays x-cutting	foliation. Common white qz tension gashes. Trace disseminated to blebby py mineralization. LC is sharp.										
	F024273	344	345	0.005																	
	F024274	345	346	0.009																	
	F024275	346	347	0.019																	
	F024276	347	348	0.032																	
	F024277	348	349	0.01																	
	F024278	349	350	0.009																	
	F024279	350	351	0.012																	
	F024281	351	352	0.005																	
	F024282	352	353	0.005																	
	F024283	353	354	0.005																	
	F024284	354	355	0.008																	
	F024285	355	356	0.012																	
	F024286	356	357	0.008																	
	F024287	357	358	0.012																	
	F024288	358	359	0.005																	
	F024289	359	360	0.006																	
	F024291	360	361	0.008																	





19-KAZ-001

Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
					0	1.7	CASING															
	F000881	1.7	2.6	0.005																		
	F000882	2.6	3.5	0.005																		
	F000883	3.5	4.4	0.005																		
5	F000884	4.4	5.2	0.005																		
	F000885	5.2	6	0.005																		
	F000886	6	7	0.005																		
	F000887	7	8	0.005	1.7	14	2	G	FOL	Fg, grey to green-grey, mod foliated mafic volcanics. Non-magnetic. Weak wispy bt alteration, with local, narrow, more bt-rich alteration bands with diffuse edges. Brittle fracturing/jointing from 2.2-3.8m likely due to surficial processes.	Contains abundant, 0.2-0.7cm, irregularly shaped Qz wisps/pieces (strained amygdules?) from top to ~10.5m. 1% wispy po in 50cm above LC.											
	F000888	8	9	0.005																		
	F000889	9	9.9	0.005																		
10	F000891	9.9	10.8	0.005																		
	F000892	10.8	11.7	0.005																		
	F000893	11.7	12.6	0.005																		
	F000894	12.6	13.5	0.005																		
	F000895	13.5	14	0.005			CARB															
	F000896	14	14.4	0.005	14	14.4	B	W	MA	Cg, massive white Qz-cb vein. Weak foliation visible locally. Sharp U/LC.												
15	F000897	14.4	15.2	0.005			Vein															
	F000898	15.2	16	0.005	14.4	17	2	G	FOL	Fg, grey to green-grey, mod foliated mafic volcanics. Non-magnetic. Weak wispy bt alteration, with local, narrow, more bt-rich alteration bands with diffuse edges.	Unit contains multiple brittle breaks, and bottom ~50cm is rubbly/faulted with minor gouge and underlain by an interval of missing core.											
	F000899	16	17	0.005																		
					17	19.7	VOID			2.7 m of missing core, bounded on either side by ~50cm of rubbly, faulted rock with minor gouge.												
20	F000901	19.7	20.7	0.005																		
	F000902	20.7	21.6	0.005																		
	F000903	21.6	22.5	0.005																		
	F000904	22.5	23.4	0.005																		
	F000905	23.4	24.3	0.005																		
25	F000906	24.3	25.2	0.005																		
	F000907	25.2	26.1	0.005																		
	F000908	26.1	27	0.005																		
	F000909	27	28	0.005																		
	F000911	28	29	0.005																		
30	F000912	29	30	0.005	19.7	54.8	2	G	FOL	Fg, grey to green-grey, mod foliated mafic volcanics. Non-magnetic. Weak wispy bt alteration, with local, narrow, more bt-rich alteration bands with diffuse edges. Contains 3, ~50cm-wide HZ with varying bt, chl, cb alteration,	and 3-7% wispy/stringers of po and 1% py. 1-3% Qz-carb stringers throughout. Trace to 0.5% wispy po locally. Irregular, 0.5-1cm pink and white feldspar crystals (alt) present from ~50-51m (possibly albite?).											
	F000913	30	31	0.005																		
	F000914	31	32	0.005																		
	F000915	32	33	0.005																		
	F000916	33	34	0.014																		
	F000917	34	35	0.005																		
35	F000918	35	35.4	0.013																		
	F000919	35.4	36.3	0.005																		
	F000921	36.3	37.2	0.005																		
	F000922	37.2	38.1	0.005																		
	F000923	38.1	39	0.006																		
	F000924	39	40	0.005																		
	F000925	40	41	0.005																		

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D

Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F000925	40	41	0.005	19.7	54.8	2	G	FOL	Fg. grey to green-grey, mod foliated mafic volcanics. Non-magnetic. Weak wispy bt alteration, with local, narrow, more bt-rich alteration bands with diffuse edges. Contains 3, ~50cm-wide HZ with varying bt, chl, cb alteration,	and 3-7% wispy/stringers of po and 1% py. 1-3% Qz-carb stringers throughout. Trace to 0.5% wispy po locally. Irregular, 0.5-1cm pink and white feldspar crystals (all present from ~50-51m (possibly albite?).											
	F000926	41	42	0.005																		
	F000927	42	42.3	0.026																		
	F000928	42.3	43	0.03																		
	F000929	43	44	0.006																		
	F000931	44	45	0.021																		
	F000932	45	46	0.022																		
	F000933	46	47	0.005																		
	F000934	47	48	0.006																		
	F000935	48	49	0.006																		
	F000936	49	50	0.008																		
	F000937	50	50.7	0.009																		
	F000938	50.7	51.5	0.013																		
	F000939	51.5	52.3	0.014																		
	F000941	52.3	52.7	0.077																		
	F000942	52.7	53.3	0.009																		
	F000943	53.3	54	0.006																		
	F000944	54	54.8	0.008																		
	F000945	54.8	55.7	0.028	54.8	56.7	4A	G	BA	Med grey to grey green chert-gru BIF (4A). Strongly magnetic. Does not look like typical 4A, as it has more amp and chert cannot really be distinguished and gru appears more yellow-green in colour. 2-3% qz-cb veining (lcl vuggy). 2-4% Po in groundmass.	Aphanitic. Sharp LC. Fabric is wispy to thinly banded w minor lcl folds. Minor unit of 2 from 55.7-55.9m.	2	Light grey-green mafic volc (2). Fg. Weakly foliated. Very weakly magnetic. No significant veining or mineralization. Sharp UC and LC.									
	F000946	55.7	56	0.005																		
	F000947	56	56.7	0.01																		
	F000948	56.7	57.4	0.011	56.7	58	1	G	MA	Med grey to green ultramafic (1). Fine grained. Weakly magnetic. Massive to weakly foliated. Mod silicified. 1% qz-cb veins. Rare Py speck seen in groundmass. Sharp LC.												
	F000949	57.4	58	0.012																		
	F021501	58	58.9	0.014	58	59.9	4B	G	BA	Med-dark grey chert-mag BIF (4B). Magnetic. Aphanitic. Thinly banded w/ local folding, and locally wispy. Lcl weak chl stringers. 1-2% qz-cb veining. 1-4% Po predominantly seen in groundmass, but also assoc w veining. Sharp LC.												
	F021502	58.9	59.2	0.018																		
	F021503	59.2	59.9	0.115																		
	F021504	59.9	60.9	0.075																		
	F021505	60.9	61.9	0.017	59.9	65.8	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Weakly foliated. Locally weakly magnetic. Mod brittle faulting from 65-67m. Sct fracturing present. 10cm 4B from 64.8-64.9m w tr Po and folded banding. Sharp to possible faulted LC.												
	F021506	61.9	62.9	0.01																		
	F021507	62.9	63.9	0.007																		
	F021508	63.9	64.7	0.005																		
	F021509	64.7	65	0.005																		
	F021511	65	65.8	0.009																		
	F021512	65.8	66.8	0.005	65.8	72.1	4B	G	BA	Dark grey chert-mag BIF (4B). Aphanitic. Magnetic. Well banded. Banding thin and locally folded. Mod brittle faulting from 65-67m and 5 meth faults (brittle and 1 cohesive) between 67-71.3m w pink/red hem, and light green staining bleeding into host.	1% qz-cb veining. Tr-1% sct Po and trc sct Asp assoc w/ groundmass.											
	F021513	66.8	67.8	0.005																		
	F021514	67.8	68.4	0.005																		
	F021515	68.4	68.7	0.005																		
	F021516	68.7	69.7	0.013																		
	F021517	69.7	70.7	0.114																		
	F021518	70.7	71.4	0.012	72.1	73.9	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Weakly foliated to massive. Weakly magnetic. 3-5% white qz-cb veining. No visible mineralization. Lcl cb stringers. Weakly fractured. Sharp UC and LC.												
	F021519	71.4	72.1	0.038																		
	F021521	72.1	73	0.006																		
	F021522	73	73.9	0.014																		
	F021523	73.9	74.3	0.016																		
	F021524	74.3	75	0.011																		
	F021525	75	76	0.014	73.9	81	4B	G	BA	Dark grey-purple chert-mag BIF (4B). Aphanitic. Magnetic. Sct meth fit splays and kn fits. 5% white-grey qz-cb veining. Tr-2% sct Po seen in both veining and groundmass. Banding is thin and locally folded. Folded LC.												
	F021526	76	76.9	0.049																		
	F021527	76.9	77.5	0.079																		
	F021528	77.5	78	0.219																		
	F021529	78	79	0.064																		
	F021531	79	80	0.021																		
	F021532	80	80.4	0.024																		

Sample	Assay			MAJOR UNIT					MINOR UNIT			ALTERATION								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F021532	80	80.4	0.024	73.9	81	4B	G	BA	Dark grey-purple chert-mag BIF (4B). Aphanitic. Magnetic. Sct meth flt splay and kn flts. 5% white-grey qz-cb veining. Tr-2% sct Po seen in both veining and groundmass. Banding is thin and locally folded. Folded LC.											
F021533	80.4	81	0.172	81	81.7	2	GG	FOL	Med grey-green mafic volc (2). Or poss UM (1). Fine grained. Weakly foliated to massive. Very locally weakly magnetic. Mod prv chl. 1% qz-cb veining. No visible sulphides. Gradational LC.											
F021534	81	81.7	0.007																	
F021535	81.7	82.7	0.007																	
F021536	82.7	83.7	0.01																	
F021537	83.7	84.7	0.005	81.7	86.2	1	GG	FOL	Med grey-green UM (1) or poss mafic volc (2). Fine grained. Soft. Weakly magnetic. Sct w/ mod brittle fracturing throughout. Lcl wk meth flt splay w hem staining. 1% qz-cb veining. No visible mineralization. Gradational LC. Weakly fol.											
F021538	84.7	85.7	0.006																	
F021539	85.7	86.2	0.007																	
F021541	86.2	87.1	0.009	86.2	87.1	2	GG	FOL	Med-dark grey-green mafic volc (2). Poss UM (1). Fine grained. Nonmagnetic. Not as soft as previous unit. Weakly foliated to massive. No significant veining or mineralization. Local brittle fracturing. Sharp and weakly folded LC.											
F021542	87.1	87.7	0.012																	
F021543	87.7	88.2	0.015	87.1	88.2	4B	G	BA	Dark grey-purple chert-mag BIF (4B). Magnetic. Aphanitic. Well banded and folded. Wk meth flt splay present. Tr Po and tr Apy. 1% qz-cb veining. Po assoc w/ veining and groundmass. Apy assoc w/ groundmass. Locally fractured. Sharp and fractured LC.											
F021544	88.2	89	0.006																	
F021545	89	90	0.01																	
F021546	90	91	0.006																	
F021547	91	91.4	0.005	88.2	93.9	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Weakly foliated to locally massive (heterogeneous). 2-3% white qz-cb veining. Tr Po assoc w both veining and groundmass. Fabric is locally wispy/weakly dist. Mod chl and wk bt wisps. Sharp LC.											
F021548	91.4	92.4	0.007																	
F021549	92.4	93.3	0.014																	
F021551	93.3	93.9	0.007																	
F021552	93.9	94.9	0.088																	
F021553	94.9	95.8	0.162	93.9	97.3	4B	G	BA	Dark grey-beige chert-mag BIF (4B). Aphanitic. Magnetic. Well banded. Bands range in thickness from 1mm to 1cm wide. Folded throughout. Scattered wk kn flts. 1-3% qz-cb veining. Trc Po and apy assoc w groundmass. Sharp LC.											
F021554	95.8	96.8	0.396																	
F021555	96.8	97.3	0.311																	
F021556	97.3	98.3	0.007																	
F021557	98.3	99.2	0.007																	
F021558	99.2	100.2	0.005	97.3	101.2	1	GG	MO	Med grey-green ultramafic (1). Fine grained. Weakly foliated to mottled. Mod talc/serp altn (soft). Local mod fracturing. Weakly magnetic. 1-2% thin white qz-cb veinlets. No visible mineralization. Sharp LC.											
F021559	100.2	101.2	0.022																	
F021561	101.2	102.2	0.007																	
F021562	102.2	103	0.018																	
F021563	103	103.6	0.279																	
F021564	103.6	104	0.037	101.2	103.6	4B	G	BA	Dark grey-beige chert-mag BIF (4B). Aphanitic. Magnetic. Weak marginal gru. Thinly banded and patches of mod folding. 1% qz-cb veining (lcl boudinage/discontinuous). Trc Po assoc w veining and groundmass. Sharp LC. Med-dark grey-green mafic volc (2). Fine grained. Well foliated w mod bt wisps starting around 103.8m. Very weakly magnetic. 1% qz-cb veining. Rare Po speck. Thin folded qz-cb veinlets at UC. Gradational LC.											
F021565	104	104.4	0.009																	
F021566	104.4	104.7	0.005	103.6	104.4	2	GG	FOL	Med-dark grey-green mafic volc (2). Well foliated. Mod bt wisps. Fine grained. <1% qz-cb veinlets. No visible mineralization. Gradational LC. Weak chl stringers. No sig bt.											
F021567	104.7	105.6	0.005	104.4	104.7	1	GG	MO	Med-dark grey-green mafic volc (2). Well foliated. Mod bt wisps. Fine grained. Very weakly magnetic. 1-2% qz-cb veining/veinlets. Local weak cb stringers at 106.6-106.7m. Rare Po speck and up to 3% s-ma Py band at 106.2m. Sharp LC.											
F021568	105.6	106.2	0.005	104.7	107.2	2	GG	FOL	Light grey-beige and purple chert-mag BIF (4B). Aphanitic. Thinly banded that is locally folded near contacts. Minor 6N at UC w 2% Py. 1% qz-cb boudins. Up to 5% Po diss in groundmass. Magnetic. Sharp LC.											
F021569	106.2	106.5	0.005																	
F021571	106.5	107.2	0.115																	
F021572	107.2	107.6	0.016																	
F021573	107.6	108.6	0.053	107.2	107.6	4B	G	BA	Med-dark grey-green mafic volc (2). Fine grained. Well foliated w weak bt wisps. 2-3% white qz-cb veining. No visible mineralization. Very weakly to weakly magnetic. Sharp LC. Locally weakly fractured.											
F021574	108.6	109.3	0.006	107.6	109.3	2	GG	FOL	Med grey chert-mag BIF (4B). Aphanitic. Magnetic. Thinly banded w local weak folding. 1% white qz-cb & cb stringers. Trc Po and up to 2% Py assoc w groundmass. Sharp LC. Minor chl stringers.											
F021575	109.3	109.7	0.007																	
F021576	109.7	110.4	0.523	109.3	109.7	4B	G	BA	Light-med grey-green mafic volc (2). Fine grained. Weakly foliated w patchy bt wisps. Two minor 4B units at 110.4-110.5m (6cm wide) and 111.5-111.6m (3cm wide). 4B minor units are folded and don't host any vis min. 1-2% qz-cb veins/stringers.											
F021577	110.4	110.7	0.015																	
F021578	110.7	111.5	0.006																	
F021579	111.5	111.8	0.043	109.7	113.1	2	GG	FOL	Beige-grey chert-gru BIF (4A). Aphanitic. Distorted texture w wispy gru. Strongly magnetic at UC and LC and weakly magnetic in the middle. Fabric is tightly folded at UC and then turning into broad shallow folds. Most distorted section from 113.5-114m											
F021581	111.8	112.8	0.005																	
F021582	112.8	113.1	0.005																	
F021583	113.1	113.9	0.237	113.1	114.6	4A	G	DIST	Light-med grey-green mafic volc (2). Fine grained. Weakly foliated w patchy bt wisps. Two minor 4B units at 110.4-110.5m (6cm wide) and 111.5-111.6m (3cm wide). 4B minor units are folded and don't host any vis min. 1-2% qz-cb veins/stringers.											
F021584	113.9	114.3	0.008																	
F021585	114.3	114.6	0.134																	
F021586	114.6	114.9	0.068																	
F021587	114.9	115.8	0.026																	
F021588	115.8	116.8	0.023																	
F021589	116.8	117.8	0.011	114.6	120.6	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Well foliated w mod bt wisps. Weakly magnetic. 2-3% qz-cb stringers (discontinuous and chaotic). Trc sct Po in both veining and groundmass. Sharp LC.											
F021591	117.8	118.8	0.007																	
F021592	118.8	119.8	0.009																	
F021593	119.8	120.6	0.006																	

Minor argillite (6N). Abundant Py. Weakly magnetic. Irregular LC w/ 4B. Minor qz-cb eyes.

Light grey-beige and purple chert-mag BIF (4B). Well banded. Magnetic. Folded. Intersected fold along 4B and 2 contact? No sig min or vns.

Small chert-mag BIF (4B) in mafic. 3cm wide. Banding is weakly wavy to distorted. No sig min.

Minor argillite mudstone (6N). Aphanitic. Magnetic. Well foliated. Fabric is weakly wavy. Abundant Po. Mod qz-cb eyes/boudins.

Locally weakly magnetic. Rare Po specks.

may be fold nose w folded/intact fabric on either side. Sharp LC.

19-KAZ-001

Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION																			
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments											
	F021593	119.8	120.6	0.006	114.6	120.6	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Well foliated w mod bt wisps. Weakly magnetic. 2-3% qz-cb stringers (discontinuous and chaotic). Trc sct Po in both veining and groundmass. Sharp LC.																						
	F021594	120.6	121.1	0.005																												
	F021595	121.1	122	0.005																												
	F021596	122	123	0.005																												
	F021597	123	124	0.005																												
	F021598	124	125	0.005																												
12	F021599	125	125.5	0.005	120.6	129.5	7A	GG	FOL													Dark grey-green gabbro (7A). Medium grained. Mod-strongly foliated to locally mottled looking. Abundant qz-cb stringers scattered throughout and up to 5% qz-cb veins. Trc blb Po in both veining and groundmass. Weakly magnetic. Fabric is locally wavy.	Gradational LC.									
	F021601	125.5	126.5	0.005																												
	F021602	126.5	127.5	0.005																												
	F021603	127.5	128.5	0.005																												
	F021604	128.5	129.5	0.005																												
13	F021605	129.5	130.5	0.005																												
	F021606	130.5	131.5	0.005																												
	F021607	131.5	132.5	0.005																												
	F021608	132.5	133.5	0.005																												
	F021609	133.5	134.5	0.005																												
13	F021611	134.5	135.5	0.005																												
	F021612	135.5	136	0.005																												
	F021613	136	137	0.005																												
	F021614	137	137.8	0.005																												
	F021615	137.8	138.8	0.005																												
	F021616	138.8	139.3	0.005																												
	F021617	139.3	140	0.005																												
14	F021618	140	141	0.005																												
	F021619	141	142	0.005																												
	F021621	142	143	0.005																												
	F021622	143	144	0.007																												
	F021623	144	144.3	0.005																												
14	F021624	144.3	145	0.005	129.5	162	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated to the appearance of banding in areas. Weakly magnetic. Locally folded, starting at 130m. Up to 10% qz-cb stringers throughout. Trc Po sct in veining and groundmass, w up to 1% local Po.	Sct wk meth flt splays w light green staining. Multiple HZ between 133.4-159.8m (increased frequency of stringers and distorted fabric). Mod prv cb from 155.5-157m w vn brx at 155.5m w angular host rock fragments. EOH.																					
	F021625	145	146	0.005																												
	F021626	146	147	0.005																												
	F021627	147	147.8	0.005																												
	F021628	147.8	148.8	0.005																												
	F021629	148.8	149.8	0.005																												
15	F021631	149.8	150.8	0.005																												
	F021632	150.8	151.8	0.006																												
	F021633	151.8	152.8	0.007																												
	F021634	152.8	153.8	0.007																												
	F021635	153.8	154.4	0.005																												
15	F021636	154.4	155.3	0.005																												
	F021637	155.3	156.3	0.007																												
	F021638	156.3	157.3	0.005																												
	F021639	157.3	158.3	0.005																												
	F021641	158.3	159.3	0.005																												
	F021642	159.3	160.3	0.005																												









19-KAZ-003

Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
					0	1.7	CASING															
5	F021057	1.7	2.5	0.006	1.7	12.6	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Well fol to lcl dist & folded. Mod sct fracturing throughout & brittle faulting at 2.5-3m and 11-12.6m. Locally very weakly magnetic. 1-2% white qz-cb veining. Tr Po & Py visible in groundmass & in veins.	Wk bt wisps.											
	F021058	2.5	3	0.005																		
	F021059	3	4	0.005																		
	F021061	4	5	0.005																		
	F021062	5	6	0.007																		
	F021063	6	7	0.012																		
	F021064	7	8	0.008																		
	F021065	8	9	0.005																		
	F021066	9	10	0.005																		
	F021067	10	11	0.005																		
10	F021068	11	12	0.005	13	26.3	2	GG	FOL	Med-dark grey-green mafic volc (2). Same as above unit. 1-2% white qz-cb veining. Trc Po in groundmass & in some veins, w up to 6% Po & 1% Py near LC w 4A. Minor 4A unit at 25-25.1m (up to 3% Po in veinlets). Mod bt wisps. Sharp LC.												
	F021069	12	12.6	0.005																		
	F021071	13	14	0.005																		
	F021072	14	15	0.005																		
	F021073	15	16	0.005																		
	F021074	16	17	0.005																		
	F021075	17	18	0.005																		
	F021076	18	18.8	0.005																		
	F021077	18.8	19.3	0.005																		
	F021078	19.3	20	0.005																		
20	F021079	20	21	0.005	26.3	28.1	4A	G	DIST	Light-med grey-beige chert-gru BIF (4A). Aph. Mod mag. Mod light green wisps. Qz-cb flooded (~10-15%). 4-5% Po in vns & groundmass. 3% Py & tr Apy also present. Weakly banded to dist. Locally folded. Black band 2cm wide at LC and str Po (poss 6N band).	Sporadic chl wisps. Sharp LC.											
	F021082	22	23	0.005																		
	F021083	23	24	0.005																		
	F021084	24	25	0.005																		
	F021085	25	25.3	0.005																		
	F021086	25.3	26	0.005																		
	F021087	26	26.3	0.005																		
	F021088	26.3	27	0.088																		
	F021089	27	27.5	0.114																		
	F021091	27.5	28.1	0.038																		
	F021092	28.1	29	0.213	29	30	4A	G	BA	Med-dark mafic volc (2). Fine grained. Well foliated to locally distorted. Mod bt wisps. Nonmagnetic. 1% qz-cb veinlets. No significant mineralization. Sharp LC. Mod cb at UC.												
	F021093	29	30	0.005																		
	F021094	30	30.3	0.136																		
	F021095	30.3	30.6	0.011																		
	F021096	30.6	31	0.056																		
	F021097	31	32	0.007																		
	F021098	32	33	0.005																		
	F021099	33	33.7	0.005																		
	F021101	33.7	34.4	0.005																		
	F021102	34.4	35	0.005																		
35	F021103	35	36	0.005	30	39.1	2	GG	FOL	Med-dark grey-green mafic volc (2). Fine grained. Well foliated. Poss gabbro from 34.4-37m (grain sizes grades to mg). Weakly magnetic. 2-3% white qz-cb veining. Trc sct Po in groundmass and vns. Locally fractured. Sharp LC. Minor 4A units at 30.4-30.6	& 30.7-30.8m w 1-2% Po in groundmass.											
	F021104	36	37	0.005																		
	F021105	37	38	0.005																		
	F021106	38	38.7	0.005																		
	F021107	38.7	39.1	0.005																		
	F021108	39.1	40	0.041																		
	F021109	40	41	0.035																		
					39.1	45.2	4A	G	BA	Med grey chert-gru BIF (4A) w mod chert-mag banding. Mod magnetic to locally strong mag. Aphanitic. Well banded. Mod folding w patches of linear fabric. Banding ranges from thin to wide (<2cm). Mod discing and fracturing throughout.	3% qz-cb veining (locally stained yellow). 4-6% Po and up to 1% Apy predominantly in groundmass, but some Po in veining.											

4A  
Minor 4A w 3% Po in minor qz-cb veinlets. Weakly banded. Magnetic. Sharp UC and LC.

4A  
4A  
Minor 4A w abundant chert. Mod magnetic. 2% Po assoc w litho. 3cm wide minor 4A w 1% Po assoc w groundmass. no significant veining.







Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
5					0	7.9	CASING																
	F021265	7.9	8.9	0.008	7.9	8.9	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Weakly foliated, 2% qz-cb veinlets. No visible mineralization. Very weakly magnetic. Mod fractured as it's top of hole. Rubbly LC w a poss UM.													
10	F021266	8.9	9.8	0.009	8.9	9.8	1	GG	MA	Med grey-green ultramafic (1). Fine grained. Weakly magnetic. Mod talc/serp alt making core soft to scratch. Local brittle fracturing. No significant veining and no visible mineralization. Sharp LC.													
	F021267	8.8	10.7	0.016																			
	F021268	10.7	12.2	0.024																			
	F021271	12.4	13.2	0.067	9.8	13.2	4A	G	BA	Med grey chert-gru BIF (4A). Mod magnetic. Aph. Well banded to locally dist/wispy. Mod-abund wispy gru. Local minor discing from 11-11.2m. Minor local waves or folds. Tr to 1% Po assoc w both veining and groundmass. 2-3% qz-cb veining. Gradational LC.													
	F021272	13.2	13.6	0.011																			
	F021273	13.6	14.4	0.022																			
	F021274	14.4	14.7	0.01																			
	F021275	14.7	15.4	0.133																			
	F021276	15.4	16.3	0.025																			
	F021277	16.3	17	0.017																			
	F021278	17	17.9	0.015																			
	F021279	17.9	18.6	0.022																			
	F021281	18.6	19.3	0.018																			
	F021282	19.3	19.7	0.005	13.2	20.7	4B	G	DIST	Dark grey-purple and beige chert-mag BIF (4B). Aph. Strongly magnetic. Thinly banded to distorted. Mod folding w patches of linear fabric. Two HZ/SZ's at 14.6-18.6m and 19.7-22m w distorted fabric. 5-6% qz-cb veining mostly localized to the first HZ/SZ.	Tr-2% Po in veining and groundmass. Irregular/wavy LC.												
	F021283	19.7	20.4	0.017																			
	F021284	20.4	20.7	0.015																			
	F021285	20.7	21	0.026																			
	F021286	21	21.3	0.022																			
	F021287	21.3	21.8	0.02																			
	F021288	21.8	22.1	0.018																			
	F021289	22.1	22.7	0.005	20.7	23.3	2	GG	DIST	Dark grey-green mafic volc (2). Fg. Distorted w beige irregular and chaotic stringers giving core a locally brecciated appearance. Nonmagnetic. 5 "chunks" of folded/distorted 4B within this unit. Core has some grease on it making it difficult to see.	Tr-1% Po seen in 4b chunks. 4-5% of the beige cb stringers. No visible Po in mafic. Irregular and folded LC.	4B 4B 4B 4B											
	F021291	22.7	23	0.006																			
	F021292	23	23.3	0.009																			
	F021293	23.3	24	0.005																			
	F021294	24	24.4	0.015																			
	F021295	24.4	25.3	0.051																			
	F021296	25.3	26	0.083																			
	F021297	26	27	0.01																			
	F021298	27	27.5	0.172																			
	F021299	27.5	27.8	0.008																			
	F021301	27.8	28.1	0.25	23.3	32.2	4B	G	BA	Dark grey and beige chert-mag BIF (4B). Aphanitic. Strongly magnetic. Thinly banded to locally folded and distorted looking due to areas of abundant knife faulting causing minor displacement of bands between 25.7-30.6m. Mod discing at 24.7-25.1m.	Locally fractured. Minor UM from 27.5-27.7m. Tr-2% local Po and tr-1% local Apy. 2-3% qz-cb veining. Gradational LC.	4B 4B											
	F021302	28.1	29	0.47																			
	F021303	29	29.5	0.326																			
	F021304	29.5	30	0.104																			
	F021305	30	31	0.036																			
	F021306	31	31.6	0.008																			
	F021307	31.6	32.2	0.074																			
	F021308	32.2	33	0.008																			
	F021309	33	33.9	0.011	32.2	34.3	2	GG	DIST	Med-dark grey-green mafic volc (2). Fine grained. Weakly foliated to locally distorted. 2-3% qz-cb veining that are irregular and chaotic in shape. Patched of mod wispy bt. No visible mineralization. Sharp LC. Locally very weakly magnetic.	Possible UM from 33.7-34.3m (texture looks more like UM, bt wisps still present).												
	F021311	33.9	34.3	0.029																			
	F021312	34.3	35	0.012																			
	F021313	35	35.7	0.005																			
	F021314	35.7	36	0.052																			
	F021315	36	36.4	0.005																			
	F021316	36.4	37	0.236																			
	F021317	37	37.5	0.116	34.3	42.4	4B	G	BA	Dark grey and beige chert-mag BIF (4B). Aphanitic. Strongly magnetic. Well banded, not as thinly banded as previous 4B's. Fabric is linear with local folding. Mod chl bands at 35.7-36m. 3-5% qz-cb veining. Tr-2% Po and tr Py in veining and groundmass.	Multiple weak meth fit splays. HZ from 37-37.4m w static texture and wispy bands w 2% Po. Sharp LC.												
	F021318	37.5	38.5	0.053																			
	F021319	38.5	39	0.017																			
	F021321	39	40	0.025																			
	F021322	40	40.5	0.038																			

STR

Mod-strong chl bands.









Depth	Assay				MAJOR UNIT					MINOR UNIT			ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
5					0	9.1	CASING																
10	F019893	0.1	0.8																				
	F019894	0.8	10.6	0.33																			
	F019895	10.6	11.3	0.43																			
	F019896	11.3	11.8	0.463	9.1	12.1	4B	G	BA	Dark grey-beige chert-mag BIF (4B). Aph. Thinly banded w locally wispy and folded bands. Strongly magnetic. 2-3% qz-cb veining w white-grey cal alt along margins. Patchy Po from tr-1% in both veining and groundmass. Local fracturing following fabric.	Gradational LC.												
	F019897	11.8	12.1	0.021																			
	F019898	12.1	12.4	0.376																			
	F019899	12.4	13	0.225	12.1	12.4	4B	GG	FOL	Dark grey-green ultramafic (1). Nonmagnetic. Weak-mod talc/serp alt making core soft to scratch. Weakly foliated to locally distorted (near LC). Fine grained. 1-2% purple-grey qz-cb veining. No visible mineralization. Sharp LC.													
	F019901	13	13.5	0.005																			
	F019902	13.5	14	0.196																			
	F019903	14	14.8	0.009	12.4	14.8	4B	G	BA	Dark grey and beige chert-mag BIF (4B). Aph. Thinly banded. Strongly magnetic. Weak fracturing following fabric throughout. Locally weakly folded. Minor meth fl splay at 14.4m. Tr patchy Po assoc w groundmass. No significant veining. Gradational LC.													
	F019904	14.8	15.5	0.006																			
	F019905	15.5	16.3	0.005																			
	F019906	16.3	17.2	0.009																			
	F019907	17.2	17.6	0.005																			
	F019908	17.6	18.5	0.005	14.8	19.9	4A	BE	BA	Beige to locally dark grey chert-gru BIF (4A). Aph. Locally mag, towards UC & LC (grad). Thinly banded to wispy. Strong alt (gru?) from 16-19.9m. Sub-rounded qz eyes/nodules scattered in altered area. Tr patchy Po	1% qz-cb veining. Minor UM dyke from 18.7-18.8m.												
	F019909	18.5	18.8	0.005																			
	F019911	18.8	19.2	0.019																			
	F019912	19.2	19.9	0.005																			
	F019913	19.9	20.4	0.005																			
	F019914	20.4	21	0.01																			
	F019915	21	21.6	0.11	19.9	21.6	4B	G	BA	Dark grey chert-mag BIF (4B). Strongly magnetic. Aph. Thinly banded to locally distorted w strange boudinage/bookshelf texture at 20.7-21m and 27-27.3m. Sct discing throughout. Multiple minor meth fl splays and brittle fracturing.	Beige-grey chert-gru BIF (4A). Aph. Moderately magnetic due to wk-mod mag bands still present. Wispy to weakly banded texture. 3-4% qz-cb veining w 1% Po. HZ through entire unit. Gradational LC.	HZ from 20.3-22.3m w distorted/wispy texture. Up to 1% sct Po in veining and groundmass. 1-2% qz-cb veining. Gradational LC.											
	F019916	21.6	21.9	0.067	21.6	21.9	4A	G	DIST	Dark grey chert-mag BIF (4B). Similar to 4B above. Aph. Strongly magnetic. Thinly banded w locally weak folding. Minor meth fl splay, and HZ from 21.6-22.3m. 1% qz-cb veinlets present. Tr Po assoc w groundmass. Sharp LC.													
	F019917	21.9	22.5	0.057	21.9	22.5	4B	G	BA	Re-coded as UM by BR July 22, 2019. Dark grey-green mafic volc (2) or possible UM (1). Somewhat soft to scratch. Fine grained. Very weakly magnetic. Minor meth fl splays present between 22.7-24m. Mod patches of bt present.													
	F019918	22.5	23.4	0.005																			
	F019919	23.4	24.4	0.007																			
	F019921	24.4	25	0.005	22.5	24.4	1	GG	MA														
	F019922	25	25.3	0.006																			
	F019923	25.3	25.6	0.008																			
	F019924	25.6	26.3	0.005	24.4	27.3	4B	G	DIST	Dark grey & beige chert-mag BIF (4B). Strongly magnetic. Aph. Distorted & folded textured. Multiple 'minor units' of mafic volc, may be a mafic or UM dyke intruding & ripping off chunks of 4B, or it's a folded contact & hole is intersecting folds.													
	F019925	26.3	26.7	0.006																			
	F019926	26.7	27.3	0.1																			
	F019927	27.3	28.3	0.01																			
	F019928	28.3	29.3	0.009																			
	F019929	29.3	30.3	0.005	27.3	31.2	1	GG	FOL	Re-coded as UM by BR July 22, 2019. Dark grey-green mafic volc (2) or possible UM. Fine grained. Weakly foliated to massive in texture. Somewhat soft to scratch. Very weakly magnetic. Mod brittle fracturing. 1% minor qz-cb veinlets.	No visible mineralization. Sharp LC.												
	F019931	30.3	31.2	0.018																			
	F019932	31.2	32	0.005	31.2	32.6	4B	G	BA	Dark grey chert-mag BIF (4B) w marginal beige gru. Strongly magnetic. Aph. Thinly banded & mod folded. Mod KF at 32.3-32.6 (possible boudinage or book-shelving along w knife faulting gives core very strange looking texture). 2-3% qz-cb veining.	No significant mineralization. Sharp LC.												
	F019933	32	32.6	0.005																			
	F019934	32.6	33.4	0.391																			
	F019935	33.4	34	0.01																			
	F019936	34	35	0.007	32.6	36.9	4A	G	BA	Med grey chert-gru BIF (4A). Wispy to weakly banded texture. Aph. Moderately magnetic. Locally folded. Mod sct discing, and brittle fracturing following fabric. 2-3% qz-cb veining. Tr-3% patchy Po assoc w veining and groundmass. Sharp LC.													
	F019937	35	36	0.005																			
	F019938	36	36.6	0.015																			
	F019939	36.6	36.9	0.013																			
	F019941	36.9	37.5	0.005																			
	F019942	37.5	38	0.032	36.9	39	1	G	MA	Dark grey ultramafic (1) or possible mafic volc (2). Fine grained. Massive in texture. Not as soft as UM above, but still weakly soft. <1% qz-cb stringers. No visible mineralization. Core is more polished compared to units above and below.													
	F019943	38	39	0.018																			
	F019944	39	39.8	0.008	39	39.8	1	G	MA	Dark grey-green ultramafic (1) or possible mafic volc (2). Fine grained. Massive in texture. Wk talc/serp alt making core softish. Weakly magnetic. 1% irregular qz-cb stringers. No visible mineralization. Sharp LC.	Gradational LC.												
	F019945	39.8	40.8	0.026	39.8	42.3	1	GG	MA														

Minor ultramafic (1) intercalated w an altered 4A. Fine grained. Grey-green. Foliated. No visible min.

Minor chunk of mafic volc (2) or UM (1). Intercalated w 4B. Possible dyke thats ripped chunks of 4B off or folded contact.

26cm mafic volc (2) or UM dyke (1) intercalated w 4B. Possible dyke or folded contact.

Strong beige-yellow alt, possibly grunerite?

19-KAZ-007

Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
	F019945	39.8	40.8	0.026	39.8	42.3	1	GG	MA	Dark grey-green ultramafic (1) or possible mafic volc (2). Fine grained. Massive in texture. Wk talc/serp alt making core softish. Weakly magnetic. 1% irregular qz-cb stringers. No visible mineralization. Sharp LC.													
	F019946	40.8	41.8	0.032																			
	F019947	41.8	42.3	0.035																			
	F019948	42.3	43.2	0.15	42.3	44.1	4A	G	BA	Med grey chert-gru BIF (4A). Weakly-mod magnetic due to mod mag bands. Aph. Mod discing throughout. Weak meth flt splay at 43.5m. 3-5% qz-cb veining. Up to 1% Po seen in both groundmass and veining. Well banded w local waves/wisps. Gradational LC.													
	F019949	43.2	44.1	0.183																			
44	F019951	44.1	45	0.094	44.1	51.6	4A	G	DIST	Med-dark grey chert-gru BIF (4A). Aph. Banded to wispy/dist in texture. Weakly to mod locally mag. HZ from 48.2-51.6m w wispy texture & abundant Po. 7-10% qz-cb veins. Tr-10% Po (5-10% Po in HZ). Difficult to distinguish chert bands & qz-cb veins in HZ.	Sharp LC. Mod specks and stringers of chl and some Po is assoc w chl stringers. Mod discing throughout.												Weak-mod chl spots and stringers.
	F019952	45	46	0.064																			
	F019953	46	47	0.071																			
	F019954	47	47.5	0.029																			
	F019955	47.5	48.1	0.113																			
	F019956	48.1	48.4	1.346																			
	F019957	48.4	49	0.298																			
	F019958	49	50	0.155																			
	F019959	50	50.9	0.172																			
	F019961	50.9	51.6	0.136																			
	F019962	51.6	52.1	0.031	51.6	122.5	2	DG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated to locally massive. Nonmagnetic. Patches of mod-abundant bt wisps. 10% qz-cb veining seen in patches (S2 or HZ?). 0.5-3.5% Po localized to these qz-cb veined/HZ areas.	Minor weak meth flt splays sct throughout. Minor lcl discing. Local folding of foliation.												
	F019963	52.1	52.5	0.018																			
	F019964	52.5	52.9	0.044																			
	F019965	52.9	53.7	0.03																			
	F019966	53.7	54.3	0.017																			
	F019967	54.3	55.1	0.013																			
	F019968	55.1	56	0.006																			
	F019969	56	57	0.009																			
	F019971	57	58	0.013																			
	F019972	58	59	0.007																			
	F019973	59	60	0.009																			
	F019974	60	61	0.008																			
	F019975	61	62	0.006																			
	F019976	62	63	0.01																			
	F019977	63	64	0.006																			
	F019978	64	65	0.006																			
	F019979	65	66	0.009																			
	F019981	66	67	0.01																			
	F019982	67	68	0.005																			
	F019983	68	69	0.005																			
	F019984	69	70	0.005																			
74	F019985	70	71	0.005																			
	F019986	71	72	0.005																			
	F019987	72	72.6	0.019																			
	F019988	72.6	73.6	0.005																			
	F019989	73.6	74.6	0.007																			
75	F019991	74.6	75.6	0.01																			
	F019992	75.6	76.6	0.005																			
	F019993	76.6	77.6	0.005																			
	F019994	77.6	78.6	0.054																			
	F019995	78.6	79.6	0.012																			
	F019996	79.6	80.6	0.017																			



19-KAZ-007

Serial	Assay				MAJOR UNIT						MINOR UNIT			ALTERATION								
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
	F023546	120	121	0.005	51.6	122.5	2	DG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated to locally massive. Nonmagnetic. Patches of mod-abundant bt wisps. 10% qz-cb veining seen in patches (SZ or HZ?). 0.5-3.5% Po localized to these qz-cb veined/HZ areas.	Minor weak meth flt splays sct throughout. Minor lcl discing. Local folding of foliation.											
	F023547	121	122	0.005																		
	F023548	122	122.5	0.005																		
	F023549	122.5	123	0.005																		
	F023551	123	124	0.007																		
	F023552	124	125	0.006																		
125	F023553	125	126	0.005																		
	F023554	126	127	0.008																		
	F023555	127	128	0.006																		
	F023556	128	129	0.009																		
	F023557	129	130	0.005																		
130	F023558	130	131	0.005																		
	F023559	131	132	0.005																		
	F023561	132	133	0.005																		
	F023562	133	134	0.005																		
	F023563	134	135	0.005																		
135	F023564	135	136	0.005																		
	F023565	136	137	0.005																		
	F023566	137	138	0.005																		
	F023567	138	139	0.005																		
	F023568	139	140	0.007																		
140	F023569	140	141	0.005																		
	F023571	141	142	0.007	122.5	167.5	2	LG	DIST	Light green, fg, mafic metavolcanic (2) moderately distorted, non-magnetic. Moderate patchy bt alteration, local chl alteration patches. Moderate HZ's/SZ's cause crack seal qz-cb stringers. Local s-folding and unclassified folding.	Patchy trace to 0.5% dis/blb po mineralization. Moderate shearing causing coarsening of amp crystals adjacent to LC. LC is sharp.											
	F023572	142	143	0.005																		
	F023573	143	144	0.008																		
	F023574	144	145	0.005																		
145	F023575	145	146	0.012																		
	F023576	146	147	0.006																		
	F023577	147	148	0.005																		
	F023578	148	149	0.005																		
	F023579	149	150	0.006																		
150	F023581	150	150.3	0.009																		
	F023582	150.3	150.7	0.039																		
	F023583	150.7	151.4	0.005																		
	F023584	151.4	152	0.009																		
	F023585	152	153	0.006																		
	F023586	153	154	0.01																		
	F023587	154	155	0.245																		
155	F023588	155	156	0.012																		
	F023589	156	157	0.022																		
	F023591	157	158	0.009																		
	F023592	158	159	0.006																		
	F023593	159	160	0.005																		
	F023594	160	161	0.058																		

Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
	F023594	160	161	0.058	122.5	167.5	2	LG	DIST	Light green, fg, mafic metavolcanic (2) moderately distorted, non-magnetic. Moderate patchy bt alteration, local chl alteration patches. Moderate HZ s/SZ's cause crack seal qz-cb stringers. Local s-folding and unclassified folding.	Patchy trace to 0.5% dis/bbl po mineralization. Moderate shearing causing coarsening of amp crystals adjacent to LC. LC is sharp.										
	F023595	161	162	0.005																	
	F023596	162	163	0.005																	
	F023597	163	164	0.005																	
	F023598	164	165	0.011																	
	F023599	165	166	0.025																	
	F023601	166	167	0.007	167.5	168.2	4A	BE	DIST	Beige/light grey, aph, chert-gru BIF (4A) strongly distorted with little to no primary textures preserved. Unit is strongly sheared. No significant veining. 4% blebby po mineralization with minor po breccia from 168.1-LC hosting ~40% massive po	and cgr rounded qz clasts. LC is sharp.	4H									
	F023602	167	167.5	0.021																	
	F023603	167.5	167.9	0.005																	
	F023604	167.9	168.2	0.191																	
	F023605	168.2	168.9	0.009																	
	F023606	168.9	169.5	0.008																	
	F023607	169.5	170	0.006	168.9	171	1	G	MA	Dark green/pink, aph groundmass, grt-amp schist (4E) cgr anhedral porph grts, mod magnetic. Moderate grunerite alt of green amp adjacent to UC. Unit is mod-strongly sheared throughout. Pale grey, fgr ultramafic? (1) massive to weakly magnetic. Mod pervasive tic alteration, easily scratchable, but not as soft as typical UM. Weak pervasive green amp causing greenish hue. No mineralization. EOH.	~4% interstitial and wispy po mineralization increasing towards LC. LC is irregular and sharp.										
	F023608	170	171																		







Depth	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
85	F023701	80	81	0.005	73.3	92.4	2	DG	DIST	Dark green, fgr. mafic metavolcanic (2) mod-str distorted, locally foliated, non-magnetic. Common irregular qz-cb stringers. Extensive HZ from 78.4-88.8m showing mottled chl + bt alt, and multiple fabric flips. Mod SZ from 91.4-91.8m showing str dist	and 9% wispy magnetic po; almost resembles bedding GROUNDMASS NOT MAGNETIC, SAME HARDNESS AS MAFICS. Mod tlc alt bleeding into unit adjacent to lc. Local trace po min. LC is sharp.											
	F023702	81	82	0.005																		
	F023703	82	83	0.005																		
	F023704	83	84	0.005																		
	F023705	84	85	0.069																		
	F023706	85	86	0.009																		
	F023707	86	87	0.005																		
	F023708	87	88	0.005																		
	F023709	88	89	0.005																		
	F023711	89	90	0.007																		
90	F023712	90	91	0.005	92.4	99.1	1	G	MA	Light grey, fgr. ultramafic (1) massive, non-magnetic. Strong pervasive tlc + srp alteration causing soft rock, no veining or mineralization present. LC is diffuse and marked where mod bt alt occurs.												
	F023713	91	91.4	0.006																		
	F023714	91.4	91.8	0.005																		
	F023715	91.8	92.4	0.005																		
	F023716	92.4	93	0.03																		
	F023717	93	94	0.018																		
	F023718	94	95	0.038																		
	F023719	95	96	0.044																		
	F023721	96	97	0.012																		
	F023722	97	98	0.005																		
	F023723	98	98.6	0.005																		
	F023724	98.6	99.1	0.005																		
	F023725	99.1	100	0.005																		
100	F023726	100	101	0.005	99.1	110.2	2	G	MA	Light grey, fgr. mafic metavolcanic? (2) possible UM, massive to weakly foliated, non-magnetic. Weak tlc alt causing rock to scratch, but not as soft as overlying UM. On fresh faces tlc seems to be overprinting mafic groundmass.	Weak pervasive green amp. Local cb veining. No mineralization. LC is diffuse and marked where strong bt + amp alt occurs.											
	F023727	101	102	0.005																		
	F023728	102	103	0.005																		
	F023729	103	104	0.005																		
	F023731	104	105	0.005																		
	F023732	105	106	0.005																		
	F023733	106	107	0.005																		
	F023734	107	108	0.007																		
	F023735	108	109	0.005																		
	F023736	109	109.7	0.006																		
	F023737	109.7	110.2	0.009																		
	F023738	110.2	110.6	0.042																		
	F023739	110.6	111.2	0.005																		
	F023741	111.2	111.9	0.01																		
	F023742	111.9	112.2	0.013																		
	F023743	112.2	113.2	0.008																		
	F023744	113.2	114.2	0.021																		
115	F023745	114.2	115.2	0.033	114.2	115.2	4A	GG	DIST	Dark greenish-grey, aph. chert-gru BIF? (4A) possibly slightly demagnetized 4B (through strain), strongly distorted, mod magnetic. Entire unit is strongly high strained causing mod cb flooding and controlling ~8% po, 1% py. LC is sharp.												
	F023746	115.2	116	0.01	115.2	135	2	GG	FOL	Light greenish-grey, fgr. mafic metavolcanic (2) weak-mod foliated to mod distorted, non-magnetic. Patchy local HZ's causing str dist and strong attenuated bands of bt, increased cb crack seal veining and local staurolite development in mafics.	Local trace to 1% blebby/disseminated po min. S- and z-folding observed. EOH.											
	F023747	116	117	0.024																		
	F023748	117	118	0.018																		
	F023749	118	119	0.016																		
	F023751	119	120	0.005																		
	F023752	120	121	0.006																		



Depth	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
5					0	8.2	CASING															
10	F023769	8.2	9	0.005	8.2	21	2	GG	DIST	Greenish-grey, fg, mafic metavolcanic (2) mod distorted and foliated, non-magnetic. Mod pervasive bt alteration, HZ causes thick irregular bands of bt and an increase in irregular qz-cb veining. Local vein and litho hosted po mineralization. LC is sharp.												
	F023771	9	10	0.007																		
	F023772	10	11	0.005																		
	F023773	11	12	0.005																		
	F023774	12	13	0.005																		
	F023775	13	14	0.005																		
	F023776	14	14.3	0.008																		
	F023777	14.3	15	0.005																		
	F023778	15	16	0.005																		
	F023779	16	17	0.005																		
	F023781	17	18	0.005																		
	F023782	18	19	0.005																		
	F023783	19	20	0.005																		
	F023784	20	21	0.005																		
20	F023785	21	22	0.005	21	24.7	1	G	MA	Light grey, fg, ultramafic (1) massive to locally weakly foliated, non-magnetic. Mod pervasive tic + str alteration causing soft rock and soapy texture. No veining or mineralization. LC is diffuse.												
	F023786	22	23	0.005																		
	F023787	23	24	0.005																		
	F023788	24	24.7	0.005																		
	F023789	24.7	25.3	0.005																		
25	F023791	25.3	26	0.005	24.7	31.3	2	LG	FOL	Light greenish-grey, fg, mafic metavolcanic (2) mod foliated to distorted, non-magnetic. Mod to str pervasive bt + amp alteration, increased where high strain zone occurs, strain zone also increases irregular qz-cb veining.	No visible mineralization. LC is sharp.											
	F023792	26	27	0.005																		
	F023793	27	28	0.012																		
	F023794	28	29	0.005																		
	F023795	29	30	0.007																		
	F023796	30	30.8	0.005																		
	F023797	30.8	31.3	0.005																		
	F023798	31.3	32.1	0.005	31.3	32.1	1	G	MA	Light grey, fg, ultramafic (1) massive, non-magnetic. Mod pervasive tic alteration causing soapy texture and soft rock to scratch. No veining or mineralization. LC is sharp.												
	F023799	32.1	33	0.005																		
	F023801	33	33.9	0.005	32.1	34.9	2	GG	DIST	Light greenish-grey, fg, mafic metavolcanic (2) mod-str distorted, non-magnetic. Weak cb microfractures throughout. SZ develops @ 34.1 m and continues through LC, causing str pervasive bt, silicification, and distortion of groundmass.	No visible mineralization. LC is sharp and irregular.											
	F023802	33.9	34.9	0.008																		
	F023803	34.9	35.3	0.03																		
	F023804	35.3	36	0.005																		
	F023805	36	37	0.033	34.9	43.4	4A	BE	DIST	Beige/blue, aph, chert-gru BIF (4A) strongly distorted alternating bands and laminae, wk-mod magnetic. Str gru alteration of magnetite probably being increased through mod shear zone running through unit.	Common z-folding observed and fabric flips. Local trace blebs of po. LC is gradational.											
	F023806	37	38	0.014																		
	F023807	38	39	0.006																		
	F023808	39	40	0.082																		
	F023809	40	41	0.042																		























	Assay								MAJOR UNIT		MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
34.0																						
34.5																						
35.0																						
35.5																						
36.0																						
36.5																						
37.0																						
37.5																						
38.0																						
38.5																						
39.0																						
39.5																						
40.0																						

34.0  
34.5  
35.0  
35.5  
36.0  
36.5  
37.0  
37.5  
38.0  
38.5  
39.0  
39.5  
40.0

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Elev	Assay				MAJOR UNIT						MINOR UNIT				ALTERATION							
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
1645					1637.7	1643	1	G	FOL	Light grey, fgr, intrusive ultramafic (1) well foliated, mod magnetic. Mod to strong pervasive tic + slip alteration causing soapy texture and soft rock to scratch. No veining or mineralization. LC is sharp.												
1650																						
1655					1643	1665	3F	G	FOL	Light grey, fgr, felsic lapilli tuff (3F) well foliated, non-magnetic. Mod to strong banded sericite alteration. Fgr siliceous lapilli scattered throughout unit. Weak to moderate methane faulting throughout showing weak to strong sericite alteration	halos and locally weak hematite staining.											
1660																						
1665																						
1670																						
	F002301	1670.3	1671	0.068																		
	F002302	1671	1671.7	0.85																		
	F002303	1671.7	1672.3	0.059																		
	F002304	1672.3	1673	0.044																		
	F002305	1673	1673.6	0.041	1665	1692.4	3F	G	FOL	Dark grey felsic tuff w/ sct fgr white lapilli. Well fol. Local weak meth splays w/ green staining/ser altn bleeding into host rock sct throughout. Minor breccias up to 1cm wide w/ qz-felds fragments and abundant meth splays between 1681.5-1682.3m.	Patches of Po and minor Py assoc w/ veining and groundmass. 5-7% qz-cb veining. Patches of mod perv ser altn. Sporadic attenuated fmgf grt scattered. Nonmagnetic. Fgr groundmass.											
	F002306	1673.6	1674.3	0.049																		
	F002307	1674.3	1675	0.037																		
	F002308	1675	1676	0.136																		
	F002309	1676	1677	0.03																		
	F002311	1677	1678	0.04																		
	F002312	1678	1679	0.01																		
	F002313	1679	1679.4	0.01																		
	F002314	1679.4	1680	0.01																		
	F002315	1680	1681	0.016																		
	F002316	1681	1681.5	0.01																		
	F002317	1681.5	1682.3	0.01																		

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Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION												
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments			
				76.7	97.3	2	GG	FOL	Fgr grey-green moderately foliated mafic metavolcanics. Unit is weakly fractured throughout. Intermittent 0.1-10cm qz veining. Non-magnetic. No visible min. Gradational LC.														
F012952	98.3	99.3	0.013	97.3	101.2	7A	GG	FOL	Fgr-mgr dark green-grey well foliated gabbro. Unit contains a zone of moderate-strong distortion/foliation. ~10% 0.5-3cm qz/cb veining. Locally weakly magnetic. Localized 1% wispy/disseminated po min within litho. Gradational LC.														
F012953	99.3	100.3	0.017																				
F012954	100.3	101.2	0.032																				
F012955	101.2	102.2	0.021	101.2	103.2	2	GG	FOL	Fgr grey-green moderately foliated mafic metavolcanics. Unit is weakly distorted. Intermittent 0.1-1cm qz/cb veining. Non-magnetic. No visible min. Gradational LC.														
F012956	102.2	103.2	0.01																				
F012957	103.2	103.6	0.027	103.2	104.6	7A	GG	FOL	Fgr-mgr dark green-grey well foliated gabbro. Unit is moderately distorted/foliated throughout. ~10-15% 0.5-2cm qz/cb veining. Locally weakly magnetic. Localized ~2-3% wispy/disseminated po min within litho. Gradational LC.														
F012958	103.6	104.6	0.018																				
F012959	104.6	104.9	0.064																				
F012961	104.9	105.9	0.015																				
F012962	105.9	106.9	0.01	104.6	145.7	2	GG	FOL	Fgr grey-green moderately foliated mafic metavolcanics. Unit is weakly fractured and contains ~10-15cm intense fault zones. Unit contains an ~5cm minor 48 unit near LC. Intermittent 0.1-10cm qz/cb veining. Non-magnetic.	Localized 1-2% wispy/disseminated po min within veining/litho. Sharp LC.													

QTZ  
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QTZ  
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Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION										
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F013073	400.3	401.3	0.016	378.3	403.5	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic punctuated by quartz-carbonate veins/veinlets. This entity contains textural features that are most indicative of fgr-mgr garnetiferous bands of amphibole/chlorite: many of these bands contain fgr Po.	Some sections within this entity exhibit mgr crystal constituents, however, the predominating grain-size is fine. This rock exhibits a pronounced, albeit weak foliation; localized strain is present.											
F013074	401.3	402.1	0.01																		
F013075	402.1	402.6	0.01																		
F013076	402.6	403.1	0.011																		
F013077	403.1	403.5	0.01																		
				403.5	405				Section missing due to "clappion cut".												
F013078	405	405.9	0.01	405	407.3	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic punctuated by quartz-carbonate veins/veinlets. This entity contains textural features that are most indicative of fgr-mgr garnetiferous bands of amphibole/chlorite: many of these bands contain fgr Po.	Some sections within this entity exhibit mgr crystal constituents, however, the predominating grain-size is fine. This rock exhibits a pronounced, albeit weak foliation; localized strain is present.											
F013079	405.9	406.3	0.01																		
F013081	406.3	407.3	0.046																		
				407.3	408				Core missing due to "wedge cut".												
F013082	408	409	0.02	408	423	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic punctuated by quartz-carbonate veins/veinlets. This entity contains textural features that are most indicative of fgr-mgr garnetiferous bands of amphibole/chlorite: many of these bands contain fgr Po.	Some sections within this entity exhibit mgr crystal constituents, however, the predominating grain-size is fine. This rock exhibits a pronounced, albeit weak foliation; localized strain is present. Lower contact is gradational.											
F013083	409	410	0.01																		
F013084	410	410.4	0.01																		
F013085	410.4	410.7	0.017																		
F013086	410.7	411.3	0.01																		
F013087	411.3	411.6	0.01																		
F013088	411.6	412.6	0.04																		
F013089	412.6	413.6	0.01																		
F013091	413.6	414.6	0.026																		
F013092	414.6	415.6	0.363																		
F013093	415.6	416.6	0.01																		
F013094	416.6	417.6	0.01																		
F013095	417.6	418.6	0.01																		
F013096	418.6	419.5	0.036																		
F013097	419.5	419.8	0.046																		
F013098	419.8	420.8	0.034																		
F013098	420.8	421.4	0.016																		
F013101	421.4	421.7	0.033																		
F013102	421.7	422.4	0.033																		
F013103	422.4	423	0.013																		
F013104	423	423.5	0.016																		
F013105	423.5	424.2	0.021																		
F013106	424.2	424.7	0.021																		
F013107	424.7	425.7	0.063																		
F013108	425.7	426.3	0.036																		
F013109	426.3	426.8	0.023																		
F013111	426.8	427.2	0.033																		
F013112	427.2	428.2	0.029																		
F013113	428.2	429.2	0.028																		
F013114	429.2	430.2	0.03																		
F013115	430.2	431.2	0.023																		
F013116	431.2	432	0.049																		
F013117	432	432.6	0.015																		
F013118	432.6	433.6	0.018																		
F013119	433.6	434.6	0.032																		
F013121	434.6	435.6	0.023																		
F013122	435.6	436.6	0.013																		
F013123	436.6	437.6	0.086																		
F013124	437.6	438.6	0.019																		
F013125	438.6	439.6	0.012																		
F013126	439.6	440.6	0.012																		















Assay				MAJOR UNIT						MINOR UNIT				ALTERATION							
Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
				679.2	687.3		G	MA	Grey-brown fgr massive metasediment evidencing textural features that are most indicative of laminae. Lower contact is irregular.												
F013414	685.3	686.3	0.01																		
F013415	686.3	687.3	0.017																		
F013416	687.3	687.8	0.018																		
F013417	687.8	688.8	0.018	687.3	689.3	2	GG	POR BL	Grey-green-brown fgr metasediment exhibiting intense deformation. This entity contains a significant quantity of mgr garnet crystals. An appreciable quantity of carbonate alteration is present within this section.	Some localities appear to have been variably altered/metamorphosed to amphibole. Lower contact is gradational.											
F013418	688.8	689.3	0.011																		
F013419	689.3	690.3	0.013																		
F013421	690.3	691.3	0.011	689.3	692.9		G	DIST	Grey-brown fgr massive metasediment exhibiting pronounced strain and brecciation. This entity houses an appreciable quantity of fgr Po mineralization. This rock contains a significant quantity of quartz-carbonate veining. Lower contact is gradational.												
F013422	691.3	692	0.013																		
F013423	692	692.9	0.029																		
F013424	692.9	693.9	0.027																		
F013425	693.9	694.9	0.017																		
F013426	694.9	695.9	0.011																		
F013427	695.9	696.6	0.019																		
F013428	696.6	697.6	0.024																		
F013429	697.6	698.6	0.024																		
F013431	698.6	699.6	0.025																		
F013432	699.6	700.3	0.018																		
F013433	700.3	701	0.01																		
F013434	701	702	0.01	692.9	711.4	2	GG	DIST	Grey-green fgr massive rock that exhibiting pronounced strain and brecciation. This entity contains an appreciable quantity of fgr Po mineralization. This rock is ressemblant of "2" material.	Perhaps this section is comprised of "2" material that has been variably altered and metamorphosed. A significant quantity of quartz-carbonate veining is present within this section.											
F013435	702	703	0.01																		
F013436	703	703.6	0.025																		
F013437	703.6	704.6	0.01																		
F013438	704.6	705.3	0.014																		
F013439	705.3	705.9	0.01																		
F013441	705.9	706.2	0.01																		
F013442	706.2	707.2	0.01																		
F013443	707.2	708	0.014																		
F013444	708	708.7	0.021																		
F013445	708.7	709.7	0.01																		
F013446	709.7	710.7	0.166																		
F013447	710.7	711.4	0.01																		
				711.4	713.7				Core is assumed to have been ground by drill.												
F013448	713.7	714.2	0.012																		
F013449	714.2	714.8	0.011																		
F013451	714.8	715.8	0.023																		
F013452	715.8	716.8	0.021																		
F013453	716.8	717.8	0.012	713.7	744.4		G	MA	Grey fgr massive metasediment punctuated by quartz-carbonate and quartz veins/veinlets. This entity contains a sparse quantity of fgr Po mineralization. This rock houses localized semi-pervasive patches of weak-moderate carbonate alteration.	Patches of weak sericite alteration are present within this unit. Perhaps this section is comprised of some sort of "2" material. Lower contact is gradational.											
F013454	717.8	718.8	0.027																		
F013455	718.8	719.8	0.026																		
F013456	719.8	720.8	0.014																		

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Elev	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
885					876	881.9	2	GG	FOI	Fg grey-green well foliated mafic metavolcanics. Mod pervasive cb-ser alteration and weak silification. Unit is moderately attenuated and sheared. Intermittent 0.5-1cm distorted/folded qz/cb veining. Non-magnetic. No visible min. Gradational LC.												
					881.9	886.3	3F	G	POR	Fg grey porphyritic felsic lapilli tuff with strong foliation. Localized strong pervasive cb-ser-amp all and mod silification. Intermittent 0.5-3cm distorted qz/cb veining. Unit contains a zone of strong-intense shearing/attenuation and distortion.	Non-magnetic. Trace disseminated po min.				WK						WK	
					886.3	888				-1.7m missing due to wedging.												
890																						
895															MO D						ST R	
900																						
905					888	921	3F	G	POR	Fg grey porphyritic felsic lapilli tuff with strong foliation. Localized strong pervasive cb-ser-amp all and mod silification. Intermittent 0.5-20cm distorted/folded qz/cb veining/flooding.	Unit contains multiple zones of strong-intense shearing/attenuation and distortion with intermittent qz/cb flooding. Non-magnetic. Trace disseminated po min.											
910																						
915																						
920																						
					921	922.8	MIS SIN G				-1.8m missing due to wedging.											

QTZ  
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Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION									
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F020107	79.6	80.6	0.033																	
F020108	80.6	81.2	0.007																	
F020109	81.2	81.8	0.008																	
F020111	81.8	82.4	0.005																	
F020112	82.4	83	0.006																	
F020113	83	83.5	0.006																	
F020114	83.5	84.3	0.013																	
F020115	84.3	84.7	0.006																	
F020116	84.7	85	0.005																	
F020117	85	86	0.01																	
F020118	86	87	0.008																	
F020119	87	87.6	0.008																	
F020121	87.6	88.2	0.008																	
F020122	88.2	88.9	0.013																	
F020123	88.9	89.9	0.013																	
F020124	89.9	90.9	0.006																	
F020124	89.9	90.9	0.007																	
F020125	90.9	91.9	0.012																	
F020126	91.9	92.9	0.012																	
F020127	92.9	93.3	0.012																	
F020128	93.3	93.5	0.017																	
F020129	93.6	94.2	0.015																	
F020131	94.2	95.2	0.015																	
F020132	95.2	96.2	0.011																	
F020133	96.2	97.2	0.014																	
F020134	97.2	98.2	0.012																	
F020135	98.2	99.2	0.014																	
F020136	99.2	99.7	0.008																	
F020137	99.7	100	0.007																	
F020138	100	100.8	0.008																	
F020139	100.8	101.4	0.009																	
F020141	101.4	101.9	0.009																	
F020142	101.9	102.9	0.011																	
F020143	102.9	103.9	0.011																	
F020144	103.9	104.5	0.012																	
F020145	104.5	105.2	0.034																	
F020146	105.2	106.2	0.015																	
F020147	106.2	107.2	0.343																	
F020148	107.2	107.7	4.03	107.2	107.7	W	MA	White cgr massive quartz vein exhibiting an irregular lower contact.												
F020149	107.7	108.7	0.063																	
F020151	108.7	109.7	0.014																	
F020152	109.7	110.7	0.014																	
F020153	110.7	111.7	0.014																	
F020154	111.7	112.7	0.01																	
F020155	112.7	113.7	0.011	107.7	119.1	2	DG	MA	Dark green fgr massive mafic metavolcanic that is punctuated by numerous quartz-carbonate and carbonate veins/veinlets. This entity exhibits pronounced strain and contains localized fgr Po mineralization. Lower contact is gradational.											
F020156	113.7	114.7	0.009																	
F020157	114.7	115.7	0.009																	
F020158	115.7	116.3	0.015																	
F020159	116.3	116.8	0.008																	
F020161	116.8	117.4	0.01																	
F020162	117.4	118	0.011																	
F020163	118	118.3	0.024																	
F020164	118.3	119.1	0.009																	
F020165	119.1	119.7	0.008	119.1	119.7	G	MA	Dark green fgr massive mafic metavolcanic punctuated by numerous quartz-carbonate veins/veins. This entity exhibits pronounced localized strain and contains fgr Po mineralization; noteworthy spans 126.8-127.2m approximately.												Perhaps this section is actually a large alteration patch. Lower contact is sharp.
F020166	119.7	120.7	0.009	119.7	139.4	2	DG	MA												Lower contact is irregular.









Sample	Assay			MAJOR UNIT							MINOR UNIT				ALTERATION						
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
				211.2	246.2	2	GG	MA	Grey-dark green fgr massive mafic metavolcanic unit that exhibits pronounced strain/brecciation. This rock houses an appreciable quantity of localized fgr Po mineralization and is punctuated by distorted quartz-carbonate veins/veinlets.	Lower contact is gradational.											
				246.2	252.9	3	G	FOL	Grey fgr felsic rock exhibits a distinct foliation and patches/bands of weak sericite alteration. This entity contains sparse mgr garnet porphyroblasts. No discernable "apill" were observed within this entity.	The section spanning 251.0-252.9m is somewhat resemblant of "6W" material, however, compositionally and texturally it appears to be most resemblant of garnetiferous "3" material. Lower contact is irregular.											
F020306	257.1	258.1	0.005																		
F020307	258.1	259.1	0.04																		
F020308	259.1	260.1	0.005																		
F020309	260.1	260.9	0.007																		
F020311	260.9	261.9	0.005																		
F020312	261.9	262.9	0.007																		
F020313	262.9	263.8	0.006																		
F020314	263.8	264.2	0.005																		
F020315	264.2	265.2	0.015																		
F020316	265.2	266.2	0.005																		
F020317	266.2	267.2	0.005																		
F020318	267.2	267.8	0.005																		
F020319	267.8	268.4	0.009																		
F020321	268.4	269.4	0.005																		
F020322	269.4	270.2	0.006																		
F020323	270.2	271.0	0.005																		
F020324	271.0	271.3	0.005																		
F020325	271.3	271.9	0.005																		
F020326	271.9	272.9	0.005																		
F020327	272.9	273.9	0.005																		
F020328	273.9	274.9	0.005																		
F020329	274.9	275.8	0.005																		
F020331	275.8	276.2	0.005																		
F020332	276.2	276.9	0.005																		
F020333	276.9	277.4	0.005																		
F020334	277.4	278.4	0.005																		
F020335	278.4	279.2	0.005																		
F020336	279.2	280.2	0.005																		
F020337	280.2	281.2	0.005																		

6W Euhedral mgr garnet crystals.

13  
19  
19

















Elev	Assay				MAJOR UNIT						MINOR UNIT		ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
54	F020516	562	563	0.005	528.4	565.2	3F	G	POR	Grey fgr felsic lapilli tuff exhibiting pronounced strain and brecciation. This lithology contains carbonate material as distorted veinlets, nodules, and patches. Weak sericite alteration is present in some localities.	Sparse fgr Py mineralization is present in some localities. Minor lamprophyre dykes are present within this unit. Lower contact is irregular.											
	F020517	563	564	0.005																		
	F020518	564	564.4	0.005																		
	F020519	564.4	565.2	0.005																		
	F020521	565.2	565.9	0.005																		
	F020522	565.9	566.9	0.005																		
	F020523	566.9	567.5	0.005																		
	F020524	567.5	567.9	0.005																		
	F020525	567.9	568.9	0.005																		
	F020526	568.9	569.9	0.005																		
545					565.9	584.5	3F	G	POR	Grey fgr massive felsic lapilli tuff exhibiting pronounced strain and brecciation. This lithology contains carbonate material as distorted veinlets and patches.												
550																						
555					584.5	586.4				Core is assumed to have been ground by drill due to wedging process.												
	F020527	588.1	589.1	0.005	586.4	607.3	3F	G	POR	Grey fgr porphyritic felsic lapilli tuff that is characterized by brecciation and quartz-carbonate/carbonate veining. This entity contains an extremely sparse quantity of fgr Py mineralization. Lower contact is faulted.												
	F020528	589.1	590.1	0.005																		
	F020529	590.1	590.4	0.009																		
	F020531	590.4	590.7	0.005																		
	F020532	590.7	591.7	0.005																		
	F020533	591.7	592.7	0.005																		
595																						
600																						

QTZ  
VN

QTZ  
VN









Sample	Assay			MAJOR UNIT					MINOR UNIT				ALTERATION								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
				758.1	761.2	3	G	FOL	Fg light grey-brown well foliated felsic tuff with intercalated 25% -1-2cm metased bands. Mod-strong bt-cb alteration and moderate silicification. Unit is intensely attenuated. Non-magnetic. Trace po min within litho. Gradational LC.												
				761.2	771.8		G	FOL	Fg brown-grey well foliated metasediments. Mod-strong bt alteration and weak-moderate silicification. Unit is weakly fractured throughout. Non-magnetic. Trace po min within litho. Gradational LC.												
				771.8	775.2	3	G	POR BL	Fg-mg brown-grey-pink well foliated garnet-bearing metasediments. Mod-strong bt alteration. Porphyroblastic -1-8mm an-subhedral grt. Intermittent 0.5-1cm qz/cb veining. Non-magnetic. No visible min. Sharp LC.												
				775.2	777.7	3	G	FOL	Fg grey well foliated felsic tuff. Mod-strong bt-cb alteration and moderate silicification. Unit is strongly attenuated. Intermittent 0.5-1cm qz/cb veining. Non-magnetic. No visible min. Gradational LC.												
F020553	777.1	777.7	0.005																		
F020554	777.7	778.1	0.005																		
F020555	778.1	779.1	0.005	777.7	779.1	4E	G	POR BL	Fg-cg brown-grey-pink well foliated garnet-bearing metasediments. Mod-strong bt. mod amp alteration. Porphyroblastic -1-10mm an-subhedral grt. Unit contains intercalated 1-2cm 4E bands and a -20cm minor 4E unit.	Non-magnetic. Trace po min within litho. Gradational LC.	4E										
F020556	779.1	779.8	0.005	779.1	780.5	4E	DG	POR BL	Fg-cg dark green-pink grt-amp IF with mod foliation. Strong amp. weak bt alteration. Porphyroblastic -1-10mm an-subhedral grt. Unit contains intercalated 1-3cm 6W bands at UC. Intermittent 0.5-1cm qz/cb veining.	Non-magnetic. Trace po min within litho. Sharp LC.											
F020557	779.8	780.5	0.006																		
F020558	780.5	781.5	0.005																		
F020559	781.5	782.5	0.008																		
				780.5	796.8		G	FOL	Fg brown-grey well foliated metasediments. Mod cb-bt-ser alteration localized to bands along with localized phengite alteration. Intermittent 1-3 cm qz veining. Non-magnetic. Localized 0.5% disseminated/wispy po min at LC. Gradational LC.												
F020561	794	795	0.005																		
F020562	795	796	0.009																		
F020563	796	796.8	0.011																		
F020564	796.8	797.3	0.01																		
F020565	797.3	797.9	0.02	796.8	797.9	4E	B	POR BL	Fg-cg brown-pink well foliated grt-bl schist. Strong bt-st alteration. Porphyroblastic 1-15mm subhedral grt. Intermittent 1-2cm qz veining. Unit is moderately distorted and folded.	Non-magnetic. Localized 0.5% disseminated/wispy po min within litho. Gradational LC.											
F020566	797.9	798.6	0.006																		
F020567	798.6	799.5	0.006	797.9	819.6		B	FOL	Fg grey-brown-beige well foliated metasediments. Strong-intense ser-ph. mod bt-cb alteration. Unit is intensely distorted/attenuated and tightly folded. Unit contains a zone of qz/cb flooding with ~45% qz/cb and increased distorted.	-0.9cm intense fault near UC. Non-magnetic. Trace po min within litho. Sharp LC.											
F020568	799.5	799.9	0.005																		

GRA is a placeholder for possible phengite alteration.





Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION									
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F020572	840.2	841.1	0.005	830.1	850.4	3F	G	FOL	Fig grey well foliated felsic lapilli tuff. Weak-mod bt alteration. Intermittent 1-3cm distorted qz veining. Non-magnetic. Localized 0.5% wispy/disseminated po min within litho. Sharp LC.											
F020573	841.1	841.9	0.005																	
F020574	841.9	842.4	0.005																	
F020575	842.4	843.3	0.02																	
F020576	843.3	844.3	0.018																	
F020577	844.3	845.3	0.013																	
F020578	845.3	846	0.01																	
F020579	846	847	0.006																	
F020581	847	848	0.006																	
F020582	848	849	0.113																	
F020583	849	850	0.005																	
F020584	850	850.4	0.032																	
F020585	850.4	851	0.051							850.4	884.4	2	GG	FOL	Fig grey-green well foliated mafic metavolcanics. Mod-strong bt alteration. Intermittent 0.5-5cm distorted/folded qz/cb veining. Unit is locally moderately distorted. Non-magnetic. Localized 0.5% disseminated/wispy po min within litho. Sharp LC.					
F020586	851	851.5	0.01																	
F020587	851.5	852.5	0.01																	
F020588	852.5	853.5	0.018																	
F020589	853.5	854.5	0.015																	
F020591	854.5	855.5	0.016																	
F020592	855.5	856.1	0.011																	
F020593	856.1	857.1	0.01																	
F020594	857.1	858.1	0.04																	
F020595	873.6	874.6	0.011																	
F020596	874.6	875.6	0.011																	
F020597	875.6	876.4	0.009																	
F020598	876.4	877	0.01																	
F020599	877	878	0.014																	
F020601	878	879	0.013																	







Sample	Assay			MAJOR UNIT					MINOR UNIT				ALTERATION																								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments																	
F020622	1010.8	1011.8	0.011	986.1	1029.3	3F	G	FOL	Fg light grey-white well foliated felsic lapilli tuff. Strong cb. weak-mod bt-ms alteration. Entire unit is within a moderate-strong shear zone indicated by strong attenuation/distortion and intermittent moderate folding.	~0.1-10cm distorted/attenuated and intermittent folded qz/cb flooding. Non-magnetic. Localized 0.5-2% disseminated/wispy po and ~0.5-1.5% blebby/disseminated py min within litho/veining. Sharp LC.																											
F020623	1011.8	1012.8	0.005																																		
F020624	1012.8	1013.6	0.053																																		
F020625	1013.6	1014.2	0.008																																		
F020626	1014.2	1014.8	0.005																																		
F020627	1014.9	1015.3	0.015																																		
F020628	1015.3	1016.3	0.009																																		
F020629	1016.3	1017.3	0.005																																		
F020631	1017.3	1018.3	0.016																																		
F020632	1018.3	1019.3	0.005																																		
F020633	1019.3	1020.1	0.027																																		
F020634	1020.1	1021.1	0.005																																		
F020635	1021.1	1022.1	0.006																																		
F020636	1022.1	1022.4	0.005																																		
F020637	1022.4	1023.4	0.005																																		
F020638	1023.4	1024.2	0.022																																		
F020639	1024.2	1025.1	0.007																																		
F020641	1025.1	1026.1	0.006																																		
F020642	1026.1	1026.9	0.005																																		
F020643	1026.9	1027.7	0.018																																		
F020644	1027.7	1027.8	0.009																																		
F020646	1027.8	1028.5	0.005																																		
F020647	1028.5	1028.5	0.005																																		
F020648	1028.5	1029.3	0.005																																		
F020649	1029.3	1029.3	0.022																																		
F020651	1029.3	1029.3	0.005																																		
F020652	1029.6	1030.1	0.009																		1029.3	1029.6	2	GG	FOL	Fg grey-green moderately foliated mafic metavolcanics. Weak-mod bt alteration. Intermittent 0.1-0.5cm qz/cb veining. Moderately magnetic. ~0.5% disseminated po min within litho/veining. Sharp LC.											
F020653	1030.1	1030.8	0.009																		1029.6	1035.3	3F	G	FOL	Fg light grey-white well foliated felsic lapilli tuff. Strong cb alteration. ~0.5-4cm distorted/attenuated qz/cb flooding. Non-magnetic. ~1% disseminated/wispy po and ~3-4% blebby/disseminated py min within litho/veining. Gradational LC.											
F020654	1030.8	1031.5	0.005																																		
F020655	1031.5	1032.3	0.009																																		
F020656	1032.3	1033.1	0.01																																		
F020657	1033.1	1034.1	0.023																																		
F020658	1034.1	1034.7	0.01																																		
F020659	1034.7	1035.3	0.018																																		
F020661	1035.3	1035.8	0.01	1035.3	1041.2	2	GG	FOL	Fg grey-green well foliated mafic metavolcanics. Moderate-strong pervasive cb-ser alteration and mod silicification. Unit is strongly-intensely sheared at UC and LC. Intermittent 1-20cm distorted qz/cb veining.	Non-magnetic. Localized 0.5-4% disseminated/wispy po and 1% blebby/disseminated py min within litho. Gradational LC.																											
F020662	1035.8	1036.6	0.032																																		
F020663	1036.6	1037.2	0.019																																		
F020664	1037.2	1038.2	0.032																																		
F020665	1038.2	1039.2	0.033																																		
F020666	1039.2	1040.2	0.009																																		
F020667	1040.2	1040.5	0.044																																		
F020668	1040.5	1041.2	0.012																																		









Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION										
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F020757	1161.2	1162.2	0.012	1150.1	1162.9	2	LG	FOL	Light green, well foliated, high strained, bt-altered, cb-silicate altered, fg mafic unit (2) with abundant qz-cb veining. Most of the unit is high strained marked by closely spaced, mm-scale qz-cb veins (locally up to 30%) and cb-silicate alteration.	Bt-alteration is weak. Lower 30cm of the unit has folded qz-cb veins. Po (up to 1%) occurs in disseminated zones following foliation closer to the LC of the unit.											
F020758	1162.2	1162.9	0.006																		
F020759	1162.9	1163.3	0.01	1162.9	1163.3	3F	G	FOL	Greyish-white, cb-silicate and ser altered, fg felsic lapilli tuff unit (3F). Both alterations are moderated throughout unit. Po (2%) occurs as wisps and treads within the cb-altered zones. Gradational LC.	Ser-alteration is pervasive, and Bt-alteration is moderate. Bt-alteration is weak and occurs near the LC. Trace po (0.1%). Gradational LC.											
F020761	1163.3	1164	0.016																		
F020762	1164	1165	0.038	1163.3	1166	2	LG	FOL	Light green to brownish-green, well foliated, bt-altered, fg mafic unit (2). Mm- to cm-scale, distorted qz stringer occur throughout the unit (5%). The top 70cm of the unit is highly folded and may contain section of 3F.	Bt alteration is moderated throughout unit. Po occurs in the high strained zone as wisps in strain shadows of folds (up to 1%) and as disseminated (spec) within the unit (0.1%). Sharp LC.											
F020763	1165	1166	0.012																		
F020764	1166	1167	0.007	1166	1175.2	3F	G	FOL	Greyish-white, cb-silicate and ser-altered, fg felsic lapilli tuff (3F). Mm-scale, very weak methane faults crosscut foliation and occur throughout the unit.	Ser-alteration is pervasive, and Bt-alteration is moderate. Bt-alteration is weak and occurs near the LC. Trace po (0.1%). Gradational LC.											
F020765	1167	1168	0.008																		
F020766	1168	1169	0.005																		
F020767	1169	1170	0.005																		
F020768	1170	1171	0.005																		
F020769	1171	1172	0.006																		
F020771	1172	1173	0.027																		
F020772	1173	1174	0.008	1175.2	1180.1	B	FOL	Brown to brownish-green, well foliated, cb-silicate altered, fg bt schist (6). A small 20cm, high strained mafic unit (2) occurs within the middle of the unit.	After the minor mafic unit, the bt-schist is intensely cb-silicate altered. Minor Po (up to 1%) occurs near zone with high qz-cb stringers. Gradational LC.	Light green, bt altered, fg mafic unit (2) with abundant mm-scale qz-cb veining.											
F020773	1174	1174.8	0.005																		
F020774	1174.8	1175.2	0.005																		
F020775	1175.2	1176	0.005																		
F020776	1176	1176.3	0.008																		
F020777	1176.3	1177	0.005																		
F020778	1177	1177.6	0.014																		
F020779	1177.6	1178.6	0.006	1180.1	1184.6	6W	B	Brown, porphyroblastic, well foliated, fg grt-bt schist (6W). Porphyroblastic grt (15%) are fg to mg (up to 0.5cm). Gradational LC.													
F020781	1178.6	1179.6	0.005																		
F020782	1179.6	1180.1	0.005																		
F020783	1180.1	1181.1	0.006																		
F020784	1181.1	1182.1	0.008																		
F020785	1182.1	1183.1	0.007																		
F020786	1183.1	1184.1	0.007																		
F020787	1184.1	1184.6	0.005																		
F020788	1184.6	1185.6	0.005	1184.6	1216.7	3F	G	White-grey to brown-white, well-foliated, cb-silicate altered, ser altered, fine-grained felsic lapilli tuff (3F). CB-silicate alteration is pervasive throughout unit, often associated with trace po mineralization (less than 0.1%).	Lapilli are medium-grained and occur throughout interval. Garnet porphyroblasts rare but are present, medium grained and up to 10%. Brittle faults occur at 1210.9m and 1213.5m. Po (0.5%) occurs in muscovite altered qz stringers. Gradational LC.												
F020789	1185.6	1186.6	0.007																		
F020791	1186.6	1187.6	0.005																		
F020792	1187.6	1188.6	0.005																		
F020793	1188.6	1189.6	0.007																		
F020794	1189.6	1190.6	0.007																		
F020795	1190.6	1191.6	0.008																		
F020796	1191.6	1192.6	0.012																		
F020797	1192.6	1193.6	0.009																		
F020798	1193.6	1194.6	0.007																		
F020799	1194.6	1195.6	0.006																		
F020801	1195.6	1196.6	0.005																		
F020802	1196.6	1197.6	0.005																		
F020803	1197.6	1198.6	0.005																		
F020804	1198.6	1199.6	0.005																		
F020805	1199.6	1200.6	0.006																		
F020806	1200.6	1201.6	0.007																		







Elev	Assay				MAJOR UNIT					MINOR UNIT		ALTERATION												
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments			
1325	F020912	1320.5	1321.5	0.005																				
1330					1319.5	1332.9	3F	G	FOL	Grey fg foliated felsic rock that is most indicative of lapilli tuff. This entity contains a sparse quantity of fg Po mineralization. Weak sericite alteration is present as bands/patches. Sparse mg anhedral garnet crystals are present.	Lower contact is sharp.													
1335					1332.9	1336	1	G	MA	Massive grey fg ultramafic intrusive exhibiting a wide range of high magnetic susceptibility values (-1.0-75). This entire entity is fairly resistant to being scratched by a scribe. Weak-moderate magnetism is exhibited in many localities. Dark green fg mafic rock that is resembtant of metavolcanic material; perhaps this is a serpentinized locality of the host ultramafic. This entity is punctuated by and bordered with quartz-carbonate veins/veinlets. Lower contact is gradational.	Lower contact is irregular/sheared by drill.													
1340					1336	1336.3	2	DG	FOL															
1345					1336.3	1348	1	G	MA	Massive grey fg ultramafic intrusive exhibiting a wide range of high magnetic susceptibility values (-1.0-75). This entire entity is fairly resistant to being scratched by a scribe. Weak-moderate magnetism is exhibited in many localities.	Lower contact is gradational.													
	F020913	1346	1347	0.006																				
	F020914	1347	1348	0.005																				
	F020915	1348	1348.3	0.005																				
	F020916	1348.3	1348.6	0.011																				
	F020917	1348.6	1349	0.007																				
	F020918	1349	1349.5	0.006																				
	F020919	1349.5	1350.5	0.005																				
	F020921	1350.5	1351.5	0.005	1348	1354.5	2	DG	MA	Dark green fg-mg mafic rock exhibiting pronounced localized strain; however, the vast majority of this entity does not exhibit a discernible foliation. This rock exhibits relatively high magnetic susceptibility values from 1348-1348.8m.	After 1348.8m the mag-sus values drop considerably. Perhaps the mg crystals may be attributed to dynamic recrystallization. Perhaps this entity is a diabase. Lower contact is sharp.													
	F020922	1351.5	1352.5	0.005																				
	F020923	1352.5	1353.5	0.036																				
	F020924	1353.5	1354.5	0.068																				
	F020925	1354.5	1355	0.051																				
	F020926	1355	1355.7	0.005																				
	F020927	1355.7	1356.7	0.005																				
	F020928	1356.7	1357.7	0.005																				
	F020929	1357.7	1358.7	0.005	1354.5	1388.1	3F	G	POR	Grey fg foliated felsic lapilli tuff exhibiting weak patches of sericite alteration. This entity contains an appreciable quantity of fg Po and Py mineralization.	Significant arsenopyrite mineralization is present within the section spanning 1374.1-1374.7m approximately. Lower contact is sharp.													
	F020931	1358.7	1359.7	0.005																				
	F020932	1359.7	1360.7	0.005																				
	F020933	1360.7	1361.7	0.005																				

Exhibits high mag-sus values: does not scratch. Clear contacts - most indicative of an intrusive entity.

























































































































Assay	MAJOR UNIT									MINOR UNIT				ALTERATION																			
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments												
F018463	1781.2	1762.2	0.011	1718.4	1763.2	3F	LG	FOL	Light-med grey felsic lapilli tuff (3F). Fg w abundant and weakly/locally altered white lapilli. Well fol. Locally weakly magnetic. Mod sporadic thin mesh flt splays w green staining bleeding into host rock. Minor fracturing following fabric.	5-7% qz-cb veining w lcl ser halos. Tr-3% Po and Py in both veining and groundmass.																							
F018464	1762.2	1763.2	0.005																														
F018465	1763.2	1764	0.096																														
F018466	1764	1765	0.271	1763.2	1767.7	4F	BK	POR BL	Black grt-bt schist (4F). Fg w abundant mg and local cg an-subhedral grt. Well foliated to locally weakly compositionally banded. Weakly magnetic. 5% white-grey qz-cb veining. 10cm of grt-amp banding at UC. Sharp LC. Tr Po in both litho and veining.																								
F018467	1765	1766	2.9																														
F018468	1766	1766.7	6.04																														
F018469	1766.7	1767.1	7.65																														
F018471	1767.1	1767.7	0.233																														
F018472	1767.7	1768.7	0.014																														
F018473	1768.7	1769.7	0.05	1767.7	1770.3	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. Very weakly magnetic. Mod bt wisps w patches of increased bt content. 2-3% qz-cb veining (white-grey). Lcl brittle fracturing towards LC from 1770-1770.3m w fractures following fabric.	No visible min. Sharp LC																							
F018474	1769.7	1770.3	0.025																														
F018475	1770.3	1771	0.011	1770.3	1771	4E	B	POR BL	Abundant st grains disseminated throughout. <1% qz-cb stringers at UC and LC. Tr Po in stringers at LC. Well foliated. Very weakly magnetic. Sharp LC.																								
F018476	1771	1772	0.01																														
F018477	1772	1773	0.006																														
F018478	1773	1774	0.012																														
F018479	1774	1775	0.008																														
F018481	1775	1776	0.006																														
F018482	1776	1777	0.009																														
F018483	1777	1778	0.045																														
F018484	1778	1779	0.011																														
F018485	1779	1779.8	0.012																														
F018486	1779.8	1779.8	4.55	1779	1779.8	4E	B	POR BL	Brown grt-bt schist (4E). Fine grained w scattered very cg anhedral and weakly distorted/wispy grt. Abundant disseminated st grains throughout. Strongly foliated due to SZ (1778.2-1779.8m). No visible min or significant veining. Weakly magnetic.	Minor unit of 4E from 1779.7-1779.8m w ~7% qz-cb stringers and up to 6% Po in both veining and groundmass. Sharp LC.	4E	Minor 4E. Weakly banded to weakly distorted. Very weakly magnetic. Up to 6% Po and qz-cb stringers. Part of a wk-mod SZ.																					
F018487	1779.8	1780.4	0.025																														
F018488	1780.4	1781	0.015	1779.8	1782	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. Locally very weakly magnetic. 1-2% qz-cb veining. Very tr Po wisps following fabric at 1780.8m (not sig). Mod bt wisps. Sharp LC.																								
F018489	1781	1782	0.045																														
F018491	1782	1782.8	4.91	1782	1783	4E	GG	BA	Dark grey-green grt-amp BIF (4E) w sporadic grt-bt bands. Well banded w local wavy bands. Minor grt-gru banding. Minor discing present at 1782.3m. Rubby core at 1788.7-1788.8m. Weakly magnetic. Patchy Po min up to 3% in both veining and groundmass.	2-3% qz-cb veining. Fine grained. Sharp LC.																							
F018492	1782.8	1783	0.209																														
F018493	1783	1784	0.005	1783	1789.8	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. A lot of drill bit markings on core makes it difficult to see core. Locally weakly magnetic. Local fracturing both shallow and steep. TCA (steeper fractures follow fabric). Dark grey-green grt-amp BIF (4E). Fine grained. Magnetic. Banded to well fol. Sporadic grt-bt bands at UC. 3-4% qz-cb veining/cb wisps. Up to 2% Po in both veining & groundmass. Grt range from fg to cg & anhedral. Core is greasy & hard to see towards LC.	Minor 6N w up to 10% magnetic stringer Po. Mod-strong brittle faulting & discing from 1786.8-1789m w lcl fault gouge @ end of interval. Poss SZ from 1789.2-1790m w thick qz-cb veins/infill. Sharp LC.	6N	Black 6N. Well foliated to wispy texture. Up to 10% dis-str magnetic Po. Sharp contacts. Minor cb wisps present.																					
F018494	1784	1785	0.005																														
F018495	1785	1786	0.006																														
F018496	1786	1786.7	0.01																														
F018497	1786.7	1787	4.02																														
F018498	1787	1788	0.014																														
F018499	1788	1789	0.014																														
F018501	1789	1789.8	0.036																1789.8	1790.4	4E	GG	FOL	Dark grey-green grt-amp BIF (4E). Fine grained w abundant mg to very cg sub-subhedral grt. Weakly magnetic. Sporadic grt-bt bands. Blocky core due to abundant discing. Core is greasy. Up to 3% Po in veining & interstitial to grt. 2-3% white qz-cb veining.	Gradational LC.								
F018502	1789.8	1790.4	1.67																														
F018503	1790.4	1791	0.05																1791	1791.4	4E	GG	POR	Black grt-bt schist (4F). Fine grained w abundant fg-mg subhedral grt. Weakly magnetic. Well foliated, locally wavy. 1% qz-cb stringers at UC and LC. Tr Po in groundmass assoc w grt. Gradational LC. Mod fracturing parallel to foliation.	Sharp LC.								
F018504	1791	1791.4	3.52																														
F018505	1791.4	1791.7	1.17	1791.7	1792	4E	BK	BL	Dark brown grt-bearing melased (6W). Fine grained. Weakly laminated to foliated. Very weakly magnetic. Gradational LC. 1% white-grey qz-cb veining. Tr Po in groundmass around veining.																								
F018506	1791.7	1792	0.055																														
F018507	1792	1793	1.47	1792	1796	4F	BK	POR BL	Black grt-bt schist (4F). Fine grained w abundant f-mg and local bands of cg sub-subhedral grt. Well foliated to compositionally banded. Weakly magnetic. Minor sporadic grt-gru bands. Sporadic grt-amp bands. Local weak folded grt-amp bands.	Tr patchy Po in grt-bt bands and grt-amp bands. Sharp LC.																							
F018508	1793	1794	0.051																														
F018509	1794	1795	0.071	1795	1796	4E	GG	BA	Dark grey-green grt-amp-gru BIF (4E). Fine grained w abundant cg-very cg subhedral grt. Mod magnetic. Well banded. Mod folded. Mod grt-gru banding. 10-15% qz-cb veining/flooding. 2-6% Po in both veining & groundmass. Wk-mod grt-bt bands. Gradational LC.																								
F018511	1795	1796	0.161																														
F018512	1796	1796.7	5.62	1796	1798.1	4EA	GG	BA	Dark grey-green chert-mag BIF w abundant grt-bt bands (4BF). Sct grt-gru bands and marginal gru. Fine grained to aphanitic. Magnetic. Well banded with local waves. 1% qz-cb veining. Tr Po predominantly in groundmass. Grt grains are m-cg and subhedral.	Wk-mod grt-amp presents. Minor chl wisps. Gradational LC.																							
F018513	1796.7	1797.5	3.5																														
F018514	1797.5	1799.1	21.2	1798.1	1799.8	4BF	GG	BA	Dark grey-green grt-amp-gru BIF (4EA) w patches of more chert-mag bands & less grt-gru. Magnetic. Fg to aph w mg to very cg subhedral grt. 3-5% qz-cb veining. Tr Po mostly seen in groundmass. Well banded w patches of mod folding. Sporadic grt-bt bands.	Gradational LC.																							
F018515	1799.1	1799.8	0.393																														
F018516	1799.8	1800.8	0.585	1799.8	1801.4	4EA	GG	BA	Dark grey chert-mag BIF w abundant grt-bt bands (4BF). Aphanitic w mod fg-mg subhedral grt. Strongly magnetic. Drill markings/grease on core make it difficult to see in areas. Rubby core @ 1801.7m. Thinly banded to patches of thick bands. Mod chl wisps.	5-7% qz-cb veining. Tr-5% Po in both veining and groundmass. Gradational LC.																							
F018518	1800.8	1801.4	0.142																														
F018519	1801.4	1802	0.784																														

Sample	Assay			MAJOR UNIT							MINOR UNIT				ALTERATION																				
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments															
F018519	1801.4	1802	0.784	1801.4	1803	4B	G	BA	Dark grey chert-mag BIF w abundant grt-bt bands (4B). Aphanitic w mod lg-mg subhedral grt. Strongly magnetic. Drill markings/grease on core make it difficult to see in areas. Rubby core @ 1801.7m. Thinly banded to patches of thick bands. Mod chl wisps.	5-7% qz-cb veining. Tr-5% Po in both veining and groundmass. Gradational LC.																									
F018521	1802	1803	2.13																																
F018522	1803	1804	0.727																																
F018523	1804	1804.6	6.13																																
F018524	1804.6	1805.3	0.126																																
F018525	1805.3	1806	0.007																																
F018526	1806	1806.5	0.029																																
F018527	1806.5	1806.9	0.005																																
F018528	1806.8	1807.6	0.009																																
F018529	1807.6	1808.3	0.005																																
F018531	1808.3	1809	0.036																																
F018532	1809	1810	0.073																																
F018533	1810	1811	0.035																		1803	1816.8	4B	G	BA	Dark grey-purple chert-mag BIF (4B). Aph w sporadic bands of grt-bt. Well banded w lcl waves or folds. Strongly mag. Lcl minor chl wisps. Mod dising/rubby core at 1812.1-1812.6m. 5% sporadic qz-cb veins. Local fracturing parallel and oblique to fabric.	Drill markings and grease make it difficult to see parts of core. Tr-5% Po predominantly seen in groundmass.								
F018534	1811	1811.8	0.023																																
F018535	1811.8	1812.5	0.135																																
F018536	1812.5	1813	0.034																																
F018537	1813	1814	0.038																																
F018538	1814	1815	0.065																																
F018539	1815	1816	0.04																																
F018541	1816	1816.8	0.226																																
F018542	1816.8	1817.5	0.016	1816.8	1817.5	13	BK	POR	Black lamp dyke (13). Fine grained groundmass w coarse grained clasts. Magnetic. Abundant sub-round white qz-cb grains. Pseudocrystic and massive in texture. <1% qz-cb veining. No visible mineralization. Sharp UC and LC.																										
F018543	1817.5	1818	0.078																																
F018544	1818	1819	0.083																																
F018545	1819	1819.4	0.04																																
F018546	1819.4	1820.4	0.3																																
F018547	1820.4	1821.2	0.295																																
F018548	1821.2	1821.9	0.369																																
F018549	1821.9	1822.6	0.118																																
F018551	1822.6	1823.3	0.06																																
F018552	1823.3	1824	0.064																																
F018553	1824	1825	0.042																																
F018554	1825	1825.9	0.032																																
F018555	1825.9	1826.5	0.055																																
F018556	1826.5	1827	0.026																																
F018557	1827	1827.7	0.183	1825.9	1829.4	4A	G	DIS	Dark grey to grey-beige chert-gru BIF (4A) w mod chert-mag bands. Locally strongly magnetic. Aph. Banded to distorted. Mod wispy gru. 3-5% qz-cb veining. 3-7% Po in veining and groundmass. Tr-3% Apy in groundmass. Sporadic grt-bt bands (locally folded).	SZ w qz-cb flooding and 5% Po from 1821.2-1821.5m. Gradational LC.																									
F018558	1827.7	1828.7	0.035																																
F018559	1828.7	1829.1	0.028																																
F018561	1829.1	1829.4	0.066																																
F018562	1829.4	1830	0.009																1829.4	1830	3A	G	FOL	Dark grey andesite (3A). Fine grained. Very weakly magnetic. Well foliated. 2% white qz-cb veinlets at near UC with minor specks of Po (not significant). 20cm of core past the 1830m block (excess core in tube). EOH.	Minor 4E from 1829.2-1829.4m w up to 10% Po in vms & groundmass. SZ from 1827.1-1829.4m w thinly banded/distorted fabric. Sharp LC.	4E									

Weakly distorted to banded 4E. Weakly magnetic. Fine grained w mod cg to very cg an-subhedral grt. 1% qz-cb stringers/wisps. 10% Po in veining and groundmass.

















































































Sample	Assay			MAJOR UNIT						MINOR UNIT		ALTERATION								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F013805	1401.5	1402.5	0.035	1401.5	1403.4	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated to highly strained. 5% white qz-cb veining. Trace Po predominantly visible in veining. Very weakly magnetic. Patches of mod pervasive cb (assoc w HZ). Abundant cohesive hairline fractures/meth	splays throughout unit. Gradational LC.										
F013806	1402.5	1403.4	0.032																	
F013807	1403.4	1404.4	0.033																	
F013808	1404.4	1405.4	0.03	1403.4	1406.9	2K	GG	FOL	Dark grey-green possible mafic dyke (2K). Medium grained. Well foliated to locally mottled looking. Mod brittle fracturing throughout. Cg mag blebs at 1405.7m. Tr Po and Py predominantly in veining. 3-4% irregular to discontinuous qz-cb veining.	Gradational LC.										
F013809	1405.4	1406.3	0.045																	
F013811	1406.3	1406.9	0.077																	
F013812	1406.9	1407.9	0.014																	
F013813	1407.9	1408.9	0.021																	
F013814	1408.9	1409.9	0.031	1406.9	1411.9	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well fol. Abundant mg amp grains (alt?). HZ from 1410-1419.5m w mod cb stringer patches. From 1410.7-1411.2m abundant hairline fractures give core a minor brecciated appearance. 5-7% qz-cb veining/stringers.	Tr Po in both veining and litho. Mod bt. Very weakly magnetic. Faulted LC.										
F013815	1409.9	1410.7	0.039																	
F013816	1410.7	1411.1	0.016																	
F013817	1411.1	1411.9	0.02																	
F013818	1411.9	1412.7	0.01																	
				1411.9	1421.4	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fine grained. Mod-strongly foliated w abundant white lapilli. Nonmagnetic. Locally mod bt wisps. Mod grt become present towards LC (~1420.1m). Tr local Po in groundmass. 5% qz-cb veining w mod local ms.	HZ until 1419.6m. LC is brittle and faulted until 1412.4m. Gradational LC.										
F013819	1419.4	1420.4	0.015																	
F013821	1420.4	1421.4	0.023																	
F013822	1421.4	1422.2	0.038																	
F013823	1422.2	1422.8	0.025																	
F013824	1422.8	1423.8	0.012	1421.4	1422.8	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant mg-cg anhedral grt. Weakly magnetic localized to green amp alt bands scattered throughout unit. Tr Po in groundmass and alt bands. Well fol. 1% minor qz-cb veinlets.	HZ from 1422.2-1432.5m w cb stringers. Sharp LC.										
F013825	1423.8	1424.8	0.017																	
				1422.8	1436.5	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fine grained w abundant white lapilli. Well foliated w patches of green amp alt bands (weak mag). Tr Po in groundmass. HZ from 1422.2-1432.5m. 2-3% qz-cb veining. Patches of minor silicification. Mod bt wisps.	Sporadic anhedral og grt. Gradational LC.										
F013826	1430.5	1431.4	0.016																	
F013827	1431.4	1432.4	0.026																	
F013828	1432.4	1433.4	0.015																	
F013829	1433.4	1434.3	0.011																	
F013831	1434.3	1435.3	0.018	1436.5	1438.8	6W	G	FOL	Med grey grt-bearing metased (6W). Fine grained w abundant og anhedral grt. Nonmagnetic. Well foliated. No visible lapilli. Minor meth splays x-cutting fabric around 1437.2m. 1% qz-cb veining. No visible mineralization. Gradational LC.											
F013832	1435.3	1436	0.019																	
F013833	1436	1436.5	0.011																	
				1436.5	1438.8	6W	G	FOL	Med grey grt-bearing metased (6W). Fine grained w abundant og anhedral grt. Nonmagnetic. Well foliated. No visible lapilli. Minor meth splays x-cutting fabric around 1437.2m. 1% qz-cb veining. No visible mineralization. Gradational LC.											
				1438.8	1444	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fg w weak-mod white lapilli. Well fol w local patches of fabric that appear laminated. Mod bt wisps. 3-4% qz-cb vms w weak-mod ser alt. No visible mineralization. SZ from 1441.3-1441.5m w thick qz-cb vein & strong cal.	Nonmagnetic. Gradational LC.										

























































































Assay	MAJOR UNIT										MINOR UNIT				ALTERATION						
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F025074	1081	1082	0.005	1078.4	1082.7	G	FOL		Dark grey metased (6). Fine grained. Well fol to locally laminated. Strong bt. Scattered cb stringers. Locally very weakly mag. Patches of strong bt alternating w bands of grey to grey-green host rock. Lcl chl all assoc w veining. 3-4% qz-cb veining.	Tr Po in groundmass. Locally weakly folated. Sporadic subrounded clasts present. Gradational LC.											
F025075	1082	1082.7	0.005																		
F025076	1082.7	1083.7	0.005																		
F025077	1083.7	1084.7	0.005																		
				1082.7	1087.5	G	FOL		Dark grey possible metased (6). Foliated to locally possibly lam. Thick (~10cm) bands of grey host rock (poss 3F; minor white lapilli visible), alternating w bt-rich metased. Locally weakly magnetic. 5-6% qz-cb veining Rare Py specks in cb stringers.	Mod chl/green amp around veining. Sharp LC.											
				1088	1094.2	3F	G	FOL	White qz-cb vein, massive in texture. Mod green amp-rich bands/wisps throughout vein. No visible mineralization. Sharp UC and LC. Large vein may be attributed to a SZ. Nonmagnetic. Aphanitic.												
F025078	1091.8	1092.8	0.005																		
F025079	1092.8	1093.8	0.005	1094.2	1095	4E	GG	BA	Dark grey-green grt-amp BIF (4E) w abundant grt-bt bands (around 50%). Moderately magnetic. Fine grained w cg to very cg subhedral grt. Fg-mg grt localized to bt bands. Banded to locally foliated. Sheared UC and LC. 1-2% qz-cb veinlets. Fabric id wavy.	Trace Po assoc w grt and amp groundmass.											
F025081	1093.8	1094.2	0.009																		
F025082	1094.2	1095	0.016																		
F025083	1095	1096	0.005																		
F025084	1096	1097	0.005	1095	1099.4	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fine grained w abundant white lapilli (1-mg). Nonmagnetic. Strongly foliated. Sporadic minor mg-cg grt present. Mod musc alt in some veinlets. 1-3% qz-cb veinlets. Trace disc Py at 1098.8m.	Mod local chl wisps and bt wisps. Sharp LC.											
F025085	1097	1098	0.005																		
F025086	1098	1098.8	0.005																		
F025087	1098.8	1099.4	0.005																		
F025088	1099.4	1099.9	0.005	1099.4	1101	G	FOL	Dark grey metased (6). Fine grained w sporadic minor grt. Nonmagnetic. Moderately sheared w an increased intensity from 1100-1100.1m (increased cb). Well foliated. Abundant prv bt. 3-4% qz-cb veinlets/veining. Wk bt and qz-cb nodules.	Locally alternating thin green and grey/black bands. Tr Po assoc w qz-cb. Sharp LC.												
F025089	1099.9	1100.3	0.009																		
F025091	1100.3	1101	0.005																		
F025092	1101	1102	0.005																		
F025093	1102	1102.3	0.005	1101	1105.5	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Weakly fol to locally massive. Very weakly magnetic. 4-5% qz-cb veining and 5-7% discontinuous qz-cb veinlets and 'nodules', some of which have bt alt. Trace id Po in groundmass. Minor fracturing. Sharp LC.												
F025094	1102.3	1102.8	0.005																		
F025095	1102.8	1103	0.005																		
F025096	1103	1104	0.005																		
F025097	1104	1104.9	0.005	1105.5	1105.9	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fg w abundant attenuated white lapilli. Strongly foliated (part of SZ from 1105.5-1106.7m). Nonmagnetic. 1% qz-cb veining. Weakly silicified. Up to 5% str-sma Po disseminated throughout groundmass and assoc w veining.	Sharp LC.											
F025098	1104.9	1105.5	0.005																		
F025099	1105.5	1105.9	0.045																		
F025101	1105.9	1106.7	0.006																		
F025102	1106.7	1107.7	0.005	1106.7	1111.9	2	GG	FOL	Med-dark grey metased (6). Fine grained. Locally laminated & well foliated. Possible white lapilli near patches of cb stringers. Locally very weakly magnetic. Locally folded. Abundant prv bt. 1-3% qz-cb veining. SZ until 1106.9m. Tr Po assoc w cb alt.	Minor meth flt splay at 1109m. SZ w abundant & large cb & qz-cb veins from 1110.8-1114m. Abundant chl margins assoc w cb vein from 1110.8-1111.9m. Tr Po assoc w chl and cb alt. Up to 2% Py in groundmass. Irregular LC.											
F025103	1107.7	1108.2	0.005																		
F025104	1108.2	1109	0.005																		
F025105	1109	1109.8	0.005																		
F025106	1109.8	1110.2	0.007	1111.9	1113	GAR	B	W	White cb vein part of larger shear zone. Fine to medium grained. Massive in texture. Rare Py speck along margin w btch: ~7-10% mafic host rock along irregular margin/contact of vein. Nonmagnetic. Sharp LC.												
F025107	1110.2	1110.7	0.007																		
F025108	1110.7	1111.4	0.005																		
F025109	1111.4	1111.9	0.005																		
F025111	1111.9	1112.5	0.005	1113	1114	GAR	B	W	White qz-cb vein. Massive in texture. Aphanitic. Nonmagnetic. Mod dark green wisps (poss chl). Minor id ser. Weak id calcite alt of dark green wisps. Minor discing at 1113.5m. No visible mineralization. Sharp LC.												
F025112	1112.5	1113	0.005																		
F025113	1113	1114	0.005																		
F025114	1114	1115	0.005																		
F025115	1115	1115.6	0.005	1114	1122.5	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. Locally weakly magnetic. Mod bt wisps and scattered irregular bt bands x-cutting fabric. 7% qz-cb veining and stringers (stringers are more irregular and discontinuous). Tr id Po and Py.	HZ from 1116-1119.2m (mod fol and qz-cb stringers, but no sharp contacts). Strong SZ from 1122.1-1126.5m w abundant to prv cb stringers. Scattered wk meth flt splays w light green staining from 1120-1122.1m. Sheared LC.											
F025116	1115.6	1116.2	0.005																		
F025117	1116.2	1116.8	0.005																		
F025118	1116.8	1117.2	0.005																		
F025119	1117.2	1117.5	0.005	1118.5	1119.5	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. Locally weakly magnetic. Mod bt wisps and scattered irregular bt bands x-cutting fabric. 7% qz-cb veining and stringers (stringers are more irregular and discontinuous). Tr id Po and Py.												
F025121	1117.5	1118.5	0.007																		
F025122	1118.5	1119.5	0.007																		
F025122	1118.5	1119.5	0.007																		























Sample	Assay			MAJOR UNIT						MINOR UNIT		ALTERATION									
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
				1521.6	1524.6	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fine grained w mod white lapilli. Well foliated. Mod fracturing throughout. 1-2% qz-cb veining. No significant mineralization. Sharp LC.												
1525				1524.6	1525	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. Weakly magnetic. 1% qz-cb veinlets. No visible mineralization. Sharp UC and LC. Weakly blocky core at LC.												
1530				1525	1541	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fine grained w abundant white lapilli. Well foliated. Some lapilli are weakly attenuated. Sct weak meth fl splays w green staining. Locally fractured following fabric & x-cutting it. Locally 3-5% qz-cb vns. No sig min.	Nonmagnetic. Gradational LC.											
1535				1541	1545.3	6W	G	FOL	Med-dark grey grt-bearing metased (6W). Fine grained w sct mg-cg grt (anhedral). Well foliated. 1-2% qz-cb veining. Tr to Po in groundmass. Nonmagnetic. Local minor green alt bands (amp?). Poss minor sporadic lapilli. Gradational LC.												
F025152	1543.6	1544.6	0.009																		
F025153	1544.6	1545.3	0.005																		
F025154	1545.3	1546	0.01																		
F025155	1546	1548.3	0.014																		
F025156	1546.3	1547	0.007	1545.3	1549	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Mod brittle fracturing at 1546-1546.1m. 7-10% qz-cb veins w ser & cb alt. Tr Po in groundmass & vns. Rare Py specks in groundmass. SZ at 1548-1548.8m w mod cb alt & qz-cb vns.	Sct weak meth fl splays.											
F025157	1547	1547.5	0.071																		
F025158	1547.5	1548.3	0.021																		
1550				1549	1558.5	6W	G	FOL	Med-dark grey-purple grt-bearing metased (6W). Fine grained w mod m-cg grt. Well foliated. Nonmagnetic. Sct wk meth fl splays. Local Tr Po in groundmass. 2-3% qz-cb veining. Gradational LC. Local green patches, poss weak green amp alt (near LC).												
1555				1558.5	1560.6	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w mod fg white lapilli. Well foliated. SZ from 1558.5-1559.4m w abund felds and musc altn and abund qz-cb veining (~15%). Up to 2% Po assoc w veining near LC of SZ. Patches of sil & amp alt. Tr Po in groundmass.	Gradational LC. Very weakly magnetic.											
F025159	1557.4	1558	0.013																		
F025161	1558	1558.5	0.065																		
F025162	1558.5	1559.4	0.012																		
F025163	1559.2	1559.5	0.85	1558.5	1560.6	3F	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w mod an-subhedral grt ranging from mg to very cg. Very weakly locally magnetic. St increases towards LC around 1561.8m. 3-4% qz-cb veining w green amp alt. Tr Po towards LC. Sharp LC.												
F025164	1559.5	1560.1	0.031																		
F025165	1560.1	1560.6	0.008																		
F025166	1560.6	1561.6	0.023	1560.6	1562.8	6W	G	FOL													
F025167	1561.6	1562.5	0.013																		

Mod felds and musc alteration w minor sil and chl alt. Assoc w large qz-cb veins.

WK

WK

Sample	Assay			MAJOR UNIT						MINOR UNIT				ALTERATION								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
F025167	1561.6	1562.5	0.013	1560.6	1562.8	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w mod an-subhedral grt ranging from mg to very cg. Very weakly locally magnetic. Bt increases towards LC around 1561.8m. 3-4% qz-cb veining in green amp alt. Tr Po towards LC. Sharp LC.													
F025168	1562.5	1562.8	0.083	1562.8	1563.1	4F	BK	POR	Dark grey to black grt-bt schist (4F). Fine grained w weak-mod very cg subhedral grt. Well foliated. Weakly magnetic. 5-7% qz-cb veining. Up to 2% Po assoc w veining & groundmass. Ld minor grt-amp band. Gradational LC.													
F025169	1562.8	1563.7	0.025	1563.1	1564.6	6W	G	FOL	Dark grey to black grt-bt schist (4F). Fine grained w weak-mod very cg subhedral grt. Well foliated. Weakly magnetic. 5-7% qz-cb veining. Up to 2% Po assoc w veining & groundmass. Ld minor grt-amp band. Gradational LC.													
F025171	1563.1	1563.6	0.011	1563.1	1564.6	6W	G	FOL	Dark grey to black grt-bt schist (4F). Fine grained w weak-mod very cg subhedral grt. Well foliated. Weakly magnetic. 5-7% qz-cb veining. Up to 2% Po assoc w veining & groundmass. Ld minor grt-amp band. Gradational LC.													
F025172	1563.6	1564.0	0.065	1563.1	1564.6	6W	G	FOL	Dark grey to black grt-bt schist (4F). Fine grained w weak-mod very cg subhedral grt. Well foliated. Weakly magnetic. 5-7% qz-cb veining. Up to 2% Po assoc w veining & groundmass. Ld minor grt-amp band. Gradational LC.													
F025173	1564.0	1564.6	0.159	1564.6	1566.7	4F	BK	POR	Dark grey to black grt-bt schist (4F). Fine grained w mod very cg & sub-euhedral grt. Very weakly magnetic. Well foliated. Minor weak grt-amp bands. 5-7% qz-cb veining. Tr-1% Po in veining and groundmass. LC is very gradational & put at beginning of SZ.													
F025174	1564.6	1565.1	0.127	1564.6	1566.7	4F	BK	POR	Dark grey to black grt-bt schist (4F). Fine grained w mod very cg & sub-euhedral grt. Very weakly magnetic. Well foliated. Minor weak grt-amp bands. 5-7% qz-cb veining. Tr-1% Po in veining and groundmass. LC is very gradational & put at beginning of SZ.													
F025175	1565.1	1565.7	0.012	1564.6	1566.7	4F	BK	POR	Dark grey to black grt-bt schist (4F). Fine grained w mod very cg & sub-euhedral grt. Very weakly magnetic. Well foliated. Minor weak grt-amp bands. 5-7% qz-cb veining. Tr-1% Po in veining and groundmass. LC is very gradational & put at beginning of SZ.													
F025176	1565.7	1566.3	0.011	1566.7	1568.1	6W	G	FOL	Dark grey metased (6). Fine grained. Well foliated. Strong SZ from LC to 1567.8m w abundant cb alt. Tr Po assoc w cb alt in SZ. 1-2% qz-cb veining. Gradational LC. Very weakly magnetic. Minor sporadic meth flt splay.													
F025177	1566.3	1566.7	0.014	1566.7	1571.2	3F	G	FOL	Dark grey felsic lapilli tuff (3F). Fine grained w mod fg white lapilli. Nonmagnetic. Well foliated. Sct weak meth flt splay. Wk sct musc. Minor SZ from 1569.7-1570.1m w two minor patches of mod cb alt. Weak patchy bt present. Tr Po at gradational LC.													
F025178	1566.7	1567.0	0.005	1571.2	1572.7	6W	G	FOL	Dark grey-purple metased (6). Well foliated w abundant bt wisps. Fine grained. Locally very weakly magnetic. SZ from 1571.5-1572.6m. 15-20% qz-cb veining assoc w SZ. Abund cb alt assoc w SZ. Tr Po in groundmass and assoc w alt. Gradational LC.													
F025179	1567.3	1567.6	0.005	1572.7	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025181	1567.6	1568.1	0.008	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025182	1568.1	1569.0	0.008	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025183	1569.0	1570.0	0.025	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025184	1570.0	1570.9	0.012	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025185	1570.9	1571.2	0.017	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025186	1571.2	1571.5	0.005	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025187	1571.5	1571.8	0.066	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025188	1571.8	1572.7	0.022	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025189	1572.7	1573.4	0.005	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025191	1573.4	1573.4	0.005	1574.5	1574.5	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w scattered mg-cg anhedral grt. Well foliated. 1-2% qz-cb veining. Tr lcl Po in groundmass and veining. Weakly magnetic. Mod bt. Patches of mod st grains present. Gradational LC.													
F025192	1578.9	1579.9	0.008	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025193	1579.9	1580.9	0.008	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025194	1580.9	1581.2	0.173	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025195	1581.2	1582.2	0.012	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025196	1582.2	1583.2	0.005	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025197	1583.2	1583.8	0.009	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025198	1583.8	1584.4	0.02	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025199	1584.4	1585.0	0.006	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025201	1585.0	1586.0	0.005	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025202	1586.0	1586.6	0.005	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025203	1586.6	1587.0	0.005	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025204	1587.0	1587.6	0.005	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025205	1587.6	1587.9	0.006	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025206	1587.9	1588.9	0.006	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025207	1588.9	1589.9	0.005	1574.5	1595.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fg w abundant white lapilli. Well fol. Nonmagnetic. Sct weak meth flt splay in green staining. Minor ser alt assoc w veining. 7-10% qz-cb veining. Lcl mod-str fields and musc alt assoc w veining from 1580.9-1581.3m.													
F025208	1594.5	1595.5	0.071	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025209	1595.5	1596.2	0.005	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025211	1596.2	1596.6	0.014	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025212	1596.6	1597.0	0.033	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025213	1597.0	1599.0	0.005	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025214	1598.0	1599.0	0.009	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025215	1599.0	1600.0	0.016	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025216	1600.0	1600.3	0.063	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025217	1600.3	1601.3	0.007	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													
F025218	1601.3	1602.1	0.005	1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.													

STR

strong cb assoc w SZ.

SZ from 1583.2-1584.4m w strong cb alt and qz-cb veining. Tr Po assoc w veining and SZ. HZ w weak wispy bands from 1585.2-1586m. Gradational LC.

Minor ultramafic (1). Fine grained. Abund talc & serp making core soft to scratch. Sharp contacts. No sig veining and no visible Po.

Assay	MAJOR UNIT								MINOR UNIT				ALTERATION										
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
F025218	1601.3	1602.1	0.005																				
					1595.5	1614.6	6W	G	FOL	Dark grey grt-bearing metased (6W). Fine grained w abundant sct grt. Well foliated to a local banded appearance due to ser alt. Nonmagnetic. Minor ultramafic (1) from 1596.6-1596.8m. Mod sct meth flt splay. Sporadic grt-amp bands sct.	Mod-strong meth flts and splays between 1610-1612m w strong pink and brown-beige alt bleeding into host. 3-5% qz-cb veining. Tr lcl Po assoc w alt and vn. Gradational LC.												
					1614.6	1619.5	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fine grained w abundant white lapilli. Lapilli content gradually decreases towards LC. Sporadic green amp bands. Multiple methane flt splays sct w green alt bleeding into host. Mod bt and musc. 2-3% qz-cb veining.	Well foliated. No sig min. Locally fractured at 1619.3m. Gradational LC.												
					1619.5	1631.4	6W	G	FOL	Dark grey to black grt-bearing metased (6W). Fg w abundant grt. Well fol. 2-3% qz-cb veining. Tr patchy Po assoc w veining and alt. Sporadic green amp & cal alt bands. Scattered meth flt splays. SZ from 1630.5-1631m w abundant green amp and cal alt.	Nonmagnetic. Gradational LC.												
F025219	1626.1	1627.1																					
F025221	1627.1	1628.1	0.017																				
F025222	1628.1	1628.6	0.006																				
F025223	1628.6	1628.8	0.006																				
F025224	1629.2	1630.2	0.011																				
F025225	1630.5	1631.0	0.011																				
F025227	1631.1	1631.4	0.005																				
F025228	1631.4	1631.8	0.019																				
F025229	1631.8	1632.2	0.005																				
F025231	1632.2	1633.1	0.005																				
F025232	1633.1	1634.0	0.013																				
F025233	1634.0	1634.6	0.005																				
F025234	1634.6	1634.9	0.009																				
F025235	1634.9	1635.0	0.007																				
F025236	1635.4	1636.0	0.006																				
F025237	1636.0	1636.5	0.041																				
F025238	1636.5	1637.2	0.008																				
F025239	1637.2	1638.1	0.026																				
F025241	1638.1	1638.5	0.009																				
F025242	1638.5	1639.2	0.005																				
F025243	1639.2	1639.8	0.005																				
F025244	1639.8	1640.0	0.005																				
F025245	1640.0	1640.5	0.005																				
F025246	1640.5	1641.0	0.01																				
F025247	1641.0	1641.6	0.011																				
F025248	1641.6	1642.4	0.011																				
					1631.4	1641.9	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fine grained w sporadic to locally mod white lapilli. Well foliated. Nonmagnetic. Patchy Po from tr-10% and up to 1% Py predominantly assoc w veining. 3-4% qz-cb veining. Mod musc and bt. Local brittle fracturing.	Multiple meth flt splays and locally abundant prv ser alt.												

MO  
D

Mod ser assoc w faulting (meth and brittle?)

MO  
D

Mod ser assoc w meth faulting

Sample	Assay			MAJOR UNIT							MINOR UNIT		ALTERATION								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F025248	1641.6	1642.4	0.011	1631.4	1641.9	3F	G	FOL	Med-dark grey felsic lapilli tuff (3F). Fine grained w sporadic to locally mod white lapilli. Well foliated. Nonmagnetic. Patchy Po from 8-10% and up to 1% Py predominantly assoc w veining. 3-4% qz-cb veining. Mod musc and bl. Local brittle fracturing.	Multiple meth fl splays and locally abundant pry ser alt.											
F025249	1642.4	1643.4	0.009																		
F025251	1643.4	1644.4	0.007																		
				1641.9	1648.7	3F	G	FOL	Troy Galilik starting logging. Med to dark grey, fg, mod fol, wk lapilli, patchy 1-3% dis py/py stringers, local cm scale brittle faults, 1% white planar quartz stringers, mod to strong pervasive ser alt throughout, broken brittle lower contact												
				1648.7	1653.4		G	FOL	Dark grey, fg, mod laminated, hosts thin layers of dark brown silt interbedded in host?, wk carb alt, sharp lower contact												
				1653.4	1655.2	3F	G	FOL	Med to dark grey, fg, mod fol, wk lapilli, trace thin white planar quartz stringers, mod pervasive ser alt throughout, broken brittle lower contact												
				1655.2	1656.7	2	GG	FOL	dark grey-green, fg, mod fol, wk thin carb stringers throughout, could possibly be a dark, fg, laminated sediment, wk pervasive bio alt, sharp lower contact												
				1656.7	1667	3F	G	FOL	dark grey, fg, mod to strong fol, wk-mod lapilli, hosts 1m interval of methane faulting, hosts up to 3% dis/s-ma po localized in flooded quartz veinlets proximal to lower contact, sharp lower contact												
F025252	1663	1664	0.005																		
F025253	1664	1665	0.005																		
F025254	1665	1666	0.007																		
F025255	1666	1667	0.005																		
F025256	1667	1668	0.021																		
F025257	1668	1669	0.079																		
F025258	1669	1670	0.014																		
F025259	1670	1671	0.011	1667	1673	4F	B	POR BL	Dark brown-grey bt matrix, mg-cg grt throughout, change in fol lower angle, wk fol, 0.5-1% dis po, <5% patchy dark green ampb bands, ~1% planar qtz veinlets, sharp lower contact												
F025261	1671	1672	0.033																		
F025262	1672	1673	0.015																		
F025263	1673	1674	0.005																		
F025264	1674	1674.7	0.005	1673	1675.3	3F	G	FOL	dark grey, fg, mod fol, mod lapilli, hosts up to 30% quartz veining with elevated up to 3% dis/s-ma/stringer po, mod to strong sil and ser alt, sharp lower contact												
F025265	1674.7	1675.3	0.017																		
F025266	1675.3	1675.7	0.22	1675.3	1675.7	4F	B	POR BL	dark brown-grey bt matrix, mg grt porph, hosts 10% flooded-planar qz veining, hosts 2% dis/s-ma po, sharp lower contact												
F025267	1675.7	1676.5	0.012																		
F025268	1676.5	1677	0.005																		
F025269	1677	1678	0.006																		
F025271	1678	1679	0.005	1675.7	1686.3	3F	G	FOL	dark grey, fg, mod fol, mod lapilli, wk-mod patchy ser alt, wk patchy mg grt porph alt, possible interbedded BV, gradational lower contact												

MO  
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Localized with meth fault, hosts mg muscovite

























































































Sample	Assay			MAJOR UNIT					MINOR UNIT				ALTERATION																							
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments																
F022131	1400.9	1401.9	0.011	1398.4	1403.2	4F	B	POR BL	Brown/pink, fg groundmass, grt-bt schist (4F) mod internally foliated to wk compositional banding, fg sub-euhedral porph grts, non-magnetic. Wk minor 4E banding (single band folding back and forth across core, parasitically folded).	Trace to 0.5% int/diss po min associated w minor 4E bands. LC is sharp.																										
F022132	1401.9	1402.6	0.009																																	
F022133	1402.6	1403.2	0.013																																	
F022134	1403.2	1403.6	0.005																																	
F022135	1403.5	1404.5	0.006																																	
F022136	1404.5	1405.5	0.006																																	
F022137	1424.6	1425.6	0.006	1403.2	1430.8	3F	G	FOL	Light grey, fg, felsic lapilli tuff (3F) well foliated, non-magnetic. Abundant fg feldspathic lapilli scattered throughout unit locally weakly attenuated along isolation. Mod HZ from 1421.9-1422.9m causing int cb flooding.	Mod HZ from 1427.4m - LC causing patchy green amp alt (hydrothermal fluid pathways) hosting ~2% blebby po min. ~4% contact controlled porphyrying UC. LC is gradational.																										
F022138	1425.6	1426.6	0.006																																	
F022139	1426.6	1427.6	0.005																																	
F022141	1427.6	1428.6	0.008																																	
F022142	1428.6	1429.6	0.01																																	
F022143	1429.6	1430.2	0.006																																	
F022144	1430.2	1430.8	0.005																																	
F022145	1430.8	1431.8	0.005																																	
F022146	1431.8	1432.8	0.006																		1430.8	1433.7	6W	G	DIST	Grey, fg groundmass, grt-bearing metasediment (6W) well foliated to mod dist, minor compositional banding, fg-mg anhedral porph, non-magnetic. Intercalated ser altered bands of 3F. Local trace int po min. LC is gradational.										
F022147	1432.8	1433.7	0.007																																	
F022148	1433.7	1434.7	0.01	1433.7	1435	4F	B	DIST	Brown/pink, fg groundmass, grt-bt schist (4F) mod internally foliated to distorted, mg-cg anhedral porph grts, non-magnetic. Mod HZ causes parasitic folding of unit. No veining or mineralization. LC is sharp.																											
F022149	1434.7	1435	0.006																																	
F022151	1435	1435.3	0.006	1435	1435.7	4E	LG	DIST	Light green/pink, aph groundmass, grt-amp schist (4E) mod distorted, mg anhedral porph grts, locally mod magnetic. Moderate parasitic and z-folding throughout. Wk white qz veining. ~3% int po mineralization associated w agglomerated grts.	LC is gradational.																										
F022152	1435.3	1435.7	0.009																																	
F022153	1435.7	1436.4	0.038	1435.7	1444.2	4F	B	POR BL	Brown/pink, fg groundmass, grt-bt schist (4F) mod internally foliated, fg-mg porph grts, non-magnetic. Weak thin planar qz veins throughout unit. 1-5m, locally boudinaged. No mineralization. LC is sharp.																											
F022154	1436.4	1437	0.261																																	
F022155	1437	1438	0.013																																	
F022156	1438	1439	0.008																																	
F022157	1439	1440	0.008																																	
F022158	1440	1441	0.009																																	
F022159	1441	1442	0.009																																	





Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION										
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F022248	1481.1	1482	0.007	1481.1	1487.9	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Weakly foliated w mod bt wisps. Weakly magnetic. 7-8% qz veining w local green amp alt. Very tr lab Po assoc w vein. Brittle fracturing causing blocky core at 1487.7m. Minor shallow brittle fractures present.	Gradational LC.											
F022249	1482	1483	0.008																		
F022251	1483	1484	0.007																		
F022252	1484	1485	0.006																		
F022253	1485	1485.9	0.006																		
F022254	1485.9	1486.9	0.006																		
F022255	1486.9	1487.9	0.012																		
F022256	1487.9	1488.2	0.013																		
F022257	1488.2	1489	0.068																		
F022258	1489	1489.9	0.011																		
F022259	1489.9	1490.4	0.372	1489.9	1490.4	4EF	GG	BA	Dark grey-green grt-amp BIF (4E). Fine grained. Well banded; shallow TCA. Locally magnetic. Mod very cg an-subhedral grt. Minor bt present. 2-3% qz-cb veining. 1-2% Po assoc w green amp all near veining. Gradational LC.	Gradational LC.											
F022261	1490.4	1491.4	0.07																		
F022262	1491.4	1492	0.492	1491.4	1494.1	4EF	GG	DIST	Dark grey-green grt-amp BIF w abundant grt-bt bands (4E) ~35% grt-bt bands. Fracturing near UC. Sharp LC. Locally folded beds.	Locally magnetic. Gradational LC.											
F022263	1492	1493	1																		
F022264	1493	1493.6	0.181																		
F022265	1493.6	1494.1	0.029																		
F022266	1494.1	1495	0.01	1494.1	1496.5	4F	B	POR BL	Brown to black grt-bt schist (4F). Fg w cg to very cg subhedral grt. Locally very weakly mag. Fol. 1-2% qz-cb veining. 1-2% Po in veins & interstitial to grt. LC is dark grey-green in colour as unit grades into mafic volc (2); but grt & Po still present.	Gradational LC.											
F022267	1495	1496	0.012																		
F022268	1496	1496.5	0.024																		
F022269	1496.5	1497.5	0.01																		
F022271	1497.5	1498.5	0.012	1499.1	1501.6	1	G	MA	Med grey to grey-green possible ultramafic (1). Fine grained. Not very soft to scratch (local soft patches). Massive to locally foliated. 2-3% qz-cb veining. No visible mineralization. Magnetic. Mag susc avg between 50.7-81.6 SI.	Gradational LC.											
F022272	1504.1	1505.1	0.019																		
F022273	1505.1	1505.4	0.015	1501.6	1511.1	2	GG	FOL	Med-dark grey to grey-green mafic volc (2). Fine grained. Weakly foliated. Mod bt wisps w patches of strong bt (predominantly around qz-cb veins). Weakly magnetic w mag susc avg of 0.615 SI. 5-7% qz-cb veining. Tr-1% Po in groundmass.	Gradational LC.											
F022274	1505.4	1506	0.02																		
F022275	1506	1506.6	0.018																		
F022276	1506.6	1507.5	0.015																		
F022277	1507.5	1508.5	0.011																		
F022278	1508.5	1509.5	0.008																		
F022279	1509.5	1510.5	0.011																		
F022281	1510.5	1510.8	0.524																		
F022282	1510.8	1511	0.026																		
F022283	1511.1	1511.4	0.021																		
F022284	1511.4	1512.1	0.029	1511.1	1512.1	B	FOL	Dark brown to grey metased (6). Fine grained. Very weakly magnetic. Foliated to poss laminated. Abundant bt. Minor 4E at LC from 1511.1-1511.3m w 1% Po & 5-5% qz-cb veining. Green amp bands at 1511.5m. No sig min in groundmass of metased. Sharp LC.	Gradational LC.												
F022285	1512.1	1513	3.51																		
F022286	1513	1513.8	1.41	1512.1	1516.5	4E	GG	DIST	Dark grey-green grt-amp BIF (4E) w abundant grt (~30-35%). Fg w abund very cg subhedral grt. Locally magnetic. Banding is folded. 20% qz-cb veining; weakly flooded. 1-10% Po assoc w veining & alt. Wk chl wisps. No sig bt. Lcl agglomerate grt-gru bands.	Gru alt decreases near UC & LC. Irregular LC.											
F022287	1513.8	1514.3	5.47																		
F022288	1514.3	1514.9	2.38																		
F022289	1514.9	1515.5	1.65																		
F022291	1515.5	1516	5.13	1516.5	1568.7	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated w mod bt wisps & local increases in bt abund (assoc w qz-cb veins & HZ's). 12-15% qz-cb veining; locally folded vns. Weakly magnetic. No significant mineralization. Local minor fracturing.	Multiple poss HZ's between 1519.2 & 1549.6m w increased bt & qz-cb veining. Sharp LC.											
F022292	1516	1516.5	6.74																		
F022293	1516.5	1517.5	0.079																		
F022294	1517.5	1518.5	0.078																		

MO  
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Mod bt wisps in mafic.

Minor 4E unit at 1510.6-1510.8m w 3% qz-cb veining & 5% qz-cb veining. Sharp LC.

Dark green grt-amp BIF (4E). 20cm wide. Abund amp & minor sporadic very cg grt. Very weakly magnetic. 2-3% qz-cb veining. Up to 3% Po assoc w veining & groundmass.

Grey-green grt-amp BIF (4E) w mod gru bands. Locally magnetic. Fine grained. od very cg grt. Up to 1% Po. 3-5% qz-cb veining.

MO  
D

Mod-strong gru bands in 4E.

MO  
D

Mod-strong bt wisps assoc w qz-cb (HZ?).











































































































Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION									
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F018663	1681.4	1682.1	0.475	1681.4	1682.9	4E	DG	DIST	Dark green/pink, aph groundmass, grt-amp schist (4E) mod distorted, fg-mg anhedral porph grts, mod magnetic. Wk 4F banding. Unit shows moderate HZ causing white qz veining and ~4% int strain controlled po min associated w both	4E/4F bands. LC is irregular.										
F018666	1682.1	1682.9	13.4																	
F018667	1682.9	1683.9	0.251																	
F018668	1683.3	1683.6	0.051																	
F018669	1683.6	1684.5	2.487																	
F018671	1684.5	1685.1	1.47																	
F018672	1685.1	1686.1	0.413																	
F018673	1686.1	1686.4	0.304																	
F018674	1686.4	1686.8	0.024																	
F018675	1686.8	1687.8	0.015																	
F018677	1702.1	1703.1	0.043	1686.8	1704.1	2	GG	FOL	Light greenish-grey, fg, mafic metavolcanic (2) mod to well foliated, non-magnetic. Mod to str pervasive bt alteration causing local friable core; local swelling when sprayed w water. Common white qz veining throughout.	Veining increases where local HZ occurs showing parasitic folding. No mineralization. LC is sharp.										
F018678	1703.1	1704.1	0.045																	
F018679	1704.1	1704.9	0.008																	
F018681	1704.9	1705.7	0.02																	
F018682	1705.7	1706.3	0.019																	
F018683	1706.3	1707	0.017																	
F018684	1707	1708	0.014																	
F018685	1708	1709	0.017																	
F018686	1709	1710	0.01																	
F018687	1710	1711	0.014																	
F018688	1711	1712	0.01	1704.1	1720.2	4F	B	POR BL	Brown/pink, fg bt-rich groundmass, grt-bt schist (4F) locally weakly internally foliated, fg-mg sub-ahedral porph grts, non-magnetic. Grits become less abundance and coarser grained adjacent to contacts.	Wk planar unmineralized white qz veining throughout. Local 1-2% int litto hosted po mineralization. LC is gradational.										
F018689	1712	1713	0.009																	
F018691	1713	1714	0.008																	
F018692	1714	1715	0.007																	
F018693	1715	1715.8	0.007																	
F018694	1715.8	1716.6	0.011																	
F018695	1716.6	1717.6	0.015																	
F018696	1717.6	1718.2	0.012																	
F018697	1718.2	1719.2	0.014																	
F018698	1719.2	1720.2	0.011																	
F018699	1720.2	1721.2	0.048	1720.2	1723	6W	GG	DIST	Light greenish-grey/pink, fg groundmass, grt-bearing metasediment (6W) mod to str distorted, fg-cg anhedral porph grts, non-magnetic. Mod pervasive green amp alt; poorly developed 4E? Entire unit is containing mod HZ causing irregular	qz-cb veining, 1.5% strain controlled po adjacent to UC. LC is irregular and gradational.										
F018701	1721.2	1722	0.088																	

























































































Assay	MAJOR UNIT										MINOR UNIT				ALTERATION							
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F028534	1440.7	1441.7	0.005	1414.3	1442.7	3F	G	FOL	Light grey, fg, felsic lapilli tuff (3F) well foliated, non-magnetic. Mod-str banded ser alt. Common qz-cb planar veining. Local po stringers, mod methane faulting w hematite staining, local HZ w intense cb flooding. No visible mineralization.	LC is gradational.												
F028535	1441.7	1442.7	0.005																			
F028536	1442.7	1443.7	0.027	1442.7	1443.7	6W	G	FOL	Grey/olive green/pink, fg groundmass, grt-bearing metasediment (6W) mod foliated, mg anhedral porph grts, non-magnetic. Patchy chl alteration caused by white qz flooding. ~3% po min hosted in veins and alteration patches. LC is sharp.		4E											
F028537	1443.7	1444	0.016																			
F028538	1444	1444.8	0.008	1444.8	1445.4	4F	B	POR BL	Brown/Pink, fg groundmass, grt-bt schist (4F) fg-mg sub-euhedral porph grts, moderately internally foliated, non-magnetic. Local mod HZ's causing mod white qz flooding hosting tr amounts of po min. Minor 4E ridng upper contact hosting trace po	min. LC is gradational.												
F028539	1444.8	1445.4	0.007																			
F028541	1445.4	1446	0.006	1447	1448	4F	B	POR BL	Dark green/pink, aph groundmass, grt-amp schist (4E) mod distorted, fg-mg an-subhedral porph grts, locally weakly magnetic. Minor irregular patches of poorly developed 4E being brought into unit from mod HZ.													
F028542	1446	1447	0.006																			
F028543	1447	1448	0.005	1452.3	1453.2	4E	DG	DIST	Fg massive qz vein, non-magnetic. Local trace po min infilling microfractures. LC is sharp.													
F028544	1448	1449	0.005																			
F028545	1449	1450	0.005	1452.3	1453.2	4E	DG	DIST	Fg massive qz vein, non-magnetic. Local trace po min infilling microfractures. LC is sharp.													
F028546	1450	1451	0.005																			
F028547	1451	1452	0.007	1453.2	1453.2	4E	DG	DIST	Fg massive qz vein, non-magnetic. Local trace po min infilling microfractures. LC is sharp.													
F028548	1452	1452.3	0.005																			
F028549	1452.3	1453	0.037	1453.2	1453.2	4E	DG	DIST	Fg massive qz vein, non-magnetic. Local trace po min infilling microfractures. LC is sharp.													
F028551	1453.2	1454	0.005																			
F028552	1454	1454.7	0.005	1453.2	1454.7	Q1Z VN	W	MA	Fg massive qz vein, non-magnetic. Local trace po min infilling microfractures. LC is sharp.													
F028553	1454.7	1455.7	0.037																			
F028554	1455.7	1456.4	0.006	1454.7	1456.4	4FE	B	BA	Brown/green/pink, fg groundmass, grt-bt schist w abundant (~35%) bands of grt-amp schist (4FE) planar alternating banding (~3-5cm wide bands), fg-mg subhedral grts, non-magnetic. 4E bands seem to have downward coarsening of grts.													
F028555	1456.4	1457	0.005																			
F028556	1457	1457.3	0.007	1456.4	1457	4F	B	POR BL	Brown/pink, fg groundmass, grt-bearing metasediment (6W) massive bt rich groundmass, fg porph grts, non-magnetic. Wk qz flooding, local vein hosted po min. LC is sharp.													
F028557	1457.3	1458	0.012																			
F028558	1458	1459	0.005	1456.4	1465.3	4F	B	POR BL	Dark green/pink, aph groundmass, grt-amp schist (4E) mod to strongly distorted, fg-mg anhedral porph grts, non-magnetic. Mod to str HZ causing mod qz flooding and strain controlled vein and litho hosted po ranging from 12-30% w 8 specks vein													
F028559	1459	1460	0.015																			
F028561	1460	1461	0.097	1465.3	1465.3	4F	B	POR BL	Brown/pink, fg groundmass, grt-bt schist (4F) local weak compositional banding, fg-mg porph grts, non-magnetic. Patchy mod HZ's causing mod white qz flooding locally hosting ~4% strain controlled po min. LC is sharp and marked at qz vein.													
F028562	1461	1462	0.172																			
F028563	1462	1463	0.013	1465.3	1465.6	6W	B	BL	Dark green/pink, aph groundmass, grt-amp schist (4E) mod to strongly distorted, fg-mg anhedral porph grts, non-magnetic. Mod to str HZ causing mod qz flooding and strain controlled vein and litho hosted po ranging from 12-30% w 8 specks vein													
F028564	1463	1464	0.049																			
F028565	1464	1464.7	3.07	1465.3	1465.6	6W	B	BL	Brown/pink, fg groundmass, grt-bearing metasediment (6W) massive bt rich groundmass, fg porph grts, non-magnetic. Wk qz flooding, local vein hosted po min. LC is sharp.													
F028566	1464.7	1465.3	5.82																			
F028567	1465.3	1465.6	17.6	1465.6	1466.2	4E	DG	DIST	Light greenish-grey, fg, mafic metavolcanic (2) well foliated, non-magnetic. Wk pervasive bt alt. ~2% planar qz-cb veining. No mineralization. Local mod brittle fault causing friable fault gouge. No mineralization. LC is sharp.													
F028568	1465.6	1465.9	14.9																			
F028569	1465.9	1466.2	14.9	1466.2	1468.3	4F	B	POR BL	Brown/pink, fg groundmass, grt-bt schist (4F) fg-mg subhedral porph grts, local wk compositional banding, non-magnetic. Wk qz veining. No mineralization. LC is sharp.													
F028571	1466.2	1467	0.032																			
F028572	1467	1467.7	0.026	1468.3	1473.6	2	GG	FOL	Light greenish-grey, fg, mafic metavolcanic (2) well foliated, non-magnetic. Wk pervasive bt alt. ~2% planar qz-cb veining. No mineralization. Local mod brittle fault causing friable fault gouge. No mineralization. LC is sharp.													
F028573	1467.7	1468.3	0.011																			
F028574	1468.3	1469.3	0.013	1473.6	1474.3	6W	B	BL	Brown/pink, fg groundmass, grt-bearing metasediment (6W) well internally foliated, cp anhedral porph grts, non-magnetic. Loss of grts adjacent to contacts. Minor planar qz veining. No mineralization. LC is sharp.													
F028575	1469.3	1470.3	0.013																			
F028639	1475	1475.8	0.298	1475.8	1477	2	GG	FOL	Light greenish-grey, fg, mafic metavolcanic (2) well foliated, non-magnetic. Weak pervasive bt + amp alt. Weak planar qz-cb veining. No mineralization. LC is sharp.													
F028641	1475.8	1476.4	1.4																			
F028642	1476.4	1477	0.027	1477	1478.5	4F	G	FOL	Grey, fg, ultramafic dyke (1) mod foliated, mod magnetic. Wk pervasive amp alt. Str tc alteration causing soft rock and soapy texture. No veining or mineralization. LC is sharp.													
F028643	1477	1477.7	0.07																			
F028644	1477.7	1478.5	0.007	1478.5	1478.5	4F	B	POR BL	Brown/pink, fg groundmass, grt-bt schist (4F) mod internally foliated, mg-g anhedral porph grts, non-magnetic. Thin abundant planar qz veining. No visible mineralization. LC is sharp.													
F028645	1478.5	1479.5	0.009																			
F028646	1479.5	1480.5	0.049	1478.5	1495	2	GG	FOL	Light greenish-grey, fg, mafic metavolcanic (2) mod foliated, non-magnetic. Wk pervasive bt + amp alt. Common planar qz-cb veining throughout. Mod brittle fault from 1491.3-1492.1 m, weak heated brecciation from 1452.6-1493.4 m.													









Assay				MAJOR UNIT					MINOR UNIT				ALTERATION								
Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F028595	1641.4	1642	0.406	1639	1646.8	4F	B	BA	Brown/pink, fg groundmass, grt-bt schist (4F) mod internally foliated, weak planar compositional banding, non-magnetic. Common planar grey qz veining hosting and associated w ~0.5% diss po mineralization. LC is gradational and marked at mineralization.												
F028596	1642	1643	0.092																		
F028597	1643	1644	0.038																		
F028598	1644	1645	0.03																		
F028599	1645	1646	1.04																		
F028601	1646	1646.8	0.064																		
F028602	1646.8	1647.1	0.091																		
F028603	1647.1	1648	0.215																		
F028604	1648	1649	0.054																		
F028605	1649	1650	0.046																		
F028606	1650	1651	0.025																		
F028607	1651	1651.7	0.022																		
F028608	1651.7	1652.6	0.016																		
F028609	1652.6	1653.6	0.048																		
F028611	1653.6	1654.6	0.015																		
F028612	1654.6	1655.6	0.024	1646.8	1675.7	4EA	BE	BA	Beige/green/blue, aph groundmass, grt-gru-amp + chert BIF (4EA) mod distorted alternating bands, fg-mg anhedral porph grts, mod to strongly magnetic. Common moderate HZ's causing isoclinal z-folding and grey qz flooding.	locally hosting trace-7% po and VG. 4 specks of VG from 1660-1660.9 m. LC is gradational.											
F028613	1655.6	1656.6	0.045																		
F028614	1656.6	1657	0.048																		
F028615	1657	1658	0.164																		
F028616	1658	1658.8	1.794																		
F028617	1658.8	1659.3	0.044																		
F028618	1659.3	1660	3.717																		
F028619	1660	1660.5	2.533																		
F028621	1660.5	1660.9	1.309																		
F028622	1660.9	1661.5	0.283																		
F028623	1661.5	1662.2	0.424																		
F028624	1662.2	1663	0.326																		
F028625	1663	1664	0.091																		
F028626	1664	1665	0.01																		
F028627	1665	1666	0.01																		
F028628	1666	1666.5	0.007																		
F028629	1666.5	1667.4	0.015																		
F028631	1667.4	1668	0.018																		
F028632	1668	1669	0.018																		
F028633	1669	1670	0.423																		
F028634	1670	1671	1.95																		
F028635	1671	1672	0.082																		
F028636	1672	1673	0.187																		
F028637	1673	1674	0.006																		
F028638	1674	1675	0.008																		
F028728	1675	1675.7	0.01	1675.7	1682.4	4BF	DG	BA	Dark green/brown/blue, aph groundmass, chert-ag BIF w abundant bands of grt-bt (4BF) planar to strongly distorted alternating bands, strongly magnetic. Moderate HZ's cause str attenuation and isoclinal z- and s-folding.	Local trace diss po min. LC is sharp.											
F028731	1675.7	1676.5	0.01																		
F028732	1676.5	1677.4	0.01																		
F028733	1677.4	1678.4	0.014																		
F028734	1678.4	1679.4	0.01																		
F028735	1679.4	1680.4	0.01																		
F028736	1680.4	1681.4	0.014																		
F028737	1681.4	1682.4	0.031																		

Sample	Assay			MAJOR UNIT							MINOR UNIT		ALTERATION								
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
F028737	1681.4	1682.4	0.031	1675.7	1682.4	4BF	DG	BA	Dark green/brown/blue, aph groundmass, chert-ag BIF w abundant bands of grt-bt (4BF) planar to strongly distorted alternating bands, strongly magnetic. Moderate HZ's cause str attenuation and isoclinal z- and s-folding. Brown, fg, metasediment (t) strongly distorted, non-magnetic. Mod HZ through unit causing str wavy bt and attenuation of foliation. No veining or mineralization. LC is faulted.	Local trace diss po min. LC is sharp.											
F028738	1682.4	1683	0.587	1682.4	1683	4BF	B	DIST													
F028739	1683	1683.9	0.018																		
F028741	1683.5	1683.8	0.018																		
F028742	1683.8	1684.7	0.01																		
F028743	1684.7	1685.6	0.014																		
F028744	1685.6	1686.5	0.017																		
F028745	1686.5	1687.4	0.017																		
F028746	1687.4	1688.3	0.01	1683	1691.9	4BF	DG	BA			Dark green/blue/brown, aph groundmass, chert-mag BIF w abundant bands of grt-bt schist (4BF) planar to mod dist alternating bands, strongly magnetic. Mod HZ's observed through unit causing isoclinal s- and z-folding.	Mod qz flooding caused by strain. Local trace dis/threaded po min. Minor unmineralized metasediment @ 1683.5 m. LC is gradational.									
F028747	1688.3	1689.2	0.013																		
F028748	1689.2	1690.1	0.01																		
F028749	1690.1	1690.9	0.01																		
F028751	1690.9	1691.9	0.047																		
F028752	1691.9	1692.9	0.005																		
F028753	1692.9	1693.9	0.005	1691.9	1694.8	4B	DG	DIST	Dark green/blue, aph groundmass, chert-mag BIF (4B) mod distorted to planar alternating thin laminae, strongly magnetic. Mod HZ develops @ 1694.2 m causing parasitic folding of laminae, mod brittle faulting from 1693.3-1693.8 m.	No mineralization. LC is gradational.											
F028754	1693.9	1694.8	0.005																		
F028755	1694.8	1695.7	0.005																		
F028756	1695.7	1696.3	0.005																		
F028757	1696.3	1697.1	0.005	1694.8	1698.1	4BF	DG	DIST	Dark green/blue/brown, aph groundmass, chert-mag BIF w abundant bands of grt-bt schist (4BF) planar to mod dist alternating bands, strongly magnetic. Mod HZ runs through unit causing isoclinal s-folding. No visible mineralization. LC is gradational.												
F028758	1697.1	1698.1	0.005																		
F028759	1698.1	1699	0.005																		
F028761	1699	1700	0.005																		
F028762	1700	1701	0.005	1698.1	1702.8	4B	DG	LA	Dark green/blue, aph groundmass, chert-mag BIF (4B) planar to locally mod distorted alternating laminae, strongly magnetic. Local minor 4f banding increasing towards LC. Platy amphibole crystals observed in magnetite bands become prevalent.	towards LC. Local trace threaded po min. LC is gradational.											
F028763	1701	1702	0.025																		
F028764	1702	1702.8	0.009																		
F028765	1702.8	1703.8	0.043																		
F028766	1703.8	1704.8	0.016	1702.8	1706.4	4BF	DG	BA	Dark green/blue/brown, aph groundmass, chert-mag BIF w abundant bands of grt-bt schist (4BF) planar to mod dist alternating bands, strongly magnetic. Local wk to mod gru alteration of magnetite. Trace diss po. LC is gradational.												
F028767	1704.8	1705.8	0.021																		
F028768	1705.8	1706.4	0.014																		
F028769	1706.4	1707	0.008																		
F028771	1707	1708	0.019																		
F028772	1708	1709	0.005																		
F028773	1709	1709.8	0.04																		
F028774	1709.8	1710.3	0.023																		
F028775	1710.3	1710.9	0.033																		
F028776	1710.9	1711.9	0.105																		
F028777	1711.9	1712.6	0.036																		
F028778	1712.6	1713.2	0.941																		
F028779	1713.2	1713.9	1.23																		
F028781	1713.9	1714.4	0.071	1706.4	1722	4B	DG	DIST	Dark green/blue, aph, chert-mag BIF (4B) mod dist to planar alternating laminae/bands, strongly magnetic. Patchy grt-bt bands generally where higher strain occurs. Mod qz flooding caused by strain.	Patchy 2-4% blebby strain controlled po mineralization. EOH.											
F028782	1714.4	1715	0.423																		
F028783	1715	1716	0.194																		
F028784	1716	1717	0.203																		
F028785	1717	1718	0.511																		
F028786	1718	1719	0.867																		
F028787	1719	1720	0.704																		
F028788	1720	1721	0.335																		
F028789	1721	1722	0.381																		























































































Assay				MAJOR UNIT						MINOR UNIT				ALTERATION							
Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
				1476.5	1494.5		DG	FOL	Light green, fg, metasediment (6) massive to moderately foliated, non-magnetic. Patchy mod to str sericite alteration of groundmass. Weak HZ from 1488-1493.9 m causes wispy carbonate alteration/flooding.	Trace vfg disseminated po mineralization occurs adjacent to LC, grts develop adjacent to LC as 4E unit develops below. LC is gradational.											
F018871	1491.9	1492.9	0.005																		
F018872	1492.9	1493.9	0.008																		
F018873	1493.9	1494.5	0.025																		
F018874	1494.5	1495.0	0.013	1494.5	1495.3	4E	DG	FOL	Dark green/pink, aph groundmass, grt-amp schist (4E) weakly foliated, mg-cg anhedral porph grts mod attenuated along foliated, mod magnetic. Local wispy cb, <0.7% vfg disseminated po through groundmass preferentially oriented along foliation.												
F018875	1495.0	1495.3	0.005																		
F018876	1495.3	1496.3	0.005																		
F018877	1496.3	1497.3	0.005																		
F018878	1497.3	1497.8	0.005	1495.3	1500	6W	G	FOL	Med-dark grey-purple grt-bearing metased (6W). Fine grained w minor act pink grt. Well foliated. Locally weakly magnetic (assoc w HZ from 1495.3-1497m). Local tr Po in groundmass. 1-2% qz veining. Sct weak meth flt splays w green alt. Gradational LC.												
F018879	1497.8	1498.8	0.005																		
F018881	1498.8	1499.8	0.005																		
				1500	1503.6	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fine grained w abundant white m-cg lapilli. Well fol. Locally very weakly magnetic. Sct meth flt splays w green staining. 10% white qz veining (one larger vein and sporadic veinlets) w ser; musc; & tm alt. No sig min.												
				1503.6	1504.5	MIS			90cm missing core due to clappison wedge.												
				1504.5	1512.4	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fine grained w mod white lapilli. Well foliated. 10-15% white qz veining w minor ser alt. No sig min. Nonmagnetic. Sct weak meth flt splays w green staining. Minor UM (1) 12cm wide; dark green; soft; no visible min.	Sharp LC.											
				1512.4	1512.9	2	GG	FOL	Dark grey-green mafic volc (2). Fine grained. Well foliated. Weakly magnetic. <1% thin cb stringers. No visible mineralization. Minor bt in groundmass. Sharp LC.												
				1512.9	1528.1	3F	G	FOL	Med grey felsic lapilli tuff (3F). Fine grained w mod white lapilli. Well foliated. Patches of multiple meth flt splays w mod green/ser alt staining host rock. Local brittle fractures leaving blocky core. Sporadic patches of beige ser wisps. Nonmagnetic.	2-3% white qz-cb veining w weak ser & lc tm. No sig min. Gradational LC.											

MO  
D

Mod prv cb and weak act green amp wisps assoc w HZ/SZ.

Minor ultramafic (1). Soft. Weakly magnetic. 1-2% qz-cb vein w musc & chl alt. No visible min.













Sample	Assay			MAJOR UNIT					MINOR UNIT				ALTERATION							
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F018954	1721	1722	0.621	1718.1	1723.7	2	GG	FOL	grey-green, fg mafic metavolcanic; well foliated; local brittle fractures/faulting crosscutting fabric at a low angle TCA; local intervals of pervasive Bl alt; local massive Qz veins that are the same style as the Qz unit logged below; no visible min.	sharp LC.										
F018955	1722	1723	0.343																	
F018956	1723	1723.7	0.065																	
F018957	1723.7	1724.6	0.06																	
F018958	1724.6	1725.6	0.694	1724.6	1726.8	6W	B	FOL	Brown-grey, fg metamorphic metasediments; very strongly foliated; weakly banded 1-2% 2-4mm grts; intervals look borderline schistosity like 4F but with minimal grts; minor intercalated mafic looking intervals near UC; no visible min; sharp contacts.											
F018959	1725.6	1726.1	0.008																	
F018961	1726.1	1726.8	0.059																	
F018962	1726.8	1727.4	0.027																	
F018963	1727.4	1727.9	0.018	1727.4	1727.9	2	GG	FOL	dark green, fg garnet-amphibole ITF; composed of agglomerated cg (typically 2-1cm) grts and dark green amp with minor intercalated grt-bl - mostly concentrated at LC; Tr Po disseminations; diffuse LC.											
F018964	1727.9	1728.6	0.037																	
F018965	1728.6	1729.5	0.024																	
F018966	1729.5	1730.3	0.016																	
F018967	1730.3	1731.2	0.022	1728.6	1737.5	2	GG	FOL	grey-green, fg mafic metavolcanic; well foliated; intervals of pervasive Bl alt giving a purple-grey colour; locally distorted with irregular Cb stringers; no visible min;											
F018968	1731.2	1732.0	0.018																	
F018969	1732.0	1732.5	0.018																	
F018970	1732.5	1733.0	0.05																	
F018971	1733.0	1733.5	0.13	1737.5	1737.9	4E	DG	DIST	Dark green grt-amp BIF (4E). Fg. Distorted to weakly locally banded. Locally weakly magnetic. 10-15% white & smoky grey qz-cb veining. Up to 5% Po assoc w veining and locally w groundmass. Local very cg subhedral grt. Mod green amp all halos near vns.	Faulted/broken LC.										
F018972	1733.5	1733.8	0.11																	
F018973	1733.8	1733.9	0.855																	
F018974	1733.9	1739.3	0.132																	
F018975	1739.3	1739.7	0.026	1739	1739.7	4F	B	POR	Dark brown grt-bl schist (4F). Fine grained w mod cg sub-euhedral grt. Well foliated. Very weakly magnetic to locally magnetic. Mod grt-amp bands present (~15%). 1-2% qz-cb veining. Tr Po in groundmass & veining. Gradational LC.											
F018976	1739.7	1740.4	0.007																	
F018977	1740.4	1741.4	0.005																	
F018978	1741.4	1742	0.007																	
F018979	1742	1742.3	0.005	1741.4	1745.5	4F	B	POR	Dark brown to black grt-bl schist (4F). Fg w abundant fg-mg subhedral grt. Well foliated. Slightly agglomerate grt bands at UC. 1% qz veinlets. Tr Po in groundmass. Nonmagnetic. Gradational LC.	Sharp LC.										
F018981	1742.3	1743	0.011																	
F018982	1743	1744	0.019																	
F018983	1744	1744.5	0.015																	
F018984	1744.5	1745	0.02	1745.5	1748.4	4EA	GG	BA	Med grey-green grt-amp-gru BIF (4EA). Fg. Well banded. Locally mag. Sporadic grt-bl bands. Abund grt-gru bands. Local minor folding. 15-20% smoky qz veining w lcl chl wisps. Tr Po assoc w veining & groundmass. Minor lamp dyke (13) from 1747.3-1747.9m w qz flooding. Sharp LC.	HZ from 1747.3-1747.9m w qz flooding. Sharp LC.										
F018985	1745	1746	0.369																	
F018986	1746	1746.5	0.163																	
F018987	1746.5	1747	0.507																	
F018988	1747	1747.9	0.626	1748.4	1748.8	13	BK	MA	Black lamp dyke (13). Massive to weakly porphyritic. Magnetic. No sig veining or visible mineralization. Sharp LC. Minor fracturing at UC following contact.	Black lamp dyke (13). Fine grained w med grained clasts. No veining or min. Magnetic. Sharp contacts.										
F018989	1747.9	1748	0.588																	
F018990	1748	1748.8	0.012																	
F018991	1748.8	1749	0.017																	
F018992	1749	1750.6	0.274	1748.8	1755.9	4EA	GG	BA	Med-dark grey-green grt-amp-gru BIF (4EA). Fg. Well banded. Mod magnetic w mod mag bands. Banding is predominantly linear w lcl folding. Mod brittle fracturing from 1748.8-1751.2m. Abund grt-gru banding w lcl marginal gru bands towards gradational LC.	10% smoky qz veining. Tr-1% Po in veining & groundmass.										
F018993	1750.6	1751.2	0.063																	
F018994	1751.2	1751.6	0.025																	
F018995	1751.6	1752.2	0.97																	
F018996	1752.2	1753.2	0.509	1755.9	1758.6	4BF	G	BA	Dark grey metased (6). Fine grained. Well foliated. Mod bl wisps. Nonmagnetic. Minor grt near UC. No sig veining or min. Gradational contacts.	Tr-3% predominantly assoc w veining. Gradational LC.										
F018997	1753.2	1754	0.149																	
F018998	1754	1755	0.029																	
F018999	1755	1755.4	0.028																	
F019000	1755.4	1755.9	0.028	1755.9	1761.7	4BF	G	BA	Dark grey chert-mag BIF w abundant grt-band bands (4BF). Fg. Well banded. Locally folded. Local mod brittle fracturing x-cutting fabric. Lcl discing towards LC (1755.8-1755.9m). Strongly magnetic. Sporadic minor meth fit splays. 10-15% qz veining.											
F019001	1755.9	1756	0.35																	
F019002	1756	1756.6	0.685																	
F019003	1756.6	1757	0.017																	
F019004	1757	1758	0.089	1761.7	1771.1	4B	G	BA	Dark grey chert-mag BIF (4B). Fg. Well banded. Locally folded. Strongly mag. Sporadic grt-bl bands. Minor sporadic marginal gru bands. Sct weak meth fit splays. Lcl brittle fracturing at 1763.4-1763.8m. 5-10% qz-cb veining. Tr-4% Po assoc w veining/alt	& groundmass. Gradational LC.										
F019005	1758	1759	0.055																	
F019006	1759	1759.9	0.26																	
F019007	1759.9	1760.9	0.022																	
F019008	1760.9	1761.7	0.017	1761.7	1771.1	4B	G	BA												
F019009	1761.7	1762	0.107																	

Sample	Assay			MAJOR UNIT					MINOR UNIT				ALTERATION							
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments
F016985	1761.7	1762	0.107	1761.7	1771.1	4B	G	BA	Dark grey chert-mag BIF (4B). Fg. Well banded. Locally folded. Strongly mag. Sporadic grt-bt bands. Minor sporadic marginal grt bands. Sct weak meth flt splays. Lcd brittle fracturing at 1763.4-1763.8m. 5-10% qz-cb veining. Tr-4% Po assoc w veining/alt	& groundmass. Gradational LC.										
F016986	1762	1763	0.158																	
F016987	1763	1763.5	0.147																	
F016988	1764.1	1764.9	1.02																	
F016991	1764.9	1765.5	0.033																	
F016992	1765.5	1766.1	0.019																	
F016993	1766.1	1766.4	0.025																	
F016994	1766.4	1767.3	0.055																	
F016995	1767.3	1767.6	0.054																	
F016996	1767.6	1768.3	0.574																	
F016997	1768.3	1769.2	0.04																	
F016998	1769.2	1769.9	0.011																	
F016999	1769.9	1770.2	0.014																	
F027051	1770.2	1771.1	0.067																	
F027052	1771.1	1771.5	0.01																	
F027053	1771.5	1772.5	0.013																	
F027054	1772.5	1773.5	0.01																	
F027055	1773.5	1774.5	0.017	1771.1	1779.9	4A	G	BA	Med grey-beige chert-grt BIF (4A). Well banded in weak-mod mag bands. Moderately magnetic. Sporadic grt-bt bands. HZ w mod distorted & wispy fabric from 1773.9-1778.6m. 1-2% qz-cb veining. Abund wispy grt & sct marginal grt bands. Tr Po in veining & alt.	Lcd boudinage/book-stepping chert bands. Mod patchy chl in HZ. Gru becomes greiner around 1778m. Sharp LC.										
F027056	1774.5	1775.5	0.015																	
F027057	1775.5	1776.5	0.032																	
F027058	1776.5	1777.5	0.019																	
F027059	1777.5	1778	0.023																	
F027061	1778	1778.9	0.034																	
F027062	1778.9	1779.9	0.006																	
F027063	1779.9	1780.9	0.005																	
F027064	1780.9	1781.9	0.005	1779.9	1797.8	3A	G	FOL	Dark grey andesite (3A). Fine grained. Well foliated. Locally weakly magnetic. Abundant bt wisps. Mod musc. 3-5% white qz-cb veining. No sig min. Local fracturing following fabric. Minor 4e at 1797.5-1797.6m w mod grt-amp bands & tr Po (weakly magnetic).	Sharp LC.										
F027065	1795.8	1796.8	0.006																	
F027066	1796.8	1797.4	0.005																	
F027067	1797.4	1797.8	0.01																	
F027068	1797.8	1798.2	0.021																	
F027069	1798.2	1798.5	0.007																	
F027071	1798.5	1799	0.016																	
F027072	1799	1799.3	0.008																	
F027073	1799.3	1799.6	0.007																	
F027074	1799.6	1799.9	0.01																	
F027075	1799.9	1800.3	0.008																	
F027076	1800.3	1800.7	0.018																	
F027077	1800.7	1801	0.006																	
F027078	1801	1802	0.015																	

Alteration makes core look poorly developed or messed up. Sharp LC.

Abund beige clasts (poss remnant grt occurring w grt grains). Sharp LC. Weak-mod prv chl alt. Massive green amp & chl band from 1800.7-1800.9m that is strongly mag; mod fol; no sig min in this interval but diss Po just above; contacts are gradational.

Minor grt-amp BIF (4E). Fine grained. Locally weakly magnetic. No sig veining or min. Sharp contacts.

Minor grt-amp BIF (4E). Fg. Banded. Locally magnetic. Minor very cg grt at JC. 3% Po assoc w alt. Mod chl alt. Sharp contacts. 1% qz-cb veining.

20cm of strongly magnetic poss green amp band related to the surrounding grt-amp BIF. No sharp contacts but gradational. Mod prv chl.































Elev	Assay				MAJOR UNIT				MINOR UNIT				ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments	
445																						
440																						
435																						
430																						
425																						
420																						
415																						
410																						
405																						
400																						
395																						
390																						
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Depth (m)	Assay				MAJOR UNIT					MINOR UNIT				ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
1485					1478.6	1487.3	6W	G	FOL	Med grey grt-bearing metased (6W). Fg w sct & patchy grt. Mod wispy ser bands giving core a locally banded appearance. Sct meth fit splays w green staining. Very weakly magnetic. Locally fractured. 3-5% qz-cb veining w lcl ser alt. Tr. Fo in groundmass.	Well fol. Gradational LC.												
1490					1487.3	1490.9	6W	G	FOL	Med-dark grey grt-bearing metased (6W) w sporadic green amp bands. Weakly magnetic localized to green amp bands. Poss intercalated mafics or amp alt. Weak lcl ser assoc w veining. Fg w abundant pink grt. Well fol. 1-3% white to greenish qz-cb veining.	Rare Po specks in veining. Irregular/gradational LC as amp bands disappear.												
1495					1490.9	1495.7	6W	G	FOL	Dark grey-purple grt-bearing metased (6W). Fine grained w mod pink grt. Well foliated. Very weakly magnetic. Mod hairline meth fit splays w green staining at 1493.2-1494.5m. 3-5% qz-cb veining. No sig mineralization. Gradational LC.													
1500					1495.7	1507	3F	G	FOL	Dark grey felsic lapilli tuff (3F). Fine grained w abund white lapilli. Well foliated. Locally very weakly magnetic. Mod sct meth fit splays w green staining. Mod musc. Local weak ser assoc w some veins. Mod thin white qz-cb stringers. Tr sporadic grt.													
1510																							
1515					1507	1521.6	6W	G	FOL	Med grey grt-bearing metased (6W). Fine grained w mod patchy pink grt. Well foliated w bands of green-beige ser. Nonmagnetic. Mod-strong brx from 1508-1508.2 w angular fragments and grey-green matrix (prv ser throughout this). Local brittle fracturing.	Rare Py speck assoc w qz-cb stringer. 3-5% white qz-cb veining w lcl ser & trm alt. Gradational LC. Steel wedge set at 1520.5m so from 1520.5-1524m was re-drilled and duplicate core exists.												
1520					1521.6	1525.4	3F	G	FOL	Med grey felsic lapilli tuff (3F). Mod patchy white lapilli. Well foliated. Sporadic pink grt. Mod sct meth fit splays w green staining. 2-3% qz-cb veining. Minor chl alt assoc w some veins. No sig min. Nonmagnetic. Gradational LC.													

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Mod local ser bands



















Sample	Assay			MAJOR UNIT					MINOR UNIT		ALTERATION																										
	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments																	
F030755	1841.2	1842.2	0.049	1841.2	1844.2	13	G	MA	dark grey, fg-mg, massive, cb rich, dolomite rich, hosts brittle fault, sharp lower contact																												
F030756	1842.2	1843.2	0.036																																		
F030757	1843.2	1844.2	0.056																																		
F030758	1844.2	1845	0.017																																		
F030759	1845	1846	0.019	1844.2	1851.5	4EA	DG	POR BL	dark grey and green, fg, grn-amp with grt-chert, overall mod to well banded, 5-5% distint po, patchy mod mag, wk-mod strain, grunerite decreasing at depth, gradational/transitional lower contact																												
F030761	1846	1847	0.016																																		
F030762	1847	1847.4	0.036																																		
F030763	1847.4	1848	0.135																																		
F030764	1848	1848.7	0.353																																		
F030765	1848.7	1849.1	0.082																																		
F030766	1849.1	1849.9	0.074																																		
F030767	1849.9	1850.9	19.99																																		
F030768	1850.9	1851.5	3.331																																		
F030769	1851.5	1852.5	0.357																			1851.5	1856.5	4BF	G	BA	dark grey-green and brown, chert-mag with grt-bt bands, fg to aph, moderate distorted with localized well banding, hosts up to 10% veining with 10% distalgr po, strong mag, 1% thin carbonate stringers, gradational contact										
F030771	1852.5	1853.5	0.021																																		
F030772	1853.5	1854.4	0.018																																		
F030773	1854.4	1854.9	6.147																																		
F030774	1854.9	1855.9	0.233																																		
F030775	1855.9	1856.5	0.051																																		
F029712	1856.5	1857.4	0.56																																		
F029713	1857.4	1858	0.027																																		
F029714	1858	1859	0.005																																		
F029715	1859	1860	0.105																																		
F029716	1860	1861	0.01																																		
F029717	1861	1862	0.166																																		
F029718	1862	1863	0.078																																		
F029719	1863	1864	0.05																																		
F029721	1864	1865	0.024																																		
F029722	1865	1866	0.024																																		
F029723	1866	1867	0.03																																		
F029724	1867	1867.8	0.07																																		
F029725	1867.8	1868.5	0.301																																		
F029726	1868.5	1869.1	0.581																																		
F029727	1869.1	1869.4	1.67																																		
F029728	1869.4	1870	0.265																																		
F029729	1870	1871	0.059																																		
F029731	1871	1872	0.718																																		
F029732	1872	1873	0.536																																		
F029733	1873	1873.4	0.621																																		
F029734	1873.4	1874	0.026																																		
F029735	1874	1874.5	0.039																																		
F029736	1874.5	1875	0.237																																		
F029737	1875	1876	0.008																																		
F029738	1876	1877	0.023																																		
F029739	1877	1877.8	0.019																																		
F029741	1877.8	1878	0.038																																		
F029742	1878	1878.4	0.018																																		
F029743	1878.4	1878.7	0.087																																		
F029744	1878.7	1879.4	0.023																																		
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1856.5	1877.6	4B	G	BA	grey and dark grey/black; fg chert-magnetite BIF; strongly magnetic, laminated 1-3cm bands of chert and mag; local minor marginal grn alt; minor intercalated clastic bands; sparse mineralization;	Qz flooded HZ 1873m-1873.4m with ~1% Vn hosted Po disseminations; gradational LC																											
F029731	1871	1872	0.718																																		
F029732	1872	1873	0.536																																		
F029733	1873	1873.4	0.621																																		
F029734	1873.4	1874	0.026																																		
F029735	1874	1874.5	0.039																																		
F029736	1874.5	1875	0.237																																		
F029737	1875	1876	0.008																																		
F029738	1876	1877	0.023																																		
F029739	1877	1877.8	0.019																																		
F029741	1877.8	1878	0.038																																		
F029742	1878	1878.4	0.018																																		
F029743	1878.4	1878.7	0.087																																		
F029744	1878.7	1879.4	0.023																																		
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
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																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
																					1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.										
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		
F029747	1880.9	1881.8	0.072																																		
F029748	1881.8	1882.1	0.012																																		
				1877.6	1882.1	4A	G	LAM	grey, pale green, fg chert-grunerite BIF; distorted laminated bands of chert and wispy grn; rare 4mm possible relict grts(?); fabric flips between ~1880.6m and then flips back to normal at LC; ~10cm intercalated mafic salvage at 1881.9m; ~1% Po locally;	irregular LC.																											
F029745	1879.4	1880.1	0.012																																		
F029746	1880.1	1880.9	0.048																																		













































































19-NSD-015

Elev	Assay				MAJOR UNIT					MINOR UNIT				ALTERATION									
	Sample	From	To	AU ppm	From	To	Unit	Col	Text	Comments	Comments	Unit	Comments	Bio	Car	Chl	Gru	Hem	Ser	Si	Comments		
1325					1313.2	1325	3F	G	FOI	Med grey felsic lapilli tuff (3F). Fine grained w abundant patchy white lapilli. Well foliated w abundant beige ser wisps/bands. Mod sct meth fit splays w light green alt. Locally very weakly magnetic. 2-3% qz-cb veining. No sig min. Sharp LC.	Poss HZ w weak-mod ser and brown alt from 1322.6-1325m. Locally blocky fracturing.											MO D	Weak-mod ser alt and mod-strong brown alt of some sort (poss HZ?)
1330					1325	1341.7	1	GG	FOI	Med grey-green ultramafic (1). Fine grained to locally medium grained towards LC. Mottled to weakly-mod foliated. Mod magnetic. 3-4% white-light greenish qz-cb veining. No vis min. Mod serplatic alt making core soft to scratch. Gradational LC.													
1335					1341.7	1344.2	7A	DG	MA	Dark green gabbro (7A). Mg to locally cg. Massive to locally fol. Weakly mag to locally mod mag (mag basic ranges from 0.35-10.1 Si). Possible mg-cg UM. Lcl minor bt wisps. 1-2% qz-cb veining. HZ from 1343.6-1344.2m w abund green amp & weak-mod cb alt.	Minor mafic volc (2) from 1343.4-1343.6m. No vis min. Sharp LC.		Poss minor mafic volc (2) w/in gabbro. Fine grained w weak-mod bt wisps & well foliated. Weakly magnetic. Somewhat sharp contacts. 24cm wide.									MO D	Mod-strong green amp alt and mod env & stringer cb assoc w HZ/SZ.
1340					1344.2	1379.5	3F	G	FOI	Med-dark grey felsic lapilli tuff (3F). Fine grained w abund m-cg white lapilli. Mod-strong foliated. Patches of decreased lapilli. Local Po up to 1% assoc w green amp alt around minor cb veinlets. 5-7% qz-cb veinlets w sporadic veins of 1-3cm wide.	Sct meth fit splays w light green ser alt bleeding into host rock. LC is gradational.												
1345																							
1350																							
1355																							
1360																							Mod green amp alt assoc w minor cb veinlets/stringers sct throughout interval.











**NSD+KAZ+BOT+GRF Lodging Calculation:**

**215 Days Total Feb 11<sup>th</sup> to October 9<sup>th</sup>**

87 Days February 11<sup>th</sup> to May 8<sup>th</sup> = 40% of Total Days (NSD Program Only)

128 Days May 9<sup>th</sup> to October 9<sup>th</sup> = 60% of Total Days (NSD+KAZ+BOT+GRF)

**Total Expense = \$308,480**

40% of Total Expense = \$123,392 → Adjusted = \$61,696

60% of Total Expense = \$185,088

**NSD+KAZ+BOT+GRF Transportation Calculation:**

**Total Transportation = \$1,396,852**

February 27<sup>th</sup> to April 4<sup>th</sup> = \$326,673 → Adjusted \$163,337 (NSD Program Only)

May 17<sup>th</sup> to October 15<sup>th</sup> = \$1,070,179

**NSD Drilling Calculation:**

**Total Meters Drilled = 8502m**

**Total Expense = \$1,082,016**

Meters drilled Feb 11<sup>th</sup> to May 8<sup>th</sup> = 671m

Meters drilled May 9<sup>th</sup> to Oct 9<sup>th</sup> = 7831m

Total Expense Feb 11<sup>th</sup> to May 8<sup>th</sup> = \$85,395 → Adjusted = \$42,698

Total Expense May 9<sup>th</sup> to Oct 9<sup>th</sup> = \$996,620